

Docket NIOSH-047: Categorized Comments

About the Comments and Categories

[\(Select to skip to the comments\)](#)

Starting in May, 2005, NORA requested comments from stakeholders to identify important occupational safety and health issues, such as: diseases, injuries, exposures, populations at risk, and needs of the occupational safety and health system. Input was also requested on the types of research and partners needed to make a difference. Comments were received through this website, by E-mail and on paper. A court reporter provided transcripts of comments received during NORA Town Hall meetings.

Approximately 800 individuals submitted information through the website and the Town Hall meetings. Each submittal could include up to ten comments, since the comment form includes ten input boxes. Each comment was given a unique identification number, which is displayed in the search results.

Each comment was analyzed to determine if the text could be separated into distinct parts. Each 'unit comment' was then determined to be a "Comment on the NORA process" or a recommendation of a research priority. As a result, 1600 unit comments were categorized.

Each comment recommending a research priority was indexed by the terms listed below using the approach that such a comment could be characterized by a sentence of the form:

"I recommend as a priority these 'sectors' having these 'populations' experiencing these 'health effects' due to these 'exposures' where these 'approaches' will be most useful in reducing the problem and these organizations/people should be engaged as 'partners'."

Each of the words in single quotes is a category. For each comment, none or some of the items in each category were selected as search terms. The search terms are not exhaustive but were selected primarily to reflect the programs in the NIOSH Program Portfolio. Where additional terms were needed to capture the range of comments offered, terms were taken from the 21 priority areas of the first decade of NORA. A few more terms were added to cover large gaps; these tended to be broad terms, for example, exposures to "chemicals/liquids/particles/vapors".

Non-obvious aspects of the categorization criteria are indicated below:

Sectors:

The eight NORA sector groups are defined in terms of the Census Bureau's North American Classification System (NAICS) codes. [Click here](#) for more information.

- Agriculture, forestry, and fishing
- Construction
- Healthcare and social assistance
- Mining
- Manufacturing
- Services
- Transportation, warehousing and utilities
- Wholesale and retail trade

Unspecified – This term was chosen when a comment recommending a research priority did not specify any sector(s).

At least one of the nine terms in the sector category was chosen for each comment recommending a research priority. (This is not true for any of the other categories.) When the comment implicitly included all workers but gave examples in specific sectors, both “unspecified” and the sector(s) mentioned in the examples were chosen.

Population:

A term describing a population was selected when a comment described a group of workers that could not be characterized by their employers’ sector or sub-sector or their occupation.

Youth – Typically, teenage or younger.

Older – Typically, workers were described as aging or older.>

Language/culture/ethnicity – Typically, workers were described as immigrants, minority, Hispanic, Black, etc., or were characterized as having a distinguishing culture.

Disability – Physical or mental.

Small business

Other – Some examples are: women, workers who live in rural areas, pregnant workers, diabetics, part-time workers, workers in the informal sector, Generation X workers, shorter stature workers, and low wage workers.

Health outcomes; diseases/injuries

These terms were selected using their “common” definitions rather than strict medical definitions.

Cancer – Includes mutagenicity and other pre-cancer indicators.

Reproductive – Defined broadly as effects on the reproductive health of prospective parents as well as effects on fetuses leading to the birth of an unhealthy or deformed baby.

Cardiovascular disease – Typically, hypertension.

Neurological effect/mental health – Includes effects on nerves, headaches, pain, effects on nerves (including white-finger syndrome), depression and other mental health issues.

Renal disease – Any kidney or urological effect

Hearing loss – Includes noise exposures that might lead to hearing loss.

Immune disease – Includes any mention of the immune system. Does not include asthma.

Dermal disease – Typically, skin disease or chemical exposures of the skin.

Infectious diseases – Includes exposures to infectious agents that might lead to an infectious disease.

Musculoskeletal disorders – Soft tissue and joint disorders, most often caused by repetitive motions, especially repeated heavy lifting.

Respiratory disease – Includes asthma and other lung diseases as well as other conditions of the respiratory tract, for example, rhinitis.

Traumatic injuries

Mortality

Exposures

Infectious agents – Selected only when the exposure to the infectious agent was implicated in some other disease than an infectious disease, for example, cancer.

Chemicals/liquids/particles/vapors – Includes pharmaceuticals.

Work organization/stress

Heat/cold

Noise/Vibration – This term was not selected when noise exposure was a risk factor for hearing loss. It was selected when a noise exposure was a risk factor for some other effect, for example, injuries due to difficulty in communicating. Vibrations include all frequencies.

Radiation (ionizing and non-ionizing) – Includes sun and UV exposures of skin, radioactivity, and electromagnetic radiation of any frequency.

Indoor environment – Typically, exposures associated with office buildings described as sick-building, mold, ventilation system effectiveness or vapors released from materials.

Motor vehicles – Any mobile, motorized machine, including forklifts, farm tractors and other self-propelled farm machinery and ATV's.

Violence – Physical or verbal.

Work-life issues – Selected when issues originating outside work were mentioned as risk factors, including obesity, physical conditioning, and stress due to family relationships. Also selected when work exposures could harm family members or communities.

Approaches

These terms reflect answers to the question “What types of research will make a difference” and broadly reflect the public health model. “Research” is taken very loosely and includes any types of studies, better understanding and improved implementation.

Surveillance – Typically, surveillance systems, but also includes worksite surveillance of risk factors. Does not include worksite medical surveillance to identify early disease; that was categorized as “Health service delivery.”

Hazard identification – Narrowly defined as laboratory studies to determine what health effects exposure to a chemical (or a physical hazard) is capable of producing, without necessarily obtaining any dose response data relevant to worker exposures.

Etiological research – Field or laboratory studies relating health effects to worker exposures.

Exposure assessment – Includes worksite measurements as well as improved analytical methods and instrumentation.

Risk assessment methods – Narrowly defined as formal risk assessment (usually quantitative).

Engineering and administrative control/banding – Any engineering solutions, e.g., better design of machinery and buildings, engineering controls, process improvement, and substitution (with less hazardous chemicals). Also includes specification of allowable worksite procedures to reduce hazards (administrative controls) as well as control banding (relatively new administrative procedures to achieve worksite hazard identification, exposure assessment and control without measurements at the worksite).

Personal protective equipment

Training – Selected when improvements in training workers, supervisors, employers, engineers, architects and others were recommended. Improved education of occupational safety and health specialists and professionals was categorized as “Capacity building.”

Intervention effectiveness research – Broadly defined to include laboratory or field studies of the effectiveness of a workplace intervention designed to reduce risk.

Work-site implementation/demonstration – Selected when employers/workers control the adoption of interventions or programs and researchers have, at most, a facilitation and evaluation role. Typically, the comment recommends assistance in implementing a proven intervention within a population of worksites or recommends community-based, participatory research.

Economics – Selected when a comment cites financial, profit, or productivity issues as factors in worker safety and health. Includes issues of the business case for occupational safety and health and return-on-investment.

Authoritative recommendation – Includes policies, recommendations, standards and regulations applicable to a population of worksites, typically generated by corporate occupational safety and health professionals, NIOSH, consensus standards groups and government agencies.

Marketing/dissemination – Making information widely available.

Capacity building – Education of occupational safety and health specialists and professionals

Health service delivery – Occupational health medical services, including medical monitoring, diagnosis, and treatment as well as the payment for such services, especially workers' compensation systems. Includes return-to-work issues following a disabling injury or illness.

International interaction – Selected when the comment recommends collaborating with, learning from or sharing solutions with other countries.

Emergency preparedness and response – Includes natural disasters, terrorism and single-person emergencies.

Work-site occupational safety health system/record keeping – Selected when a comment recommends improvements in work-sites' occupational safety and health system or the safety culture. Also selected when a comment recommends improvements in governmental systems at the local, state or national level including improvements in the handling of information or records.

Partners

When a comment explicitly recommends future work with a named partner or a class of partners, the partner's name or class description was placed in a "partner" field. Select "Partner recommended" in the search criteria to find only those comments for which an entry was made in the "partner" field.

List of all categorized comments

Use the search capabilities of the file viewing software to locate comments of interest. Search for key terms listed above or for any term in the text.

The number before the comment ID indicates the submission identifier and the number after the ID indicates whether entries were made in more than one of the ten comment boxes offered. When a comment was categorized as multiple “unit comments,” the same comment ID occurs multiple times.

Comment ID: 7.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Restoring the flow of qualified college graduates through graduate training programs in industrial hygiene, occupational safety and health, and environmental, health and safety should be an imperative of NORA2.

Comment ID: 8.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Health Risk and the relationship to Musculoskeletal injury

Comment ID: 12.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment
Training
Economics
Authoritative recommendation
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Five areas that need attention:

1) There is a need to identify effective methods to positively protect workers who are exposed to leading edge operations i.e. precast decking, metal decking, wood decking. Many contractors currently use a Controlled Access Zone as their sole means for protection. While this may meet their obligation under the law it does little to protect workers from fall hazards. The issue is the surface material which often is not adequate to use as an anchorage. (light gauge metal decking will not support arresting forces). Additionally, non-movable anchorage connections seemingly prohibit worker movement as the leading edge progresses. Mobile anchorage connectors have been used (cast concrete deadmen with anchorage imbeds) but testing of such anchorages is non-existent.

2) In the residential construction industry a method of providing fall protection during truss setting and roof sheathing needs to be addressed. The issue is not having a sufficiently strong anchor point until trusses are properly secured. Limited testing on some products has shown limited use of trusses as anchor points (safety-strap) but more testing is needed. Perhaps technology can be used to further reduce MAF's below 900lbs and thus allow for the use of trusses as anchorage support.

3) There is a real need for a study on the cost effectiveness of fall protection. Many contractors view fall protection as a burden that will inhibit production. A study comparing multiple projects that use 100% fall protection (including the use of lifts) during all phases versus projects that only follow OSHA

guidelines would be helpful to safety professionals in convincing contractors that fall protection makes good business sense.

4) The post rescue of fallen workers needs to be addressed. OSHA requires it but little information is available on how to perform a rescue. Many contractors will use ladders, aerial lifts and manbaskets for rescue but most have no knowledge beyond calling 911 on how to go about safely rescuing a fall victim. Much information has been published on suspension trauma but only limited information on how to address it on the jobsite. A research program that can identify the methods to use for simple to complex rescues would be helpful

Comment ID: 12.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

5) NORA has produced and currently is involved in research that is important to this industry. Unfortunately there is not a central location (at least not that i have found) where all completed research is published. If the individuals who would benefit the most from this research cannot easily access the information, the research, while excellent, is wasted.

Comment ID: 13.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Once again, in giving a recent legal deposition, I wondered about what is being done with regard to insurance carriers and related activities. All too often, it seems to me, large corporations settle (out of court) occupational safety and health liability case without making suitable changes in the workplace. Why do they do this?

I suspect they do this because the underwriting is such that it is cheaper to settle than it is to improve workplace health and safety. Perhaps we need a renewed new effort to educate and train insurance underwriters as to what they should be considering when they set rates and provisions. In some cases, "loss prevention" programs have been cut, and few appear to be well staffed with well trained occupational health and safety professionals. Perhaps what we need is better informed brokers, rather than educational programs for customers.

Comment ID: 14.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

We are performing routine halogenated anesthetic waste gas exposure monitoring for Anesthesiology and other Operating Room staff. OSHA does not have PELs for the two halogenated gases that we use the most, Sevoflurane and Desflurane. NIOSH has an REL of 2 ppm for all halogenated anesthetic gases, which is widely used by health care safety professionals in several countries as the limit they want to keep their exposures under. This REL was developed in the late 1970`s which was before Desflurane and Sevoflurane were even produced. What is really interesting is that the producer of Sevoflurane, Abbott Laboratories, uses an occupational exposure limit of 60 ppm over an 8-hour TWA at their factory. Our anesthesiologists` exposures and several published exposures for Sevoflurane have indicated that levels exceed the REL of 2 ppm fairly often. My concern is that we do not have OSHA PELs for Desflurane and Sevoflurane to use and that the only other published limits, the NIOSH REL of 2 ppm and the Abbott Laboratory limit of 60 ppm for Sevoflurane, are in such disagreement that we cannot determine an appropriate limit to compare our exposures to. I would like to see NIOSH develop specific RELs for desflurane and sevoflurane (isoflurane should be considered also) which hopefully would lead to specific OSHA PELs.

Comment ID: 15.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Traumatic injuries

Exposures

Approaches

- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

We need to design warm-up, stretching and flexibility exercises that can be used by workers in the different occupations to help prevent strains and sprains. This is especially true for repetitive injury and heavy labor type of activities. This could be used in any of the 8 categories above.

Comment ID: 18.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

Residential Fall Protection - it has taken OSHA 35 years to get a safety handle on commercial construction, especially in the area of fall protection. It is my hope that it won't take another 35 years for the residential contractors. The industry badly needs ideas on how to work safely during stick frame construction, especially during exterior wall framing/installation and truss installation. Thank you, Garry.

Comment ID: 19.01

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

NIOSH has presented the sector approach as a forgone conclusion without first consulting stakeholders. This may be perceived as a unilateral decision that may not accommodate some stakeholders' interests or viewpoints.

Comment ID: 20.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Capacity building

Partners

Categorized comment or partial comment:

I am concerned about the limited diverse representation (minorities and disabled) among occupational safety and health professionals. In order to continue to address the needs of all workers, diverse researchers (race, ethnicity, economic status) are needed to answer the questions regarding health disparities among workers.

Comment ID: 21.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

48-49: Injury of forklift drivers and injuries to pedestrians by forklift operators within the warehouse.

Comment ID: 21.02 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Ergonomics appears as the biggest cross sector injury issue for a number of reasons.

Comment ID: 21.02 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Chemical exposure appears as the biggest cross sector issue from an occupational health perspective.

Comment ID: 21.03

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Violence

Approaches

Partners

Categorized comment or partial comment:

44-45 Retail trade of small stores and gas outlets have intentional deaths as their biggest problem. The data is so bad that it changes all the demographics when comparing internationally.

Comment ID: 21.04

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Ground control is still the number one fatality problem. Whyatt and Iverson 2004 identified that burst prone mines have a four time greater risk for mortality than normal underground mines. This matches data from South Africa where the fatality rate below 2400 meters is three times the fatality rate of the underground gold rate.(Leger 1991). Coal and trona mines which have a propensity for having bumps would also have the same high risk factors for injury and mortality.

Comment ID: 21.05

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Small business

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

According to published surveillance from Jensen 2004, 70% of all injuries occur on the deck with upper and lower extremities accounting for 66% of all injuries. A 40 year study of Polish fisherman by Jaremin 2004, said boats less than 13 meters in length have significantly higher mortality rate. Therefore, one can conclude small boats which are usually independent operators have the biggest problems and most problems occur on the deck.

Comment ID: 21.06

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Lack of Ergonomics appears to be biggest problem facing manufacturers for injury. The largest attendees at the 2005 Applied Ergonomics Conference in New Orleans was factory people from all the car manufacturers especially Ford and Honda.

Comment ID: 21.07

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

Transportation to and from work is the biggest injury and fatality problem in these sectors.

Comment ID: 21.08

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Falls are the biggest problem with back problems number two. The surveillance data for rates show falls are still the biggest problem.

Comment ID: 21.09

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Ergonomics and fatigue from shift work.

Comment ID: 21.10

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Partnership with a key player in each industry appears as the only valid way to conduct the research. The partnership brings credibility to any type of solution which government researchers might come up with because the solution can be tested and verified by the industrial partner. Other industrial non partners are more likely to adopt the solution if one of their peers has been part of the solution.

Comment ID: 22.01

Categorized with the following terms:

Sectors

Construction
Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work-life issues

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I think an area that has not been sufficiently addressed or evaluated is that of nutrition and the potential effect it has on injuries. Much research has been conducted showing a variety of injury factors but mainly machine-environmental based. In a study published in JOEM May/June 2003 by Huang and Hinze "Analysis of const. worker fall accidents" it was noted that most falls occur between the hours of 10am-11am and 1pm-2pm. It would be relevant to evaluate the extent that proper or improper nutrition has on how the worker makes choices, maintains balance, critical thinking ability, etc., to determine if poor nutrition has an effect on injury. Donuts and coffee for breakfast will no doubt affect blood sugar and may be a factor in many injuries.

Comment ID: 23.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Community-based Participatory Research (CBPR), education research and outreach is needed to be funded on a larger scale than before.

CBPR needs to be addressed and included as an important research method. Traditional university research has gone into the agricultural community, has done its research and left the community without much visible impact. CBPR has been shown to have a more positive response from the community.

The agricultural community is a diverse community and will only change slowly on any health and safety issue. But it has been shown that the CBPR creates the needed trust and knowledge necessary for the population in question to take charge and change from the ground up.

Scientific review panels need to gear up to review these kinds of proposals more favorably.

Comment ID: 23.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Community-based Participatory Research (CBPR), education research and outreach is needed to be funded on a larger scale than before.

CBPR needs to be addressed and included as an important research method. Traditional university research goes into an occupational community, does research and leaves the community without much visible impact.

Comment ID: 23.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Scientific review panels need to gear up to review CBPR and outreach proposals more favorably.

Evaluation components for proposed research should be required if possible.

Comment ID: 24.01

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

It is excellent that you are revisiting the original NORA topics. This action demonstrates your attention to the field and responsiveness to changes in the world of work. It is also nice that you are using web technology to collect input, but I hope that you will also use the "townhall" meetings for face-to-face interaction. Web based collection will certainly give a wider range of comments, but meetings will show the depth and intensity.

The sector structure is logical and inherent to the world of work. The different ways that people work cause different kinds of work problems. However, it is clear that there are a variety of cross-sector issues that do not fit well into the sector structure.

In particular, human factors, the person considered alone or in groups, clearly is a crucial element in workplace health and safety, yet it cannot be easily fit into a sector structure. Work organization, stress, interventions, education and training, economics, and communication basic and applied are historical topics of interest for NIOSH, yet in the sector structure, they must be subordinated or ignored.

I would strongly encourage NIOSH to create a new NORA topic on Human Factors that would operate at the same hierarchial levels as any sector and warrant the same resource and policy commitment.

Failure to include human factors would disarm NIOSH of one of the most powerful tools available for understanding and creating changes in workplace health and safety. The huge improvements in the workplace in the past 100 years and especially since the passage of key workplace legislation in the 1970s have come largely through hard science and engineering approaches. Less well understood and applied to the problem of workplace health and safety are human factors.

Consider this claim: NORA is a successful government program largely because of human factors. That is, the creation of NORA and its application as a program in NIOSH occurred through the skillful and continuing use of human factors like communication and education. If NIOSH had tried to "engineer" NORA, it could not have happened. If NIOSH had tried to lab test NORA, it would have never happened. NORA came about through human factors. It attracts funding support from Congress through human

factors. It generates industry and labor commitment through human factors. NIOSH needs to create a human factors sector in the new NORA.

I look forward to seeing the progress of the evolution of NORA and wish you success. If I can provide additional information, please contact me.

Comment ID: 25.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Small business

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Home Health Care worker safety is an area about which I have found little to no research. Our employees work independently in homes which are frequently cramped and often impossible to set up in a manner appropriate to the care needed. They work with patients who have varying degrees of disability (from independent in ADLs to bedbound). We struggle on a daily basis attempting to determine the safest ways in which to provide the necessary care knowing that we are unable to refuse care in most cases. Even if we don't get bedbound patients out of bed, we are tasked with turning and positioning with a single employee to do the work. Our injury rates reflect overuse, awkward postures, and repetitive strain as well as specific incidents.

I would encourage you to consider research related to the provision of home health care.

Comment ID: 26.01

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Personal protective equipment

Training

Partners

Categorized comment or partial comment:

Miners and leaders of miners need increased education on toxic hazard monitoring, sampling and integration of quantifiable detection results attained during sampling as it relates to personal protective equipment use logic.

Comment ID: 26.02

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Personal protective equipment

Training

Partners

Categorized comment or partial comment:

Healthcare workers routinely demonstrate the need for additional training on respiratory protection required for local response to incidents of national significance. Recent Department of Homeland Security exercises in cities demonstrated that health care personnel require enhanced education on types of personal protective equipment to don, integrate and support.

Comment ID: 26.03

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Motor vehicles

Approaches

Training

Partners

Categorized comment or partial comment:

My two years of experience with civilian forklift operators and their supervisors caused me to be concerned about the lack of federal oversight of forklift training and use programs. Occupational workplace safety personnel are routinely charged with running a forklift safety program without any form of supervisory guidance.

Comment ID: 26.04

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Exposure assessment

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Many respiratory hazards analysis requirements exist in these NAICS. Specific ones that are in need of evaluation are waste management workers, food service personnel and scientific service personnel.

Comment ID: 26.05

Categorized with the following terms:

Sectors

Manufacturing

Population

Other

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding
Capacity building

Partners

Categorized comment or partial comment:

Mechanical engineers require safety first foci integrated well in advance of starting a thought concept for building a new structure, mechanism or assembly. Traditionally, civil, mechanical and chemical engineers do reverse engineering when it comes to integrating workplace safety measures on a engineering project.

Comment ID: 26.06

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Marketing/dissemination

International interaction

Partners

Categorized comment or partial comment:

Construction workers routinely ignore occupational safety measures and requirements when establishing work sites, operating work sites and dismantling work sites. Establish liason with local, national and international workforce unions to determine occupational safety outreach programs that will educate without creating professional workplace concerns.

Comment ID: 26.07

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Personal protective equipment

Training

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Respiratory hazards abound in the agricultural and forestry workplaces. Seek them out, document them and recommend respirator decision logic and educational outreach programs.

Comment ID: 27.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

We need more engineering-based solutions to agricultural safety and health issues. Agricultural public policy, from an occupational safety and health perspective, limits educational and legislative approaches to injury prevention. Engineering and human factors engineering can provide long term and widespread solutions.

Comment ID: 28.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Heat/cold

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

Protect farm workers from contacts of pesticides and heat stress. Personal protection equipment for farm workers.

Comment ID: 28.02

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Infectious diseases

Exposures

- Infectious agents

Approaches

- Personal protective equipment

Partners

Categorized comment or partial comment:

Personal protection against biological agents for all occupationals, particularly for healthcare and emergency workers is a very important issue. Research in this area should be enhanced.

Comment ID: 28.03

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Personal protective equipment

Partners

Categorized comment or partial comment:

Personal protective equipment for all industries.

Comment ID: 28.04

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

How to increase protection of healthcare workers against diseases, such as SARS. Research on personal protection equipment should be further strengthened.

Comment ID: 29.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Work organization/stress

Heat/cold

Noise/vibration

Radiation (ionizing and non-ionizing)

Indoor environment

Approaches

Etiological research

Risk assessment methods

Partners

Categorized comment or partial comment:

I am afraid that with the sector approach we will lose the accomplishments and hard work that went into creating the 20 NORA-1 priorities. As you might expect, I have parochial interest in mixed exposures. Without a focus group for this topic, I really doubt that there will be a place for emphasis on this topic in the new structure. It would seem that somehow, the advances achieved by the NORA-1 teams should be captured better as a springboard for these NORA-2 program groups. That isn't evident in the current plan. I don't think we need to start NORA-2 from scratch. Let's make sure we use and incorporate the agendas that have been already created.

Comment ID: 30.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Mining
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Cardiovascular disease
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Cardiovascular disease

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Inhalation exposure to particulate, long accepted as a cause of fibrotic lung disease is increasingly recognized in the air pollution literature, both epidemiologic and mechanistic, to be a risk for inflammatory pulmonary disease as well as acute and chronic heart disease. Given the high levels of particulate exposures in various sectors (mining, construction, welding, transportation, and any industry that uses diesel powered equipment) this cross-cutting exposure deserves prominent consideration. It may also interdigitate with the nanoparticle issue.

Comment ID: 33.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Musculoskeletal injuries and pain from patient handling continue to plague healthcare workers. Musculoskeletal disorders (MSDs) shorten the careers of registered nurses (and assistive personnel), leading to insufficient numbers of these knowledge workers at a time that the aging US population is increasing the demand for them. MSDs have a multifactorial origin. The current emphasis is on reducing physical load through the use of equipment, but psychosocial factors, such as stress, also contribute to pain and disability. The second decade of NORA should focus on this important problem.

Comment ID: 34.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

For example membranes that have pores that change size with environmental conditions combined with antimicrobial functionality.

Look at clothing systems, fit and performance.

Comment ID: 34.02

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Risk assessment methods

Personal protective equipment

Partners

Categorized comment or partial comment:

Hand and dermal protection as well as hygiene practice. Proper care and wear life, doning and doffing gloves.

Full body protection from dermal exposure.

Measure of need and performance of clothing systems to reduce dermal exposure.

Comment ID: 39.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Risk assessment methods

Partners

Categorized comment or partial comment:

Home health is an area with little or no research. This includes not only looking at the hazards of the work but effects of aging and demographics important to the worker.

Comment ID: 39.02

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Other

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research
Risk assessment methods

Partners

Categorized comment or partial comment:

In general, examining the hazards to service workers like public health nurses who work in rural areas.

Comment ID: 39.03

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Violence

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Issues related to violence and stress continue to plague workers with the overload brought about by technology...too much work too fast!

Comment ID: 40.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

I've seen a lot of information about gloves for health care workers but it is very difficult to choose the appropriate glove for each duty and chemicals, because different studies conclude that a different glove material is the best for each chemical or duty.

Comment ID: 42.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work-life issues

Approaches

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Traumatic injury prevention among migrant farm workers and farm family members, addressing specific needs of non-English speaking workers, farm youth, and older farmers.

Comment ID: 42.02

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Prevention of traumatic injuries.

Comment ID: 42.03

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Small business

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Traumatic injury prevention among residential construction workers, specifically foreign-born Latino workers, day laborers, and self-employed.

Comment ID: 42.04

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Neurological effect/mental health

Exposures

Cardiovascular disease

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Organization of work and adverse health outcomes (cardiovascular, depression).

Comment ID: 42.05

Categorized with the following terms:

Sectors

Manufacturing

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Implementation of comprehensive safety and health programs for small employers.

Comment ID: 42.06

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Violence

Approaches

Partners

Categorized comment or partial comment:

Prevention of workplace violence.

Comment ID: 42.07

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Small business

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Organization of work and health care benefits for nursing aides, orderlies, and home health care workers.

Comment ID: 42.08

Categorized with the following terms:

Sectors

Mining

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Safety and health programs targeting small mines.

Comment ID: 42.09

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Small business

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Approaches

Surveillance

Intervention effectiveness research

Partners

Categorized comment or partial comment:

The increasing size of the informal work sector, primarily composed of immigrant workers but also temporary or day labor and contingent workers, self-employed, and small business owners. Significant under-reporting of illnesses and injuries among these populations present challenges for both surveillance and for intervention targeting.

Comment ID: 43.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

NIOSH has to be careful not to dilute the emphasis on the needs of special populations within the new sectoral organization of NORA for the second decade. I am particularly concerned with the emphasis on research about the health and safety hazards affecting immigrant and minority workers.

It would be important for NIOSH to make sure that all sectors where there is a significant participation of immigrant and minority workers in the labor force- such as the construction and service sectors- dedicate enough attention (i.e. money and human resources) to research the formerly called Priority Populations.

Although in theory there is no contradiction between the new organization of NORA and the former agenda for researching Special Populations, there should be a concerted effort from all NIOSH partners to make sure that these hard to reach, hard to study, but growing working populations are not excluded from future sector-oriented research programs and initiatives. Therefore, I suggest that all relevant sectors include Special Populations as a particular item in their research agenda.

Comment ID: 44.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

Linkage of datasets to provide broader and deeper understanding of circumstances of injuries is important.

Comment ID: 44.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Occupational health disparities important

Comment ID: 44.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Targeting immigrant populations important.

Comment ID: 44.02

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Home care workers, an important part.

Comment ID: 44.03

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Work to publicize and implement control banding.

Comment ID: 44.04

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Outreach to Latinos and other immigrant workers important.

Comment ID: 44.05 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Latino migrant farm workers require special attention.

Comment ID: 44.05 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Fishery intervention would be very important.

Comment ID: 44.06

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Latino workers should be a target.

Comment ID: 45.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Lead in construction. Of significant interest under this heading is the follow-up of temporary (seasonal) workers exposed to lead during repair and renovation of states highway bridges and overpasses.

Comment ID: 47.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Disability

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Work-site implementation/demonstration

Economics

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

One of the most pressing issues of workplace safety and health for farmers is locating the reasonable financial resources to fund changes. Many, if not most of the farmers I work with KNOW what the safety and health issues are in regard to the agricultural workplace. What they lack are practical solutions and funding. In addition, farmers with disabilities (especially with the graying of this workforce) need to be considered by the engineering, technological, and occupational health resources of our public/private/government organizations.

Comment ID: 48.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

I would like to suggest the addition of Emergency Responders as a special population in the second NORA generation. They are a unique group with especial exposure, now including CBNR exposure. With the increased attacks by terrorist I think that NIOSH should give especial consideration to this population.

Comment ID: 49.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Indoor environment

Approaches

Partners

Categorized comment or partial comment:

Air quality in health care establishments

Comment ID: 49.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Safety

Slippery floors in health care facilities

Comment ID: 49.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Health

Back problems for nurses and helpers who have to move patients

Comment ID: 49.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Traumatic injuries

Mortality

Exposures

Work organization/stress

Violence

Approaches

Partners

Categorized comment or partial comment:

Stress, burnout and violence from customers

Comment ID: 49.02 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Safety

Agriculture : Guard on piece of equipment on rotation

Forestry : Maintenance of equipment (ex. Wood Harvester Head)

Comment ID: 49.02 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Health

Agriculture : Alveoli like farmer lungs, Intoxication with NOx or H2S

Pesticides (delay of reentry in treated field)

Comment ID: 49.02 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Heat/cold

Approaches

Partners

Categorized comment or partial comment:

Forestry : Heat stroke especially for manual workers (ex. Tree planters)

Comment ID: 49.03 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Older

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Transfer of know-how between older and younger workers

Comment ID: 49.03 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Services industries that cover different types of industrial sectors (ex. environment clean-up crews)

Comment ID: 49.03 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Part-time workers from agencies

Subcontractors who operate in different dangerous environments

Comment ID: 49.03 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Ageing workers in good health in workplace

Comment ID: 49.03 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Young workers and their higher rate of accidents

Comment ID: 49.04 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Safety

Fall from structure

Working near live electric lines (ex. Crane operators)

Comment ID: 49.04 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Cardiovascular disease

Approaches

Partners

Categorized comment or partial comment:

Health

Exposure to asbestos during structure demolition

Exposure to carbon monoxide produced by small engines used on construction sites

Comment ID: 49.05

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

Safety

Truck driver (rate of accidents and number of deaths)

Lift truck

Racking

Comment ID: 49.06 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Health

Silica, dust, Diesel fumes

Comment ID: 49.06 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

From an area with only underground mines (Canadian shield)

Safety

Rock stability

Comment ID: 49.07

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Health

Psychosocial problemes (ex. burnout)

Comment ID: 49.08 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Safety

Piece of equipment in movement without guard

Comment ID: 49.08 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Health

Back problem disorders

Comment ID: 49.09

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Health

Musculoskeletal disorders

Comment ID: 49.10 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Best practices to make sure that small and medium establishments use results of research.

Comment ID: 49.10 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

Ways to transfer results of research to different cultural communities.

Comment ID: 50.01

Categorized with the following terms:

Sectors

Construction

Population

Small business

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Economics

Authoritative recommendation

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

There is a significant lack of fall protection systems in use on many construction sites, especially when smaller construction firms are involved. What are the key reasons behind this non-compliance? Cost? Fear? Productivity? Misperceptions of the risk and cost?

Comment ID: 52.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

Respirator Protection

Construction workers need respirators for a variety of exposures over which they have little control- welding fumes, asbestos, concrete dust (silica). Often they are bystanders and can therefore not control ventilation, work practices, etc. Many go from one job to another. There needs to be a model for providing a respirator program that could be taken from one employer to the next. Could be provided by a union, contractor association, private party, etc.

Research should be done on developing and testing such a model.

Comment ID: 53.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Risk assessment methods

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Epidemiology, assessment and interventions for sleep disorders, including sleep apnea, particularly in truck drivers. However, this applies elsewhere.

Comment ID: 53.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

School bus driver fitness is another big hole.

Comment ID: 53.02

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Training

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Interventional studies for MSDs....see below, on cross-sector issues.

Editor's note: comment on cross-sector issues is reproduced below:

We were successful in getting large scale cohort studies listed at the top of the list in the first NORA session in Chicago. We then got those studies started and now are getting extraordinarily valuable results. The next phase is to get detailed data on interactions of risk factors for MSDs from Epidemiological studies. Immediately after that, will come the need for demonstration of successful multi/transdisciplinary intervention studies. The successful integration and addressing of psychosocial factors is likely to be a critical variable, in addition to both personal risk factors (e.g., DM, obesity) as well as ergonomic factors. The other issue is actual implementation of such research into the classroom, CE and into practice, which while r2p is working on it to some extent, we still have problems with the translation from research to practice/classroom settings.

Comment ID: 53.03

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Prevention of deaths and traumatic injuries, followed by MSDs. This will require a transdisciplinary and multilingual approach.

Comment ID: 53.04

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

Fatalities are still a problem in that sector.

Comment ID: 53.05 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors
Radiation (ionizing and non-ionizing)

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

Bioterrorism/CBN might be if we knew what the future holds, in which case respirator protection is critical.

Comment ID: 53.05 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Sharps prevention is probably the tops.

Comment ID: 53.06

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Training

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

We were successful in getting large scale cohort studies listed at the top of the list in the first NORA session in Chicago. We then got those studies started and now are getting extraordinarily valuable results. The next phase is to get detailed data on interactions of risk factors for MSDs from Epidemiological studies. Immediately after that, will come the need for demonstration of successful multi/transdisciplinary intervention studies. The successful integration and addressing of psychosocial factors is likely to be a critical variable, in addition to both personal risk factors (e.g., DM, obesity) as well as ergonomic factors. The other issue is actual implementation of such research into the classroom, CE and into practice, which while r2p is working on it to some extent, we still have problems with the translation from research to practice/classroom settings.

Comment ID: 53.07

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

MSDs, especially back and shoulder, in the warehousing population. How do we prevent them?

Comment ID: 53.08

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Does keyboarding cause CTS. No shortage of opinions, but where is the fact? Office layout/ergo issues are also full on opinion and short on facts.

Comment ID: 53.09

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Much as I like the speed of this approach and the ability of folks from numerous distant locales to participate, which is a huge plus, I still think that this sort of agenda development needs some face to face time in group settings to help think about problems and discuss them for a longer period of time than most participants are likely using going through this approach. I will use the example of cohort studies for MSDs in Chicago. Initially, it was not on the list at all. I suggested it be on the list, and then it gradually moved up the list as topics were discussed. I clearly have a biased view, but feel obligated to point out that I believe that that topic will have proven the most valuable of the topics from that agenda setting session if reviewed retrospectively in terms of total pubs and impacts in another 5-10 years. I would project that transdisciplinary interventional studies for MSDs would have a similar impact projecting into the future. Yes, there is more work to be done in so many areas (e.g., Infectious diseases, sharps, accidents/trauma), but MSDs cut across all work sectors.

Comment ID: 53.10

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Successful interventions for prevention of occupational deaths(1) and injuries (2).

Comment ID: 54.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Migrant workers are an at-risk group in need of greater study and intervention to prevent occupational illness.

Comment ID: 54.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Low level pesticide exposure

Comment ID: 54.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

ergonomic problems

Comment ID: 54.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

TB

Comment ID: 54.02

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

TB and recent immigrants- potential for outbreaks

Comment ID: 54.03

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Noise induced hearing loss, better prevention
efficacy of early intervention for hearing loss

Comment ID: 54.04

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Partners

Categorized comment or partial comment:

Zoonotic disease risk in animal handlers

Comment ID: 55.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Violence

Approaches

Etiological research

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Categories of care giver services are at risk for physical hazards such as lifting, sprain/strain, slip and fall, and assaults: for example, Home health workers, especially personal care providers; Residential care personnel for mentally ill and developmentally delayed, Non-nursing personnel such as recreational assistants, drivers, and respiratory services providers. There is little information and less safety and health enforcement for these workers. Research could focus on epidemiology of work related conditions for these groups and also on methods for effectively preventing injuries in these spread out and varied environments.

Comment ID: 56.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Economics

Authoritative recommendation

Capacity building

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

In my view, the largest risk facing workers is the lack of public and policy-maker concern about their safety and health (lack of resources, under-recruitment of motivated professionals, lack of public interest, low and often inappropriate media coverage, inability to create standards and improve policy, inability to enforce penalties, inability to prevent businesses from putting costs onto workers and the public, marginalization of the issue in public health, etc.)

We need more research to document the need for and benefits from investment and policy-making to protect workers` health and safety, and to evaluate current interventions and policies. While some of this research can be done sector by sector, some should take a broader scope. Unifying this work across sectors would really help to improve priority setting and coordination.

Comment ID: 57.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Other

Health outcomes; diseases/injuries

Infectious diseases
Musculoskeletal disorders
Traumatic injuries
Mortality

Exposures

Violence

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I have concerns about incorporating the education sector with the services sector for several reasons.

1. We have found that K-12 schools are mainstreaming medically fragile students as well as students with severe emotional and social problems. As a result many workers in these schools are defacto healthcare/social services workers - they perform tasks that put them at risk of ergonomic injuries, infectious diseases and violence. Therefore, I advise that when there is sector overlap, education workers be considered in NORA deliberations for healthcare.
2. Communicable and infectious disease concerns are heightened for both education workers and corrections workers and again there may be an overlap with healthcare. Education and corrections institutions are more some of the most densely populated institutions in our society and we have not explored sufficiently the impact of infectious disease exposure on these workers - especially children of child bearing age (fifth`s disease, chicken pox-varicella etc.) and other vulnerable workers (diabetics, workers on chemotherapy etc.)

Comment ID: 57.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Respiratory disease

Exposures

Indoor environment

Approaches

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

3. The education sector is somewhat like the healthcare sector twenty five years ago - the work-related exposures are ignored and not well studied. I would like to see more studies in areas that are crucial to these workers such as:

1. voice disorders - research indicates that teachers have a disproportionate rate of voice disorders - besides over use of the voice, we don't know what other factors may be contributing to this - indoor environment - inadequate air quality and/or acoustics? - it's anybody's guess.

They may share this problem with service people who are on the phone - reservationists etc. This is a critical problem because many teachers have to leave the profession involuntarily because they cannot use their voices adequately.

Comment ID: 57.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Renal disease

Exposures

Work organization/stress

Approaches

Etiological research

Partners

Categorized comment or partial comment:

2. Bladder disorders - This is a hidden problem that teachers and classroom personnel probably share with healthcare workers - no opportunities to go to the bathroom during the day. Talk to any kindergarten teacher/special ed teacher - they may joke about their bladder infections/bladder disorders but this is a serious problem

Comment ID: 57.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Work-life issues

Approaches

Etiological research

Partners

Categorized comment or partial comment:

3. Breast cancer continues to be a concern especially recent evidence that finds that teachers may have a higher incidence of breast cancer - is there any work-related issue concerned with this? Maybe not - maybe.

Comment ID: 57.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

4. Asthma in the education sector deserves more attention as well

Comment ID: 57.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

To reiterate -recommend that when issues in sectors overlap, there be some cooperative work on the issue

Comment ID: 61.01

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Exposures

Approaches

International interaction

Partners

Categorized comment or partial comment:

Do not swayed by the view or idea that NIOSH should move towards `private consultancy` of safety and health research.

This would be more harmful in longer term when compared with short term benefits.

Keep the NIOSH Mining researchers (health and safety) alive and well supported for their research proposals.

Going private consultancy has destroyed the South African mining research which is now trying re-build. Hope you don`t follow that route...

Comment ID: 63.01

Categorized with the following terms:

Sectors

Manufacturing

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Need an emphasis on critical infrastructure protection and worker protection. This relates to homeland security, disaster planning and emergency management.

Comment ID: 63.02

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Renewable resources need to be considered in the context of sustainable economic development and ecosystem protection. Investigate the role of occupational health and safety in sustainable development. It may be no accident that the industries with the highest rates of injuries are those that are most problematical in sustainable development.

Comment ID: 63.03

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

American College of Occupational and Environmental Medicine

Categorized comment or partial comment:

ACOEM is focusing on three major themes for the next three years:

1. Excellence in Healthcare
2. Health and Productivity
3. Workforce Protection (with an emphasis on homeland security)

Comment ID: 63.04

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Training

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

See comments for service.

Editor's note: The referenced comment for services is reproduced below:

Services perceive themselves falsely as risk-free and therefore perceive ohs regulation as an imposition. The argument for health and productivity is more persuasive for them. Forget health promotion: workers do not stay with one employer or insurance plan or hmo long enough for the investment to pay off. The real value is in community health promotion and changing health behaviours on a social basis.

Comment ID: 63.05

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Training

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Services perceive themselves falsely as risk-free and therefore perceive ohs regulation as an imposition. The argument for health and productivity is more persuasive for them. Forget health promotion: workers do not stay with one employer or insurance plan or hmo long enough for the investment to pay off. The real value is in community health promotion and changing health behaviours on a social basis.

Comment ID: 63.06

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

American College of Occupational and Environmental Medicine

Categorized comment or partial comment:

Need an emphasis on critical infrastructure protection and worker protection. This relates to homeland security, disaster planning and emergency management. Assist the OH-AC and OHDEN would be a big start.

Editor's note:

OH-AC is the American College of Occupational and Environmental Medicine (ACOEM) Occupational Health Advisory Committee (OH-AC)

OHDEN is the ACOEM Occupational Health Disaster Expert Network

Comment ID: 63.07

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Training

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Construction is an industry dominated by trades and short-term contracts. Suggest emphasis on contractor compliance, training and education and practical means for large enterprises to monitor the compliance of their contractors.

Comment ID: 63.08

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Nonrenewable resource extraction also need to be considered in the context of sustainable economic development and ecosystem protection. Investigate the role of occupational health and safety in sustainable development. It may be no accident that the industries with the highest rates of injuries are those that are most problematical in sustainable development.

Comment ID: 63.09

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Hospitals and healthcare facilities feels very pressured financially and so they push back on ohs issues that they think will elevate costs. Prove to them that they can save money, increase efficiencies and boost productivity and you may gain their support.

Comment ID: 72.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Safety Compliance has to be one of the greatest setbacks for the construction industry, Polluting our air, waters, land and workers, there seems to be no advocates for having the bigger companies comply with regulations and standards set out by the laws in this country. Safety Consultants are turning there heads and looking the other way in hopes of retaining there jobs which we may also refer to these people by the name of Yes Men, and the Safety professionals who are few and far between, that are there for the workers and the law, get blackballed from the industry in which they became a professional in. And also what about when a complaint is phoned in with a promise to investigate OH@S don` t show up meanwhile workers have been contaminated. Alot more can be said but its what can be done is what my question is. I think 8 years of being fired because you uphold standards and policies and without backup from the people you are actually working for is enough. Scared Yet? I seem to be the only one who isn` t.

Comment ID: 74.01

Categorized with the following terms:

Sectors

Construction

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

I see nothing with regard to ship building/breaking in any of ten areas. This process would take in several different trades and processes.

Comment ID: 75.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Partners

Categorized comment or partial comment:

Accomplishments from NORA-1 emphasize the public health relevance of studying workplace reproductive hazards. Since nearly 55% of children are born to working mothers, and 62% of working men and women are of reproductive age, there continues to be great potential for exposure during critical reproductive windows. Furthermore, only about 5% of 84,000 workplace chemicals have been evaluated for reproductive toxicity. It is important that NIOSH continues to promote and evaluate reproductive health issues in NORA-2.

Comment ID: 76.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Personal protective equipment

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Within specific industries and occupations, research should compare immigrant rates of injuries/illnesses/deaths to others.

Besides the hazards of particular industries/occupations, research should investigate what else causes higher rates of injury/illness/death: training, PPE, language barriers, etc.

What happens to health and safety as immigrants enter an industry?

What are the obstacles to having good health and safety conditions for immigrants:

In general

In specific industries

What policies, factors would improve immigrant health and safety?

Comment ID: 77.01

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Exposure assessment
- Risk assessment methods
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

Exposure to air pollutants emitted from building products and materials is a major concern. Installers of floor and wall coverings, roofers, painters, and other workers dealing with wet-applied products are subject to substantial exposures which later, usually at lower concentrations, affect building occupants. Research is needed on the emissions from building products and on alternative ways to protect construction workers. Building maintenance products are also a significant source of exposure.

Comment ID: 77.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Indoor environment

Approaches

Partners

Categorized comment or partial comment:

Indoor environmental quality affects everyone, not just the workers but visitors to wholesale, retail, educational, healthcare, entertainment, and a host of other establishments. NIOSH should respond to the overwhelming demand for assistance evidenced by the NIOSH health hazard evaluation requests being received in recent years.

Comment ID: 77.03

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance Services
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors
- Indoor environment

Approaches

- Etiological research
- Exposure assessment
- Engineering and administrative control/banding
- Intervention effectiveness research
- Economics
- Authoritative recommendation
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Indoor Environmental Quality should be a high priority for NORA2.

Indoor environmental quality, especially indoor air quality is a major concern that remains largely unaddressed due to the lack of regulation and, to a certain extent, the lack of knowledge about the exposures, the sources of those exposures, and the most effective means to control them.

We know that indoor air is the dominant concern among the public requesting health hazard evaluations. NIOSH should take the lead in developing a research agenda that places indoor air near the top where it belongs on the basis of public concern and an apparent real need for an enhanced understanding of the indoor environment.

People`s exposures to air pollutants are dominated by indoor air exposures, and in the indoor work environment, most people have little to no control over the air quality, ventilation, or sources of pollutants. It is well-established that the non-industrial indoor air exposures dominate people`s exposures to air pollutants, far more than in outdoor air. The service sector, office and retail workers, educators, health care workers, professionals of many types have little control over their exposures at

work in spite of the fact that these exposures can be substantial. this affects productivity and health care costs and should be an important NIOSH NORA priority.

Comment ID: 78.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance Services
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Immune disease
- Infectious diseases
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Indoor environment

Approaches

Partners

Categorized comment or partial comment:

Workers in the health care, services, and wholesale/retail sectors share the potential health hazards common to all indoor, non-industrial, nonagricultural work settings, involving potential microbiologic, chemical, and physical exposures. These exposures are not yet well characterized, but may cause irritation, allergy, asthma, and other effects, and lead to increased absence and impaired work performance.

Comment ID: 78.02

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance Services
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Immune disease
- Infectious diseases
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Indoor environment

Approaches

Partners

Categorized comment or partial comment:

Aside from the health hazards specific to this sector, these workers share potential health hazards common to all indoor, non-industrial, nonagricultural work settings, involving potential microbiologic, chemical, and physical exposures. These exposures are not yet well characterized, but may cause irritation, allergy, asthma, and other effects, and lead to increased absence and impaired work performance.

Comment ID: 79.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Personal protective equipment

Authoritative recommendation

Partners

Categorized comment or partial comment:

Problem - Lack of performance-based guidelines/specifications for work and protective clothing for pesticide applicators.

Recommendations: Input into development of performance specifications for whole body garments currently being developed by ASTM International.

2. Validation of performance specifications

3. Consider certification or voluntary labeling of work and protective clothing based on performance specifications being developed by ASTM International.

Comment ID: 80.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

People are generally honest when given the truths about any subject. A look to the future to help instead of ways for the attorneys to get around litigation should be the number one priority. I have the track record to prove this claim. It is wise and very cost efficient to do this. This is important in all aspects of you future view for NORA.

Comment ID: 80.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Capacity building

Partners

Categorized comment or partial comment:

Consultants with the correct information that will make ideas based on the individual should be how services are given. Broad answer knowledge bases are not helpful for most people.

Comment ID: 80.03

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Immune disease

Respiratory disease

Exposures

Indoor environment

Approaches

Authoritative recommendation

Health service delivery

Partners

Categorized comment or partial comment:

Indoor Air Quality is the number one allergy related issue to building occupants. Preventative issues can bring down the cost of health care and should be addressed as a real concern when talked about with patients.

Comment ID: 80.04

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Old thinking is the number one mistake in the construction thinking. The truly most health conscience manufacturing companies have shown the highest increase in sales for the past three years.

Comment ID: 80.05

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Indoor environment

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Timber that has been treated or not, left outside prior to construction must be cleaned and treated to stop the effects of fungi and other growth that will consume the structure of the building and the future IAQ of it's occupants.

Comment ID: 81.01

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Other

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

NAICS 62549, I have found that there is a real need to help the residents of a community with their indoor air quality. Most people that are elderly, immunocompromised, pregnant, etc. do not have the financial resources to properly address their indoor environment with regards to microorganisms and VOC contamination. I would like to see more Community Development Departments, or an agency, offer some sort of financial assistance so these individuals so they can have their indoor environment inspected and if necessary sampled for contamination. We have done some pro bono work but, we can not afford to work for free either.

Comment ID: 82.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Training

Partners

Categorized comment or partial comment:

With indoor environmental awareness ever increasing, realtors need to be knowledgeable about what types of testing can be easily and affordably performed prior to the sale of property. Nobody wants to purchase another person's environmental issue. Simple sampling can be conducted that gives the prospective buyer microbial and chemical information about the structure prior to purchase. This may also provide some protection from liability to the seller down the road. If the structure is found to be devoid of various environmental issues at the time it is relinquished, and then a problem develops later, the new owner cannot falsely accuse or try to litigate against the previous owner since there is documentation to substantiate that the structure did not have that problem at the time of sale. Education about this type of sampling (e.g. fungi, bacteria, VOCs, toxins) is also necessary for tenants of condominiums, apartments, and public housing.

Comment ID: 83.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Hazard identification

Etiological research

Partners

Categorized comment or partial comment:

Workers manufacturing a variety of products are potentially exposed to materials of unknown toxicity, particularly through skin and inhalation exposures. The systemic as well as the local effects of representative agents of specific classes of agents (e.g. carbon nanoparticles, diketones, long and thin slowly dissolving organic fibers, etc.) should be investigated. Priority should be given to agents where workers, their physicians, or surveillance indicate exposure and unexpected disease trends, and where there is a paucity of data on the safety of these agents or close structural relatives. Laboratory studies should be a part of such investigations as they can reveal potential hazards where epidemiology studies are not possible and can help guide the design of epidemiology studies.

Comment ID: 84.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Indoor environment

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

The medical industry has fallen behind on the indoor environment as it affects their patients and employees. There needs to be more understanding and care exercised in dealing with air management as it relates to infectious control and health. Sales people have clouded the judgement of this industry in believing that certain products will cure this problem. Only a true environmentalist with a focus on indoor air quality will indentify systematic problems and solutions.

Comment ID: 84.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Indoor environment

Approaches

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

Building owners and property management companies need to be educated on the affects of delayed maintenance. Most building defects can be handled with little time, money and effort up front. Good property assessors can more than pay for themselves by helping to be proactive in maintenance requirements and maintaining proper indoor air quality.

Comment ID: 84.03

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Indoor environment

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

We recognize that very few buildings are being constructed with indoor air quality needs in mind. As a result our buildings are twice as polluted in relation to the outdoor environment. There are some simple solutions as well as educational awareness that would make a substantial difference in the health implications on building occupants.

Comment ID: 86.01

Categorized with the following terms:

Sectors

Services

Population

Small business

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Training

Health service delivery

Partners

Categorized comment or partial comment:

For many individuals in NAICS code 81 such as garage attendants and dry cleaning workers and in code 56 such as janitors the top problems are (1) inadequate health care due to lack of health insurance because of classification as "part-time" workers or because the employer is so small health insurance coverage is not mandatory and (2) lack of knowledge about the chemicals with which they work. The former problem is shared by others in this sector, particularly in code 72. Code 72 workers are most likely to be exposed to secondhand smoke at work.

Comment ID: 86.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

For chronic diseases, particularly cancer, we need studies that document the links from exposure to disease. We need studies that collect enough information (biological and historical) on each individual so as to be able to attribute diseases to occupational exposures or rule out such attribution. Ambiguous results due to study limitations do not move the science forward or, in the case of occupational exposures that do lead to increased risk of disease, provide enough solid evidence to back up regulations increasing restrictions on exposure

Comment ID: 86.03

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Other

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

For many individuals in retail trade the top problem is inadequate health care due to lack of health insurance because of classification as "part-time" workers

Comment ID: 87.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Authoritative recommendation

Capacity building

Partners

Rogge Miller

Categorized comment or partial comment:

I hold memberships in the Environmental Education Foundation and the American Indoor Air Quality Council. I am involved in many types of indoor air quality issues but usually in the sense of finding and determining a remediation process for existing problems. This issue needs continual attention but another area we feel needs attention is prevention. One area where NORA could excel would be in the area of preventive IAQ inspections which would provide businesses a green light sticker for indoor air quality that would tell their employees their work environment was being scrutinized by the owners to ensure a safe environment. The investigation should include testing for particulates, volatile organic compounds, mold, CO₂, CO, and pressure relationships between inside and outside and specific higher risk areas within the building. Other areas can be added as needed. Once given the green light, results can be posted for employee review and a NORA IAQ certification sticker can be applied to the front lobby area. The certificate would be good for one year. Please consider taking a more active role in the IAQ of our buildings from a preventative standpoint. If our company can be of any assistance in this or other matters, please feel free to contact as at any time.

Sincerely,

Rogge Miller

Comment ID: 88.01

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Hazard identification
- Etiological research
- Risk assessment methods

Partners

Categorized comment or partial comment:

Our understanding of the potential adverse health outcomes due to exposure to engineered nanomaterials, and the mechanisms underlying these responses, is essentially unknown. Basic toxicological studies need to be conducted to address this knowledge gap. This data will also contribute to later risk assessments of engineered nanomaterial exposure.

Comment ID: 89.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Partners

Categorized comment or partial comment:

Inhalation exposures to agents, old and emerging, will remain a constant problem for workers in many industries. It is essential to conduct laboratory-based hypothesis-drive studies to identify the hazards, the levels at which agents cause disease, and the mechanisms involved in the etiology of the diseases, to protect workers from the threat of diseases.

Comment ID: 91.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

- Chemicals/liquids/particles/vapors
- Work organization/stress

Approaches

- Personal protective equipment
- Training

Partners

Categorized comment or partial comment:

See comments in Construction section.

Editor's note: The comments in the Construction section are reproduced below:

I am particularly concerned about the abuse and misuse of migrant/immigrant laborers (mostly Hispanic?latino) doing a variety of tasks without sufficient training or personal protective equipment. I have seen it in my community where stonemason work is being performed without even eye protection, much less hearing or hand protection. I have heard about it from some of the massive and deadly exposures to lead of transient (migrant/immigrant) laborers doing sandblasting of bridges for highway departments. I think that the exposure to a variety of problems in the construction industry, as experienced by largely untrained and unprotected (and not fluent in English, and certainly afraid to complain) hispanic (and sometimes others) is a crime. Even government entities are using these immigrant laborers.

Comment ID: 91.02

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Personal protective equipment

Training

Partners

Categorized comment or partial comment:

Exposure of migrant/immigrant farmworkers. See also the comments in the Construction section.

Editor's note: The comments entered into the Construction section are reproduced below:

I am particularly concerned about the abuse and misuse of migrant/immigrant laborers (mostly Hispanic?latino) doing a variety of tasks without sufficient training or personal protective equipment. I have seen it in my community where stonemason work is being performed without even eye protection, much less hearing or hand protection. I have heard about it from some of the massive and deadly exposures to lead of transient (migrant/immigrant) laborers doing sandblasting of bridges for highway departments. I think that the exposure to a variety of problems in the construction industry, as experienced by largely untrained and unprotected (and not fluent in English, and certainly afraid to complain) hispanic (and sometimes others) is a crime. Even government entities are using these immigrant laborers.

Comment ID: 91.03

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Personal protective equipment

Training

Partners

Categorized comment or partial comment:

I am particularly concerned about the abuse and misuse of migrant/immigrant laborers (mostly Hispanic?latino) doing a variety of tasks without sufficient training or personal protective equipment. I have seen it in my community where stonemason work is being performed without even eye protection, much less hearing or hand protection. I have heard about it from some of the massive and deadly exposures to lead of transient (migrant/immigrant) laborers doing sandblasting of bridges for highway departments. I think that the exposure to a variety of problems in the construction industry, as experienced by largely untrained and unprotected (and not fluent in English, and certainly afraid to complain) hispanic (and sometimes others) is a crime. Even government entities are using these immigrant laborers.

Comment ID: 92.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Young workers are a major risk factor in the farming community. Focus should be stressed on accidents for under age 16 workers and also under age 21 worker, both native and immigrant populations. Family farms are particularly dangerous workplaces for young workers

Comment ID: 93.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services
Wholesale and Retail Trade

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Violence

Approaches

Surveillance

Partners

Categorized comment or partial comment:

I would be interested in research regarding how often young workers, age 13-19, experience workplace discrimination and harassment in this sector, and how such victims handle this occupational safety hazard, including whether most incidents are or are not reported to employers, parents, or appropriate government agencies. Many recent workplace discrimination claims filed by young workers involve severe and/or violent conduct, including, in some instances, rape.

Comment ID: 93.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Services
- Wholesale and Retail Trade

Population

- Youth
- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

- Violence

Approaches

- Surveillance
- Etiological research

Partners

Categorized comment or partial comment:

I would also be interested in research examining whether young immigrant workers are particularly susceptible to workplace discrimination or harassment.

Comment ID: 95.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Indoor environment

Approaches

Engineering and administrative control/banding
Training
Authoritative recommendation
Capacity building

Partners

Categorized comment or partial comment:

Applying construction principles with indoor air quality in mind

Jeff Cavin, CMR, CIE, CMRPT, ASCS, RIAQM, WRT

Designers of modern structures give little thought to contributing factors of poor indoor air quality and the resulting health implications. Some of these factors consist of inadequate or improper drainage installation, HVAC design, or installation of roof flashing. Even though there are poor health repercussions associated with poor indoor air quality, consideration during design and construction of modern structures is minimal.

Drainage

Although we understand that water intrusion can be detrimental to structural stability and contributes to the proliferation of mold, amazingly, I often observe many if not all of these contributing factors on inspections. Improper land slope, downspout installation allowing water to stand next to the foundation, French drain construction, drainage of HVAC condensation lines, and installation of vapor barriers are usually present.

By applying principles for better drainage design, we could possibly eliminate some of the major causes of water intrusion. In turn, we could significantly reduce the potential for poor indoor air quality due to fungal growth.

The following solutions will dramatically reduce the amount of water intrusion issues discovered during inspections for mold.

Sloping ground away from the structure or in an instance where this is not possible, installing strategically placed ground drains to carry the water away from the structure minimizes water intrusion. Also, installing gutter drains that will carry rain water away from the structure and French drains complete with clean outs are procedures conducive to water intrusion reduction. Furthermore, connecting condensation lines with existing drainage lines and installing vapor barriers so water vapor cannot penetrate the structure during the evaporation process are other strategies implemented to reduce the intrusion of moisture.

HVAC Design

Designing air handling systems in accordance with ANSI/ASHRAE standard 62.1-2004 offers solutions for indoor air quality relating to HVAC systems design while adhering to local, state and federal building codes. Further, HVAC systems without the use of internally insulated ductwork or fiberglass duct board are less susceptible to fungal growth.

Flashing

Implementation and enforcement of strict building codes significantly reduce the chances of water migration through roofing systems. Governmental officials need to organize contractor licensing committees to increase construction competency for industry professionals and inspectors.

Moisture

After the building is closed in, many contractors recognize the benefit of drying down structural framing material. This assists in preventing conditions conducive to fungal growth. By lowering the moisture content of the framing members below 20 % and relative humidity below 50%, structural drying brings structural material out of the optimal range for mold growth.

There are a myriad of other factors contributing to poor indoor air quality. However, the preceding factors, if eliminated, would considerably lower the chances of poor indoor air quality.

Comment ID: 96.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

We appreciate the sector approach of NORA 2. You also can find similar, more sector orientated approaches in Great Britain, Denmark and the Netherlands.

Comment ID: 96.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Marketing/dissemination

International interaction

Emergency preparedness and response

Partners

Categorized comment or partial comment:

The German Statutory Accident Insurance (BG) based on a sector structure is very successful with research related to sectors and branches. About 37 percent of BG-research projects in 2003 were sector projects. A considerable percentage of the others was primarily initiated in one sector and then generalized to cover more sectors. We learned from our experience that employees and employers are more interested and get more involved in sector projects than in general projects. So, the priority of projects with co-workers in industry and commerce is always classified as very high in our approval system because the achieved solutions can be tested and verified by the partners. This principle facilitates the adoption of solutions by all stakeholders. A common language and a specific technical terminology can often be identified as the key to success of sector projects.

Comment ID: 97.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Repetitive motion injuries of the hand and wrist in healthcare workers, research aimed at prevention is needed.

Comment ID: 98.01

Categorized with the following terms:

Sectors

Manufacturing

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

chemical exposure assessment

Comment ID: 98.02

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

exposure assessment

Comment ID: 98.03

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Exposure assessment

Comment ID: 98.04

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

ergonomics

Comment ID: 98.05

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

ergonomics, accidents

Comment ID: 98.06

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Accidents, ergonomics

Comment ID: 100.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance Services
- Unspecified

Population

- Disability

Health outcomes; diseases/injuries

- Hearing loss

Exposures

Approaches

- Engineering and administrative control/banding
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Thank you for the opportunity to provide a comment. NIOSH has been a national leader in hearing conservation (HC) education/management. One area within HC where guidance/standards are almost non-existent is Fitness for Duty Evaluations - how best to make recommendations on a persons ability to function in a given work environment that has hearing loss. How much hearing loss is too much? There has been some work in this area mainly with police/firemen but more objective testing along with guidance would be money well spent.

Comment ID: 101.01

Categorized with the following terms:

Sectors

- Construction
- Manufacturing
- Mining
- Unspecified

Population

Health outcomes; diseases/injuries

- Hearing loss

Exposures

Approaches

- Personal protective equipment
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Noise continues to be a chronic exposure issue across manufacturing, construction, mining, and other workplaces. We rely on hearing protectors to save hearing, but the analyses used to determine the attenuation and level of protection they provide are fraught with problems. Research should focus on how to make hearing protectors that are better embraced by noise-exposed workers, and how to determine how well those hearing protectors actually work on the people who use them.

Comment ID: 103.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

The sector approach seems to make sense for R2P at first, but there are serious practical issues. The manufacturing sector is so diverse from an exposure standpoint that it should be subdivided. A proposed subdivision could be as follows:

Food and beverage;

textiles, apparel and furniture;

primary metals, machines, equipment, and motor vehicle manufacture;

chemicals, rubber, plastics and pharmaceuticals;

concrete, clay, and glass;

computers and electronics.

Comment ID: 103.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

These groups are so different from one another that grouping them all together would be chaotic and ineffective. How could they agree on anything?

Comment ID: 103.02 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

In addition, emerging hazards and exposures deserve new research that will not come out of a sector by sector approach.

A dual NORA approach may be needed: sector by sector to implement what we already know, and a focus on key exposures to promote new or additional research in the most important areas.

NIOSH should look at old NORA program and continue with what worked well and what makes sense to continue. The rest can be discontinued and replaced. The new program should build upon and supplement rather than completely replace the prior program.

Comment ID: 103.02 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The goal of R2P is admirable and a sector approach may make sense for that, but NIOSH should not abandon the focus on new research. In particular, a focus on musculoskeletal disorders makes sense in light of the fact that about half of workplace injuries and 2/3 of workers compensation costs involve soft tissue injuries.

Comment ID: 104.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Etiological research

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Research on the effect of early education about workplace rights and safety on youth. In particular, are recipients of such training/information better equipped to respond appropriately, if necessary, to discrimination, harassment, and/or dangerous work conditions? Are teens likely to share this information with others: family and friends, co-workers and employers, and (eventually) subordinates? Are these teens less likely, in the future, to discriminate against or harass others, or to expose others to dangerous work conditions?

Comment ID: 107.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Noise/vibration

Approaches

Hazard identification

Partners

Categorized comment or partial comment:

We need to identify chemical exposures in the workplace that put workers at increased risk of noise induced hearing loss.

Comment ID: 107.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

We need to consider health effects from complex chemical exposures

Comment ID: 107.02

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

We need to develop interactive research programs across laboratories that utilize different methodologies to evaluate common research problems

Comment ID: 110.01

Categorized with the following terms:

Sectors

- Manufacturing
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade
- Unspecified

Population

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

- Training
- Authoritative recommendation

Partners

Categorized comment or partial comment:

If a research program is instituted on PIT, I would like to be informed so I can participate or head the research. PIT operators should be trained with more than just a few hours of OJT on the equipment before they are licensed. PIT of all kinds needs a national standard developed.

Editor's notes:

PIT is powered industrial truck, or forklift

OJT is on-the-job training

Comment ID: 112.01

Categorized with the following terms:

Sectors

- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

Approaches

- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Follow up for WRMSD using my patent and copyright to develop a dual system of keyboard/keypad and mouse for use by computer users i. e. IRS and all the others as mentioned in your DHHS (NIOSH) #2000-134

Comment ID: 116.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Work-life issues

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Interventions are needed to motivate farm owners/parents to remove children from agricultural worksites. More than half of the children injured and killed on farms are not working; but are present in very hazardous occupational environment.

Comment ID: 119.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Youth

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Risk assessment methods
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Exposure limits should be established to guide youth work assignments in all industries.

Comment ID: 119.02

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

We need more research focused on policy interventions to protect the health and safety of agricultural workers, including youth.

Comment ID: 120.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

Research should be conducted to identify exposure limits for youth working in agriculture.

Comment ID: 121.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

We need policy solutions to address the high fatality rate for youth working in agriculture.

Comment ID: 123.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Youth

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Risk assessment methods
- Authoritative recommendation

Partners

Categorized comment or partial comment:

We need to establish exposure limits for youth working in all industries.

Comment ID: 124.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

We need more policy-based solutions to address the health and safety of agricultural workers of all ages.

Comment ID: 125.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

Exposure limits should be established to guide agricultural work assignments for youth.

Comment ID: 126.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

More policy-focused research in agriculture.

Comment ID: 128.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Surveillance

Personal protective equipment

Partners

Categorized comment or partial comment:

48-99 Transportation Industry:

Trend and analysis of injuries in relationship to PPE use.

Comment ID: 128.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Essential function screening prior to start of job to determine ability to do the job, study difference in the injury rates of those screened who passed and did not pass the screening

Comment ID: 130.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

International interaction

Emergency preparedness and response

Partners

Categorized comment or partial comment:

A cross-cutting issue is "solution resources". While a research agenda is being developed, we should be careful to not "reinvent". Much excellent work is now available from international colleagues, especially accomplishments in small-scale industries and the unorganized sectors. As "small business" becomes a more dominant component of each US sector, I urge that we learn lessons from these international colleagues. We may need research in the efficient application or the evaluation of applications to US workers/workplaces.

Advances here among small businesses may have application across sectors, and internationally.

Comment ID: 131.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance
- Exposure assessment

Partners

Categorized comment or partial comment:

There is a dearth of current hazard/exposure surveillance data for each of the eight sectors. Conducting a hazard surveillance survey in parallel with development of a central repository of existing exposure data would provide valuable information to guide future research in the defined sectors.

Comment ID: 133.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Transition to NORA-2

Feedback from the NORA1 Reproductive Health Research Team

September 29, 2005

1. How can Reproductive Health Research continue into NORA 2?

o RHRT topics fit most directly into the Cancer, Reproductive, Cardiovascular, Neurologic and Renal Diseases Cross-Sector program (Terri Schnorr and Doug Trout manage this program).

o Hazardous Drugs activities may fit into the Healthcare Sector.

o The team's MSDS activities may fit into Chronic or Communications Cross-Sector programs.

Comment ID: 133.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Partners

Categorized comment or partial comment:

2. What are the legacy issues/activities identified/started by the team that need to move into the future?

o Many of the team's general recommendations for occupational reproductive research are contained in its Reproductive Agenda and NORA@9 papers.

From the Reproductive Agenda paper (Lawson CC, Schnorr TM, Datson GP, Grajewski B, Marcus M, McDiarmid M, Murono E, Perreault SD, Shelby M, Schrader SM. An occupational reproductive research agenda for the third millennium. *Environ Health Perspect* 2003; 111:584-592.):

o Prioritization of research needs

-- New toxicology studies should be prioritized based on chemical structure and volume of use.

-- Field studies should be prioritized based on toxicologic studies combined with human exposure information.

Comment ID: 133.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Partners

Categorized comment or partial comment:

o Potential surveillance activities

- Evaluate occupational exposure data available from existing surveillance systems.
- Expand additional birth defects surveillance systems to include a greater population in the United States.
- Add reproductive biologic markers and semen characteristics to national surveys.

Comment ID: 133.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Partners

Categorized comment or partial comment:

o New studies should assess gene-environment interactions and effects of mixtures of chemicals whenever appropriate.

Comment ID: 133.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

- o Research results should be communicated to the policy makers and affected public through widely accessible, nontechnical reports and summaries.
- o Improved communication among research disciplines and should be encouraged through
 - Interdisciplinary research protocols
 - Organized collaborative teams
 - Shared scientific meetings/workshops
 - Dissemination of results to wider audiences.

From the NORA@9 paper (Lawson CC, Grajewski B, Daston GP, Frazier L, Lynch D, McDiarmid M, Muroso E, Perreault SD, Robbins W, Shelby M, Whelan EA. Implementing a national occupational reproductive research agenda: Decade one and beyond. Submitted for publication, 2005):

In this report, we describe progress made in the last decade by the RHRT and by the others in this field, including prioritization of reproductive toxicants for further study; facilitating collaboration among epidemiologists, biologists, and toxicologists; promoting quality exposure assessment in field studies and surveillance; and encouraging the design and conduct of priority occupational reproductive studies. This paper also describes new tools for screening of reproductive toxicants and for analyzing mode of action. We recommend considering outcomes such as menopause and latent adverse effects for further study, as well as including exposures such as shift work and nanomaterials. This report describes a broad domain of scholarship activities where a cohesive system of organized and aligned work activities integrates ten years of team efforts and provides guidance for future research.

Comment ID: 133.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Partners

Oncology Nurses Association; MD Anderson Hospital; ANA; drug manufacturers; Joint Commission

Categorized comment or partial comment:

Other specific legacy issues identified or in progress by team members:

o Hazardous Drugs Working Group The Hazardous Drugs Working Group, started within the NORA reproductive team, has met since 2000 to evaluate the OSHA guidelines for this class of drugs, publish a NIOSH Alert, and hold a workshop in 2004. NIOSH and major organizations, including the Oncology Nurses Association, MD Anderson Hospital, the ANA, drug manufacturers, and the Joint Commission, are working together on this effort.

-- An intervention effectiveness evaluation manuscript will be written by Melissa McDiarmid and UMD staff from surveys at the Alert's 2004 workshop and 6 months post-workshop.

-- The working group plans to continue its meetings. The scope of the group could continue to expand to consider adding hormones to the hazardous drug list.

Comment ID: 133.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

o Pesticide prioritization NIOSH internal RHRT members plan to conduct an expert panel in FY06 to prioritize pesticides for reproductive research. The purpose of this NORA team project is to prioritize qualitatively ranked pesticides on the basis of overall risk of human reproductive toxicity, taking into account usage and exposure information. The team has previously been involved with prioritizing chemicals considered reproductive toxicants by the National Toxicology Program. With the help of an expert panel, a short, qualitative list of the highest priority chemicals was published (Moorman et al., *Reprod Toxicol* 2000; 14:293-301).

o RFA to Office of Extramural Programs for reproductive studies of priority toxicants and/or pesticides: Based on the prioritization of NTP reproductive toxicants described above, the NORA team sponsored several successful RFAs for occupational reproductive health effects research on prioritized chemicals. Internal NIOSH RHRT members are interested in using the results of the pesticide prioritization expert panel to develop a similar RFA for occupational reproductive health effects research with prioritized pesticides.

Comment ID: 133.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

- o Material Safety Data Sheet (MSDS) writing for reproductive hazards: Several RHRT members are planning to coauthor a publication to develop elements of the team's session on MSDS writing at this year's Society of Toxicology annual meeting.
- o MSDS working group: Team members were interested in holding a meeting on MSDS writing for reproductive hazards, possibly leading to a more generalized working group (e.g., similar to that for Hazardous Drugs). This plan could not be carried out within the RHRT's lifespan, but would be a useful contribution to occupational reproductive health with relatively minor resources.
- o Continue nominations of potential reproductive toxicants for expert panel evaluation to the Center for the Evaluation of Risk to Human Reproduction (CERHR).
- o Encourage communication/awareness of occupational reproductive hazards during the preconceptional period. Two team members who attended a recent CDC conference on this topic alerted the team to increasing interest in this area. This objective was removed from Healthy People 2000 because its success was not readily measurable. Preconceptional attention to workplace exposures should become part of the ERC curricula. The team recommends that occupational issues be kept on the radar of the CDC groups interested in this topic by representation in any meetings or working groups which are developed. Ultimately, to make a difference in primary care, managed care organizations and the US Preventive Services Taskforce would need to engage in this issue.

Comment ID: 133.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

o Team members were somewhat dismayed to see a large number of cross-cutting sectors and emphasis areas which incorporated a number of NORA1 teams, but no individually identified opportunities for reproductive health. One possible remedy would be an annual meeting of reproductive epidemiology and toxicology contacts from EPA, NIOSH, NIH, NIEHS, CDC, FDA, USDA in which each contact paid their own way and one agency hosted the meeting each year, with a subcommittee to plan an agenda of interest to all. The recurrent theme could be the national research agenda, and include updates on what's going on in each agency.

Comment ID: 135.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Partners

Categorized comment or partial comment:

Air quality is a major issue in hospitals in the southeast, where mold is a big problem.

Comment ID: 135.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Antibiotic resistant organisms are on the rise and there is no relief in sight for healthcare workers having to implement contact precautions- very timely and stressful- we need a change in the nurse patient ratio.

Comment ID: 137.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Authoritative recommendation

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Policy-based research. We know the solutions to most agricultural health and safety problems, the question is how to get them implemented. It will take policies, not piecemeal approaches, to make a real difference.

Comment ID: 146.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Capacity building

Partners

Categorized comment or partial comment:

The National Agricultural Safety Database (NASD) is a valuable resource for researchers, educators and practitioners involved in agricultural health and safety. Because of the importance of NASD, I feel that those who rely on the database as a resource would benefit by having it moved and funded within NIOSA as a whole. I am concerned that in its current setup NASD is dependent on the ability of a Regional Ag Center to successfully compete for resources. I want to clarify that in no way do I feel the Southern Coastal Agromedicine Center is incapable of maintaining NASD, and in fact think that they should continue to take the lead in maintaining the database. However, I do think that NASD would benefit from all Regional Ag Centers participating in maintaining, upgrading and enhancing the database.

Comment ID: 148.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer
Reproductive
Cardiovascular disease
Neurological effect/mental health
Renal disease
Hearing loss
Immune disease
Dermal disease
Musculoskeletal disorders
Respiratory disease

Exposures

Cardiovascular disease

Approaches

Surveillance
Exposure assessment
Authoritative recommendation
Marketing/dissemination

Partners

Categorized comment or partial comment:

Occupational injury/illness surveillance, particularly in relation to chronic illness conditions, and linkages to interventions. We need to better understand what are the most useful metrics and techniques for tracking trends, adjusting for under-reporting, identifying emerging conditions, standardized metrics (such as the occupational health indicators project), and effective ways to intervene on growing and emerging conditions. These could be used in concert with systematic exposure surveys (such as regularly scheduled NOES).

Comment ID: 149.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer
Reproductive
Cardiovascular disease
Neurological effect/mental health
Renal disease
Hearing loss
Immune disease
Dermal disease
Infectious diseases
Musculoskeletal disorders
Respiratory disease
Traumatic injuries
Mortality

Exposures

Cardiovascular disease

Approaches

Work-site implementation/demonstration
Authoritative recommendation
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Evaluation of effective approaches to setting up occupational health and safety comprehensive programs. What are the most effective ways to organize programs within companies to reduce hazards and injuries/illnesses? What are the key elements of programs that lead to the most impact for the effort?

Comment ID: 150.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

- Surveillance

Partners

Categorized comment or partial comment:

Surveillance of injuries should be included for all sectors.

Comment ID: 151.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Neurological effect/mental health
- Traumatic injuries

Exposures

Approaches

- Intervention effectiveness research
- Economics
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

I would like to see more focus on catastrophic injuries as part of the research agenda. This crosses all sectors. Loss of an eye or limb is catastrophic, but my particular interest is in seeing more focus on research addressing the prevention and treatment of neurotrauma - brain and spinal cord injuries. These are the most costly injuries to the individual and society.

Comment ID: 154.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Safe patient handling to improve the safety of the workplace for nurses and other health care workers as well as patients is an area that is critical to safety and needs additional attention.

Comment ID: 154.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Nurses are exposed to many chemicals in the workplace. Research is needed to address this issue. In addition to the workplace exposure that nurses have, nurses see and treat the result of the environmental issues. Chemical policy needs to be developed and implemented for the workplace and beyond.

Comment ID: 154.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Fatigue is impacting on-the-job safety in healthcare. Impact is due to work hours and mandating shifts for nurses.

Comment ID: 154.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Violence

Approaches

Partners

Categorized comment or partial comment:

Workplace violence in healthcare is escalating. More research is needed in this important area.

As always, sharps safety continues to be a priority in healthcare.

Thanks for this opportunity to provide input.

Comment ID: 158.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

I have a workers compensations case ongoing since 1984, for stress and injuries due to toxic chemical exposure. I have written to OSHA on several ocasions as well as some phone calls to inspect this chemical with the number 8493001, containg 16oz., called trichlofluouroethane as I learned from Dr. Halderman, a workers compensation doctor. The can did state "vapor Harmful" but when I complained by filing a grievance and verbal concern to my supervisor when she asked me why was I stressed I received know reaction from them or OSHA. I have been diagnosed with respiratory problems, toxic encephalopathy, toxic peripheral nueropathy, reactive airway desease. I have been declared totally disabled by social security and I receive long term dis. as well as life time medical, but know settlement or personal injury was filed. What other rights do I have and what can you do to stop the use of harmful chemicals on the without training or instruction. I have recently spoken to Mark, manager, at OSHA for records from my job of deaths and injuries but there was know report given them in regards to my case. What can my health results be in the future? Is this a slippery slop? Thank you,

Comment ID: 161.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

More research and education should be directed toward the benefit of treatment of cumulative or sudden trauma injuries to the muscles of the body with myofascial therapy, both self-administered and by well-trained practitioners.

Comment ID: 162.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

The proposed, court-imposed OSHA standard for hexavalent chromium (as Cr), could be a significant impact in many settings where welding of stainless steel is performed. My main concern is the "one standard fits all" approach, wherein every form of hexavalent chromium is considered equivalent in terms of exposure limit (and by inference, health risk). In other words, the health benefits and risk reduction for a lower Cr PEL in say, electroplating, are assumed to apply to stainless steel welding, even though the chemical form of Cr (acid mist vs. particulate fume) is quite different.

The assumption that all forms of CrVI have the same type, location and severity of health effects as say, chromic acid, can--if unfounded--lead to overly conservative standards. I would like to test that assumption. I believe we'll find that chromium compounds will have a spectrum of health effects, in the same way that research has shown different forms of asbestos have vastly different long-term health risks [By the way, asbestos toxicity is another topic for research and standard setting].

In summary, I would like to see a `reality check` on the toxicity of CrVI compounds to categorize them in terms of health risk. This would require research that provides data to show whether there is a significant difference. This information should be provided to guide funding for control strategies and impact the standard-setting process to logically tailor the PEL to reflect the different health effects and feasibility of controls.

Comment ID: 163.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

I am hoping NIOSH will do more research on the difference between patient safety and safe patient handling for bariatric vs. non-bariatric patients in LTC and acute care.

With 12 years in this area, I know without doubt, that bariatric patients are risky more for their body mass distribution than for overall weight, and require a distinctly different set of practices and device. I hope you will do a study on this.

Comment ID: 164.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

The greatest area of need for our profession is training the next generation of qualified Occupational Health and Safety Professionals. The numbers of students in Masters programs at ERC is down.

I think a major focus area that needs to be addressed is how to get qualified students into Occupational Health and Safety.

I teach at ECU, which is the biggest program and the considered, the best. At ECU recruitment is constant. We will recruit waiters, delivery people, etc. We love our field and thoroughly enjoy talking about our career. When talking to students we stress the variety of careers available, the exciting career the number of jobs available, the opportunity to make a good living and the opportunity to go to attend graduate school in industrial hygiene for free.

The biggest problem with recruiting is that people do not know who we are or what we do. Once they find out or become involved in the field they love it.

- Have Introduction to Environmental Health Science or Introduction to Occupational Health Science fulfill a General Education Requirement

* ECU has two half semester classes that have over 200 students in each

- Develop a relationship with the Biology, Chemistry, Environmental Science and Physics professors at your University

* ECU gets a number of new EHS majors from Forensic Science

- Develop a relationship with local community colleges

* Biology, Chemistry, Environmental Science and Physics majors

- ECU has developed a DVD/Video on what EHS is

- * Send copies of the video to local community colleges
- * Send copies to local science teachers
 - o Middle school science teacher
 - o High school biology, chemistry and physics teachers
- ECU has developed a self scoring questionnaire for students to utilize to see if they would potentially like EHS as a career
 - * Send copies of the video to local community colleges
 - * Send copies to local science teachers
 - o Middle school science teacher
 - o High school biology, chemistry and physics teachers

Comment ID: 166.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

813312 - Please keep researching the effect of increasing telecommunications on workers....CTS due to keyboarding, issues related to cell phone use, etc.

Comment ID: 169.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Economics

Work-site occupational safety health system/record keeping

Partners

Patrick J. Brennan; National Safety Management Society

Categorized comment or partial comment:

As a Safety, Health & Environmental professional of 25 years experience, one of the areas needed is in the education of Management Professionals understanding the role of EHS professionals in the corporate setting. This was tried by The National Safety Management Society, under the heading of "Project Minerva", not one business school or undergraduate school would allow the EHS professionals to address the students? How can business & EHS professional work together, when they know nothing about each others contributions to the corporate setting. I would be happy to follow up concerning this concern with anyone from your organization, please contact me if you have any questions.

Thank you,

Patrick J. Brennan

Comment ID: 170.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

1. Trauma due to agricultural equipment
2. trauma and cumulative trauma due to orchard and other agricultural work

Comment ID: 170.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Noise/vibration

Approaches

Partners

Categorized comment or partial comment:

3. Hearing loss in agriculture, forestry - due to noise, chemical exposure, vibration

Comment ID: 170.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Cancer

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

4. More research is needed on possible long-term effects of agricultural chemicals (lymphoma, Parkinson`s disease)

Comment ID: 170.02

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Prevention of back and upper extremity injuries in nursing assistants

Comment ID: 170.03

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

Prevention of occupational ashtma in manufacturing

Comment ID: 170.04 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Partners

Categorized comment or partial comment:

1. Prevention of carbon monoxide poisoning in warehousing

Comment ID: 170.04 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

2. Prevention of back injuries in transportation

Comment ID: 170.05 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Respiratory disease, particularly occupational asthma and pneumoconiosis including non-specific lung diseases such as "idiopathic" pulmonary fibrosis. Note that metal dust inhalation has been associated convincingly in large epidemiological studies with "idiopathic" pulmonary fibrosis, suggesting that these industries lead to severe and life threatening lung disease without a distinctive histologic pattern. (Baumgartner, Samet et al, Occupational and Environmental Risk Factors for Idiopathic Pulmonary Fibrosis. Am J Epi 2000;152:307.

Comment ID: 170.05 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Respiratory disease

Mortality

Exposures

Chemicals/liquids/particles/vapors

Cardiovascular disease

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Partners

Categorized comment or partial comment:

Ultrafine particle exposure and increased risk for cardiovascular and pulmonary disease: current concepts of particle dose-response reactions are based on particle mass measurements, while current research indicates significant morbidity and mortality with ultrafine particles at lower levels. Workplace exposures need to be reassessed in relation to actual exposures to ultrafine particles (e.g. in diesel) and disease risk.

Comment ID: 170.06 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

Categorized comment or partial comment:

1. Prevention of hearing loss

Comment ID: 170.06 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

2. Prevention of silicosis

Comment ID: 170.07 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

1. Prevention of silcosis in brickwork, masonry, stonework

Comment ID: 170.07 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

Categorized comment or partial comment:

2. Hearing loss

Comment ID: 170.07 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

3. Traumatic deaths from falls and vehicular injuries

Comment ID: 172.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

After nearly twenty years of service, Farm Safety 4 Just Kids has learned through research universities, other non-profit organizations, and educational programs how to reach community groups with life saving, farm-related programs. Evaluation is crucial to identify what makes it successful and ways to improve the system. Priority should be on making sure children, youth, and their families continue receiving programs that promote a safe farm environment across the United States.

Comment ID: 174.01

Categorized with the following terms:

Sectors

- Services
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Infectious agents
- Chemicals/liquids/particles/vapors
- Indoor environment

Approaches

- Intervention effectiveness research
- Authoritative recommendation

Partners

Categorized comment or partial comment:

I recently saw a presentation by "Safe Encasement" on a "biofilm removing coating" that reportedly passes ASTM mold resistance tests without a pesticide/fungicide additive. The secret was an anatase form of titanium dioxide that forms a photocatalytic surface, producing oxygen and hydroxide (OH) radicals in the presence of UV light to oxidize all things organic. Presumably, the product prevents future mold growth by destroying both the mold and its food source. I don't have any experience with the ASTM testing, but the supplier also offered results of tests they had arranged. I was not quite as impressed as the presenters by the test results, primarily because I didn't see any comparison to traditional products or placebos under similar conditions of natural or artificial lighting.

However, because of the promise of such a material in a variety of settings--restaurants, hospitals, locker rooms, restrooms, etc.--I would like to see results from more definitive testing, either through literature review or NIOSH funding for a MS or thesis project somewhere (e.g., at the University of MN).

Comment ID: 181.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

The primary problems in education include indoor air contamination, including the lack of intelligent and enforceable standards. The contaminants of concern include mold -- but other issues are important, such as the use of appropriate cleaning substances and the use/abuse of pesticides. On the horizon is the spectre of infectious disease, always a problem at some level, but avian flu may present a new and special problem.

Comment ID: 181.02

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

We need good studies of the impact of "contracting out" on health and safety. Not since the Gray Institute study in the chemical industry -- sponsored by OSHA, not NIOSH -- have we seen a serious (if limited) examination of contractor practices.

Comment ID: 181.03

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Behavior-based safety programs have spread like wildfire, but I have been unable to find independent and objective evaluations of such programs. There has been no study that I have been able to find of the impact of such programs on reporting behavior. There is anecdotal evidence of a "culture of guilt" rather than a culture of safety being established. I have observed in at least one industry the use of "negative reinforcement" -- disciplinary procedures -- to discourage injury reporting. This flies in the face of BBS system advocates of positive reinforcement techniques. Effective, un-biased evaluation of BBS programs should be a top priority.

Comment ID: 181.04

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

We need a good series of studies of the impact of irregular hours of work on the health of employees in this industry. This would include shift work, but should not be restricted to "regular" shifts. One of the areas worth exploring is the impact of irregular hours on diet and obesity of workers.

Comment ID: 181.05

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Partners

Categorized comment or partial comment:

As the newly appointed co-chairman of the Massachusetts Teachers Association Environmental Health and Safety Committee, I have learned about the deterioration of public buildings, including schools, and the variety of hazards to faculty, staff and students either resulting from or aggravated by the condition of the buildings. There is great concern about asthma and other respiratory diseases -- caused or aggravated by the building condition. Further, there is great concern about construction and renovations occurring while faculty, staff and students are present in the buildings.

Comment ID: 181.06

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Small business

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

- Work organization/stress

Approaches

- Engineering and administrative control/banding
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

Materials handling is a problem in all sectors. Effective means for controlling or limiting hazards to porters and other informal sector workers is extremely important.

Comment ID: 182.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Manufacturing
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Work organization/stress
- Violence

Approaches

- Intervention effectiveness research
- Economics
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

There is a great need for economic research concerning occupational health and safety. (1) certainly cost effectiveness of interventions is necessary; (2) inadequate budgeting in public sector has has an impact on building safety and health; (3) short staffing in health care and other labor-intensive services present real threats to worker health through job stress and, in some situations, of violence; (4) incentive systems, especially piece rate systems, militate against safety -- but have been little studied.

Comment ID: 187.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

The health & safety of researchers, particularly in colleges and universities, needs to be addressed. Specific areas of concern are nanotechnology and bio-research/biotechnology.

Comment ID: 188.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Exposure assessment

Authoritative recommendation

Partners

Categorized comment or partial comment:

For back and other musculoskeletal injuries, there is no "gold standard" for diagnosis. NIOSH should encourage research looking at biochemical markers of muscle/tissue damage from patient handling in direct care providers.

Comment ID: 189.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Personal protective equipment

Partners

Categorized comment or partial comment:

The long term effects of responding to odor complaints without respiratory protection. EH&S professionals who respond to these complaints usually need to "smell" for themselves in order to investigate.

Comment ID: 189.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Also, the effects of workplace stress especially when there is constant connection to the workplace through cell phones, pagers, at-home computers, handheld devices, etc.

Comment ID: 189.02

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Risk assessment methods

Engineering and administrative control/banding

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Research institutions such as those at universities face an increasing challenge in determining risk to workers in laboratories. Topics of concern include nanotechnology, emerging and mutating infectious diseases, experimental configurations involving electrical, mechanical or similar hazards and long term exposure to very low levels of various chemicals. Safety and industrial hygiene professionals who are familiar with the research laboratory setting will likely have many more examples. Many universities have limited resources including inadequate indirect cost grant funding and aging facilities that were not designed to accommodate these research related risks.

Comment ID: 190.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work-life issues

Approaches

Training

Partners

Categorized comment or partial comment:

I believe that we need to seriously address personal health if we are to continue to reduce workplace injuries. Many injuries are directly related to poor physical conditioning. How many employees don't know their blood pressure, blood sugar, cholesterol, etc. We still have too many workers who smoke, drink too much, and use illegal drugs. These issues contribute to workplace injuries and illnesses. I recommend that health promotion become a major NORA initiative.

Comment ID: 193.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

My customer, the U.S. Navy OPNAV Safety Liaison Office has requested a "Military" specific category with research emphasis on the occupational safety and health risks

Comment ID: 193.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

issues with nanotechnology.

Comment ID: 195.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

DOD nanotechnology environmental, safety, and health issues and recent developments.

Comment ID: 195.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

I request that a "Military" specific category with emphasis on safety and occupational health risks be established

Comment ID: 197.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Health care and hospital safety can be affected more directly if worker and patient safety are addressed simultaneously.

Comment ID: 201.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Work organization/stress

Work-life issues

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Healthcare is a very heavily regulated profession--JCAHO, HHS, and multiple state agencies are very prescriptive. However, rarely do these agencies address the need to recognize work schedule related sleep disorders. Reduction of medical errors is one of our nations greatest concerns; a great number of errors are likely do to healthcare worker sleep deprivation. It is also quite likely that employee health (including weight loss) can be improved with better sleep health.

Comment ID: 203.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Logging safety is being impacted by indiscriminate leaving of wildlife habitat trees and snags throughout the Northwest.

Comment ID: 207.01

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

Categorized comment or partial comment:

Toys for children need to be monitored for noise levels...often these toys emit levels of over 100 dB SPL at arm`s length.

Comment ID: 207.02

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Motor vehicles

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

Use of tractor equipment without HPD

Comment ID: 208.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Let`s not study and rework regulations for the sake of doing work. I believe a few pressing issues in industry are:

1.Hand held cell phone/blackberry usage while driving. I believe gov`t should issue a standard on banning/partial banning its use while opertaing a vehicle. The studies are there. We in industry are not responding to a ban or limited ban, etc. Therefore gov`t should regulate; the ROI is there in injury prevention.

Comment ID: 208.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Approaches

Economics

Authoritative recommendation

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

2. Avian flu preparedness. WHO and NIOSH have come out with planning checklists, but most in industry need actual sample procedures, guidelines, etc.

3. Let's put money in where the return makes good business sense. Nanotechnology is a great buzz word, but OSHA and state compliance agencies will never get involved in nanotechnology implications. Here's another example. In WA. State there is a 2006 heat stress proposal for general industry. This is ridiculous waste of time. The people who possibly need heat stress regulations in WA State are in agriculture and this proposed reg does not apply to agriculture. I am a former compliance person with OSHA and am a believer in gov't oversight. Please help out in the two areas I have listed.

Comment ID: 209.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Work organization/stress
Work-life issues

Approaches

Surveillance
Intervention effectiveness research
Economics
Health service delivery
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

How prevalent/how severe is PTSD, depression, alcohol/drug abuse ("burnout") among health care workers, and what are the social and economic consequences of these problems in the workplace? Do these conditions contribute to increased sick time/high turnover/errors in patient treatment/employee shortages? What can be done to screen/prevent/treat/minimize these conditions in healthcare workers? Are other direct service occupations (law enforcement, social services, firefighters, etc.) also at higher risk and if so, what are the consequences? After Katrina we saw police officers committing suicide, health care workers in need of grief counseling. In a catastrophe these needs are, perhaps, predictable and understandable, but what about the every-day job stresses that healthcare workers, et. al., endure? As a registered nurse for 20+ years, I can say that from a personal anecdotal perspective, these problems are more pervasive, more widespread, more persistent, and more severe than is acknowledged, and growing worse. The emotional and economic price we pay as individuals and as a society is very high, and the hidden price our younger children pay when their parents suffer from these problems is also high.

Comment ID: 211.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Needs to be more policy, best practice initiatives and outreach regardng children working and playing on our nation`s farms.

Comment ID: 212.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

There is an increasing need to for outreach into Anabaptist communities.

Comment ID: 213.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I'd like to suggest that research involving occupational musculoskeletal disorders (MSDs) be conducted within meat and poultry processing plants (311611 and 311615). For example, a USDA (FSIS) food inspector will perform between 1818 to 2100 hand motions per hour while inspecting poultry carcasses. Additionally FSIS issued a directive, 6550.1-Line Speeds for Heavy Young Chickens, in 1993, however FSIS management will not permit the IICs to enforce this directive. The inspection process involved with viscera trailing requires that the inspector use their left thumb to reflect the left fat pad of the carcass in order to adequately view the abdominal cavity of the carcass. The inspector's right hand is used to lift the viscera. The opposite hands are used when the viscera leads. As the carcass increases in weight, the fat pad also increases in weight thus increasing the force required to adequately reflect this pad. The rapid repetitive hand motion in conjunction with inspecting chickens greater than 6 pounds can result in serious if not permanent disability to the tendons and nerves in the wrists and hands of the inspectors and their supervisors, the veterinarians/IICs. From my experience when performing inspection of viscera trailing carcasses, the flexor carpi ulnaris muscle of the left hand is primarily affected, and the ulnar nerve may become involved due to the resultant tenosynovitis/tendinosis of this particular tendon/muscle. I have spent a great deal of time researching this problem, and have found that there has been little research performed in this particular environment. In addition, many poultry plant employees have suffered from MSDs while working in either the evisceration or further processing areas.

The following comment was recently submitted concerning increasing the line speeds in turkey plants:

RE: Docket number 04-033P, Allowing Bar-type Cut Turkey Operations to Use

J-Type Cut Maximum Line Speeds; FSIS Proposed Rule

The proposed rule's objective is to increase line speeds in establishments that use specific shackles in conjunction with the Bar-cut opening of turkey carcasses. This proposed rule states that the IIC can reduce line speeds when, in his or her judgment, the prescribed inspection procedure cannot be adequately performed within the time available because of health conditions of a particular flock or because of other factors. Such factors include the manner in which the birds are being presented to the inspector for inspection and the level of contamination among birds on the line.

This proposed rule states that the preamble to the final NTI system regulations explains that the maximum inspection rates in these regulations were established by work measurement calculations and were based on the amount of time necessary for an inspector to properly perform the correct inspection procedure (50FR 37511). There isn't any mention as to whether or not studies pertaining to the resulting musculoskeletal disorders (MSDs) of those who work on the evisceration line were performed or even considered. According to the January 2005 GAO Report, *Safety in the Meat and Poultry Industry, While Improving Could Be Further Strengthened*, states that some experts believe, for example that faster line speeds increase workers' risk of injury (page 4). Were baseline studies performed as to the safety of those who work on the evisceration line when these initial NTI regulations were proposed? If studies such as these were performed then why are they not mentioned? Who performed these studies, and when were these studies conducted? Where is the documentation for these studies? If indeed these studies were performed then what conclusions were drawn as to the inspectors' and plant employees' safety concerning the effects of this highly repetitive, forceful, and static position job task? Were baseline studies performed to ascertain at what level of repetition and force an inspector could safely sustain these hand motions so as to adequately inspect the turkey carcasses? Although OSHA's proposed Ergonomic rule of 2000 was never enacted, it does provide valuable information. Was this proposed rule reviewed to ascertain what detrimental effects might be encountered by the inspectors and plant employees? The proposed rule states that indeed those who work the evisceration line can perform the work, but it fails to adequately address and assess the cumulative, detrimental effects that this fast-paced task places on those workers.

As there is not any information available concerning the particular hand motions currently employed by FSIS turkey inspectors, I will assume that this inspection task is performed in a fashion similar to that performed on young chickens (I refer you to pages 15 and 16 of the Employee Development Guide, Revised 1990 and to pages 1 to 3 of the SIS Procedure guide of 1986). For young chicken inspection the inspector is required to use both hands to inspect each carcass. If this is indeed the case, then turkey inspectors currently are required to perform 1050 hand motions per hour for bar-cut opened heavy turkeys (> 16 pounds) and 1350 hand motions per hour for bar-cut opened light turkeys (< 16 pounds). This proposed rule wishes to increase these hand motions by 180 per hour, to 1230 for heavy turkeys and 1530 for light turkeys. Have studies been completed so as to determine what effect this increase in line speed will have on the upper extremities of FSIS inspectors and establishment employees?

The rule states that FSIS may realize benefits because the inspectors would not be required to perform this extra hand motion (required for bar type openings). It further states that the elimination of this extra hand motion may reduce undue fatigue among turkey inspectors. So to put this in perspective, for a bar-cut opening, FSIS inspectors are required to perform 1050 to 1350 hand motions per hour in addition to the aforementioned hand motions. This proposed rule will eliminate this additional hand motion, but will add 180 hand motions per hour, thus increasing hourly hand motions to 1230 to 1530 for heavy and light turkeys, respectively.

The proposed rule further states that no difference was observed in processed turkey attributable to line speed changes during the period of study, or between the test week and the previous week. FSIS concluded that establishment employees and FSIS inspectors are able to perform as well as they did using the slower, regulatory maximum Bar-cut line speeds. Again, what studies were performed to ascertain the effect of this increase in repetition on the upper extremities of those who work on the evisceration line?

FSIS increased line speeds for poultry in the mid 1980s. This increase in line speeds was in addition to the already highly repetitive nature of the assembly line work of the evisceration line. Both FSIS inspectors and establishment employees who work on the evisceration line have been adversely affected. Data from the Bureau of Labor Statistics (BLS) for 1982 through 1993 showed a dramatic increase in total illness cases due to disorders associated with repeated trauma, from 21% to 63% for all private industry. In 1994 BLS began compiling this data from specific sectors. At that time 65% of all illness cases in the poultry processing and slaughter sector (SIC code 2015) were due to disorders associated with repeated trauma. In 2000, disorders associated with repeated trauma accounted for 67% of the total illness cases within the poultry processing and slaughter sector. In 2001 data collection again changed within BLS so these particular figures cannot be followed. Industry contends that there has been a decrease in these types of injuries. However one must wonder about the validity of this statement upon reviewing the 2005 Wake Forest University study that contends that the number of work-related injuries may be underreported. Additionally the 2005 Human Rights Report, Blood, Sweat, and Fear, stated that even OSHA-supported research confirmed assertions that there is substantial underreporting of MSD injuries. According to a May 2004 memo from Dr. Barbara Masters FSIS costs alone for OWCP were 15.9 million in (FY) 2002 and 18.5 million in (FY) 2003 for work-related disorders. A breakdown of the particular injuries was not provided in her memo. Presently there are approximately 11,000 employees in FSIS, with approximately 8700 working daily in poultry and meat plants. Dr. Masters encouraged bringing these injured employees back to work, but there was not any mention of ergonomic changes to facilitate their permanent reentry. In fact FSIS has not addressed these work-related MSDs in its wellness program nor in its Health and Safety meetings. Presently FSIS employees are ignorant as to the debilitating and potentially disabling effects that increasing line speeds have on the muscles, nerves, tendons, joints, and ligaments of their upper extremities. There is no excuse for these omissions as FSIS was informed of these potential problems as recently as August and October 2004 but has failed to enact any safeguards for its employees.

The proposed rule further states that the IIC can reduce line speeds. Such factors as manner of presentation and contamination were cited as factors that an IIC can use when, in their judgment, the line speeds should be reduced. However, what concrete guidelines are given so that the IIC can make an objective decision, 50 percent of a ten-carcass sample, 75 percent? There aren't any. In fact in 1993 Directive 6550.1, Line Speeds for Heavy Young Chickens, was issued and it directs the IIC to reduce line speeds when carcasses are greater than 6 pounds. VIII A of that directive states "IIC's must adjust line speeds as necessary to allow for proper inspection of heavy young chickens." VIII A 2 (Responsibilities of IIC) states "Adjust line speeds according to the weight of the birds." Yet, there was not one IIC in the Jackson Mississippi circuit who could enforce that directive. In March 2004 when the District Manager of Jackson Mississippi was questioned as to how to enforce that directive, the IICs were informed that presentation and disease incidence would have to be considered when reducing the line speed, it could

not be based on weight alone. There's nothing in the directive that states that presentation or disease incidence must be considered. In addition there's not any objective criterion given as to what disease incidence should be used in such an instance. Reduction of line speed using one's judgment is precarious and subjective, and it will be called into question by establishment personnel. From experience it will result in an immediate phone call by plant management to the Front Line Supervisor or the District Office and the line speed will be mandated to be returned to its `normal` rate.

FSIS will also counter these arguments saying that the presentation tests could be used. Presentation tests are performed by both establishment and FSIS personnel. It is rare indeed for these tests to fail for two reasons. First, in most plants the arranger is stationed adjacent to the inspector so when they see the `tester` approach, they can easily arrange adequately to pass the twenty carcass test (10 inside errors plus 10 outside errors). After the `test` is recorded they can easily revert back to inadequately arranging the carcasses. Speaking to plant management at the weekly meetings does little if nothing to alleviate this problem. Second, these presentation tests are generally only performed by FSIS personnel twice a shift. If the FSIS `test` fails, plant personnel will immediately follow with their own test, and in my experience, the majority of these `tests` always `pass`. This holds true for any test performed by FSIS, such as prechill and post chill tests. In my experience it was rare indeed to ever see plant personnel `take control` of the line or even of a process unless FSIS threatened to `tag` the product.

Before this proposed rule is accepted, there are several issues that must be resolved. The first is a baseline must be established at which the inspectors and plant employees can work safely. Criteria must be established as to what rate of repetition and force (weight of carcass) is `safe` for the FSIS inspector and plant personnel. Next, studies must be conducted to ascertain what effect this increase in line speed will have on their safety? The third issue that must be resolved is at what level of disease incidence/contamination will the IIC be able to reduce line speed. Finally, presentation checks are relatively useless, and need to be re evaluated.

Sincerely,

Christina Dumas, D.V.M

Comment ID: 214.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

I will be attending the Seattle meeting but will not be presenting - I was not able to register until last week.

There are some issues that are of concern to those of us who care for and work with workers in the ag industry.

1. The need for preventive screening and education - hampered by the lack of third party reimbursement for preventive services.

Comment ID: 214.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

2. The incidence of chronic respiratory disease.

Comment ID: 214.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

3. Hearing loss and very low use of protective equipment in ag workers.

Comment ID: 214.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Capacity building

Health service delivery

Partners

Categorized comment or partial comment:

4. The important need for collaborative working opportunities for researchers, program development and service providers

Comment ID: 214.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Capacity building

Partners

Categorized comment or partial comment:

5. The need for continued education and training for health and community care providers that show an interest in and a passion for agricultural health & safety. With the constant venue of funding cuts, will there be job opportunities for those who want to work in this area? There are many of us who are nearing the retirement phase in life in the next 5 - 10 years

Comment ID: 214.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

6. Agriculture employs a greater number of individuals who are younger than the average worker and older than the average worker. there are serious concerns in ag safety & health for all on the age continuum - farmers and ranchers are working well past the age when it may be safe to do so in many cases. we are an aging work force.

Comment ID: 215.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer
- Cardiovascular disease

Exposures

- Cardiovascular disease
- Work organization/stress

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Approximately 15% of the work force is engaged in night or rotating shift work. New data suggests these work schedules can prematurely age the cardiovascular system (with increased heart morbidity and mortality and at an early age) and in WOMEN (nurses and air stewardesses thus are researched) increase the risk of breast, colon and rectal cancers. I am not aware of studies of male workers, for example, regarding colon and rectal or prostate cancer and these studies are needed. The question is do night and shift work schedules, which cause disruption of the body's circadian rhythms on a frequent basis, through the work life contribute to cancer -- not only in women but men. European animal studies and US epi studies on women suggest this to be the case.

Comment ID: 215.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Traumatic injuries

Exposures

Work organization/stress

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Moreover, I am concerned about the role of rotating shift and night work on injury risk (relating to fatigue plus deficits in eye-hand coordination and cognitive functioning). In particular, more needs to be learned about the effects of night and shiftwork on men, and especially women particularly those who have responsibilities for young children or elderly-dependents -- who are essentially working double jobs and double shifts almost daily. Early small scale studies show such women are quite sleep-deprived and stressed with the possibility of negative health effects.

Comment ID: 215.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

More research is needed on the effects of shift and night work schedules on healthy physical, psychosocial aging, in general. Can we design better work schedules to promote physical and emotional health? What about interventions to lessen the burden of night and shift work schedules. Do short naps improve productivity, reduce workplace errors and injuries and promote better health?

Comment ID: 215.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Also, there is little information on the tolerance of minorities for shift work and the potential for differential health effects in both male and female shift workers.

Comment ID: 216.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Cardiovascular disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Cardiovascular disease

Work organization/stress

Work-life issues

Approaches

Etiological research

Exposure assessment

Engineering and administrative control/banding

Personal protective equipment

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Research may include: Epidemiologic research and coordination of field studies of Wild Land Fire Fighters (NAICS 115310) for better identification and understanding of respiratory exposures to air contaminants such as particulates or carbon monoxide among others; development of respiratory protection practices and administrative controls for hand crews and fire camps based on air contaminant research; similarities and differences between structural fire fighters' exposures and wild land fire fighting; fitness standards and screening that account for the effect of underlying cardio-vascular health, conditioning and age; the impact of "stress" related to fire fighting on the development of cardio-vascular disease.

Submitted by

Kate Wood, Safety and Risk Unit Manager

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Oregon Department of Administrative Services-Risk Management

With support of members of the Oregon Department of Forestry

Massive wild land fires have swept western states for the past decade. Increasing population in these same states has contributed to the need for aggressive fire management. More lives and high-value personal property than ever before are at risk of loss. The public - and public policy - calls for protection. Interstate Mutual Aid Agreements have created a virtual guarantee of fire fighting work from May through November each year. Continued population growth, high value property construction and continued fuel build-up in forested wild lands will result in this work continuing for many years to come.

The wild land fire fighters are often young and physically fit. The work is seasonal; jobs viewed as "temporary". But increasingly, anecdotal reports indicate this may be changing. If the workforce is returning to this work over many seasons, the effect of the intense, but episodic, risks may result in unanticipated disease development.

Wild land Fire Fighter safety practices and personal protective equipment have improved dramatically over the years. Most attention is focused on injury prevention. But the Occupational Safety and Health community may wish to attend to issues related to health conditions - specifically: do work exposures cause or contribute to the development of cardio-vascular and pulmonary diseases. Research may include: a better identification and understanding of respiratory exposures to contaminants such as particulates or carbon monoxide among others; development of respiratory protection practices and administrative controls for hand crews and fire camps based on air contaminant research; similarities and differences between structural fire fighters' exposures and wild land fire fighting; fitness standards and screening that account for the effect of underlying cardio-vascular health, conditioning and age; the impact of "stress" related to fire fighting on the development of cardio-vascular disease.

For western states, wild land fire fighting is an increasing issue for the safety and health management. Solid safety practices and worker health protection needs to be based on the best science available. Inclusion of these safety and health issues in the 2006 National Occupational Research Agenda will bring focus to the work being done by various groups. The populations that will benefit are primarily young and at the beginning of their working years. Many will move on to other careers, but many more will remain involved in the Forestry industry.

Comment ID: 217.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

We have recently conducted a survey of tractors in Washington State. Over 500 farms were sampled across types of farming and asked for detailed information about their equipment. The results showed that tractors used in orchard/hops/vine crop farming had ROPS less than other types of tractors. This is due to the possible presence of overhead obstacles. The other significant finding was that less than 20% wore seatbelts regularly. I would recommend research funding into development of low-cost, feasible ROPS for tractors operated under overhead obstacles. I would also recommend research and education funding to the farming community on ROPS and seatbelt use on tractors.

Comment ID: 217.02

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Falls from elevation in construction continue to be a constant source of fatal and serious injury incidents in Washington State, and in the US. Despite the known hazard and availability of interventions, continued work is needed in this area to find effective means of employing interventions and reducing hazards in the field.

Comment ID: 217.03

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Musculoskeletal disorders continue to be one of the top concerns across industries. I recommend including MSDs as a separate cross-sector issue worthy of devoted resources to help fund research in different industries on both identification of risk factors for injury and development of feasible solutions to reduce risk.

Comment ID: 217.04

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Work-site implementation/demonstration
Economics
Marketing/dissemination
Emergency preparedness and response
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The SHARP Program in Washington State has been working with the trucking industry to develop a systematic injury reduction program. As part of the background work we completed a survey of all trucking companies in Washington to assess the safety and health needs and priorities for the industry. Overexertions/sprains/strains were ranked as the number one injury of concern in the industry, followed by slips/trips/falls. The greatest areas of concern as they related to profitability were 1) fuel costs, 2) increasing costs of labor/workers` comp, and 3) finding and keeping drivers. This is a vital industry for our economy that has been hit with increasing cost pressures and high injury rates. I strongly recommend funding to work with this industry to develop feasible strategies to reduce injuries and implement interventions to help protect workes and aid the industry in reducing costs and keeping drivers.

Comment ID: 218.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Unspecified

Population

Other

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors
Work-life issues

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I would like to thank NIOSH organizers of the Town Hall Meetings for including input from the Pacific Northwest as the occupational research agenda is designed for the next decade. I appreciated being a part of the discussion

My suggestion is that NORA include basic research addressing the latent health effects of fetal exposures to agrochemicals, metals and solvents. These low dose, chronic exposures may heighten susceptibility to diseases such as cancer, infertility, neurological disease later in life. The emerging area is termed "fetal basis of adult disease". Increasing evidence suggests that these exposures may contribute to heritable, transgenerational deficits. Some environmental agents, especially those with hormone-like activity may alter developmental programming and yield functional changes rather than overt malformations. The injury manifests later in life as increased susceptibility to disease. The mechanism proposed for this phenomenon is epigenetic alterations in gene expression, through abnormal methylation (silencing) of DNA. In some instances these exposures may result in persistent, heritable changes, affecting future generations by somatic and germline damage. Therefore, my recommendation is to examine in utero, low-dose occupational exposures for increased risk of cancer, infertility and neurological disease (epidemiology) and laboratory studies to better understand the molecular basis of injury.

Comment ID: 219.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Motor vehicles

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

In discussions with beef producers and veterinarian dairy consultant working in the NE corner of Oregon and SW Idaho, the top injury and safety concerns stem from the interactions of human workers with animals and machinery. Moving animals, heavy equipment/tools/yard maintenance. Farm worker safety may be challenged by difficulties in human communication, long hours, personnel turn-over, harsh conditions and training that may or may not result in durable behavior changes. The lack of program review may contribute to complacency.

These topics are too familiar. They suggest a remoteness of the work site and poor accessibility to interventions that may be currently available through NIOSH Ag Center activities. So, my suggestion is to promote efforts to extend the safety message/interventions to the frontier districts of Oregon and Idaho.

Comment ID: 220.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Nationally, tractor and machinery related incidents account for the largest segment of agricultural work related fatalities. Research needs to focus on engineering controls and improved "system safety" design. Outreach programming should be implemented to increase worker training and education.

Comment ID: 221.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Tractor Overturns (both rearward and side) account for a significant number of occupational fatalities each year in agriculture across the US. These fatalities can be practically eliminated by the presence of a tractor Roll Over Protective Structure (ROPS). New tractors have these structures, while many older tractors do not. Retrofit ROPS kits should be installed onto older non-ROPS tractors.

Comment ID: 222.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Training

Partners

Categorized comment or partial comment:

Animal related events continue to be a leading cause of work related injuries across US agriculture. Animals have unique characteristics that result in unique safety hazards. Since animals (especially large) do not respond well to the typical guarding and shielding solutions for other hazard types, targeted research needs to look at this issue and possible solutions. Animal handling techniques should be explored that minimize the potential for injury, followed by investigation of more effective training methods for workers employed in the animal husbandry industry.

Comment ID: 223.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Migrant and seasonal worker issues in agriculture are not confined to one type and are often related to culture, background, and work history. Cultural diversity within the migrant population should be recognized in respect to research and programming. Farm workers in the US come from many different countries and include many varying languages. Often the non-Spanish speaking segments are overlooked in migrant safety and training activities. Workers from all represented countries, and additional cultures such as Mennonites and Amish, present unique issues and should be included in farm worker research topics.

Comment ID: 224.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

Agriculture as an industry experiences one of the highest occupational fatality rates of any industry. Examination of these fatality events nationally, shows a predominance occurring to middle aged Caucasian males. Additional significant spikes are present in the very young and older populations as well - a uniqueness to agriculture. Research needs to correlate with the issues impacting the most workers and work related fatalities.

Comment ID: 225.01

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Hearing loss

Exposures

Noise/vibration

Approaches

Partners

Categorized comment or partial comment:

Students of music are exposing themselves to significant, and sometimes outrageous noise dose levels according to research done here at UNCG. This needs to be a research focus as well as a preventative focus.

Comment ID: 226.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Exposure assessment

Partners

Categorized comment or partial comment:

The National Health and Nutrition Examination Survey has provided invaluable population based data for researchers. With the addition of biomonitoring data this publically available data set provides a unique opportunity for researchers to test and generate hypotheses with sufficient sample size and a representative population. However, occupational data in NHANES is limited. I think a nationally representative cross-sectional study of worker across all industries covered by NIOSH would be a real asset to researchers, industry and the general public. Exposure assessment data could be combined with personal interview information to create an important data set specifically geared to address the needs of occupational and environmental researchers.

Comment ID: 227.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Noise and hearing loss. More emphasis on noise control technologies.

Comment ID: 227.02

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Personal protective equipment
Intervention effectiveness research
Work-site implementation/demonstration
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Improved fall protection devices that interfere less with work practices and have higher likelihood of use/compliance.

Comment ID: 227.03

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Repetitive motion injuries in grocery clerks is epidemic and getting worse. More research and the development of cost-efficient solutions are needed.

Comment ID: 227.04

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

Dermal protection of sprayers, applicators, and field workers against pesticides that can cause dermatitis and/or systemic health effects.

Comment ID: 228.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Work-life issues

Approaches

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

An area of research need that does not seem to be well addressed by NIOSH is in the area of exposure of agricultural workers to potential pathogens in the animal production environment. There have been some studies that indicate that workers on farms and in abattoirs are more likely to be colonized with potential human pathogens such as *Campylobacter* and other enteric organisms. These organisms that most likely arose from workplace exposure can lead to a source of infection for family and community members outside of the workplace environment as well. In addition, many of the pathogens that are present in the agricultural environment are resistant to the effects of many antimicrobial agents, which allows for a potentially bad problem (spread of pathogens) to get even worse (spread of pathogens that are resistant to treatment). There is a definite need to more fully understand the extent of the problem of workplace exposure to pathogens and better understand the ecology of pathogen transfer in the agricultural (and related) workplace. Additionally it will be important to understand what interventions can be done to limit the transmission of the potential pathogens from the animals to the workers in agriculture.

Comment ID: 229.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

We need more research on zoonotic agents in the agricultural workplace and how to prevent their spread. The hazards associated with such agents are not restricted to infection, but also to the work required in their control or elimination.

Comment ID: 231.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

Investigation on reliable biological exposure indicators is needed in the forestry sector for workers exposed to antistain wood treatment compounds, such as trybromophenol and copper quinonilate.

Comment ID: 231.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

International interaction

Partners

Categorized comment or partial comment:

NORA can provide leadership not only for US investigators, but also for latinamerica, since here we follow closely NIOSH trends and recommendations.

Comment ID: 231.03

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

The issue of changes in the work organization system and the movement of workers among jobs needs to be investigated and addressed.

Comment ID: 232.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Risk assessment methods

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Could not find where to make a suggestion for Hearing Conservation concerns.

Currently we are testing at 500Hz and not testing at 8,000 Hz. A noise induced hearing loss does not effect 500 Hz but it might effect 8,000 Hz. Providing a quiet test environment is often difficult at 500Hz. If we were not required to test at 500 Hz, environmental attenuation concerns would be mostly eliminated, especially for mobile test facilities. I think the main reason we continue to test at 500 Hz is that OWCP and other Dept of Labor type compensation formulas require this frequency as part of the compensation formula. The question we should ask about this requirement is why? If Noise induced hearing loss doesn't effect 500 Hz, why is it part of the compensation formula? The only reason is to cut the employer some slack at the employees loss! In America, that is wrong, however, I'm reminded that OSHA won out over EPA action level recommendations that I think allow 20% of Americans exposed to 90dBA 8 Hr TWA using a 4 dB Exchange rate (not the scientifically proved 3dB ER) to possibly acquire NIHL. But I guess that is ok because corporations will also benefit from testing a 500 Hz. Bottom line, stop testing at 500 Hz and start testing at 8,000 Hz.

Comment ID: 233.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Providing adequate staffing, for nursing & the Occupational Health service area in particular. Contrasted with Infection control we are responsible for more with little ability to plan & adjust our schedules. Often IC gets recognition for work done by EH.

Comment ID: 234.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Healthcare is experiencing a "brain drain" as it allows its older workforce to leave because it cannot meet the physical demands of the job. Critical thinking skills are developed and should have value in the workplace. What is happening across work/employment lines to keep the older worker working? When is accomodation going to be an essential function of the workplace to recruit and retain workers?

Comment ID: 235.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding
Authoritative recommendation

Partners

Categorized comment or partial comment:

Ergonomics and patient handling. MSD`s are frequent in healthcare; need studies and standards for guiding/implementing healthcare facilities procedures to prevent injury to workers: include equipment, policy, administrative control.

Comment ID: 237.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Neurological effect/mental health

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Nurses often are expected to perform incredible feats of endurance. Long shifts, hours out of tune with the rest of the world, physical, mental, emotional, and spiritual stress take their toll. A nurse shortage is looming on the horizon as the baby boomers retire and younger women have more options in the work force. We need to examine the needs of the aging nurse as well as methods to prevent burnout. What are the stressors and how can they be addressed?

Comment ID: 238.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

1ST

Behavior Based Safety Management should be studied by NIOSH in effort to produce programs that can be adopted by Companies without the resources to purchase such programs. 90 percent of most mining injuries are a result of at risk behavior. If we are to make more strides in safety in the operations with good safety programs, behavior must be addressed.

Comment ID: 238.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

2nd

Air arcing is a very valuable welding tool. The average air arc tool creates noise in excess of 115 dbA. NIOSH should study this tool in effort to reduce the sound level emitted by the tool.

Comment ID: 238.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Work-life issues

Approaches

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

3rd

Noise induced hearing loss is a large concern in mining. The general population probably does more damage to their hearing at home than in the workplace. NIOSH should study the effects of non-occupational induced hearing loss, that manifests itself as an occupational induced hearing loss. Powered tools used at home, auto racing and extremely loud stereo music are just a few of the non-occupational noise exposures

Comment ID: 239.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Training

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Finding ways to decrease bloodborne pathogen exposures in healthcare. What are the most effective tools to reduce needlestick injuries. Are we missing the boat on education, or, will this problem only get better with high tech safety devices? How do we encourage a safety consciousness in our workers?

Comment ID: 241.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Youth

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Economics

Authoritative recommendation

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

I agree that the healthcare field is heavily regulated and it does not take care of it's own. No lift policies should be federally mandated. It would increase recruitment and retention. It would allow for the increased amount of healthcare workers needed to care for the aging population of patients. It would also protect healthcare workers young and older. Employers would have decreased costs and injuries.

Comment ID: 242.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Obtaining objective data to confirm or rule out the relationship of work causing cumulative trauma/MSDs, including determining differences in tasks or performing a certain activities that have risk factors, if any. Some say it does and others say it doesn't. Though this is a concern with Healthcare it permeates all industries.

Comment ID: 243.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Unspecified

Population

- Older

Health outcomes; diseases/injuries

- Infectious diseases

Exposures

Approaches

- Authoritative recommendation
- Health service delivery

Partners

Categorized comment or partial comment:

Evaluate what really is an elevated vs. normal temperature. The elderly, even some middle aged, do not always pop a high fever but they may still need antibiotics. How do we individualize an elevated temp if we use that in the criteria to determine whether to give antibiotics.

Comment ID: 244.01

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Hazard identification
- Etiological research
- Risk assessment methods
- Engineering and administrative control/banding
- Personal protective equipment

Partners

Categorized comment or partial comment:

Nanomaterials: Further research is needed in Toxicology & Pharmacokinetics, Permeation & Transport - PPE Selection,

Quantitative Analytical Techniques - Methods and Equipment, and Control Technologies - Engineering & Administrative

Comment ID: 245.01

Categorized with the following terms:

Sectors

Manufacturing

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Wireless Technology: More reseach is needed with frequencies Beyond Cell Phones - 3G Wireless Wide Area Networks, WiFi - Wireless Local Area Networks, and

WiMAX - Broadband Wireless Access Technology

Comment ID: 246.01

Categorized with the following terms:

Sectors

Manufacturing

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

More research is needed on Pandemic & Fomite Control Strategies for Businesses - the efficacy of the currently recommended approaches

Comment ID: 247.01

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Etiological research
- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Control Strategies When EHS Data Is Lacking: More reserach is needed on control approaches for materials with immature EHS/tox data, and the synergistic / cumulative effects of low levels of chemical exposure

Comment ID: 248.01

Categorized with the following terms:

Sectors

Manufacturing

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Risk assessment methods

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Need more validation of control banding and modeling techniques

Comment ID: 249.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification
Etiological research

Partners

Categorized comment or partial comment:

Emerging Micro-scale Health Care Screening & Disease Detection Devices: Need research on the potential new occupational hazards posed by the combination of biotech, nanotech, and microelectronics

Comment ID: 250.01

Categorized with the following terms:

Sectors

Manufacturing

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Capacity building

International interaction

Partners

Categorized comment or partial comment:

Training and education partnerships with emerging economies (i.e. Asia)

Comment ID: 251.01

Categorized with the following terms:

Sectors

- Construction
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer
- Reproductive
- Neurological effect/mental health
- Immune disease

Exposures

- Chemicals/liquids/particles/vapors
- Indoor environment
- Work-life issues

Approaches

- Authoritative recommendation
- International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: So good morning again. Actually now I'm representing another faculty member at the School of Public Health at Harvard, that's Robert Herrick, and he's asked me to present to you and present to NORA in terms of -- in terms of the town hall meeting today an unrecognized source of PCB exposure in the workplace.

We know PCBs are a set of persistent organic chemicals, and there's clear evidence that PCBs cause cancer in animals and they're considered a probable human carcinogen (sic), according to the United States Environmental Protection Act. The human and animal data provides evidence that PCBs have significant toxic effects on immune system, the reproductive system, the nervous system and the endocrine system. So -- so it -- we know of -- about its health effects for a long, long time.

But the four points I want to make today is construction materials to this day contain PCBs in substantial quantities. These PCBs can contaminate buildings and the surrounding soil. And occupants of these buildings can have elevated serum PCB levels. Removal of these materials in construction can -- can cause widespread contamination and worker exposure. This is based on a couple of studies that have taken place in Europe, primarily in German, Sweden and Finland. And they've demonstrated

relationships between PCBs in sealants, mainly caulking, and levels of indoor air and settled dust, as well as in the soil around the foundation of buildings containing these materials.

Now one source that's really hidden and it's probably in -- even in our own homes. I have an old 19th century home that I've been rehabbing and every time that you're peeling off the caulking, that caulking actually contains PCBs, and often it just drops into the soil next to it. And this caulking is used mainly when there's dissimilar materials, like brick next to concrete, or metal window framings and the like, and it often after time wears off and just falls into -- to the soil. And often there's workers that need to remove these materials -- or homeowners -- so there's tons of exposure to -- to workers involved in the removal of these sealants and the Finnish -- there was a Finnish study that looked at this. Mainly the grinding of old seams of -- of buildings, we've seen that a lot, exposes workers to high concentrations of PCB-containing -- contained in the dust of the -- of the grind material from -- from these sealants.

So they've done some bio-mark-- they've looked at serum levels of PCBs in these workers and find that they're about four times larger than a reference group and way above the recommended levels for PCBs.

This plays also a role in our schools and in our communities. One thing is -- is, you know, often in schools the -- the ground around the buildings are contaminated, and what we do know is there's also been measurements in these -- in these Finnish studies about the PCB levels next to the building. And you can see sort of an exponential decay as you move away from the building, and what we see is that you almost have to be almost two meters away, almost six feet away from the building before the PCBs in the soil are -- are below the federal guidelines for PCB materials.

So -- and this has been demonstrated in the United States, as well. There was 13 buildings out of 24 where the caulking had detectable levels of PCBs. Of these, eight buildings contained caulking that exceeded the 50 parts per million EPA criteria, in some cases by a factor of nearly 1,000 times the recommended level. And so these levels of PCBs in these materials are quite high.

I want to conclude with a story of a school in Westchester County, New York -- which is in between our two districts. And this was published in the New York Times. There was a school in Yorktown Heights. In what state health officials can call the first clean-up of its kind in the state, a school district in Westchester County is planning to remove soil next to the elementary school in Yorktown Heights because the soil is contaminated by PCBs from caulking in the school's windows. Dr. Daniel Lefkowitz* requested tests on scraps of caulk left after maintenance at French Hill Elementary School where his son Evan is a student. Tests found that PCBs at 350 times above the federal limit. So this is definitely an unrecognized source.

So let me in conclusion say that while EP regulations specify procedures by which PCB-containing materials must be handled and disposed, there is no requirement that material such as caulking must be analyzed for PCB content.

And finally, workers are removing PCBs with no precautions taken to protect themselves or to prevent environmental contamination.

And so with that, I want to thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 252.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Personal protective equipment
Authoritative recommendation

Partners

Categorized comment or partial comment:

Problem: In the United States there is no performance-based certification for protective clothing for pesticide applicators. Testing and certification by NIOSH would allow individuals to select appropriate protective clothing based on the level of exposure.

Comments: PPE used by pesticide handlers is broadly divided into whole body garments and accessories such as gloves, respirators, masks, face shields and aprons. Performance-based selection criteria are available for the respirators and gloves. However, body garment recommendations are based on the garment design rather than the performance. In the last decade significant work has been done to standardize test methods and to develop performance specifications. For example, performance specifications for pesticide applicators are being developed by ASTM International and ISO. When approved, these specifications could potentially be used for testing and certifying protective clothing. It is proposed that NIOSH work closely with standardization agencies, researchers, and the industry to develop testing and certification based on the selection, use, care and maintenance of the protective clothing. As considerable work has been done on development of an online data entry and selection system, it is suggested that NIOSH review the current capabilities, and if acceptable, build on existing research in the area of PPE. It is envisioned that NIOSH certification would take a more holistic approach of testing and certifying protective garments and accessories.

Comment ID: 253.01

Categorized with the following terms:

Sectors

Construction

Population

Small business

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Work-life issues

Approaches

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: My name's Dave Madaras. I'm the President of the Chesapeake Region Safety Council, which is a local chapter of the National Safety Council. I'm a certified safety professional. I've spent most of my professional career in the construction industry. I've worked as a field laborer, carpenter, estimator, assistant project manager, corporate safety director and risk management specialist. My safety concerns result from more than 20 years of involvement in the industry. The construction industry employs approximately five percent of the working population, and it's consistently responsible for about 20 percent of the workplace fatalities.

On February 6th, 1995 OSHA's fall protection standard became effective. The Agency estimated the rule would prevent about 79 fatalities, 56,400 injuries annually. In 1992 the construction industry accounted for 275 deaths from falls. In 1997 falls accounted for 380 deaths. In 2001 over 400 deaths. Why is the number increasing? Is the standard flawed?

Why do accidents occur? Some of the common contributing causes as to why accidents happen are mistakes, absent-minded, risk-taking, fatigue, lack of concentration, didn't follow procedure, misjudged, over-exertion, shortcut, jury-rigged, careless attitude, et cetera.

Now the following is a list of the -- following is a list of effects of marijuana: Impaired brain function, relaxed inhibitions, confusion, fantasizing, memory loss, dulled attention, altered senses, exhaustion, disorientation, recklessness, poor judgment, loss of depth perception, lowered motivation and impaired coordination.

The Substance Abuse and Mental Health Services Administration conducted a survey of construction workers from the ages of 18 to 49. Twelve percent admitted illicit drug use in the last 30 days; 21 percent in the last year; 13 percent admitted to heavy alcohol use. Construction industry has the highest combined total of drug and heavy alcohol use, 15.6 percent for drugs, 17.6 percent for heavy alcohol. Most construction companies are small businesses. Small and medium businesses are where most substance abusers work.

Why have falls from elevations increased after the adoption of a new standard? Is there a strong correlation between substance abuse in construction and the industry's high fatality rate? Are falls from elevations the number one hazard in construction, or is it substance abuse? What's the best way to deal with the problem of substance abuse in the construction industry? What have private companies done to address the problem? What are some best practices? And is there hard data to support the best practice? What is organized labor doing about substance abuse with construction trades? How are the workers responding? Do they have best practices supported by data showing that they were successful with some of their -- their activities?

Just one brief comment. As a working -- during my period of time as a corporate safety director, sometimes one of the biggest challenges that I was faced with was conveying information to people, having them think it through and then apply it into the field. And a lot of times you look at what they do and you think why in the heck are they doing it that way? Would a logical person think through this and come up with the same conclusion? I can tell you from my experience, the substance abuse problem is enormous in the industry.

I heard a doctor one time talk about the workers who perform heavy labor, and he described them as industrial athletes. Industrial athletes that stay involved in an activity for a lengthy period of time, if they abuse their bodies with substances, will eventually break down.

So those are my comments. I appreciate your time, and thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 254.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Capacity building

International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good morning. My name's Katherine Kirkland. I'm with the Association of Occupational and Environmental Clinics. We deal a lot with health professional education, outreach, education to primary care physicians. And so one of the primary concerns that I am involved with is training of occupational safety and health professionals. And what has happened -- you know, we've got a couple of different models. We're -- we're still sort of looking at the traditional model of training. People are making some innovations, but right now I'm the executive secretary of another NIOSH group. It's a working group looking at the current NIOSH training programs and how they're functioning, what changes need to be done. I can't tell you what the conclusions are because we've had two meetings and haven't come up with a whole lot of answers yet, but a lot of questions.

One of the things that I think we need to do is to look at some new and innovative ideas and to get input from everyone who's currently working in the field. There's on-line case studies. There's some really great work being done in Europe by the University of Munich and the European Union looking at on-line training and how it can work with lower income developing nations who don't have the resources to put together a training program like our education and research training. Looking at distance* learning, we've all been looking at that. I don't think there's a single group of educators in the country, regardless of what their training program is, that aren't looking at distance learning.

But we need more. We need each sector that is part of this NORA training group to kind of look at what they're looking at and say okay, what are our training needs? What -- what sort of occupational safety and health professionals do we need to carry out the work that we are doing? We're looking at all these different fatalities, we're looking at injuries, we're looking at prevention. What are our training needs? What sort of people do we need coming through? And I'm looking at -- you know, what's working? You

know, we've got a lot of people coming through at various professions, but are they trained the way they need to be trained when they hit our field, when they hit your particular group? You know, are you getting what you need to out of the training that's currently existing?

And I'm talking about all the training needs. I'm talking about the occupational physicians, the nurses, the industrial hygienists, the safety professionals, the psychologists, everybody. Are their fields that we should be training that we're not training?

So I'm not up here to give you any answers. I'm up here to ask questions. And I think that in order to do this we need input from all the NIOSH stakeholders. We need all of you to be thinking about, you know, what are your needs, and give them both to the NORA -- and at this point, you know, I'm perfectly willing to take questions and comments about what -- what you think are needed so I can take it back to the occupational working group.

And I'm real simple to reach if you have any ideas for me, as well as for NORA. My e-mail is kkirkland@aoec.org, or just send them to the NIOSH -- you know, to John Howard's e-mail address. I'm sure he'll send them on to me. Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 255.01

Categorized with the following terms:

Sectors

- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Neurological effect/mental health

Exposures

- Work organization/stress
- Work-life issues

Approaches

- Etiological research
- Economics
- Marketing/dissemination
- Health service delivery
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Thank you. Good morning. I appreciate this opportunity to describe the need for ongoing research regarding mental health issues in the workplace. As a mental health professional I've heard numerous complaints from individuals about the impact of stress on their ability to function and aggravating their underlying disease.

In preparing for today I spoke with a number of colleagues in the northern Virginia area regarding what job stress or complaints their patients were experiencing, and the following were the responses I received: A lack of flexibility by management, especially in the service industry, regarding child care and transportation issues; perceived lack of empathy by management regarding the effects of mental illness on job performance by government service workers; under-utilization of their skills and being bored as having chosen a less stressful occupation due to the severity and reoccurrence of their illness; an increase in workload without due compensation and the unvoiced expectation by management that this is acceptable; difficulty navigating the insurance and short-term disability system, and not knowing how much to disclose to the employer and peers upon returning to work; ineffective interpersonal communication with management, especially when receiving a punitive attitude to mistakes; and not obtaining treatment due to concern for job loss when working in the corrections field, but especially in this area, for fear of jeopardizing one's security clearance.

Mental illness is on the rise worldwide, and one of the leading causes of disability in North America. The global burden of disease study unveiled that mental illness, including suicide, accounts for 15 percent of the burden of disease in the United States, which is more than the disease burden caused by all cancers.

Mental disorders are common in the United States and internationally. An estimated 22 percent of Americans ages 18 and older, which is about one in five adults, or 44 million people, suffer from a diagnosable mental disorder in a given year, with less than a third receiving treatment.

The cost of mental illness in both the private and public sector is -- is -- in the United States is \$205 billion; \$92 billion is for direct treatment costs, \$105 billion is due to low productivity, and additional \$8 billion results from crime and welfare costs. It costs another \$113 billion annually for untreated and mistreated mental illness to American businesses, the government and families.

Despite these statistics, there are some U.S. employers who have been cutting back on mental health services as a means of cutting costs, with an eight percent reduction of employers offering mental health benefits from 1998 to 2002. This results in an increased cost for the organization or society as a whole.

For example, there was a Connecticut corporation that made a 30 percent cost reduction in mental health services, which triggered a 37 percent increase in their medical care use and sick leave by the employees who used those mental health services. Health plans with the highest financial barriers to mental health services have higher rates of psychiatric long-term disability claims compared to companies with easier access.

And lack of access to care results in increased substance use and incarceration rates. Correctional facilities which now house a large proportion of the severely mentally ill who don't have a place to stay - the cost of correctional facilities is four to five times higher than community-based treatment of mental illness.

There continues to be stigma and discrimination regarding mental illness despite scientific research supporting the biologic nature of these illnesses. There is a substantial proportion of Americans who view mental illness as a self-induced weakness, thus not seeking treatment. At times the person does not even have the awareness that they are ill, and this is part of the neurochemical changes that happen in the brain from the illness.

If mental health treatment is delayed, there is decreased productivity, greater absences and longer durations of disability. It impacts not only the individual, but their coworkers around them who have to compensate for the uncompleted work. When individuals with mental illness return to work, an additional five to nine hours of time is needed from supervisors and coworkers to help them return to their previous level of functioning.

Current concern in occupational health is the effect of downsizing on the mental and physical health of employees. In the past decade there have been hundreds of U.S. businesses that have downsized in order to reduce costs and improve efficiency. A number of studies have looked at the effects of downsizing on those who remain -- a survivor syndrome, as they put it. Those survivors, especially those who were more directly involved with the downsizing process, either giving notices or losing a job and then being rehired, have been found to experience worsening mental and physical health, increased stress, increase in job insecurity or an increase in alcohol use.

Organizational factors that have been identified as negatively impacting employees' mental health are increase in role ambiguity, role conflict and lack of effective communication from management. Employee attributes have been negative affect, an external locus of control or perceptions that management is not being supportive or interested in them. These individuals tend to be less likely to accept organizational changes.

In conclusion, focus of ongoing research should include evaluation of effective ways of disseminating current findings, especially to management and policy-makers, to improve the mental health of all U.S. workers in all sectors. Ongoing scientific research is needed in the cause and effective treatments of mental illness, collaboration between occupational health, mental health, public health, advocacy groups, the insurance industry, labor industry is encouraged to educate the public about mental illness and encourage a business culture that promotes mental health. Of particular interest is the effect of the organizational restructuring and the mental health of aging American workers, who are more at risk for depression and the onset of chronic medical conditions.

I thank you for your time. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05 Expanded written comments submitted as w4617.

Comment ID: 256.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Radiation (ionizing and non-ionizing)

Violence

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good morning. I'm here -- my name is Jane Lipscomb from the University of Maryland Center for Occupational and Environmental Health and Justice. I'm here to support NIOSH's approach to the second phase of NORA by focusing on sector-specific research.

I'm strongly in support of the focus on health care and social assistance sector. University of Maryland Center for Occupational and Environmental Health and Justice has been conducting research in these sectors over the past six years, and I've personally been focusing on health care worker health and safety research for the past 25 years.

As many of you know, more than ten percent of workers in the United States are health care workers, characterized as people committed to promoting health through treatment of the sick and injured. Health care workers ironically confront perhaps a greater range of significant workplace hazards than workers in any other sector. Hazards facing health care workers include biological hazards, chemical hazards -- especially those found in hospitals, which include anesthetic waste gases, sterilant* gases, hazardous drugs, industrial strength disinfectants and cleaning compounds; physical hazards such as radiation and ergonomic hazards; violence, psychosocial and organizational factors.

Of great concern are the many health consequences associated with changes in the organization and financing of health care. The social service work force, although much more poorly characterized, is a source of exposure to many of these same psychosocial and organizational factors that impact health care worker health and safety. Research is desperately needed to begin to understand the risk factors and control strategies for preventing injuries among the large and diffuse social assistance work force.

In the limited time allotted here I will provide a brief overview of hazards and research needs associated with the health care and social assistance sector, while my colleagues, Dr. Johnson and McPhaul, will focus on the hazards of occupational stress and workplace violence, respectively. We will all speak to the need for support for intervention effectiveness research within these sectors.

In 2004 the BLS injury and illness rate among hospital workers was nearly double that for the overall private sector, and higher than rates for workers employed in mining, manufacturing and construction. Although injury and illness rates have been declining among all private sector workers, the ratio of hospital worker injuries to the overall private sector rate has increased over the past eight years.

The home health care industry, the fastest-growing segment of the health care, has rarely been the subject of occupational health and safety research. Risk for injury and illness found in the home care work environment are poorly understood. Hazard controls widely used in other health care work environments are often unavailable or infeasible in the home.

It should be noted that in health care, workers as well as patients are affected when occupational safety and health threats are not adequately identified and addressed. There is an inextricable link between staff safety and the quality and safety of client care. Physical or psychological injuries to direct care staff directly impact the quality of client care and client safety. Optimal staffing levels and staff performance are essential to providing high quality care. The quality of health care is severely compromised when staff become injured, and supervisors and administrators are required to replace experienced staff with new hires or staff assigned from other units and therefore unfamiliar with the clients' highly individual needs and behaviors.

Despite this, the health care industry is decades or more behind other high risk industries in its attention to assuring basic safety. And I think this link between health care worker health and safety and patient quality of care really requires NIOSH to continue to and enhance a collaboration between NIOSH and other agencies within Health and Human Services, and also with regulatory agencies.

Musculoskeletal disorders rank second among all work-related injuries, and the highest proportion of these disorders occur in health care. Among all occupations, hospital and nursing home workers experience the highest number of occupational injuries and illnesses involving lost work days due to back injuries.

In a recent survey of nearly 1,200 registered nurses employed across health care practice settings conducted by Trinkoff et al at the University of Maryland, nurses reported -- reporting highly physical demanding jobs were five to six times more likely than those with lower demands to report a neck, shoulder or back MSD. Our team has also reported that the risk of MSDs increased when nurses worked greater than 12-hour shifts and on weekends and non-day shifts.

The health care industry spends billions of dollars each year in Workers Compensation premiums, even though there is strong evidence that reducing back -- low back load by implementing engineering and

administrative controls such as safe staffing levels, lifting teams and the use of newer mechanical patient-handling devices reduces the risk of injury to both patients and workers.

The most prevalent and least reported and largely preventable serious risk health care workers face comes from the continuing use of inherently dangerous conventional needles. Such unsafe needles transmit bloodborne infections to health care workers employed in a wide variety of infections (sic). Eliminating unnecessary sharps and the use of safer needles can dramatically reduce needle-stick injuries. Use of conventional needles in the health care environment today has been compared to the use of unguarded machinery decades ago in the industrial sector.

Is that -- do I have a minute left? Let me just -- by saying the health care sector also leads other industry sectors in incidents of non-fatal assaults. Most research to date has focused on the high risk injury of -- high risk setting of psychiatric facilities, but we've done research and we really recognize the need for more study of this hazard in social service workplaces.

Dr. Johnson's going to provide testimony on the importance of occupational stress, but as a segue to his comments, and in conclusion I want to point out that many of the hazards that I've discussed can only be prevented by strategies which address the organization of modern health care work across practice settings. Support for rigorous intervention research targeting the impact of changes in the work organization on health care and social service work is desperately needed. Our experience in conducting intervention effectiveness research over the past six years has taught us that it must be done within the framework of community-based participatory research if the intervention is to be accepted and sustained.

I also urge NIOSH to recognize that the time involved in conducting rigorous intervention effectiveness research and to provide a mechanism for longer periods of research support to allow for this critical type of research.

Thank you for the opportunity to have a voice in the development of NORA 2. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05 Expanded written comments were submitted as w4618.

Comment ID: 257.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Unspecified

Population

Health outcomes; diseases/injuries

- Cardiovascular disease

Exposures

- Cardiovascular disease
- Work organization/stress
- Work-life issues

Approaches

- Etiological research
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: My comments are directed at multi-sectors, and I'm going to be talking about occupational stress and new forms of work organization.

Work stress is one of the most widely-reported occupational health problems in the United States, Canada and Europe, second only to low back problems. Large population surveys of the working population in these countries indicate that from one-quarter to one-third of all working people are experiencing serious levels of occupational stress. These surveys also suggest that self-reported stress is increasing, nearly doubling in the last decade.

Stress has been shown to have an enormous impact on health and wellbeing of workers across all industrial sectors. Recent studies indicate that from 50 to 60 percent of all lost work days are due to stress, and that stress-related disability claims are frequently the longest-lasting and most expensive. Although detrimental in and of itself, work-related stress also contributes to the risk of premature death and disability from serious chronic diseases, such as hypertension and coronary heart disease.

The United States continues to lag behind the rest of the advanced industrial world in terms of research and intervention efforts that target work-related stress. Most notably, we have failed to implement earlier calls to investigate the serious occupational health problem by undertaking the kind of nationally representative longitudinal cohort studies that have been instrumental in developing scientific knowledge on the causes and consequences of work stress in Europe, Canada, Japan and other countries, now including Korea and China.

Today there is an even more pressing reason to advance our knowledge in this area, for evidence acquired in other countries strongly indicates that the fundamental employment relationship, the social contract between employees and employers that has governed much of what occurs at work, has undergone a transformation in the past decade or more. According to many scientists, the emergence of an increasingly global economy is changing not only the workplace but the very life course of workers themselves.

The demands of firms for maximum flexibility has resulted in widespread precariousness for many employees. While the threat of job insecurity as an episodic stress is well known, the impact of chronic, even permanent, precariousness may be much more stressful. European research suggests that precariousness threatens the basic notion of career development, and has profound implications concerning significant life course decisions, including marriage, and even the decision to have children, which are increasingly delayed among those with precarious employment.

Precariousness as work organization exposure represents a fundamental loss of occupational self-determination and work control. Employees in precarious employment may be faced with overriding pressures to work longer, faster and harder, even under conditions of seemingly high levels of micro or task level control.

Precariousness can mean a fundamental loss of control over many of the most essential components of the employment relationship. Loss of access to a job, control over future earnings, control over work schedule, location, use of skills, et cetera.

And even more importantly, precariousness may have significant impact on the stress experienced by all workers, not just those in the contingent work force. Researchers suggest that when temporary workers are desperate to achieve targets that will secure their future work, they may violate protective practices, and even erode the solidarity of the community among permanent employees.

Perhaps one of the most fundamental questions we need to address now and in the future concerns how precariousness and other forms of work organization restrict or limit the possibilities for employees to have a genuine voice in the work organizations of the future.

Many research studies over the past 50 years have underscored the critical importance of worker control and genuine employee participation in occupational and organizational decision-making. But what is happening today? New forms of lean, high-performance, continuous-improvement organizations are being presented as the solution to the routinized, tailored and stressful work organizations of the era of mass production. These new forms of work organization involve practices such as teamwork that, while eliciting greater employee involvement, also involve an intensification of work performance.

Organizational restructuring in many industries, including the health care sector, has applied the Japanese production management design. This has involved increased responsibility and accountability for production management, increased problem-solving demands, increased peer monitoring, and increased role demands including a blurring of manager and worker roles. Is this management by stress, or simply the freedom to do an impossible job, as some observers have suggested? Or rather do these changes reflect a need for a flexible, high-skilled worker who will ultimately benefit from greater responsibility? We simply don't know.

Although there have been calls to investigate these new forms of work organization for the past decade or more, there continues to be enormous uncertainty and debate concerning the impact of these new forms of work on employee health and wellbeing.

To conclude, stress is one of the most important occupational health problems in all industries. We need much better scientific knowledge about the relationship between new forms of work organization and stress. Future research should specifically focus on two areas: The impact of precarious employment on worker health; and the impact of lean or high-performance work systems on stress health and the possibility of genuine worker voice. Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 258.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Personal protective equipment

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: I'm going to talk about microbial hazards so I wanted to borrow somebody's glass of water. So my name is Lance Price. I'm from Johns Hopkins School of Public Health, and the faculty in my department, Environmental Health Sciences -- which also has the division Occupational Health -- asked me to come speak about the microbial hazards that people employed in the industrial animal sector are exposed to, and to make a plea for more research in this area.

So industrial animal production, you probably know it as, you know, thinking of CAFOs and AFOs -- concentrated animal feeding operations, animal feeding operations. In the U.S. we produce over nine billion animals every year for human consumption, and there are a large number of people employed in this sector. And some of the methods used to produce these animals put these employees at risk.

And so if you think about a normal poultry CAFO, that's a -- this giant barn that holds 25,000 birds, and during that bird's life, that chicken's life, they're fed antibiotics to promote growth, to control infections, but throughout their life they're given these antibiotics. That selects for this large population of antibiotic-resistant bacteria in these birds.

It happens in swine, and also in cattle, as well. And so it -- the union of concerned scientists estimates that between 60 and 80 percent of the antibiotics used in the U.S. are used for animal production. And a large proportion of those are used for non-therapeutic uses. So this is not to treat sick animals; this is to make them grow faster. And so that leads to a rapid selection of antibiotic-resistant bacteria.

Now if you look at the problem of emerging infectious diseases in the U.S., we see that last year over 20,000 people died of drug-resistant infections in the U.S. We have -- and the excess cost of treating

these infections are estimated to be between \$5 billion and \$30 billion. And now we have these drug-resistant infections -- drug-resistant bacteria that we're running out of -- we're running out of antibiotics to treat these things, so they're resistant to seven or eight antibiotics sometimes.

And so we're concerned about the people that are going in and being exposed to these animals on a daily basis. And when we go in and we do some monitoring inside a house, we find, not surprisingly, antibiotic-resistant bacteria everywhere. So when we look in the litter, we find antibiotic-resistant bacteria. There's published papers on this.

But recently Kellogg Schwab* and Amy Chapin* from our school started monitoring the air in these facilities -- in a swine facility -- and they found in every sample that there were drug-resistant enterococci, staphylococci. So you've heard of VRE, vancomycin-resistant enterococci. These are important medical -- or important pathogens.

And so we're concerned about the people that are going in and, you know, I don't know if you know how chickens are -- are brought to the slaughterhouse, but somebody goes in and actually catches these birds. And so these people are going in and catching thousands -- literally thousands of birds a day. And so besides the repetitive stress injuries that these people are facing, they're also facing risks due to the antimicrobial-resistant bacteria.

And some of our own studies -- we've started some studies on the eastern shore where 860 million chickens are produced on the Delmarva Peninsula, and we -- we are starting to see evidence that these -- that these chicken workers are actually -- have an excess risk of carrying drug-resistant bacteria.

So I want to talk a little bit about the different potential outcomes, so there is the obvious -- there is the obvious outcome of somebody could have a drug-resistant infection, say a respiratory infection, a GI infection, but also infected cuts, wounds, so you could imagine that you could get scratched a bit when you're out there catching these birds. But there -- we're also concerned about a carrier state, so some of these aren't frank pathogens, but these are bacteria that are part of our normal flora, and so we could be carrying around drug-resistant bacteria that then are just sitting in their resident -- residence in our -- in our normal flora. And then when we come -- when we go to a hospital and we're treated with antibiotics, they could become a big problem. And they could also be -- so -- so the employees of these -- or the people working in these facilities could be part of -- you know, become part of a -- the carriers that we're seeing in the community.

And just a bit of evidence, Dr. Myers* from the University of Iowa found that farmers -- swine farmers had a 35 times the risk of carrying swine influenza, so when we talk about avian influenza, that's a -- it's an important thing.

So what do we need? We think we need -- we need to know what's in the feed. What are the antibiotics? We don't know. The industry says that they don't have to tell us. We need active monitoring. We need to -- I mean these people -- not only their own health, but our health as a society, we need to know whether these antibiotic-resistant bacteria and -- and flus are moving from the animals to the people and at what rates? Do they become long-term carriers or are they short-term carriers?

I'm supposed to stop very soon. And so we need cohort studies, and we need to know what kind of protective devices to recommend to these people. Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 259.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Training

Economics

Marketing/dissemination

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: I appreciate that. Good morning. My name is Kelly Castellan, and first I would like to say thank you for allowing the Center for Business and Public Policy to participate in this forum. On behalf of our Executive Director, John Mayo, I am very happy to be here today.

The Center was started as part of the McDonough School of Business at Georgetown University, with the hope of fostering dialogue and debate in several key areas including workplace safety and health. Over the past four years of our existence we have posted and participated in numerous events, and have been fortunate to get to know some of the true experts in this field.

I would like to share with you today some of the research needs that we have found in the course of those interactions, and I will share three research needs.

As a business school our initial approach to looking at workplace safety and health has been through an economic lens. While a great deal has been done to create an academically vigorous account of the business case for safety, more research needs to be done to establish this link. We here can all agree that work-- caring about workplace safety and health is the right thing to do. However, the truth of the matter is, that message is much more powerful to CEOs and companies when it's attached to saving hard dollars.

Enough research has shown that there is a positive link between spending on workplace safety and health and saving money on health care, lawsuits and many, many other areas to know that we need to find the exact extent to which these linkages exist, and the research needs to be done to do that. Also this research needs to be boiled into easily-digestible formats for CEOs and stockholders, whether their business is small, medium or large, so that they can use it to protect their workers in the best way.

Another area that deserves more research attention is looking at the relationship between workplace safety and health protection and promotion. Preliminary data suggests that companies that take care of their employees' health, anything from having a smoking cessation or weight loss program to simply ensuring that their employees have access to high quality health care, those companies also have employees who are more likely to be safer on the job. While powerful in and of itself, the preliminary data in this area needs to be expanded upon. Not only do we need to look at more companies in this area, but we also need to see the extent to which this linkage exists. And we need to include research topics such as employee turnover rates, absenteeism and many others.

We also believe this data will tie closely back to the business case for safety that I have already mentioned. If we can prove that a healthier cafeteria program can help employees not only stay safer on the job, but also save a company money in long-term health care benefits, we will have a powerful tool to go to CEOs with.

The last research area I will mention today is that of the organization's behavioral decisions that impact the safety and health arena. This is a wide area, and one that's somewhat difficult to get a good grasp on. It could include anything from scenarios such as examining a manager who pushes her employees to get a job done quickly, and thereby might necessitate that a few safety corners are cut. Is that manager more likely to get promoted for consistently coming in ahead of schedule, or reprimanded for sacrificing safety, even if no incidences occur?

Another example of a research topic in this area has to do with near misses. Georgetown University researchers have done work showing that many organizations, including NASA, can easily suffer from a near-miss bias. Essentially that means that it's easy for people and organizations to look at past experience as paramount to what they know to be factually true. For example, you might be late for a meeting while driving across town. You come to a very, very orange light. If you -- now if you've run through that light even just once or twice before and made it without getting hit or a ticket, you're much more likely to try it again. You can see how this bias would play out in the work force.

Organizations do, however, have the power to counter this tendency in their employees, to make them not run the orange light. But in order to do that, we need to know how, why and where the bias depends at all -- or where it develops, excuse me. By looking closely at how an organization's behavior impacts their safety culture, whether that culture is negative or positive, we will be able to uncover the best practices a company can use to ensure that valuing safety is imbedded in their organization.

I have just a couple of seconds left, and I'd like to -- I have one more quick point. There have been a lot of good attempts in the last ten years to get at good safety and health practices, and I think we can see a lot of progress made. We've used a lot of different ways to get at those safety and health practices. I think it's important to -- to note that a business perspective offers a unique way at getting at good safety and health. By allowing a business perspective to tackle this problem, we can show CEOs not only that safety -- the safety of their workers is the right thing to do, but it's also the smartest thing to do for

their company`s wellbeing. Thank you very much. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 260.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Unspecified

Population

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

- Violence
- Work-life issues

Approaches

- Surveillance
- Etiological research
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Authoritative recommendation
- Marketing/dissemination
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

- Joint Commission for Accreditation on Health Care Organizations; health care regulatory bodies within the Department of Health and Human Services; National Institute of Mental Health; Centers for Medicaid and Medicare; American Psychological Association;

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Yeah. Hi, I'm Kate McPhaul from the University of Maryland, as Jackie indicated. And as a researcher and also practicing occupational health nurse, I wanted to talk a little bit about workplace violence, which -- according to the format -- is really a cross-sector issue, and is going to involve not only health care and social services, which is my primary focus and research interest, but would also cross into transportation, retail -- especially retail and service sectors.

I have quite a bit of data, and the issue of the epidemiology of workplace violence is fairly well established. The standard statistic that -- most recently that we have been using is that each year from

1993 to '99 there have been 1.7 million incidents of workplace violence or violence in the workplace, and many of these involve physical injuries.

But what I wanted to focus on today is the fact that now that workplace violence is no longer an emerging occupational hazard and much more established, unfortunately, we really need to focus on the barriers and challenges to implementing workplace violence prevention efforts, and to understand more what it takes at the level of individual workplaces to both implement and sustain this. So the lack of effective workplace violence prevention, intervention effectiveness data, and the overall culture of violence within our society presents sort of a formidable challenge to the prevention of this hazard in the workplace.

Generally, unless there's a tragedy, most employers are willing to allow the competing demands to take precedence over workplace violence. And in many industry sub-sectors such as health care, violence is imbedded in the workplace culture and considered part of the job. Regulatory solutions such as a standard, an OSHA standard that would require workplaces to institute effective workplace violence programming, would depend on solid cost and effectiveness data.

The workplace violence evidence base has broadened considerably in the last decade. But the basic information about situational environmental triggers, the characteristics of the perpetrators and the victims, and most importantly that conclusive data on effective prevention strategies, that's what's really lacking. For example, the true frequency of workplace violence, especially verbal violence, is just not known. We can't estimate the true incidence of violence directed towards staff by job title, by service setting, by client type, by time of day, that kind of thing.

Motivating employers, workers and policy makers to devote time and resources is made more difficult without these prevalence figures, especially those at the verbal threat end of the violence continuum. So there's a need to identify and describe successful management systems for tracking workplace violence and related follow-up actions. The systems really should be in place in all private workplaces, and may even be in place in many private workplaces. But because the information is considered proprietary, we don't actually have access to that on a national level, and that information is not shared. So we feel like NIOSH could include the development and testing of such tracking systems in its research grant programs.

All of the information -- not all of the information gaps represent gaps in basic research. Many elements of workplace violence prevention evidence base are available, but not widely or appropriately disseminated. For example, the definition of workplace violence is not universally understood by employers and workers, even though it's been published. And specifically, there's widespread misunderstanding of the nature of the type of violence we call Type II violence that we see mostly in hospitals, schools and social services. So employer and worker communities appear to focus more on worker-on-worker violence.

Strategies for the time-- so we feel like strategies for the timely translation of workplace violence research into occupational health practice must be better understood.

But unlike regulating other hazards, workplace violence in health care and human services has to require the involvement of probably the patient care quality community, such as the Joint Commission for Accreditation on Health Care Organizations, or JACO, and health care regulatory bodies within the Department of Health and Human Services. The patient safety and worker communities must also work

together. Crucial agencies include the National Institute of Mental Health -- this would be for research partnering -- Centers for Medicaid and Medicare; American Psychological Association, American Hospital Association, JACO -- as I already said.

So in summary I`m just going to ask the questions that I think really need to guide the research agenda for workplace violence. How prevalent is the full continuum of workplace violence, including verbal abuse, verbal threats and non-fatal assaults? What are the organizational attributes that contribute to successful workplace violence prevention? What training content, methodologies and intervals result in optimal staff and management knowledge and behaviors to prevent workplace violence? What are the direct and indirect costs of not implementing workplace violence strategy? And how can basic workplace violence research be translated in a timely and effective manner to occupational health practitioners, employers and workers? Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05 Expanded written comments were submitted as w4612.

Comment ID: 261.01

Categorized with the following terms:

Sectors

- Construction
- Mining
- Unspecified

Population

Health outcomes; diseases/injuries

- Neurological effect/mental health

Exposures

Approaches

- Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Adele Abrams, I represent the American Society of Safety Engineers, and this was just more of a follow-up comment to Dave Madaras's statement concerning substance abuse in construction, as well as the people who have identified mental health, which can be related to substance abuse as well. And because many of the sectors that are addressed here are OSHA-regulated, it may be of interest to know that the Mine Safety and Health Administration within the U.S. Department of Labor is currently engaged in a rule-making to address substance abuse in the mining industry. And the comment period just closed on November 27th. There is a great deal of research data posted on the MSHA web site, as well as testimony from I believe it was five public hearings that were held in October and November on this subject. So those who are interested may want to take a look. There are a lot of programs for management of substance abuse that were submitted to the record by some of the companies within the mining industry. And ASSE also submitted testimony on this, but we agree that this is a subject of concern and would suggest that perhaps NIOSH also look at some of the research that's posted there for suggestions on where that could be taken to the next level by the governmental research programs. Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 262.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Cancer

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Thank you, Jackie. I usually don't read things, but I -- is this on? But because we're under these time constraints, I will read this.

I am here today to propose that problems faced by cancer survivors in the workplace be added to the NORA research agenda. The problems that cancer survivors experience at work represent a national burden in the American workplace. As the number of cancer survivors increase, a result of earlier detection and improved interventions, the number of cancer survivors who desire or need to return to productive work will increase. Currently there are approximately 3.8 million working-aged adults with cancer in the United States -- 3.8 million. This workplace public health problem will escalate over the next decade as treatment becomes more successful and the work force ages.

So what are some of the data on cancer survivors in the American workplace that signal a problem? One out of five cancer survivors who are one to five years post-diagnosis report cancer-related limitations in their ability to work. Nine percent were actually unable to work. Research indicates that labor force participation declines 12 percent immediately following diagnosis to follow-up.

Using another national database, the National Health Interview Survey between 1998 and 2000 research indicates that 17 percent of approx-- or approximately one in six -- workers with a history of cancer report they are unable to work. These employees attributed this work disability to physical, cognitive or

emotional challenges. Probably sounds a little familiar. An additional seven percent indicated that they were limited in the amount and type of work they could perform.

This burden does not rest solely on the cancer survivor or his or her family. As with any health problem that impacts work productivity, there is a cost to employers. Of course there are medical costs, of which a large portion are often covered by the employer. But there are also real costs related to lost productivity, turnover, family medical leave, and potential effects on coworkers.

Our culture continues to perpetuate the view that an individual with cancer is somehow now defective. While at this point limitations in function often represent the sequelae of cancer and its treatment -- and hopefully that won't be the case in the future, but at this point it is -- the question we need to be asking is not can he or she do the work, but rather can the cancer survivor perform the essential tasks of his or her job; and if not, can he or she be reasonably accommodated to minimize the impact of the illness on work productivity? Yet employers and supervisors continue to perceive cancer survivors as poor risks for advancement, and cancer survivors are at high risk for job loss. These outcomes can regrettably lead to a cascade of problems for the survivor, the workplace and society.

Accommodating workers with other medical conditions have been on the rise. However, a study completed by my research group using litigation data from 1990 to '96 indicated that cancer accounted for seven percent of all impairments involved in EEOC litigation related to failure to accommodate.

I am a 55-year-old full professor. I was brought to the Uniformed Services University to develop and direct the first and only Ph.D. program in the military in clinical psychology. This thing was proposed by the U.S. Congress and I followed through and developed it.

In the summer of 2002 I was diagnosed with a small -- with a -- not a small, with a malignant brain tumor. I had surgery to biopsy the tumor, maximum radiation and 12 months of chemotherapy, and I receive MRIs every four months. I am a cancer survivor.

I returned to work two weeks after brain surgery and worked throughout my radiation and chemotherapy. I myself experienced problems re-integrating into the workplace. The unexpected problem was my supervisor's reaction to me, not my health.

I returned to work to find out from a secretary that some research space and a part-time research assistant were no longer available. I went into my supervisor's office and asked why. He told me I didn't need these anymore because I was not normal. Fortunately I was able to resolve the matter through frank discussion and support of colleagues.

I also experienced a number of other workplace challenges following my diagnosis, including the denial of my request for an accommodation that I sincerely believe was reasonable.

Given the challenges that I and other cancer survivors experience at work, I recommend NORA add cancer survivorship and work to its agenda over the next decade. Specifically, research in the following areas should be seriously considered: Epidemiological studies of this burden at a population health level; identification of modifiable risk factors; detection and long-term surveillance of problems in affected workers; evidence-based cost effective approaches that address the problems cancer survivors experience in returning to work, work retention and work productivity; and lastly, national and state policy on more effective ways to address this problem at a systems level.

Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05. Expanded written version was submitted as w4608.

Comment ID: 263.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Intervention effectiveness research

Economics

Authoritative recommendation

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good morning. My name is Cherise Baldwin Harrington. I`m speaking on behalf of Dr. Michael Feuerstein from the Uniformed Services University in Bethesda, Maryland. I`m a graduate student and member of his research group, here to discuss areas of importance to work disability.

Work disability is a source of significant cost to the worker, workplace and society. As a result of these problems, a worker can find it hard to cope with persistent pain and changes in function that accompany these disorders, while attempting to return to work or remain at work. This change in function and productivity can also exert a substantial financial burden. Costs to society derive from long-time wage replacement, disability settlements and health care. In addition there are indirect costs associated with training of replacement workers and lost tax revenues.

Also it is interesting to note that when Dr. Feuerstein developed the Journal for Occupational Rehabilitation over 15 years ago, he thought that perhaps the Journal would gradually lose its popularity as the problem of work disability was solved. Yet almost two decades later it is still stronger than ever,

with citations of research at its highest levels and submissions from around the world continuing to increase. Clearly work disability continues to be an important public health concern.

A major source of work disability is musculoskeletal disorders of the back and upper limb. While most workers return to work within a month from a claim musculoskeletal disorder, many who actually return to work continue to experience pain and disability. It is well known at this point that a small percent of these workers transition into prolonged disability, and account for a disproportionate share of the health care burden. Also in some cases back and upper limb pain can be recurrent, and those returning to work with pain are at increased risk for future problems.

Research from our group and groups from around the world indicate that recurrent and prolonged work disability are influenced by a number of factors including the medical status of the individual, their physical condition in relation to their work demands, various workplace and individual psychosocial factors and systems level variables.

Data also suggests that by identifying workers at high risk for disability and intervening within a few months from the time of the first report of the pain or injury, disability can be prevented. Our groups has also investigated such outcomes as function, patient satisfaction, perceived health and costs related to health care in acute low back pain, and have also identified a possible pathway for this prolonged pain and disability.

We first observed in over 10,000 cases that provider adherence to clinical practice guidelines suggested that workplace ergonomic evaluation and intervention, as well as psychosocial intervention, were associated with better outcomes and lower costs. In a prospective study on 368 participants to be published soon, we found that workers exposed to ergonomic risk reported greater job stress, which in turn was related to higher levels of emotional distress and increased likelihood of returning to the clinic with persistent back pain.

Future efforts need to investigate these relationships more closely and develop innovative approaches at the workplace to address these areas realistically and head-on. Currently this pathway is either ignored or held out as a possible explanation only months after persistent pain leads to prolonged disability, and a series of other problems for the worker and workplace emerge. It is time the integrative role of these factors is studied more seriously and cost-effective approaches are developed to mitigate them.

Another important concern is the risk of recurrent disability following return to work. In preventing reinjury, accommodations are often helpful. Work disability is further impacted by the complexities often involved in truly implementing these accommodations over the long run and assessing their impact. Research done by our group some years ago indicated that musculoskeletal disorders account for 23 of all impairments involved in litigation for failure to accommodate under the Americans With Disabilities Act. Have things changed?

The concerns associated with work disability do not discriminate in job type or setting. The prevalence of these problems emphasize that more attention be placed on identifying the relevant risk factors for onset, progression, maintenance, and the effects of innovative interventions. Also it is important to note that BLS data indicate that more workers return to work with pain than ever before. Is that the solution? Probably not.

It is recommended that NORA reconsider what needs to be done about work-related musculoskeletal problems and work disability in the following areas: First, well-controlled epidemiological studies on the interactions and pathways among multiple risk factors and their relationship to work disability. Second, randomized controlled trials based on work from recommendation number one to identify effective long-term interventions to work disability. And third, research on policy that helps facilitate the recognition and need for approaches that address the multiple factors involved in work disability that maximize the application of evidence-based policy. There needs to be a greater awareness that by focusing on multiple factors we are not blaming the worker or labeling the worker with psychological problems. Workers experience natural reactions to injury, pain and workplace stress that combine to create a situation that is often fueled by the way we look at the process and manage it. Armed with new data, it is time to seriously tackle the problem from a broader perspective. Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05 Expanded written comments were submitted as w4614.

Comment ID: 264.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Thank you. Good morning. I'm speaking on behalf of the American College of Occupational and Environmental Medicine, or MCOEM. We're pleased to submit these comments to NIOSH's National Occupational Research Agenda. MCOEM is a volunteer, non-profit association of over 100 physicians and allied health providers in the state of Maryland. Our members practice occupational medicine in factories, clinics, hospitals, military bases, academic centers, from shores to mountains. We collectively care for tens of thousands of workers who directly benefit from our professional efforts, and the efforts at NIOSH to produce quality occupational research.

We applaud NIOSH's solicitation of comments on such a significant pathway for guiding the agency for the next decade and beyond. We recognize the accomplishments from the first decade of NORA. And like aspiring athletes, we encourage NIOSH to excel further.

We fully ascribe to the proposition that NORA is setting an agenda, not only for NIOSH but for occupational and environmental evidence-based medicine. While there are many issues that deserve attention from researchers given the ongoing changes that we see in the workplace and the field of occupational and environmental health, we have identified several areas that we feel should be priority for national occupational health research in the coming years: Mental health and the organizational psychology; indoor environments; emerging diseases; emergency preparedness; delivery of occupational health services to small and medium-sized employers; cost effectiveness of occupational health services; vulnerable populations; and effects of chronic disease on work and working populations

The issue of mental health in organizations is large. We know the combination of effective and other disorders in the workplace have imposed a huge direct and indirect cost on many employers. In addition, the role of mental health and productivity is only just beginning to be appreciated. NIOSH

should seek the opportunity to partner with other federal and private research institutions to foster research in this area.

Comment ID: 264.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Indoor environment

Work-life issues

Approaches

Etiological research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Similarly, we know that workers spend a sizeable amount of time indoors, yet the science of indoor environment is still fairly young, and at times chaotic. Much work is needed to understand the complex interactions between the indoor environments, work, physical and mental health, quality of life, and productivity. We applaud NIOSH's efforts in this area to date, but would still regard it as a need for further emphasis.

Comment ID: 264.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment
Intervention effectiveness research

Partners

Categorized comment or partial comment:

As demonstrated so sadly following 9/11 and the anthrax exposures, the nation looked long and hard for expertise in safe remediation procedures. This is an area where NIOSH has particular expertise and could identify and demonstrate appropriate remediation techniques, including worker protection. MCOEM urges NIOSH to consider that the threat of emerging infectious diseases require a reserve of resources and preparedness, while the nation's improvement in (unintelligible) conservation warrants applause more than further basic science research. Likewise, finding effective personal protective equipment such as respirators and gloves warrant more investigation than association of cigarette smoking and chronic obstructive disease.

Comment ID: 264.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The delivery of occupational health services to small and medium-sized employers is a critical issue, and NIOSH has an opportunity to demonstrate through research the effectiveness of different models of occupational safety and health care delivery.

Comment ID: 264.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Language/culture/ethnicity

Disability

Other

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Etiological research

Intervention effectiveness research

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

That's the issue of the vulnerable populations. There have been tremendous changes in the work force, which continue today. These include the aging of the work force and increase of women in the work force, increasing number of migrant and non-English-speaking workers and dual working parents, workers with chronic diseases or permanent impairment. These shifts are important and NIOSH should promote research to understand these shifts, what they portend for the health and safety of the workers.

Comment ID: 264.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Etiological research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The other issue concerns the effects of chronic diseases -- asthma, diabetes, HIV, heart disease and cancer, for instance -- and their effects on safety, health, productivity in the workplace. As more and more workers with disability are staying in the work force, the effect of these disorders on safety, health and issues of management of illness in the workplace are more complex and deserving of special attention.

And I will close by saying that MCOEM appreciates this opportunity to comment on NORA, and we remind NIOSH that our patients and our nation's public health benefits from NIOSH's research, and we steadfastly support the quality improvement in NIOSH and believe that NIOSH should be provided with the resources necessary to carry out this vital public health research agenda. Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05 Expanded written comments were submitted as w4616.

Comment ID: 265.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good morning. It's a pleasure to be here to provide some input to NORA. McCaffery & Associates, by way of background, is a historical document research firm. A large part of our research is in the field of toxic substance exposure. We regularly review the U.S. Navy Bureau of Ships files, which is Research Group 19, at the National Archives and Records Administration, NARA. After the Kennedy and Nixon files, the files that we review are the most often requested documents at NARA.

Our topic is the preservation of historical documents that contribute to the body of knowledge for occupational health and safety. And I have three issues to present this morning.

Issue one, although the National Archives and Records Administration exists to collect and maintain information from activities of the federal government, both in its headquarters in Washington, D.C. and at regional NARA sites, we have found instances of federal agencies holding archival data in-house long after the records were inactive, such as World War II, Korean War and Vietnam War eras.

Specific examples for the work we do in researching toxic substance exposure are the U.S. Navy and the U.S. Maritime Administration. The problems with federal agencies holding such information in house include: One, the lack of adequate data management, especially tracking and inventory control; two, the lack of security to protect the records from theft, from -- from autograph-seekers, primarily, and damage by other researchers; and three, the lack of open access to the public, especially researchers who might benefit from the historical perspectives and progress in occupational health and safety that was made by such agencies as the U.S. Navy and the U.S. Maritime Administration, going back to the 1930s. Freedom of Information Act requests are frequently required to access records that are held by the agencies.

Where NARA has obtained these records, it does a good job cataloging, safeguarding and maintaining the collection of information.

And our recommendation here is simply that we should ensure that federal agencies provide their records to NARA when these records are no longer in active use by the agency.

Our second issue is maintaining technology that supports reviewing and reproduction of archived documents. We have found instances of film archive materials being unusable due to the lack of technology to review and reproduce the documents to paper copies. Specific examples include 105 mm. and microfiche film records. The manufacturers of the viewing, scanning and conversion equipment stopped making and servicing this equipment, and by the time NARA gets these records, the creating agency's equipment is also either long-gone or unsupportable. Therefore one must find a contractor who has developed a work-around technology. In addition to the expense of conversion from film to paper, there is a chain of custody that, if broken, could result in a loss of records.

While we may not be able to resurrect the obsolete technology, we strongly encourage any federal agency that will generate archival records to not fall victim to assuming that today's technology for conversion from CD-ROM disks, thumb drives, et cetera, will always be available. Think eight-track tapes.

Recommendation two is to keep paper copies of records. While this is generally looked upon with disfavor, we find that it is the most reliable means of preserving documents. The other form of storage that has endured with adequate scanning and conversion technology is 35 mm. film.

Our third and final issue is that some offices in federal agencies fail to maintain records filed with a filing system that can be easily researched. The U.S. Navy did use a subject-coded filing system until the 1960s, which made its records very useful for researching and finding valuable history on its occupational safety and health activities. However, when it converted to a chronological filing system in 1962, the trail to the occupational safety and health system became much more difficult to follow if the chronological file index was not kept with the records.

And our specific recommendation here is that whatever system a federal agency uses to maintain its files, the subject, cross-index or correspondence logs must be kept with the files when they're turned over to NARA, the Federal Records Center, or any other archival facility.

Thank you very much for the opportunity to provide input to National Occupational Research Agenda.
Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 266.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Marketing/dissemination

Partners

- American Society for Safety Engineers

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Thank you. My name is Adele Abrams and I am the national representative for the American Society for Safety Engineers in Des Plaines, Illinois. I'm also a professional member and certified mine safety professional. ASSE appreciates the opportunity to be here today to join in this effort to shape the future of occupational safety and health research. On behalf of ASSE's 30,000 members -- as well as the 13 practice specialties that ASSE has that include construction, transportation, mining, health care, et cetera -- we want to commend NIOSH and those involved in leading the National Occupational Research Agenda for taking a proactive approach in engaging those with a stake in helping NORA determine direction for occupational safety and health research in the coming decade.

The unprecedented openness and willingness to listen to those whose work and lives are affected by our nation's investment in occupational safety and health research marks what ASSE hopes can be a fully cooperative endeavor that lasts throughout this next decade and beyond.

The day-to-day work of ASSE members in helping employers and employees work safer and healthier is intimately connected with the decisions made by NIOSH in establishing the NORA for the next decade. ASSE's members recognize that without a vibrant, aggressive research agenda that addresses the risks workers face in a quickly-changing work force and workplace, their responsibilities would be difficult to

fulfill. Our members know that many of the tools they use to address or head off workplace hazards come from the research efforts that the NORA effort spurs on. They also know that their -- many of their tools come from the practical need to deal with risks in their day-to-day experience on the job floor, from talking to workers whose wellbeing our members strive to protect, from the exchanges they have with their fellow safety and health professionals, from applying strategies learned in one situation to a situation for which there may be no book-determined answer. Our members are masters of the practical. Ways to save lives, prevent injuries, keep workers healthy come from many sources.

That is why ASSE is pleased to be a partner with NIOSH in its Research to Practice, or R2P, initiative to close the gap between the job floor and the research that NIOSH so ably accomplishes. ASSE appreciates the revitalized recognition in recent years in NIOSH's leadership that the good work of NIOSH needs to be better known by the safety, health and environmental professionals responsible for applying the knowledge gained in safety and health research. At the same time there has been an appreciated recognition on NIOSH's part that safety, health and environmental professionals provide a wealth of knowledge and experience that can help inform and help provide direction to the occupational safety and health research agenda.

The ASSE partnership with NIOSH is helping to close this gap. NIOSH leaders and researchers have greatly increased their involvement in ASSE's professional development and educational opportunities, as well as in its professional publications. And while ASSE has long been an active participant in NORA, now Dr. Hongwei Hsiao, Chief of NIOSH's Protective Technology Branch, has joined the Research Committee of the ASSE Foundation to help bridge the efforts of both ASSE and NIOSH to support research activities. ASSE has increased greatly its dissemination of information on NIOSH publications and communications of its many activities, thereby bringing our members closer to NIOSH's work than ever before.

What we offer today is just the beginning of a process that we intend that will engage each of our 13 practice specialties, and also the leaders of ASSE's Foundation, our volunteer leaders in governmental affairs and the Society's policy process, and our members at large so that we can provide as much input into this process as possible. Our members have ideas that their knowledge and experience can offer to this agenda. Our next follow-up in this effort will be at the December 19th town meeting in Chicago, which is where ASSE's headquarters are located, and there a member of our construction practice specialty will offer specific ideas for NORA direction in the construction sector.

Due to their own generosity and that of corporations dedicated to safety and health, the participants in the ASSE Foundation have demonstrated a tangible commitment to supporting occupational safety and health research. And since 1998 the ASSE Foundation has funded 14 different occupational safety and health studies totaling \$95,000. Another foundation research committee approval will occur this week, and since 2000 the Foundation has funded eight fellows to study at the Liberty Mutual Safety Research Institute with grants totaling over \$50,000. All of these studies are published after peer review in ASSE's Professional Safety magazine, as well as being posted on our web site, and the link for that is included in the copy of the comments submitted.

So we appreciate the opportunity to bring this process -- or to be involved in this process and bring our members' views to you so that they can be put on the front line of protecting workers. And we are encouraged that, with the involvement of all stakeholders in this process, NORA's second decade will

achieve even better and more effective protections for the nation`s workers. Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 267.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Mining
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Yes, I will. My name is David Goldsmith. I`m a member of the faculty at George Washington University in Washington, D.C. I want to start by commending NIOSH as an agency. They have provided support for me in my career, and I have been able to bring to greater focus something that`s an old concern in occupational health; namely the exposure to crystalline silica.

I basically have four topics I would like to generally share with you.

The first is that reliance on -- which is the standard procedure. Reliance on regular chest X-rays is really not sufficient for us to diagnose true cases of silicosis. We know that that`s true based on some research done in South Africa which shows that, comparing autopsies with chest X-rays, only one out of three true cases are actually diagnosed by the use of chest X-rays.

This suggests to me that NIOSH should provide some leadership to focus greater attention on PET scans and other kinds of new technologies for chest imaging. This is something that the agency can play a significant role in doing.

Comment ID: 267.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Mining
- Services
- Transportation, Warehousing and Utilities

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Training
- Marketing/dissemination

Partners

Categorized comment or partial comment:

A second point I would like to share with you is that the silica issue as we see it in the United States today is much more focused on the health of minority and African-American and immigrant workers than it is on what used to be considered a relatively well-paying area of research for all groups in the society. That being the case, there needs to be health education research efforts directed to these communities, specifically the immigrant communities because of their lack of knowledge in English. This means that the agency has to find better ways of getting information that it has about silica -- and for that matter, all other hazards -- translated, particularly into Spanish and other significant languages of some immigrants.

Comment ID: 267.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Mining
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Cancer
- Renal disease
- Immune disease
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Etiological research
- Training

Partners

Categorized comment or partial comment:

The third thing I want to share with you is concern that the silica issues related to silicosis and silicotuberculosis and cor pulmonale have changed radically in the last ten to 15 years. We have a much greater awareness that silica exposure, like asbestos, produces multiple health effects, and we need to expand our research effort to look at kidney disease. We need to expand our research effort to look at cancer. We need to expand our research effort to focus on autoimmune diseases. All of these three areas are drawing much more research attention. That also means that we need to take the findings from these areas and translate them into expanded educational efforts and to look at other data that are relevant to these kinds of concerns

Comment ID: 267.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Mining
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Renal disease
- Immune disease
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Work-life issues

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

In that last context, we need to expand the evaluation of smoking and its relationship, for example, to autoimmune disease and silica exposure. We need to expand smoking and kidney disease research, as well

Comment ID: 267.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Mining
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Exposure assessment
- Marketing/dissemination

Partners

Categorized comment or partial comment:

And lastly, I wanted to draw your attention to two sort of interlinked areas.

One is that we've tended to have a good background on the mining industry and the construction industry and its exposure links to silica. That emphasis needs to be expanded a great deal. We need to recognize that silica exposure is a significant factor when we're talking about agriculture, and it's also true when we're talking about maintenance of roadways, both on the construction side as well as the railroad side.

And there is a lot of silica dust exposure that is not being studied, and in that context there also needs to be technological developments that allow for improved means for detecting elevated silica levels. That is to say hand-held devices that might allow for managers and supervisors and workers in these industries and the traditional industries to know when they're faced with excess silica exposures so that personal protective equipment can be put into place and expanded health education can also be moved into this context.

Comment ID: 267.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Mining
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

Partners

- Mine Safety and Health Administration; National Institute of Environmental Health Sciences;
National Cancer Institute

Categorized comment or partial comment:

In all of these we see that there has been a great deal of research exposure -- there has been a great deal of research conducted in these silica areas. But NIOSH is the one agency, in my opinion, that can lead some of these issues forward, and I would very much like to see NIOSH, in collaboration with some of its sister agencies, particularly the Mine Safety and Health Administration and NIEHS and the National Cancer Institute play a leading role in looking at some of these other -- these other new data.

Comment ID: 267.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Mining
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Cancer
- Renal disease
- Dermal disease
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Hazard identification
- Etiological research

Partners

- Mine Safety and Health Administration; National Institute of Environmental Health Sciences;
National Cancer Institute

Categorized comment or partial comment:

Lastly, I just would like to say that the -- on the research side, on the cancer research side, there clearly is a desire to look at other cancers than lung cancer. Nevertheless, that does remain somewhat of a controversial area, but there`s new data on GI cancers, on kidney cancers and skin cancers. And for those health endpoints there needs to be a new focus on these kinds of problems and a new set of investigators to look at these things in a novel way.

So let me end by thanking you all and I appreciate the time that you`ve given me to share with you my concerns about this area. Thank you very much. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 268.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Partners

National Safety Council

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good morning. My name is Mark Riso and I'm here on behalf of the National Safety Council's Washington, D.C. office. And we'd first like to express our appreciation for the opportunity to be here today, and of course our appreciation to convey our support of NIOSH and their execution of NORA, and from what we believe will be a continued strong relationship in each of our missions. The Council has been very supportive of NORA since its inception, and we look forward to our continued work.

By way of brief background, the National Safety Council is a Congressionally-chartered national safety and health organization with chapters in almost every state. The Council is committed to fulfillment of its mission and is always mindful of the benefits of working with agencies and other organizations to accomplish its goals.

I'd also like to note that our President, Mr. Allen McMillan*, will be present to speak at the town hall meeting I believe December 19th in Chicago, which is where the National Safety Council is headquartered. The Council will also seek further opportunities in the future at other meetings on other topics.

The Council views partnerships with federal and state agencies, other safety and health organizations, companies and federal and state legislatures as critical in its overall efforts to accomplish its mission. Sharing ideas, research, programs, initiatives and training is critical to the Council, NIOSH and the work conducted through.

As you all may well know, the Council has many strategic partnerships, cooperative agreements and working relationships with agencies and the like, which serve as a basis for its work. The Council understands that it cannot responsibly and effectively perform its work alone. In the Council's view, the work of NIOSH, through NORA, is a living cooperative relationship that, in essence, develops a

collaborative environment to work productively and share ideas. The significance of our relationship is crucial in that our mission is greatly enhanced with the dynamics of the objectives of cooperative relationships like these.

The benefits to the Council with regard to the work of NIOSH through NORA can be summarized by highlighting tangibles and intangibles. Tangibles include the development of initiatives, programs, information, research data and information sharing. The intangibles include a strong spirit of cooperation and mutual respect.

Though cooperation is often seen as political, the real truth is that a positive working spirit that is often established between organizations and agencies is the only way in which productive results are accomplished in the real world. Success cannot be responsibly measured on paper. It must be measured in concert with implementation.

Much of the work the National Safety Council performs is conducted within the public policy arena, which is what I do. The Council is deeply engaged in public policy, and we identify, develop and implement many initiatives, which must be supported by research and data. As such, the sharing of research and data, as well as the access to research, is of great value.

One of the greatest frustrations when working with public policy is -- is -- it's not necessarily that it's bad information that's out there; it's that there's no information out there. And it's not necessarily that the information doesn't exist, but it's just not visible.

Lawmakers and the public, though sympathetic to many of the causes that we advocate, are not informed or aware of the critical need for action on many important issues. Stimulating the need is greatly enhanced when research supports initiatives. When educated, we see dramatic results with the public, and even lawmakers, in terms of action on issues.

The Council will always encourage that research be conducted, be improved and updated, and be made available always. We encourage NIOSH to always be mindful of the value of the resources you provide, and to help the Council by supporting our public policy efforts by sharing your valuable research.

Again I want to thank you for your time. Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 269.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

International interaction

Emergency preparedness and response

Partners

Categorized comment or partial comment:

We all share a commitment to improving the occupational health of worker's regardless of their country of origin. My experiences with workers in Mexico and the US, and my current location at the border, has underscored for me the importance of embracing a global and bi-national (US-Mexico) approach to occupational health. A variety of skills are needed to prevent occupational diseases among workers that contribute to the U.S. economy. Maximizing control of occupational health hazards, particularly in border communities, calls for us to diversify partnerships beyond our profession - reaching out to new partners in business and government.

Comment ID: 270.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

We recommend the following to reduce occupational and background pesticide exposures for agricultural workers and their families:

Support field research into engineering controls that will prevent pesticide exposure to farm workers (tunnel sprayers, anti-drift technology, enclosed cab design that will fit under low canopy).

Comment ID: 270.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Support state-based programs which identify specific preventable causes of pesticide-related illness (SENSOR Pesticide programs).

Comment ID: 270.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Training

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Support efforts to educate growers, pesticide handlers and other farm workers about preventing occupational and take-home exposures.

Comment ID: 270.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Support monitoring of farm worker and community exposures to ensure that interventions are working.
(State-based NHANES, air monitoring)

Comment ID: 271.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Training

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good morning. I`m Debora Jones. I work with the Maryland Center for Environmental Training based at the College of Southern Maryland. I want to thank you for the opportunity to present some of the challenges and research opportunities for addressing the incidence of illness and injury in the health care industry.

As a nurse who has worked in a hospital, home care, nursing homes, and as a safety professional, this is a topic of personal and professional concern. For the purposes of my comments, I focused on nursing in residential care facilities and hospitals.

Employment in hospitals and nursing homes is estimated to exceed 7 million workers. While this number is impressive, it is far below the number necessary to serve the needs of our aging population. The U.S. Department of Labor estimates that we have over 100,000 vacant health care positions as we anticipate the beginning of retirement for 78 million baby boomers in the year 2010.

At the same time, our nurses are aging -- something I`m painfully aware of -- with an average age approaching 50. Estimates of the lack of availability of nursing care are astounding. The Department of Health and Human Services reported by 2020 we will need 2.8 million nurses, one million more than the projected supply.

Our health care work force crisis is not limited to nurses. The American Hospital Association projects severe work force shortages in both clinical and non-clinical workers, to include, yes, nurses, but also radiology techs, pharmacists, medical records personnel, housekeepers and food service personnel. It is most disturbing to recognize that the joint commission on accreditation of hospitals has identified thousands of hospital deaths each year related to the nationwide nursing shortage.

What does our health care work force crisis have to do with ergonomics and injury prevention, a question you might be asking at this point. The connection becomes quite clear when we acknowledge that health care workers are leaving the profession at an alarming rate, partly due to health and safety concerns, and continue to be injured at rates that far exceed our rate of injury in private industry.

A 2001 American Nurses Association survey confirmed that nurses are concerned about their health and safety at work. 88 percent of the responding nurses reported that health and safety concerns influenced their decision to stay or to leave nursing. 60 percent identified disabling back injury within their top three health and safety concerns.

Bureau of Labor Statistics data support the extent of our health care worker injury crisis. The rate of non-fatal occupational injury and illness in the private sector in 2004, as was mentioned earlier, is 4.8 per 100 full-time equivalent workers, while hospitals report a rate of 9.7 and nursing homes 8.3. Of particular note is the rate for what we call "all other illness" cases where the OSHA record-keeping standard directs us to record our cumulative workplace injuries. The private industry rate per 10,000 full time workers is 18, versus 54.3 in hospitals and 26.4 in nursing homes.

The Maryland Center for Environmental Training recently completed an ergonomics "train the trainer" program funded by an OSHA Susan Harwood grant, in cooperation with the Johns Hopkins Bloomberg School of Public Health Education and Research Center. Development and delivery of the train the trainer curriculum allowed us entrance into 13 Maryland-based nursing homes. Delivery of the curriculum with the support of Maryland Occupational Safety and Health facilitated our interaction with representatives of an additional 27 Maryland-based health care facilities. Anecdotal data collected through the delivery of the training is indicative of how far we have to go to improve the health and safety of this critical working population.

Of the 195 attendees from our site program, only one had read or reviewed OSHA's ergonomics guideline for nursing homes. Pre-planning site visits identified care givers working without the benefits of electric beds and assisted resident-handling devices while we are preaching and teaching concepts of neutral body postures and zero lifting policies. Ancillary department staff, including laundry, housekeeping and food service, are consistently left out of injury prevention initiatives, while being exposed to significant risk for injury, especially in manual material handling.

Certified nurse assistants and nurses that teach nursing assistants, when asked, admit that prevention of work-related injury is not currently included in their training. Registered nurses describe working in a, quote, patient-focused, unquote, environment with little room for worker focus and the prevention of worker injury.

The answer to our health care staffing crisis is not recruitment and training alone, but should incorporate strategies for keeping our existing workers at work, and those entering the health care work force safe and injury-free in the future. We think some of these areas of future research may include injury prevention strategies for an aging work force; economic models for justification of patient-

handling and material-handling equipment; exploration of our educational system for certified and licensed health care professionals, with consideration of opportunities to incorporate concepts of injury prevention and ergonomics; methods for evaluation of current injury-prevention training; and effective means for dissemination of injury-prevention information within the health care industry. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Expanded written comments were submitted as w4613.

Comment ID: 272.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Thank you very much. I'm Sheila Fitzgerald from the Johns Hopkins Education and Research Center, and I direct the occupational health and environmental nursing program. I'm pleased to present information at this town hall meeting to describe the need to -- for research regarding the employment of individuals who are born with a disability or who acquire a disability over the course of their working life, a NORA vulnerable population.

As a woman who was diagnosed with a chronic disease in 1984, during the early stages of my career, my work life did not end for the following reasons: I have a slowly progressive disease that has been managed well by me and my health care providers; an employer who has made accommodations for me, on request; and family, friends and coworker support. Since 1984 I have also benefited from a stimulating work environment, a good salary and generous benefits that have been -- allowed me to escape the cycle of marginalization, poverty and social exclusion that so many individuals with disabilities experience. I happily have been a contributing member of society and a taxpayer, and not on the roles of Social Security Disability.

The passage of the Americans with Disabilities Act in 1990 provided that individuals with a disability were legally entitled and not to be discriminated against during any stage of the employment process. However, selective demographic, economic, occupational, physical, psychosocial and environmental factors continue to hamper the process to enable individuals with disabilities to achieve employment. Data from the National Health Interview Survey conducted in -- between 1983 and 1985 found that 79 percent of adults without disabilities were working, and only 37 percent of those with disabilities were employed. Those individuals who reported work disability, defined as an inability to perform work resulting from physical, mental or other health conditions of six months or more duration, included 12.8 million persons aged 16 to 64 years. About 12 percent of conditions identified in the NIHS case activity limitations, the broadest measures of disability. Of the conditions reported by the NIHS that cause

activity limitations, heart disease ranks first, followed by back disorders, arthritis, orthopedic impairments to the lower extremities, and asthma. I would also like to add to this list of diseases and conditions a major risk factor for multiple chronic diseases, obesity, which has reached epidemic proportions in the United States, and will have implications for worker health and risk of injuries. I would also like to emphasize the frequent association between mental health disorders -- namely depression, as discussed earlier by Martina Lavrisha -- and chronic disease.

The indirect and direct annual costs of disability is estimated to be greater than \$170 billion. Of note are interesting Department of Labor statistics that reported that the working disabled have high productivity rates, better safety records, that they do not escalate insurance rates for companies, and have comparable attendance records to the working well.

As we age, our likelihood of having a disability of some kind increases. With the baby boom generation approaching later life, there will be more individuals at risk for disability, which will have implications for employers and the workplace environment.

Studies conducted by Cornell University to examine employer practices in response to the employment provisions of Title 1 of the ADA report these results. Topical areas identified by those surveys included lack of related experience with the hiring process, lack of required skills/training, supervisor knowledge of accommodation, attitudes/stereotypes, cost of accommodation, cost of supervision, and finally cost of training.

This brief overview highlights important areas for researchers, policy makers and employers to investigate in order to bring the unemployment rate for persons with disabilities in line with that of the general public, and to improve integration of persons with disabilities into the work force.

Thank you very much. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 273.01

Categorized with the following terms:

Sectors

Unspecified

Population

Other

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Violence

Work-life issues

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good morning, everyone. I am Lisalyn Jacobs, vice president of government relations for Legal Momentum. Legal Momentum is the new name of the NOW Legal Defense and Education Fund, and is a 35-year-old organization with a history of advocating for women's rights and promoting gender equality. As I begin I'd like to thank NIOSH and both the Johns Hopkins and Harvard Schools of Public Health for holding this important forum and for allowing us to appear here and speak today.

Legal Momentum chairs the National Task Force to End Sexual and Domestic Violence Against Women, a coalition of over 2,000 groups under whose umbrella we are currently working on the second reauthorization of the Violence Against Women Act. From the Task Force's standpoint, workplace safety and the economic independence that goes along with it is a crucial necessity for victims of sexual and domestic violence seeking to escape abusive situations.

And in the interests of time, I just want to say two things. One is that I will be making numerous references to a number of attachments which I have in my bag, most of which can be found on our web

site, legalmomentum.org. And also, when I use the words "sexual and domestic violence", those are a shorthand for the four issues that we are working to eliminate when we're working on the Violence Against Women Act. And those would be domestic violence, sexual assault, dating violence, and stalking. But you will hear me, for the remainder of my time, refer to them again in shorthand as sexual and domestic violence.

So again, from the standpoint of the Task Force, workplace safety and economic independence are crucial linchpins for victims of sexual and domestic violence seeking to escape abusive situations.

Legal Momentum has worked to secure this goal at the federal, state and local levels by working with employers to create workplace policies on domestic and sexual violence, advocating for legislation that affords victims of violence in the workplace the opportunity for unpaid leave to attend to safety planning or legal issues caused by the violence, and by advocating that unemployment insurance be available to victims and their family members if they need to relocate in order to escape the violence. Attached to my testimony are a number of fact sheets that we produced in this regard, as well as excerpts of our testimony in support of the economic security provisions that were included in the Senate version of the reauthorization of the Violence Against Women Act.

Next I think it will be helpful to talk about sexual and domestic violence in the workplace in the abstract, and also quite concretely. On the abstract side of the equation, some statistics will help illuminate the magnitude of this issue.

Between one and three million Americans are physically abused by a current or former intimate partner each year.

Approximately ten million have been stalked at some point in their lives, and 80 percent of these victims are women.

The Bureau of National Affairs has estimated that domestic violence costs employers between \$3 billion and \$5 billion annually in lost time and productivity, while other reports range significantly higher, between the figures of \$6 billion and \$13 billion annually.

Studies indicate that between 35 and 56 percent of employed battered women surveyed were harassed at work by their abusive partners. Such harassment can also include their partner's interfering with their ability to work, preventing them from going to work, harassing them at work, limiting their access to cash or transportation, and sabotaging their child care arrangements.

Domestic violence also affects the perpetrators' ability to work. Nearly 50 percent of abusers report having difficulty concentrating at work, and 42 percent report being late to work because of the abuse.

The General Accounting Office has found that between one-quarter and one-half of domestic violence report losing a job due to -- losing a job, due at least in part to domestic violence.

More than 35 percent of stalking victims report losing time from paid work due to stalking, and seven percent never return to work.

Almost 50 percent of sexual assault survivors lose their jobs or are forced to quit in the aftermath of the sexual assault.

For additional documentation of this phenomenon, again, I have attached some materials which can be found on our web site.

I'd now like to take a moment to talk about just one of the victims whose story is inadequately captured by the statistics I just provided. Those of us who live in the Metropolitan Washington area may have heard or read about the woman who sought and received a protective order from the courts here in Prince Georges County, only to have the judge subsequently lift that order, over her objections. Several weeks later the woman, Yvette Cade, was critically injured when her husband allegedly doused her with gasoline and set her afire. Because the media's coverage -- as in the Washington Post article I've also enclosed -- has been heavily focused on the inappropriateness of the judge's actions, the fact that Ms. Cade's husband committed this grievous act in her workplace, a T-Mobile store in Clinton, has gone largely overlooked. I am here to ask that you not overlook the totality of Ms. Cade's story, and of others like her, as you shape the National Occupational Research Agenda.

As we've worked on these issues in the context of the Violence Against Women Act, we've been privileged to work with and have the support of some simply fabulous employers, both state and private, including Harman International, Liz Claiborne and Altria, and the governors of Arizona and Wisconsin, among others. Again, more information is attached to my remarks.

The statistics I've provided, the story of Yvette Cade and the countless others that she represents, and our work with employers paints a vivid picture of the problem we face. What we desperately need as we struggle to assure that victims of domestic and sexual violence in the workplace can maintain their economic independence and thereby escape their abusive situations is a more concrete notion of which approaches work to improve their safety. It will be key in the pursuit of such research to focus on the hardly incidental consequences, for both employers and employees, of supporting victims of sexual and domestic violence in the workplace, including decreased absenteeism, improved employee satisfaction, and decreased health care costs for both employers and employees.

With all the foregoing in mind, I'm pleased to present our suggestions for the type of research we urge NIOSH to pursue in the context of domestic and sexual violence in the workplace.

We have about five suggestions, and I will sort of encapsulate them in one big picture -- one, since I realize I have gone over time.

Among the suggestions we have is that some research be devoted to assessing the impact and effectiveness of workplace domestic violence and sexual assault programs, including how helpful these programs are to victims and employers; the effects of programs on batterers or perpetrators; the effect on workplace fatalities; and the effects on job retention and employee safety and satisfaction, as well as cost savings to employers.

This research is also needed in the area of already-existing state and local legislation to figure out whether or not those types of legislation have had any appreciable impact in reducing workplace violence and improving safety from both the worker standpoint as well as the employer standpoint.

Once again I'd like to thank NIOSH and the Johns Hopkins and Harvard Schools of Public Health for holding this important forum, and for allowing us to appear here today. Thank you. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 274.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Language/culture/ethnicity

Small business

Other

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Work-life issues

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good morning, and thank you for this opportunity. I`m Ron Jester with the University of Delaware, and I`ve been asked to make some comments on behalf of Farm Safety for Just Kids -- the founder, Marilyn Adams, who lost a son in 1989 in a farm accident. And also I`m going to make a few comments as Executive Director for the DelMarVa Safety Association, started back in 1975 -- older than some of you are -- and I`ve been involved in safety in the workplace.

Incidentally, as a member of the University, I work with ASSE and a lot of safety organizations in promoting safety and health, and I`ve got a keen concern in NIOSH taking the research data and getting it into the workplace.

Let`s start with the agricultural safety. Most of you probably know that farming is the most hazardous industry in the United States. The death rate is up above 31 per 100,000. It`s followed -- or preceding that is mining, where the death rate is about 28; and preceding that is construction, where the death rate is about 15 per 100,000. So farming is the most hazardous industry in the U.S., and probably the least regulated.

Just to put it in perspective, if you worked for the DuPont Company, the death rate is about one per 100,000. For any of you into skydiving, the death rate is about 22. So it's more dangerous to jump out of an airplane than it is to jump on a tractor.

Now Farm Safety for Just Kids tries to address the issues with adolescents and children in the workplace. And farming is the only industry, of course, that permits children in the workplace. In some industries where you would not be permitted to take a tour unless you're 18 or older, yet in farming children well under ten are operating farm equipment. So it's a serious issue. It's a culture that, unless you are exposed to it or you come from that culture, you don't really understand the risk and issues that are involved.

At the same time, it's the most hazardous industry in the United States, and yet USDA recently has failed to provide financial support to land grant institutions to promote agricultural safety and health. So we appreciate the effort that NIOSH has put into ag safety and health research, and we at the University have certainly benefited from that.

Farm Safety for Just Kids has provided some comments. Number one, they are involved in community involvement and feel that that's where a lot of effort should be directed. They've established a chapter network of community people to deliver important farm safety and health messages, consequently they're able to reach tens of thousands of people with injury prevention information. They also seek youth representation, grass root volunteers, community leaders and safety specialists from North America in this effort, and they will continue to foster relationships that help spread the farm safety messages.

One example, at Delaware we had two farm safety day camps. Farm Safety for Just Kids provides the leadership. In one of the day camps it's a school-based program and the other one we actually targeted at-risk populations, specifically migrant children. And in a lot of these efforts you look at at-risk populations, and that is certainly one of them.

Three of their concerns is, number one, ATV safety, and they give some statistics relative to the injuries and fatalities, but it's sort of the vehicle of choice in agriculture. 95 percent of the injured drivers under the age of 16 were riding on adult-sized vehicles.

Tractor safety continues to be the leading cause of fatality in agriculture. And of course most of the children and adolescents that die in agriculture, it's a result of incidences with tractors.

And then the third issue is rural health, and Farm Safety for Just Kids has put together a health safety kit to talk about sun safety, food safety, water safety and respiratory health. So those are some of their concerns.

Relative to the DSA, some of the things that we see, number one, the aging population; number two, safety in a multi-cultural work environment; and number three, small employees -- employers and the challenge that they are facing. Thank you very much. Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 275.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

Past research by the NIOSH Alaska Field Station into fishing vessel safety has yielded important and impressive results. Key areas which are of particular note include:

- Characterization & quantification of fleet effort and risk exposure, especially as it relates to fishery species and gear types.
- Characterization of accident types and causes as it relates to gear and species, followed on by development of specific intervention strategies (such as deck safety on crab vessels).
- Determination of key factors to survive accidents.
- Measuring accident / fatality rates between rationalized and open access fisheries (Ongoing).

I would recommend two separate avenues to continue this body of research. The first avenue is to continue funding of items (1) & (2), however, the focus of future research should be expanded past the borders of Alaska to include other areas of the country where high accident rates exist. A particular focus should be on those fisheries in Washington, Oregon, California & New England.

Comment ID: 275.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

The second avenue of research is an expansion of research into new areas, which haven't been previously studied to my knowledge.

While NIOSH has done a considerable body of work into examining types of casualties, etc. There has been little work undertaken which examines which is the most effective type of regime to ensure compliance with the fishing vessel safety regulations. Research should be conducted to determine whether the current dockside exam program, the fix it program, safety compliance examinations (such as safe crab), or mandatory dockside exams are more effective as a service delivery model.

Comment ID: 275.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

Another area of research should be in regards to recovery of fishermen at sea, and whether current equipment and training on board federal rescue platforms is sufficient to meet the typical SAR victim needs. In particular, should there be defibrillators on board CG helos.

Comment ID: 275.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Authoritative recommendation

Partners

Commercial Fishing Industry Vessel Advisory Committee

Categorized comment or partial comment:

Research needs aside, I would also recommend that NIOSH have a stronger and perhaps formalized relationship with the Commercial Fishing Industry Vessel Advisory Committee to provide technical support to matters regarding fatality and accident rates.

Comment ID: 276.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

N-p5 particulate respirator and need to fit test annually or not. need more research on this topic to clarify and to take place more in the healthcare arena.

Comment ID: 276.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Ergonomics and issue of falls.

Comment ID: 276.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

More research, etc. on chemicals in the hospital setting and how effecting workers.

Thank-you for the opportunity

Comment ID: 277.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

- Work organization/stress

Approaches

- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: I'm Dave LeGrande, director of occupational safety and health for the Communications Workers of America. I want to congratulate NIOSH for having the -- you might say the guts to develop this agenda and move forward, along with the School of Public Health at Johns Hopkins.

As a -- an original member of the first NORA work team back in the days of Dr. Donald Millar*, if those of you in the audience remember those days, I want to bring back the focus for just a moment in -- in more of a general sense to a topic that's been raised by a number of you, but particularly focused upon the health care industry. And I want to broaden that focus to include all workers in the U.S., and that is the issue of holistic ergonomics, or as we might refer to it in the United States, we still have this hang-up about thinking of ergonomics as it's defined in Europe to include both physical and psychosocial issues. So I would call it holistic ergonomics in the spirit of looking at, in an interactive sense, both physical and psychosocial issues related to ergonomic hazards in the workplace.

I would encourage the agency to move again on focusing on those issues. I just looked at the most recent BLS data and I was thoroughly amazed that OSHA has, in its unique way, pretty much eliminated musculoskeletal disorders as an issue of concern in the American workplace. Indeed, we see every day musculoskeletal disorders occurring, as well as very high stress rates in the telecommunications

industry. Those of you who are familiar with customer service work know how stressful that work is and the very high rate of MSDs and stress-related health problems in those work environments.

I also want to point out a study that was recently conducted in North Carolina among poultry workers that found MSDs occurring at catastrophic rates. In addition, some of the work that we have done, as well as work that the Telecommunications International has done in a study just recently published conducted in Europe, which also find catastrophic rates of MSDs and stress disorders among telecommunications and customer service workers within that group.

So again I want to look at an issue that really affects the largest number of American workers, and that is a holistic ergonomics and would encourage NIOSH to revisit that issue. NIOSH, again to its credit, has stood on both feet and -- and has tackled these issues in a somewhat precarious position. That is, they've put themselves in somewhat of a precarious position. Unfortunately, the folks at OSHA have moved into the Department of Commerce and have jumped in bed with all the employer communities and have pretty much given up their concern about workers' rights. Their concern now is employer rights.

Comment ID: 277.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Indoor environment

Approaches

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Another issue that I would suggest focusing on, many of us work on a daily basis with a set of guidelines. They're standards developed in 1989, guidelines developed by the American Society of Heating Professional -- Heating, Refrigeration and Air Conditioning Engineers, ASHRE. OSHA tried, somewhat haphazardly, to initiate an indoor air quality standard-setting process. Did that, and unfortunately tried to include environmental tobacco smoke and the Tobacco Institute came through the wall in opposition to that.

I would again encourage the agency to look at IAQ-related issues and health problems. Indeed, the majority of U.S. workplaces -- indoor workplaces are not in conformance with those 1989 ASHRE guidelines. Every study that's been done by engineers in that field have shown widespread violations of the ASHRE guidelines, again an issue that affects very large numbers of people.

Again I want to congratulate Jackie and all of you for attending, but also NIOSH for stepping forward and moving forward with this very important agenda.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 278.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Partners

health care quality centers

Categorized comment or partial comment:

Verbal Comment 2005/12/05: I would like to talk about what American Nurses Association would like NIOSH to -- to look at in their research agenda, and that is safe patient handling to improve the safety of the workplaces for nurses and other health care workers, and also possibility there of improving also patient care (unintelligible) which I think we partner up with some of the health care quality centers, but that would be a great partnership and it`s a (unintelligible) for patient safety and quality and also for the health care workers because the safe patient handling research that has been done so far has shown there`s just such a great need to reduce the lifting and the lifting program, so we`re very interested in safe patient handling and motion.

Comment ID: 278.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Also the nurses are exposed to many chemicals in the workplace and we're starting to see some of the results of this, some of the problems that are developing, health problems, due to the chemicals and I believe that there's a great deal of research that needs to be done in this area of chemical exposure for nurses.

Comment ID: 278.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

health care quality centers

Categorized comment or partial comment:

Fatigue is impacting on the job safety in health care. The impact may be due to the work hours, mandating work hours. I know there's been some work done on that, but the (unintelligible) shifts that nurses work in the 24 hour, just the way the health care industry does its work, I think that's important to continue research on fatigue.

Comment ID: 278.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Violence

Approaches

Partners

Categorized comment or partial comment:

And workplace violence in health care is escalating and there is opportunity there to include this area in the research.

Comment ID: 278.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research

Partners

health care quality centers

Categorized comment or partial comment:

We do see a need for the sharp safety initiatives to continue. We have -- had such legislation on the engineered safety devices and things along that line. I'd like to see things continue there, but as well in the workplace practices because some -- that seems to be one of the areas that's shaking out and how do we make changes there in the work practices -- the human factors that are involved.

Comment ID: 278.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Personal protective equipment

International interaction

Partners

Categorized comment or partial comment:

Many of -- and another area that is emerging, too, that we're very -- getting more and more concerned as the national pandemic plan and some of the influenza concerns that we have and other new health problems that have been arising really globally. We have concerns about respirator use, that the health care workers are protected with various respirators and the N-95, the fit testing, and I think everything that's impacting in that area. I think we need to offer as many options as we can in the fit testing, be sure that the fit is -- is protecting the nurses and other health care workers, so I think there's some opportunity there in -- in light of the recent developments that are going on with respiratory protection for health care workers.

And as I said earlier, many of the nursing safety initiatives and interventions impact the quality and safety of patient care as well. For example, like our handle with care campaign that has shown differences in reduction in the lifting injuries and the short staffing concerns with the -- like there -- two times the number of needle stick injuries where there was short staffing involved. There's some research along that line, but I think we can't stress enough about the link and I guess the synergy that can be developed when you look at the patient quality of care issues and the health care safety issues.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 279.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Personal protective equipment

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good afternoon. Thank you very much. My name is Robert Clarke. I'm the President of the Truck Manufacturers Association. We represent the major manufacturers of medium and heavy duty trucks manufactured here in North America. These are trucks that weigh 19,500 pounds and above.

Before I begin, if you all will allow me just a personal note, I would like to thank NIOSH because more than 30 years ago I had the opportunity to take an engineering short course at the University of Michigan and was introduced to some folks who were involved in the then-very early NIOSH trainingship program. And they offered me an opportunity to go to graduate school that I don't think I would have had otherwise, and so I went to graduate school at Michigan on a NIOSH trainingship. And I've always been very thankful for that and it had a big impact on my life, so thank you.

With that in mind, let me -- there's just three quick points I want to make. It's obvious -- you've seen from these statistics that in the transportation arena, in the truck transportation arena, the single largest fatality risk that truck drivers face is of course highway crashes. Those statistics that you're seeing up there are a direct reflection of crashes involving trucks. And notwithstanding what the causes of those crashes may be or the precipitating factors, the fact remains that in certain kinds of truck accidents, certainly single vehicle accidents involving rollovers particularly, truck drivers are extremely vulnerable. People don't think of truck drivers as being vulnerable in these big vehicles, and -- and

typically think of the risk to other road users, but as an occupation, driving a truck unfortunately can be relatively hazardous. And the biggest hazard they face is crashes.

It's -- this is old news, but something that we need to continue to focus on, and that is the single biggest and best thing we could do to help truck drivers survive crashes is to get seat belt use rates up. This is old news, but it's still relevant today. Unfortunately, among truck drivers, despite the fact that car driving population is up I believe in the 80 percent range of seat belt use, truck drivers are still down below 50 percent. And thus -- and the proportion of drivers who die in crashes is way out of proportion to those who are not belted. I forget what the statistic is, it's like 70 percent or something. It's way, way up there. So seat belt use clearly is the -- one of the keys to surviving a crash, and ways to get drivers to wear them I think is a challenge that we continue to face.

For our part, we continue to do work on restraint system design with our suppliers to try and make the systems as comfortable and usable as possible. And additional research support in that area from NIOSH or DOT would be helpful, in addition to the age-old problem of behavioral programs to convince drivers that, unlike old-time steam locomotive, jumping out of the cab is not the best thing to do when faced with a imminent crash situation.

Along those same lines I'd like to encourage NIOSH to fund something that they did years and years ago and has been extremely helpful to our industry, and that's anthropometric data, basic anthropometric data. It's used in all our cab habitability studies. It hasn't been brought up here today, but we use that information, and the truck driving population long ago -- I think the last time this was done was 25 or 30 years ago -- was shown then and I'm sure is still the case now -- is not the typical population as a whole. So -- and now it's even more so I think with more females and others coming into the arena.

Comment ID: 279.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Last but not least, I'd like to focus on the issue of diesel emissions. There's a lot of interest in health-related issues associated with diesel emissions. I would remind and ask folks to keep in mind that the industry has been on a continuing -- increasing -- severity -- severity, that's not the right word -- stringency of emissions standards from EPA, and diesel engines in the 2004 and now again in 2007 and 2010 time period are going to be extremely clean mode of power equipment. So issues arising from research studies pointing out that older vehicles that -- I'll call them legacy vehicles and/or poorly maintained vehicles represent health hazards of one way or another are probably not as useful in terms of making decisions going forward about -- about those same kinds of effects on the newer vehicles. So I would ask that you keep that in mind as you frame studies, that studying yesterday's technology in many cases is not a good road map to what the future may hold.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 280.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cancer
Neurological effect/mental health
Renal disease
Dermal disease
Respiratory disease
Traumatic injuries
Mortality

Exposures

Chemicals/liquids/particles/vapors
Motor vehicles

Approaches

Etiological research
Intervention effectiveness research
Authoritative recommendation
Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: I'm not Brenda Cantrell, I'm Ruth Rutenberg. Brenda has the misfortune of being on vacation in Cancun and missing all our snow, so I'm stepping in for her. I'm also from the National Labor College, and Brenda is the Director of the Railway Workers Hazardous Materials Training Program. I've been associated with it along with her for the last 15 years.

I just want to thank NIOSH for the opportunity to share some views today about the occupational safety and health needs of rail workers, and it is railroad workers that is my focus. And over the next decade we hope that NIOSH will continue its intervention-oriented research because that research really truly does save lives and the health of workers.

The research that might be associated with rail worker safety and health we believe is sorely needed, and I'll give you some examples as I go through.

The railway workers hazardous materials training program is 15 years old. It has formally trained approximately 20,000 railroad workers in every state of the country, and it also has an active peer

training program so that, beyond the 20,000 very formal students that have been through the program, there are hundreds if not thousands of other contacts a year because when the peer trainers go back onto the work site, we've documented how often they -- they teach their fellow workers, either formally or informally, about how to use resource guides like the NIOSH pocket guide or the ERG. Also how to -- how to get upwind and what first response ought to be and how important personal protective or chemical protective equipment is so that the spread has -- has been tremendous. In the last year alone our peer trainers were working in 33 states of the country. So it's a fairly broad network.

The program is funded by the National Institute of Environmental Health Sciences. It's run by the National Labor College, but it's also associated with a number of other groups. These include the AFL/CIO Department of Occupational Safety and Health, the AFL/CIO Department of Transportation and Trades, North American Railway Foundation, and seven rail unions -- the Brotherhood of Locomotive Engineers, the Brotherhood of Maintenance of Way Employees, the Brotherhood of Railroad Signalmen, the International Brotherhood of Boilermakers, the National Conference of Firemen and Oilers, the Brotherhood of Railway Carmen, and the Transport Workers Union. You can see from this one of the side benefits of this program has been that government funding has brought these seven unions together. They're seven different crafts and they've -- they've found that they have clearly common interests.

The program also works in conjunction with the ARC faculty from Johns Hopkins University to do medical testing before trainees don their self-contained breathing apparatus, chemical protective equipment, and also to teach a module on toxicology to all the students. Our trainees work on major railroads and also on commuter and short-line railroads.

And I just want to give you a quick overview of sort of the size of the rail industry in terms of its potential impact on health and safety. There are approximately 160,000 railroad workers. Freight revenue alone in 2004 was \$40 billion. There are approximately 500,000 rail freight cars, with about 30 million carloads annually. Each car weighs about 60 tons, with the average train carrying well over 3,000 tons. And in terms of hazmat danger, that's pretty powerful, what a 3,000 ton explosive speed down the track can -- can do. In 2004 railroads carried 1.8 billion tons of freight, and that totaled about 1.7 trillion ton miles. So we're talking about a lot of activity.

And I'd like to first address the health risks that face worker-- rail workers, and then something about the injury.

Our workers -- our trainees alone have listed over 200 hazardous materials that they're exposed to, many of them on a very frequent basis. The one that probably folks are the most familiar with in the health and safety area is chlorine, because the railroads carry 85 percent of the country's chlorine, and it's one of the most dangerous chemicals and I'll -- remember chlorine, because I'm going to come back to it in a minute with some examples.

But other highly dangerous materials that are regularly transported include anhydrous ammonia, sulfuric acid, nitric acid, methanol, phenol -- the list is -- is very long. The railroad workers like to talk about the "dirty dirt" that they transport, which -- they can't tell you what's in it, but they know it's bad. Sometimes it glows green and yellow, so that -- there's radioactivity in it, but it's usually stuff from hazardous waste sites that are full of a huge soup of chemicals.

During the course of the training sessions, trainees share information with the class about work colleagues who have become ill and who've sometimes died from diseases that they assume are work-related. Sometimes it's only when they hear the health risks of some of the materials that they work with, like silica and benzene, that they begin to make the links between exposure and possible illnesses. Here are just a few of the illnesses that have been documented to be related to exposures rail workers face: Asbestos-related diseases, asthma, brain damage, brain cancer, chest pain and tightness, colon cancer, dermatitis, dizziness and other equilibrium disabilities, headaches, kidney cancer, leukemia, liver diseases, lung cancer and other severe lung diseases, lymphoma, multiple myeloma, pancreatic cancer, silicosis, stomach cancer, skin cancer, testicular cancer, and throat cancer.

Now -- I mean that's pretty horrible when these folks first learn how really serious some of their exposures are, and one -- one example here are the folks who work in the shops and on the train gang have gotten cancers at very early ages. It's one of the things we wish NIOSH would look at, actually. Many of these people dying in their 30's and 40's or being on kidney dialysis in their 30's and 40's, and the fear that folks live with of getting cancer almost any time.

The track workers, for example, come in contact with every hazardous material that drips on the track. And there's a very complex soup of chemicals that that involves. The BMWs, the track workers, have actually very few retirees because most of them die, actually, before they reach that age.

The injury risks are also huge, and in 2004 in Ohio alone there were over 100 accidents, more than a quarter including hazardous cargo. With all due respect to BLS survey data, I could list by name over 100 rail workers who died last year alone, and that's only from partial lists, so the under 20 is just totally flawed and I -- new data would be -- would be better.

There were two accidents in 2005 that I think are really critical to mention quickly, one was -- that both involve chlorine. In January of this year a puncture in a rail car in Spartanville, South Carolina killed an engineer and eight other people. In June a train accident in Bexar County, Texas left three dead from chlorine, a conductor and two local people. The transportation industry is a sector where accidents and diseases are really just very strong.

The railway workers program has consistently used their evaluation research to intervention strategies and improving worker safety and health. And just real quickly, some of the examples of that. When the Bexar County, Texas disaster happened, it turned out that the dispatchers, both in the Sheriff's Office and in the Fire Department, really didn't know how dangerous what they were facing was. And so the railway workers program provided their on-line training course to the dispatchers in the San Antonio area, and in fact all of the dispatchers were required to do this -- this training.

Another is the Navaho workers who we train who asks -- asked for joint work between -- between rail workers and the community emergency response people, so courses were held in Chinle, Arizona. And also in New Jersey emergency responders and rail workers have come together in classes to help -- to help coordinate the -- and I'm really almost done.

Comment ID: 280.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Motor vehicles

Approaches

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

The third example that I'd like to just mention is in this whole new area of security and potential terrorism, the rail training program has taken on a whole new focus on that. And besides doing a simulation for like Level A dress-out, they also do a full simulation on incident command, teaching folks how to be skilled support people in an emergency.

So just in closing, NIOSH research findings are widely disseminated. We use them in training all the time. They pave the way for safer and more healthful workplaces, and we hope you'll continue it.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 281.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: I`m sorry? Yeah, I got it. Thanks.

Good afternoon, everybody. I`m Judith Murawski. I`m an industrial hygienist with the Association of Flight Attendants labor union, and thank you very much, NIOSH, for inviting this input. I must admit that, representing workers who are covered by the Federal Aviation Administration, we`re not used to being asked for input so this is very welcome.

In the past ten years NIOSH has funded a series of flight attendant health studies, but for the most part this is a research area that`s largely been ignored, perhaps partly because flight attendants aren`t covered by OSHA. And perhaps partly, in my opinion, because in many people`s views, flight attendants are just waitresses that fly -- right? -- so what could possibly be hazardous about that.

There are so many research gaps in this industry. I know I have less than five minutes now so I will keep this as short as I can, but the three that I want to describe all relate to this hazard of exposure to partly-combusted and aerosolized engine oil. And that may sound like a hazard that`s specific to maintenance workers. It`s not. We know that engine oil gets in the air supply system on commercial aircraft because aircraft mechanical records confirm it, and because the ventilation ducts are coated with oil afterwards. We know that these oils contain up to three percent of the neurotoxic tricresylphosphates, or TCPs, and that upon heating these oils, carbon monoxide gas can also be generated. This is supplied to the passenger cabin and cockpit, so we`re clear here.

We know that TCPs get distributed to the cabin air because they`re on the recirculation filters, and we know significantly that crew members around the world report significant neurological damage that is

consistent with exposure to tricresylphosphates and carbon monoxide gas. I wish that I had time to give you a real world example of that. I'd be happy to afterwards for anybody who's interested. We also know that this happens about one in every 1,000 flights on more problematic aircraft types.

But despite what we know and despite the hazard being recognized by two National Research Council committees, most recently in 2002, there are three big unanswered questions, and we're hoping that NIOSH research can help answer these questions.

The first two questions are about exposure. What level of TCP exposures are we talking about during these events? And how can a crew member -- or passenger, come to that -- prove that they were exposed? The third question is about health effects. What scientific, systematic studies address the chronic central nervous system effects of inhalation exposure to aerosolized engine oil?

On the first question, biosensor research that's intended to protect against bioterror attacks has very exciting potential for commercial airlines, and any other workplace. Animal antibodies that only react to particular chemical agents -- for example, in the case of research that's already been done, this has been done for ricin and anthrax -- these antibodies have been identified and isolated. They are housed in sensor equipment, and upon exposure they bind to the specific chemical agent at a rate that can be quantified and converted into a concentration at ppb level in real time monitoring. These units are apparently the size of a child's lunch box and they cost about \$25,000. TCP-specific animal antibodies do exist, but they need to be isolated and identified. Ambient TCP levels could then be quantified on a real time basis with this technology in the aircraft cabin and cockpit, addressing the obvious research gap for TCP exposure monitoring on commercial aircraft that was recently recognized by an NRC committee. Workers need proof of exposure.

To address the second gap for -- research gap for TCP-specific blood tests for workers who may have been exposed, TCP has already been demonstrated to modify a commercially-available pig liver enzyme in a way that's not only detectable but, again, quantifiable. So research funds are needed to apply this insight to worker -- to develop a human blood test. Workers need proof of exposure.

In terms of research partners, I'll submit that information to the docket, given time limitations.

And on the third research gap, health effects, there are published studies that describe how when test animals ingest these engine oils, they show delayed effects to the peripheral nervous system, problems with gait and balance. But existing studies are inadequate for a number of reasons, the main reason being that workers are not ingesting these oils. They're inhaling them, and there's evidence that inhalation may have very different toxic effects. Crew members need NIOSH to take the lead in funding inhalation research with these engine oils, with a focus on damage to parts of the brain involved in cognition.

In closing, these three projects -- the biosensor to detect TCPs in real time in the cabin and cockpit, the blood tests, and the inhalation research -- could each be funded well within typical NIOSH grant levels, and are estimated to take one to two years to complete, depending on the available funds. NIOSH would be filling major research gaps by answering questions that have been left unanswered for decades, with obvious benefits for workers in the aviation sector and beyond.

Thank you for your time.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05
Expanded written comments were submitted as w4615.

Comment ID: 282.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Respiratory disease

Exposures

Cardiovascular disease

Work organization/stress

Approaches

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: It's okay. I'll use Bob Clarke's unused two minutes.

I'm Gary Donaldson. I'm the senior research director for Advocates for Highway and Auto Safety. What's the average life span of a professional over-the-road truck driver? I know a lot of people in here by name, including Roger. What is it, Roger? UNIDENTIFIED: (Off microphone) I don't know, I'm going to guess -- DR. DONALDSON: Don't make it too good. UNIDENTIFIED: -- (unintelligible) years old?

DR. DONALDSON: It's between 50 and 55, and there are several people in the room here who know that. If you're an over-the-road professional truck driver, your health is at risk. And the health of professional truck drivers, specific health pathologies, are at virtually epidemic proportions and have been for many years -- cardiovascular disease, insulin-dependent diabetes. Obesity is at astronomical levels. Sleep apnea is probably virtually -- or legitimately to be termed an epidemic among professional truck drivers. And we know now, with research that was done in the last several weeks that was released, that it probably has a causal relationship with the onset of stroke and perhaps heart attacks, as well.

I have to cover a lot of terrain in a very short amount of time. You're talking about a professional work force in the United States, here in the beginnings of the 21st century, that is essentially an early 20th

century professional labor force. Some of you in the room may not know that this is the largest labor pool in the United States that exempt from the Fair Labor Standards Act. Because of that exemption that was put on the record in 1938 and consummated in legislation in the Roosevelt administration in 1939, truck drivers are not subject to the 40-hour week for overtime pay. As a result, hours of service since 1939, with one major change in 1962, has drivers, under the rule that was finally superseded in the spring of 2003, working and driving 60 hours in seven days or 70 hours in eight days.

That rule, after rulemaking that was initiated in 1997, was changed by the Federal Highway Administration and then by the Federal Motor Carrier Safety Administration, the new agency of jurisdiction. In that final rule, despite the protest of labor organizations and major safety organizations and people concerned with health and safety effects of shift work and excessively long working hours, the agency made the working hours much longer.

You now no longer have a fixed work week for professional truck drivers. You have a floating work week, and under that floating work week you can now accrue 98 hours of work in eight days and drive 88 hours in that eight-day work day -- work week. And as a result, you have driving hours which are now up to 28 percent longer than under the former rule, and working hours that are now 40 percent longer than under the old rule.

Think about the ordinary American workers, who works about -- take away his two hours of vaca-- two -- two weeks of vacation in a year, about 2,000 hours a year. Professional truck driver can accrue up to 3,900 hours a year legally under this rule. So we have a rule where the context for adverse health insults for disease pathologies is sitting there as a fermenting brew, waiting for the kinds of diseases and health problems which are, as I say, virtually epidemic among truck drivers.

That rule was challenged. It was challenged when it came out in April of 2003. My organization and several others filed suit against the Federal Motor Carrier Safety Administration. We won. They threw the rule out in its entirety in a scathing decision, which said that the agency had not had adequate evidence in the record for a single feature of the final rule, and that they had also failed to uphold their statutory obligation to protect the health of truck drivers.

The agency came back and entered a new phase of rulemaking after the adverse court decision in which, in the final rule, they now made one sector of the trucking industry work longer hours than they did in the original rule. The short-haul sector now can work under an eight-day regime, which is not very common, 102 hours in eight days. So we now have a condition out in the trucking industry where, despite the protestations of the Transportation Research Board's oversight committee and excellent comments that were filed with the docket by NIOSH -- which made them very, very popular with the Federal Motor Carrier Safety Administration about truck driver health and safety -- this agency denies that there is any causal relationship with the excessively long shift work and health outcomes -- adverse health outcomes for truck drivers. And I would hope that the NORA will have a exceedingly stronger emphasis on worker health and safety, particularly in the areas of truck driver health and safety. The agency has denied that any of the studies tell them what they need to know, and as a result, having long-term epidemiological studies and long-term studies that have prospective and longitudinal design with very large populations of truck drivers are absolutely crucial. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 283.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Heat/cold

Noise/vibration

Motor vehicles

Work-life issues

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good afternoon. My name is Joe Myers and I'm an engineer, a risk analyst in the Office of Design and Engineering Standards at U.S. Coast Guard headquarters. The observations I'm going to share today are my own, and are not yet official Coast Guard input. It's in process.

That said, I think I will offer you some very fertile ground in the water transport sector for some areas for research.

Just a brief background. The Coast Guard is a small, multi-mission organization with regulatory authority across several of the NORA research sectors. These include fishing, mining -- in terms of oil and gas extraction in the off-shore, construction and transportation. While our primary focus has been on safety related to preventing maritime casualties such as sinkings, collisions, fires, groundings, we also have authority for the workplace issues on vessels which we inspect. There are two broad classes of vessels, inspected and uninspected vessels. Smaller vessels, vessels that may be engaged in the inland marine transportation, tugboats and those sorts of things are currently -- are typically uninspected vessels. These authorities are provided both through legislation and court decision, as well as cooperative agreements and memorandums of understanding between the Coast Guard and OSHA.

For those vessels that are inspected, these would include passenger vessels, maritime mass transit such as Washington State and Staten Island ferries, inland and coastal tugs and barges, oil and gas off-shore production, and marine cargo transportation ranging from container ships to (unintelligible) -- to tankers for both petroleum and chemical products.

Some of the issues that we're wrestling with are the numbers of workers at risk. We know how many documented, licensed mariners there are. We have some estimates as to the numbers of unlicensed deck hands, but we don't have a firm number on that. We're also lacking firm numbers on the number of commercial fishermen, people engaged in commercial fishing industries. BLS statistics provide us a number of fishermen that is actually less than the number of documented fishing vessels that we know about, so there's some real discrepancies in those areas. We're looking at about 204,000 licensed mariners.

Other problems are the under-reporting of injuries. We have a pretty good feel that we're getting the fatalities when they occur, but the occupational type injuries that occur are supposed to be reported, but there is more disincentive to report than there is incentives to report.

Other issues concern the unique nature of the maritime industry. It's a 24/7 operation. The workers live where they work. There's a strong tendency for a lot of extra hours, once you go off your standard-duty watch, to turn to ship's work -- scraping and painting and those sorts of things, a very complex set of hazards. It's a dynamic, moving environment. You're looking at noise, chemical exposures, heat stress, very strenuous activities. All of those things combine, as well.

And it's a very compartmented industry sector. As I mentioned, there are different aspects of it, each with its own unique set of hazards.

There are diet/exercise/wellness issues, as well. Shipboard cooking is probably not the most nutritious and healthful. Everything is fried 'cause that's quick and easy to do. Lots of -- lots of caffeine abuse to -- to maint-- you know, in order to maintain vigilance and alertness during these long work hours.

Some other issues would be the traumatic and -- versus repetitive injuries. A lot of the ship work is very -- very strenuous, line handling and those sorts of things. We suspect there's a lot of musculoskeletal injuries that go unreported.

Two other interesting aspects would be infectious disease exposures. It's an international industry, and not only are U.S. workers exposed, but we have foreign workers coming in -- foreign nationals coming in, so we have to look for things like SARS and perhaps avian flu and those types of issues, as well. Plus the ship is living in close quarters, so there are some infectious issues there, as well.

The last point is the human and organizational factors -- training, education, and turnover, language and literacy issues. As I mentioned, you may have a multi-national crew, so there are some communication and crew resource issues, as well.

It's a very demanding environment with high demands for vigilance and high performance, and we think that some of those issues would be useful, as well. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 284.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good afternoon. My name is Ray Alexander. I'm with Liberty Mutual Insurance Company, and Liberty Mutual is a very large insurance company, the largest writer of Workers Compensation insurance in the country, and also I think the fifth largest writer of auto liability insurance in the country.

We've been involved in transportation safety for many, many years. Back in 1959 and 1961, I believe it was, we built two safety cars with a lot of the safety features which are on automobiles today.

One of the areas that we're very much interested in in transportation has to do with driver training, particularly with tractor-trailer drivers. As you know, or some of you may know, we have 44,870 transportation-related deaths in 2004, and of those, 5,190 fatalities from large trucks. It's interesting that number really hasn't changed much over the last several years. The frequency, when you take accidents per million miles driven, has come down significantly. But the actual number of fatalities really hasn't changed much. It's stayed right around that 5,200 point, and that hasn't changed a lot.

Liberty is very interested in driver training and how we can train drivers to drive safely. And we're not necessarily talking about new drivers. We're talking about experienced drivers who have been driving for five, ten, up to 30 or 40 years. If you go back and look at a lot of these drivers, where did they learn to drive? Generally on a farm, from a brother or father or someone who taught them, and their driving habits may be good or bad -- who knows? And a lot of these people need some type of driver training.

A study that was done a number of years ago showed that less than 20 percent of the commercial motor vehicle drivers had had any type of good, formal training. So a lot of these drivers out there need some type of training.

Now, there are four different types of training that's being used today -- classroom training, in-vehicle training, some computer-based training now, and also simulators that are being used to do driver training. The question is, are any of these effective? When you go back and look at a lot of the training that's being done, it's very questionable. Nobody really knows how effective this training is.

So Liberty Mutual would like NIOSH to do a study on the effectiveness of driver training programs. Does company-sponsored driver training programs really work? Nobody really knows.

How can the effectiveness of training be measured? Is there a way to do that? How can a trainer determine if the trainee really gets it, does he really understand what he's doing? Are there ways to do that? Can we empirically measure changes in driver behavior after the training is done? And finally, can we see a change in driving habits by the driver, and how long do those changes work?

We drive by habit. We have driving habits. We all do, some good, some bad. This is where the driver trainer comes in, and an experienced driver trainer, one who's been trained -- and this came out at the International Truck and Bus Symposium which was held just about two weeks ago. They were talking about what are the qualifications of that driver trainer, who's doing the training? Do they have any qualifications? So -- but the driver trainer's job is to look and observe that driver and see what are his driving habits and how can they be changed, and to make the driver aware of them and try to teach him how to change those driving habits. But we need to find some way to be able to go back and measure those habits and measure those changes and see did the driver in fact change his driving habits.

So driver training is very important. Liberty Mutual, like I say, has been involved in driver training for years. We did our first driver training class I think back in about 1960. We have seen some very effective training programs take place.

I'll give you one example. We had a -- one company, we trained their driver trainers and they in turn went back and trained all of their drivers. And at the end of the first year after the training took place, they had reduced their accidents by 50 percent and their auto liability loss by 62 percent, I believe it was. So we -- we have seen some very effective methods.

But that's only one case. We need a study to go back and see what's really happening in the industry and can we make changes to improve driver training to reduce the accident frequency and the number of fatalities.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 285.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Partners

International Brotherhood of Teamsters

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Thank you. Good afternoon. My name is Scott Madar and I'm the assistant director of the Safety and Health Department of the International Brotherhood of Teamsters. Thank you for the opportunity to present today on behalf of the hundreds of thousands of teamster drivers who make their living driving our nation's roads. The types of drivers that we represent include long-haul, short-haul, automobile transporters, tank haulers, construction drivers, delivery drivers, waste transport drivers, and utility drivers whose driving is incidental to non-driving job tasks.

It is important to have a frame of reference when looking at the hazards associated with the transportation industry. Historically truck drivers have had among the highest fatality rates of all professions. According to the Bureau of Labor Statistics, fatal highway incidents increased -- increased to 1,374 in 2004, after decreasing for the previous two years. This equates to one of every four fatal work injuries in 2004 were the result of highway incidents.

In addition, the injury and illness rates have also been among the highest of all professions. The incident rate of injuries and illnesses in transportation and warehousing declined in 2004 from 7.8 to 7.3 cases per 100 full time employees. This is in contrast to the 4.8 cases in all of the private industry. BLS attributes the decline in truck transportation, which is the NAICS code 484, from 6.8 in 2003 to 6.1 per 100 full time employees in 2004 to decreases in the numbers and rates of both cases involving days away from work, job transfer or restriction in cases away from -- sorry -- cases involving days away from work.

The Teamsters Union is interested in any research that can help reduce both the fatality rate and the injury and illness rate among drivers. We're committed to working with all interested researchers on

this endeavor. And if we had more time, I would talk to you about some of the research opportunities that we have actually undertaken.

Comment ID: 285.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Risk assessment methods

Partners

International Brotherhood of Teamsters

Categorized comment or partial comment:

The Teamsters urge NIOSH to continue to research into diesel and combustion particulate exposures and the impact that these exposures have on the overall health of drivers.

Comment ID: 285.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Exposures

Cardiovascular disease
Work organization/stress
Work-life issues

Approaches

Partners

International Brotherhood of Teamsters

Categorized comment or partial comment:

General wellness issues are also of interest to the Teamsters Union. Due to the general sedentary lifestyle of a truck driver -- as Jerry Donaldson mentioned, you're behind the wheel anywhere from -- up to 11 hours a day, theoretically -- there is a tendency for drivers to become overweight, and the use of tobacco products and caffeine is rampant. From these lifestyle-related issues, drivers often develop medical conditions such as hypertension, weight-induced diabetes and heart disease.

Work/rest cycles for transportation workers, and all workers in general, are also problematic. As forced overtime and work stress become more predominant in our economy, the adverse health effects of extended work cycles and chronic fatigue should be examined since more workers in all sectors of the economy are faced with these stressors.

As the controls of the motor vehicle increase in technical complexity, the driver is required to process ever-increasing amounts of data. This information overload can significantly increase driver distraction and may create a more stressful work environment.

One issue that NIOSH has looked at is the distraction that drivers face -- are faced with from cell phones. Now imagine a multitude of other devices in the cab, all beeping and blinking at you while you're trying to drive and navigate the roads with a lot of people who don't know how to drive.

The drivers are also faced with constant monitoring, using technology such as global positioning systems, which is an enormous change from the historical autonomy that drivers have enjoyed. NIOSH should examine the stress and other psychological effects of electronic monitoring in this industry.

Comment ID: 285.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

International Brotherhood of Teamsters

Categorized comment or partial comment:

Noise exposures of truck drivers and dock workers also needs to be examined further.

Comment ID: 285.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

International Brotherhood of Teamsters

Categorized comment or partial comment:

Chemical exposures are still prevalent, although not all drivers are faced with these.

Comment ID: 285.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Noise/vibration

Approaches

Partners

International Brotherhood of Teamsters

Categorized comment or partial comment:

Whole body vibration is a problem faced by nearly all drivers of commercial motor vehicles.

Comment ID: 285.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

International Brotherhood of Teamsters

Categorized comment or partial comment:

And lastly, musculoskeletal disorders -- predominantly back injuries and carpal tunnel -- we believe are very common among drivers.

The Teamsters Union appreciates the opportunity to share our concerns with NIOSH, and looks forward to working with NIOSH in any capacity to address these issues. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 286.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Work organization/stress

Motor vehicles

Work-life issues

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Hot-dang, Leroy, it's open pulpit time. No. I would like to thank NIOSH and NORA for providing this opportunity. I am a recipient -- active recipient of NIOSH activity at the present time. Our association represents 350,000 people who own and operate their own trucks on America's highways, and we're in the midst of doing a retroactive mortality study on about 130,000 names in our membership base who are inactive. That means that we haven't heard from them for three years. It is my suspicion that some of them are very inactive, as in laid out flat and about six feet lower than everybody else.

In looking back at mortality studies, the -- there was a California study done -- oh, gosh, what was it; it was in '82 on 1965 data -- for all the occupations in California. But of the groups, truck driving was the largest sample. It had 3,000 people in it, and the average age was 54.

I didn't know that at the time, but five years ago Dr. (Unintelligible) came out -- the sleep doctor -- and said oh, well, it's 61. So I called him and said where'd you get that? He said I got it from a friend of mine, so I called him and said where'd you get it? He said well, I got it from a conference I went to and I wrote it down. It came from a Teamster. I said great, who was it? I don't know. What was the name of the conference? I don't remember. So I called Scott and said Scott, back this up, and he says I can't do it. But what the man said was that the Teamsters average getting out 18 months of checks. Thinking that they retire at 60, that makes it 61 and a half, so 62 was the age (unintelligible) came out with.

So I started looking at the obituaries in our magazine. Our magazine goes out nine times a year. It has obituaries every -- every other one, and I started adding those up and -- and the average was 56.

And so I told my boss, and my boss says well, that doesn't count all the ones that retired. And I said name a retired trucker. And he said well, there's this guy, and I said yeah, he's terminal. Well, there's that guy; well, he's got a colostomy bag. Well, no, all the old ones are all gone. And I -- I think that -- there -- there's not a lot of truckers in Florida basking in the sun.

And looking at -- after -- after I -- I got this preliminary information and finally got tied up with John Cistito* and NIOSH, I started looking at other things, so I asked for height and weight on our membership profile survey, found out that only 12 percent of our members are at their optimum or below their optimum weight. That makes 88 percent of them heavier than their optimum weight. Our mean is right on the body mass index line between overweight and obese. And of course on the other end of obese you've got mortally obese -- morbidly obese. Really big. Some of those guys have got three people on one skeleton. Really. And when you think about hauling around three people's weight, for their height and weight they've got three people all in one skin. It's a -- it's a bad thing.

One thing that we found that the California thing didn't -- oh, I'm going to go way beyond that time. You can go now. Your services have been fine up to this point. If this is on your evaluation, you're in trouble.

UNIDENTIFIED: (Off microphone) (Unintelligible)

MR. SIEBERT: California said that suicide was not a really big thing in their 54 years of age. But in mine, I only -- when I looked at -- when I was -- when I came up with that 57, I on-- I had 1,200 -- 1,200 in my population, but I -- of those, 485 I knew the cause of death, and I had 14 suicides out of 485. The national average is 27 out of 100,000. Oops. You want to talk about some stress. Jerry put it out there.

We actually sued a carrier, and in the suit we asked the judge to put a cease and desist against them, and we quoted the Fourteenth Amendment. The Fourteenth Amendment outlawed indentured servanthood and slavery. By signing the contract this company had, the people were automatically indebted to the company store so far that they had zero percent -- zero percent -- people who had actually paid off the lease and walked off with the truck. They had 100 percent failure. And not only were they taking back the truck, they were taking back these people's homes and putting them out on the street. This is the business environment in which these workers are working.

So much of the stuff that I heard about the agricultural workers, the nurses -- truck drivers are right in there with them. The precariousness of the employment. We have very good trucking carrier companies who have a average turnover of employees of 135 percent. Now do you feel secure working for somebody who's turning over their entire work force 1.3 times a year? Do you have a job that you want to stay with, because a lot of them are voluntarily leaving; they're not being fired. They're looking for a greener pasture. They're actually looking for a job that pays them for the hours that they work. They can legally work God only knows how many -- 82 in eight, 102?

DR. DONALDSON: (Off microphone) (Unintelligible) 88 (unintelligible) 98 (unintelligible) work (unintelligible).

MR. SIEBERT: But that's just the start. They wait at docks for 40 hours a week, and they don't get paid for that. That's work. They cannot go to sleep. They're waiting for free for another 40 hours. So now we're up over 100 hours -- 120, somewhere around that -- for \$35,000 a year. This is not the America that we all know and love.

I was blown over the other day listening to NPR coming in. And someone was talking about the new worker program. Well, we will have immigrants come in and do work that American workers just won't do. And the -- and they guy that was playing devil's advocate said yes, but what you're -- what you're asking for is a slave class in our -- in our society. And the lady that was -- lady that was defending our current administration's stand said well, would you rather have a servant class that is illegal or a legal servant class?

Can we economically compete on a global basis and compete with political prisoners in China, with slavery in China? Is this what our society says is okay? There are enough people in this country to drive trucks. They have the skills. They have the experience. They refuse to work that hard for that many hours for that small amount of money. And it's not happening just in trucking. It's happening in nursing and it's happening in agricultural work, too.

Tyson had a plant in Wisconsin. They renegotiated the contract. The entire work force went out on -- on strike. The new contract offered a beginning wage that was nine cents an hour below the old -- no, offered a top wage that was nine cents below the old -- let's get this straight. The new top wage in the contract was nine cents below the old entry level. That was as high as you could get. You could get nine cents below what you used to start at. And when asked why should the American public subsidize Tyson's payroll, the man said what do you mean? The reporter said you are offering a top wage that makes these people all qualify for food stamps if they have one kid. He said I don't offer wages; I offer work. But the work he's offering is for illegal aliens, because folks who are used to getting an honest day's dollar for an honest day's work still deserve that today, even though we're in a global economy.

I'm almost through. When we -- we have a lot of -- lot of talk about fatigue in trucking. And I will -- I suspect that there are a lot of fatigue fatalities that are marked down as fatigue that are not fatigue. They're death fatalities. Well, of course he died, he had a wreck. No, he died before. Because when you see a trucker who does not make any steering correction and no braking and goes off and hits a tree or a bridge abutment, that's called fatigue. He was asleep. I'm saying that a lot of those are really asleep; they died and the -- the same thing happened. There was no -- there was no corrective move. He was already dead in the saddle.

NIOSH has -- has talked earlier about -- and I'd like to encourage them to continue -- they talked about funding a center of excellence for transportation workers. And I've been to the Center for Production Workers Rights and seen the work that those folks are doing there, and if we had such a thing for our sector, I think that would be a great thing. And I've heard -- oh, I don't know -- rumors that perhaps this center of excellence may become virtual. And if that's the case, I want to be first in line to bid for the job of cleaning the windows on the virtual headquarters. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 287.01

Categorized with the following terms:

Sectors

Wholesale and Retail Trade
Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Work-site implementation/demonstration
Economics
Emergency preparedness and response
Work-site occupational safety health system/record keeping

Partners

Dick Collins of National Postal Mail Handlers Union

Categorized comment or partial comment:

Verbal Comment 2005/12/05: Good afternoon. My name is Dick Collins. I serve as assistant to the president of the National Postal Mail Handlers Union, and I wasn't planning on speaking, but I heard a lot of comments, primarily this morning, about ergonomics. It just made me rethink the idea of sitting here and not sharing.

Three years ago the Mail Handlers Union, the American Postal Workers Union, the Occupational Safety and Health Administration and the Postal Service joined together in a partnership. That was a term I heard a lot this morning, partnerships, so that's one aspect I'll be talking about. And we decided to attack the risk factors that lead to musculoskeletal disorders.

So the Postal Service approached the unions, with OSHA's help, and suggested this partnership. And what we came up with was something we called the ergonomic risk reduction process. To those from business that wonder about the cost effectiveness of ergonomics, I will tell you, after three years of considerable personal involvement, ergonomics will save you a ton of money. For the people that worry about stress in the workplace and workers that feel disenfranchised from their employee, I will tell you -- or from their employer, rather, I will tell you that ergonomics, when properly structured -- involving the workers on the floor, giving them the knowledge and the power to make the changes that

they need to make to eliminate the risk factors that they encounter every day -- will help you to reduce worker stress.

We came up with a model where we put an ergonomist in one of our large mail processing facilities for 90 days. And the purpose is to transfer knowledge, to make the people in the facility aware of the risk that they face in the performance of their duties, to provide them with the knowledge to both identify and eliminate those risks, and to build teams to go around that plant to identify those risks in every area and come up with the solutions to implement to eliminate those risks.

We were skeptical, I guess would be a good word -- it'd be a Christian word -- initially when the company approached us. But I have to tell you that this process has far exceeded anybody's expectations.

We currently have 93 large processing facilities involved with this ergonomic risk reduction process. The goal -- the objective ultimately is to bring all 400 of our major processing and distribution plants on line with this. Those plants that are currently in range in size from 800 employees to 2,500 employees. Actually I guess I'd have to go a little higher on that top end. Morgan Station in New York, which takes up four city blocks in Manhattan, I believe they employ somewhere around 12,000 or 13,000 employees in that facility alone. That's the downtown plant for Manhattan that takes care of all of Metro New York and the surrounding area.

What we've seen -- going off the top of my head for the metrics -- the lost workday injuries, we took the facilities in the first seven phases, we rolled out in anywhere between eight and ten facilities in a phase. We compared phases one through seven against the rest of the nation. That group comprised about 66 of these large plants. The lost workday injuries were down somewhere in the neighborhood of 34 or 36 percent, I believe, compared to the rest of the nation. The lifting and handling MSDs, the lost -- lost work -- light duty workdays where someone would get hurt and come back was down close to 70 percent, if I remember the slide. Larry Liberatore is here from OSHA, he's one of my partners so I'm asking him for a little help here 'cause -- all I remember were the numbers were staggering.

If anybody's seriously interested in an ergonomics program, I have some business cards with me. I'd be happy to give them to you and give you some more precise information later, but the ergonomics works. I don't care what your goal is. You know, I took some heat from people who thought that, as a union, we shouldn't embrace this because they said well, one of the byproducts is that management gets a more efficient operation. And that's true. But my reason for becoming involved was to keep people from getting hurt. If the company can do it a little bit safer and get a little -- I mean a little faster, get a little more out of it, that's okay because one of the realities of the Postal Service is that they are beginning to shed workers. They're down approximately 100,000 employees in the last three years. They're going heavily to automated operations, and that's inevitable. We're not going to change that. But what we can change is the way people do the job, the way people are approached and given the ability to both do their job and to make sure that job is done safely, and to protect the people we represent. And if the company benefits from that, that's okay because that means that people that come after me are going to have a job, too. So if you'd like to see me on the way out, I'd be happy to give you a card and share some more information. Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in College Park, MD, 2005/12/05

Comment ID: 288.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Immune disease

Infectious diseases

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Thank you for allowing me to discuss the National Occupational Research Agenda. My name is Rochelle Davis and I'm the founding Executive Director of the Healthy Schools Campaign, the primary advocate for school environmental health issues in Illinois. Our mission is to advocate for policies and model programs that allow students and staff to learn and work in a healthy school environment.

We have two program areas, environmental health and school food. My testimony today will address what we see as the important role that NORA can play in promoting healthier staff and students.

An estimated 20 percent of the population spends their days in elementary and secondary school buildings, yet this critical component of our national infrastructure is crumbling. School buildings in every state, county and city in the country have environmental problems that adversely affect the health, well-being and productivity of staff and students.

One important component of school environment affecting health and productivity is indoor air quality. Studies reveal an alarming percentage of schools with facility problems that relate to indoor air quality. Sources of indoor air quality problems include VOCs emissions from furnishings and materials, mold infestations, chemical emissions from improper use or storage of maintenance products or educational supplies, insufficient fresh air due to poorly designed or maintained ventilation systems or to overcrowding, the entry of pollutants from outside due to improper siting or design of ventilation

systems, and high radon levels. Indoor air quality problems can also result when asbestos or lead in building materials is distributed during repair or renovation activities.

In 1995 the U.S. General Accounting Office survey of 10,000 schools found that approximately 27 (sic) reported unsatisfactory ventilation, and almost 22 percent reported unsatisfactory indoor air quality generally. With about 20 percent of the U.S. population spending their days in elementary and secondary schools, the potential health, comfort and productivity impacts of poor indoor air quality are considerable.

The effect of poor indoor air quality on health, learning and general well-being are wide ranging and include allergies, asthma, increased rates of infectious disease, chronic headaches and a variety of respiratory diseases. Asthma, a condition that can be triggered by mold, cockroach dander and a number of environmental conditions in schools, has become the leading cause of school absenteeism due to chronic illness.

There are existing best practices to address poor indoor air quality. Green Cleaning can reduce the use of toxic chemicals in cleaning programs. Integrated Pest Management protocol reduces the use of pesticides in schools` environment. Anti-idling procedures reduce the toxic exhaust caused by the idling of diesel buses. Safe chemical management protocol can reduce the use of toxic chemicals used in curriculum. The USPA (sic) has taken the best practices and developed Tools for Schools. The EPA will soon launch a new tool called "Healthy Seat", which provides a more sophisticated management tool.

However, few schools employ these best practices. Research dollars should be spent addressing the research to practice gap. While much is known about why schools do not embrace best practices, little has been done to explore effective strategies for bridging the research to practice gap. A couple of examples of particular interest to us is to examine the role that school nurses can play in promoting indoor air quality-related best practices.

Also of interest to us are projects which examine the effectiveness of school/community partnerships in improving the school environment. Currently Healthy Schools Campaign is engaged in an NIEHS-funded project which explores the role that community organizations can make in improving the school environment. The research aims of the project include the development of a common language between "professionals" and "community members and parents" that will be used to motivate school administrators to take action to improve the school environment.

Thank you very much for the opportunity to share our perspective with you. If you want more information, we`re available to share our research ideas with you in greater detail.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 289.01

Categorized with the following terms:

Sectors

- Construction
- Manufacturing
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade
- Unspecified

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance
- Work-site implementation/demonstration
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good morning. My name's Tim Leahy. I'm the Secretary-Treasurer of the Chicago Federation of Labor, AFL-CIO. On behalf of our President Dennis Gannon, our executive board, the 321 affiliated unions and more than 500,000 union members of the Chicago Federation of Labor, it is a pleasure to be here before you today and offer some public comment on NIOSH -- NIOSH's role and mission.

I would like to thank our Chicago and NIOSH partners -- Lorraine Conroy, Dr. Rose Sokas, Leslie Nickels, Joe Zaroni -- they do a great job here in Chicago and we're very proud to work with them.

In the Chicago Federation of Labor we're not just a casual stand-by observer. The Chicago Federation of Labor, through our affiliates, raised -- we raised a significant amount of money to create an endowment on behalf of our former president, Michael Bruton*, that yearly -- every year hands out grant money to do research in occupational health and safety.

I come here today simply to comment on the scope and breadth of NIOSH. Simply put, I believe NIOSH is not looking far enough, deep enough, and in many cases is missing entire segments of the working population. The world we work in has changed dramatically. The look, the complexion of our workforce is also changing. While there remain many, many good ethical, successful employers who choose the

high road, there remain far too many employers who, through their sheer greed, simply choose the low road to conduct their business.

The benchmarks of a high road employer would include the following characteristics. He's aware of the community in and around where he does -- he or she does business and invests in that community; provides health care for employees and their families. Of course I know -- the labor -- we know how difficult this is. It's how we end up striking over every contract negotiation, it's health care. But as long as an employer is constantly attempting to provide some type of realistic health care coverage, then they're trying. Stays out of decisions that are solely made by employees when it comes to a decision to form a union, and provides some type of pension/retirement benefits.

Benchmarks of a low road employer would be provides no health and welfare benefits for employees. At the expense of his employees he is constantly contracting out, continuing to hire temp workers, workers from day labor agencies; interferes unlawfully with union organizing drives.

Why is this important? Because unfortunately in this current economy we are seeing a disturbing growth of low road employers. Between perma-temping, day labor, privatization, growth of illegal and unethical use of immigrant labor, the workforce that we see today works in a much more dangerous environment. And if our government statistics on safety in workplace do not corroborate this, then I strongly suggest they're looking in the wrong places.

Organized labor has long been an advocate for a safer work environment, not just for union members, but for every worker. The Chamber of Commerce is not going to sit up and stand up for a safe workplace, but the labor movement will. Every single law ordinance that pertains to protecting workers on the job was pushed by -- advocated for the labor community. The inertia, (sic) momentum and pressure put forth to pass safety laws in our country did not come from the business community; rather from organized labor and the communities where work takes place.

While scientific research on how chemicals, toxins, air qualities are important to protecting our environment, I believe NIOSH must be much more diligent in reaching out to labor community groups to study what exactly is happening in the immigrant worker population. Whether the sector is manufacturing, construction, transportation, hospitality or retail, I believe the injuries and industrial disease affecting our workforce are dramatic and unreported. Between the pressures on employers from insurance companies not to report, aligned with the fear of a worker, especially an undocumented immigrant, to report an extremely dangerous -- to report a disease or an injury makes for an extremely dangerous environment, an environment that promotes not reporting making a work-- an environment that makes not reporting commonplace in our workplaces. This makes our workplaces more dangerous.

This is a complex and dangerous situation and will require time and resources to set it straight. But more importantly, it will require the will to do what's right. It will require a will to begin asking more questions and questioning basic assumptions. It will require the will to begin reaching out to the labor community, immigrant community, the religious community, the civil rights community. This problem will not be solved by one entity alone, but rather from a true partnership of the above organizations.

The business community must once again take ownership of how it operates in our communities. Why is it when we have an exculpulous (sic) day labor agency that provides no health care insurance that it provides -- that it sets up a dangerous work shop, that it's only the labor and religious community that stands up and protests. Where is the business community?

Once again, to fully attempt to make our workplaces safer, NIOSH must step up and more fully reach out to the labor and communities. Through NIOSH's efforts, if more low road employers become high road employers, then you will see a dramatic turnaround ensuring the safety of our workplaces.

Thank you for the -- the opportunity to comment publicly.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 290.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Thank you. I'm Mike Perry, Director of Education and Employee Involvement for AFSCME Council 31. Occupational safety and health for the public sector, particularly state and local government workers, continues to be a major area that does not receive the attention it needs and deserves. Nearly 20 million workers are employed by state and local governments, roughly 15 percent of the non-farm, civilian workforce in the country. According to the Bureau of Labor Statistics, there were 5,703 fatal workplace injuries in 2004, of which 525, or nine percent, involved state or local government workers. Thousands more die each year from occupational disease, and hundreds of thousands suffer injuries that result in time away from work -- in all too many cases, permanently.

Despite doing some of the most hazardous work in this society, public employees were excluded from the Occupational Safety and Health Act when it was passed 35 years ago. Today only 24 states have federally-approved state OSHA programs that cover state and local workers.

Comment ID: 290.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Work organization/stress
Violence

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Today I want to bring just a few of the serious hazards facing our members of public service workers generally to your attention. There's an epidemic of workplace violence in this country. The public is aware of the risks to law enforcement personnel and late-night retail establishments, but there's an unseen war going on in workplaces where our members work, as well. In correctional and mental health facilities assaults are a daily occurrence. As government budgets get squeezed ever tighter, staffing shortages increase the danger to the workers. In addition to the staffing issues, the reasons for violence are already well-known.

What's missing is a solid body of research that documents the efficacy of various solutions. There are many strategies and workplace violence prevention guidelines that have already been developed by federal and state OSHA programs, such as in California and Washington. However there has been a lack of research to evaluate what works best. Intervention research to assess the impact of workplace prevention guidelines is a glaring topic in need of further study.

Comment ID: 290.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Work-site implementation/demonstration
Authoritative recommendation
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Ergonomic problems continue to top the list of workplace risks. Patient lifting and moving puts direct care workers in nursing homes and other direct care settings in the unenviable position of having the highest rates of musculoskeletal disorders year after year. Adequate staffing, lifting equipment, no-lift policies are all known to dramatically reduce and even eliminate these preventable injuries. Yet despite the evidence of cost effective injury prevention measures, employers too often fail to take appropriate measures.

Back and other injuries are an important cause of the high turnover. If there are tried and true methods to control ergonomic risk factors that also save large sums of money, the question that remains to be answered is why are these recognized injury prevention strategies not being implemented? It would be instructive to know why there is such resistance to adopting ergonomic programs. Besides the lack of strong federal or state mandates, what other factors are at work?

Comment ID: 290.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Heat/cold

Radiation (ionizing and non-ionizing)

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

A long-neglected occupational group in terms of research is sanitation workers. They face a wide spectrum of biological and chemical exposures in the refuse they collect. They're exposed to extremes of heat and cold, UV radiation and other physical hazards. They are maimed and killed by faulty equipment. Some are killed when falling off the truck, by passing traffic or crushed by their vehicles.

Comment ID: 290.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders
Traumatic injuries

Exposures

Approaches

Etiological research
Engineering and administrative control/banding
Intervention effectiveness research

Partners

Categorized comment or partial comment:

I'd like to point out that there's an ever-growing number of workers in non-traditional jobs who all too often never appear on the research radar screen. These are home health care workers who work in the homes of the elderly; personal assistants who provide vital support to individuals with disabilities in their homes, at school, in their jobs; and family child care providers who care for the children of others in their homes. These workers are too often injured due to the physical strains of their job. They are at particular high risk for back injuries, as well as repetitive motion injuries and falls. There's a critical need for research into the causes of the health and safety hazards such workers confront and what can be done to reduce their risks.

Comment ID: 290.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Work-life issues

Approaches

Etiological research
Personal protective equipment

Partners

Categorized comment or partial comment:

Finally I want to mention another pressing area of research. The nation is facing the possibility of an avian influenza pandemic, yet our health care workers and emergency responders have still not been provided with the equipment and resources they need to protect themselves to avoid -- and to avoid infecting their families at home. For example, the Health and Human Services Pandemic Influenza Plan recommends a surgical mask for respiratory protection. Its recommendation is based on the assumption that transmission is primarily via large droplet nuclei. However, the plan admits it does not have definitive scientific evidence to support this claim. It does not address the issue of the evaporation and breakdown of droplets into respirable-sized particles within matters of seconds, or even fractions of seconds, after they are expelled through sneezing, coughing or even in talking. Surgical masks are not respirators. They cannot filter out droplet nuclei, and they cannot achieve the tight seal against the wearer's face. More research is needed on the airborne risk of transmission of influenza and other potentially lethal pathogens.

Comment ID: 290.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance
Authoritative recommendation

Partners

Categorized comment or partial comment:

In conclusion, I mentioned just a few of the many serious hazards that are taking a huge and unnecessary toll on state and local government workers. Research is important not only to quantify the nature and magnitude of the problem. Documenting hazards and solutions provides workers and this union with the evidence we need to obtain stronger health and safety rights through laws, government policies, collective bargaining, labor management committees, in arbitration and other forums.

Thank you for this opportunity to express our concerns.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 291.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Dermal disease

Respiratory disease

Traumatic injuries

Exposures

Approaches

Hazard identification

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: My name is Jim Buskus, a retired member of UAW, Local 719, and previously a UAW health and safety rep for General Motors, electromotor division, outside of Chicago. I have 19-plus years of safety experience in the manufacturing environment and have held a CSP for the past ten years.

First let me say the UAW supports NIOSH in its efforts to protect workers against hazards. I'm here to speak about priorities for the occupational health and safety research in the manufacturing sector. First let me say the UAW -- oh, I'm sorry. I'm here to speak about the priorities for the occupational health and safety based on the experiences of the UAW at the national and local levels.

The UAW has put our money where our mouth is in the support of research. We have negotiated and jointly administered research funds in the U -- in General Motors, Ford and Chrysler starting in 1984. Millions of dollars were spent and around 100 publications produced. We also launched small efforts at International Truck, NUMI* and other locations.

The most important goal of research is to identify gaps in protection, situations where workers are getting sick or getting injured under current conditions. This can be done -- this can be because an exposure permitted by standards is making people sick. As a health and safety representative out on the plant floor, I can tell you how often my own eyes burned, heads ached, skin became irritated, and then the industrial hygienist came and said that the exposure's within the OSHA limits.

Health effect research, including injuries, is the most important thing NIOSH can do, and it is something only NIOSH can do. Industry only pays for health effect research after some other investigators have found a problem and the industry is convinced it will make costs go away. Sometimes there's a gap in protection because the methods of controlling exposure is unknown or a more efficient method of controlling is needed. But this is much less a priority than showing an exposure is causing people to get sick or injured.

Comment ID: 291.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Cancer

Respiratory disease

Exposures

Approaches

Hazard identification

Etiological research

Risk assessment methods

Partners

Categorized comment or partial comment:

First, we know the workers in machining plants, foundries, even vehicle assembly plants are still dying early from cancer and respiratory diseases. We need to know more about whether these chemicals that they're still -- that they are still -- risks exist.

Comment ID: 291.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Risk assessment methods

Partners

Categorized comment or partial comment:

Second, ergonomics still causes half the injuries in our workplace. We need to know how much exposure is too much exposure.

Comment ID: 291.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

Third, we learn that severe and fatal injuries are concentrated among skilled workers doing maintenance and repair work. We need to understand better how to measure the exposures and job characteristics that cause these fatalities.

Comment ID: 291.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Neurological effect/mental health

Musculoskeletal disorders

Exposures

Cardiovascular disease

Work organization/stress

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Finally, we need to measure the work-related stresses, including the stress of working in pain from ergonomic injuries, which causes high blood pressure and mental illness.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 292.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Small business

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Exposure assessment
Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Hi, I'm Myra Glassman. I'm the Field Director with Service Employees International Union, Local 880. We're a union of home health care and home child care providers in Illinois, roughly about 30,000 members in home health care and about 50,000 in home child care in Illinois.

Most of our members that work in home care work through two state agencies, Department on Aging and the Office of Rehabilitation Services, Department of -- Department of Human Services. Roughly -- between the two, probably 40,000 to 50,000 workers that care for elderly and people with disabilities that get those services by being Medicaid-eligible.

Our members -- Helen will explain in more detail, but our members do a variety of home tasks and personal care tasks -- you know, anything from cooking, cleaning, shopping, to giving baths, changing diapers, coming in a lot of contact with bodily fluids -- and Helen can detail. We see as probably some of the top problems is that there's really nobody taking bottom line for training and providing equipment for these thousands of workers, so there is some training provided through in-services at private companies that contract with the Department on Aging, some companies that are taking on more responsibility for doing that and providing equipment, but we've had to organize to get those things. So when we started there was really no such thing as giving out gloves or maybe even talking about universal precautions and, through organizing, we were able to get that going. It always seems to be a problem of funding mainly, like who's going to pay for those kind of trainings. And a lot of the in-services, if the speaker doesn't provide that service for free, they're usually not invited. So sometimes the quality of that training is a problem.

And a lack of equipment is also a funding issue. I mean our members a lot of times provide their own out of their average wages, which before we started organizing was minimum wage -- some were making as little as a dollar an hour because they were considered independent contractors -- to an average wage now of \$7 to \$9 an hour. So to have to provide your own gloves and other equipment is a real issue.

There`s no health insurance for a majority of the workers, so that is something we`re organizing to win, and have won it for some small amount of workers. But for the majority of workers, there`s no access to health insurance. So to get hepatitis shots or other kind of things that can keep them healthy, that`s a real struggle. And a lot of times workers go to work ill because they`d lose a day`s pay if they don`t.

And probably, you know, the biggest issue is just that this workforce just has not been studied. And we`re very fortunate to be involved with Dr. Rosie Sokas and Joe Zandoni and Leslie Nickels in the home care bloodborne pathogen study which is now underway to really study this workforce and see what the exposures are because there`s really -- literally, if you put home care workers and the people they assist together, there`s hundreds of thousands of people that are at risk every day. So we appreciate being part of that and we`re looking forward to the results of that study.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 293.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Small business

Health outcomes; diseases/injuries

Infectious diseases
Musculoskeletal disorders
Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Well, Myra almost told you who my name was. I'll just say it again. My name is Helen Miller and I've been a home care worker for 25 years, and I want to tell you a little bit about what I did as a home care worker. And when I say what I did, 'cause I just lost my last client in October.

So the first thing you do when you go in in the morning, you have to get them up out of bed and get them to the bathroom and get them dressed. And I'm kind of -- I'm going to kind of talk like two different clients. Okay.

The first clients, when I was there with her, she was a diabetic so she had needles. So you was always conscious of where the needle are and she was partially blind so you have to watch out for where she put her needles or how you dispose of her needles. And I had to give her a bath. And as the time went on, her disease got worse, so she had a major stroke. So when she came home she had no control. So you understand what I'm saying, no control? So I -- she couldn't furnish the gloves, so I had to furnish my own gloves.

And I don't know what kind of mask would -- I didn't know exactly what the safety of masks was, but I used to use the one that I used to clean my house with. I used those masks to kind of protect myself and I bought my own gloves.

So that was one patient. Then I had another patient that I just lost. She was a patient that -- she wasn't completely bed rest, but I had to go in and first thing I had to do was to wash her up. I also had to clean her mouth, you know, because she couldn't -- she had no incentive (sic) of doing anything for herself.

Also -- and she also wore Depends so I had to do that. But I -- and I had gloves for -- I -- you know, the family did support gloves for that. And she was a patient that I had to take her to the bathroom. I had to get her up off of the bed. She could walk, so I had to walk her to the bathroom, but then you got to help them get on the stool, off the stool, on the bed, so you have a chance of hurting your back. And at that time they didn't have Hoyer's, so you know, it's difficult to lifting a patient up and down from one place to the other one.

Let me see what else I could think of. And I think that's about -- I think that's about it as the work I did.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 294.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good morning. My name is Linda Forst. I'm currently a practicing physician and associate professor here at UIC School of Public Health. I'm a long-time fan of NIOSH, having done my occupational medicine training at an ERC in the 1980s consulting on projects while practicing in my first job in Cincinnati. And becoming a faculty member within the Illinois ERC in 1991, I directed the occupational medicine core training program here at UIC for seven years. And I've been a beneficiary of NIOSH research funding through its extramural programs.

I have been a program evaluator and grant reviewer for NIOSH, and I've been on the receiving end of those activities, as well. I greatly appreciate your giving me and my midwestern colleagues the opportunity for input into the National Occupational Research Agenda for the next decade.

My research interests lie in the areas of occupational injury, injury and illness surveillance, and vulnerable populations. First, occupational injury.

I was recently at the APHA, American Public Health Association, conference in Philadelphia where I heard Dr. Hunt and others from the CDC injury prevention group talk about their response to Katrina. They talked about the impact that they had on citizens, and specifically relief workers. On asking what role NIOSH had in their work, Dr. Hunt responded that after they wrote injury prevention documents for New Orleans, they gave them to NIOSH to review.

Clearly NIOSH has a long history of expertise in workplaces, and in addressing worker efforts in the aftermath of unexpected disasters. I heard an anecdote about the Exxon Valdez oil spill near Alaska. NIOSH's evaluation of the rock cleaning activity after that disaster led to the recommended use of techniques from roofing operations where it was deemed best to clean from the top downward,

collecting oil and debris at the bottom of the rocks. This adaptation prevented slipping on the part of the cleanup workers.

Dr. Hunt`s response at APHA made me concerned about turf being more important than prevention. I`d like to see NIOSH better recognized within the CDC, and nationally, for its expertise. Better publicized research in the area of injury control during disasters, or maybe simply getting in their face, is important.

Comment ID: 294.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Authoritative recommendation

Capacity building

Partners

Categorized comment or partial comment:

Next I'd like to talk about occupational surveillance. Clearly NIOSH should be on the cutting edge, promoting higher quality data collection, analysis and dissemination in the states, and facilitating efforts on the part of state health departments and workers compensation commissions. NIOSH could explore and assist in data linkage techniques, and in addressing confidentiality concerns in a global way that can be helpful to getting data from state databases into the public domain.

At present NIOSH requires a competitive application for funding of surveillance projects, looking for creativity and grantsmanship to decide which of these programs is worthy. If the goal of NIOSH is to summarize surveillance results from the 50 states, NIOSH should provide a template and support to the states on a non-competitive basis, in much the same way that infectious disease divisions prioritize data collection on infectious sentinels.

Comment ID: 294.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Services

Population

- Language/culture/ethnicity
- Other

Health outcomes; diseases/injuries

Exposures

Approaches

- Intervention effectiveness research

Partners

Categorized comment or partial comment:

A third area that I believe requires intense focus is that of vulnerable populations. Immigrant workers in agriculture, construction, manufacturing and service appear to be at tremendous risk, with numbers and rates of illness growing dramatically, demonstrating a clear occupational health disparity as rates appear to be declining the U.S. workforce overall. The informal sector which overlaps immigrant workers is also an employment setting that requires intense scrutiny for ways to make inroads into injury and illness prevention.

Comment ID: 294.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

The proposed NORA agenda to focus on single economic sectors, like construction, may obscure the global issues for vulnerable populations since their problems cut across economic sectors. In general, I'm concerned that listing single sectors as NORA agenda items will create inefficiencies and barriers to studying these cross-country occupational health sentinels in worker categories.

Comment ID: 294.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Marketing/dissemination

Partners

Categorized comment or partial comment:

I want to commend NIOSH's work on the research to practice and intervention effectiveness. Your clear guide -- this clear guide sits on my top shelf, ready for use when I'm planning a project, teaching a student or writing a manuscript. I support continued refinement of techniques to research, publicize and disseminate interventions that work, and I look forward to more of this from NIOSH in the new NORA initiative.

Comment ID: 294.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

I also want to thank NIOSH for the NORA pilot projects program which has launched research careers for many trainees and junior faculties at our institution. I encourage continuation of this form of extramural funding.

Thank you for allowing me to testify today.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 295.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: My name is Brian Devlin and I'm a registered physical therapist that consults to the long-term care industry. I've consulted the long-term care industry for the past ten years, and my wife is a PT in long-term care industry, so we -- we've lived and breathed this industry for the past ten years.

And the long-term care industry is in a crisis mode right now in the area of employee safety. I've been formally trained in ergonomics. I've been formally trained in the science of patient and resident handling. And I can tell you that I can't go onto a long-term care facility floor at any given point and use proper body mechanics 100 percent of the time. It is a impossibility, physiologically and anatomically.

And there's many reasons why, but the most important reason to realize is that residents and patients are dynamic weights. It requires the caregiver or the direct care person to constantly assess or change the process by which they handle and lift residents. And coupled with the fact that there are resident diagnosis issues, there's hygiene issues, there are many issues that prevent a person from using proper body mechanics or ergonomics all the time.

That aside, my son asked me a very poignant question. He's six years old and he had to prepare what his mother and father did for -- for their jobs. Well, my wife being a physical therapist, it was a very easy conversation. But for myself, I had to explain to him why I go into businesses and health care facilities to try to prevent workers from being injured. And he asked a very good question: Why do these people have the opportunity to be injured? And if a six-year-old can ask that question, it begs -- it begs us to ask the same question and come up with a rational answer. And I couldn't -- I started listing out all the answers, but him being six, he of course couldn't understand that. This will all make sense why I have no hair, I'm sure, now. But he -- aside from that, we -- we ended the conversation -- he said I think I'll just be a farmer and wear a hard hat.

And I wish it was that simple for the long-term care workers that are exposed to an increase in the acuity levels of the residents dramatically over the course of the past ten, 15 and 20 years, but the education and training that the CNAs and direct care workers have had to go through during those same changes have not kept pace with the acuity changes for residents and patients in long-term care. So we have a very unrealistic expectation for these workers to use proper body mechanics at all times.

I'm an advocate of a limited lift program. I don't believe that we can create a no-lift environment in health care because we are in the business of providing care for individuals, and that comes with the element of touching and caring for people. But we do have to engineer out the heavy lifting that these individuals do because it's not like we are lifting a widget or a product all the time. We are lifting patients, and they're humans. And with that comes an area of misunderstanding -- not only from the employees, but from the residents -- of what the expectations are.

I wanted to also talk to you a little bit about what is contributing to this environment, which is the long-term care industry as a whole. The market conditions right now are such that the operators have to worry about reimbursement issues, staffing issues -- because the turnover rate is so high within the industry that this strips away the opportunity for the operators to put a lot of resources into training and prevention programs because they allocate those resources and then two weeks later 20 percent of the staff may be gone already. So it really creates a difficult atmosphere for the operators to provide these safe work environments, and the only way we can do this is to engineer out the risk and the opportunity for heavy lifting to occur in health care.

Thank you for the opportunity to address the panel, and we look forward to working with you in the future.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 296.01

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

- Older
- Language/culture/ethnicity
- Other

Health outcomes; diseases/injuries

- Traumatic injuries
- Mortality

Exposures

- Motor vehicles
- Work-life issues

Approaches

- Training
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good morning, and thank you. I am here today in the presence -- or to take -- in the place of Alan McMillan, the president and CEO of the Council. I sit on his executive board as finance chairman. I was told this morning on my way down Alan has recently had a death in his family which he just finished dealing with, and now the flu. So maybe there`s something to personal stress and lowering your immune system and all of that, so I guess it`s -- it is making sense.

What Alan`s cause was today was to explain the theme of what the Council is all about. But also in our recent world congress in Orlando we saw that there are -- 111 nations were represented in Orlando, Florida to see what the world had to say about safety. And there was a very common theme in that saying, and that was that it`s not just workplace safety, it`s not just driver safety, it`s off-the-job safety. So as I go through this brief presentation, allow me to give you just a little bit of that information.

As we saw the hurricanes come through this last fall, the congress in Orlando started just after Hurricane Katrina. The year before we were chased out of New Orleans with Hurricane Ivan. While we were there, Hurricane Rita was coming up the Gulf. So the world leaders that represented this -- this congress that was represented in the United States for the first time in 50 years were very attuned to what we`re doing in emergency preparedness and in workplace safety.

It should be noted that when we expand the profession of safety, we need to extend it beyond the roles of the workplace. And in that I mean that when we find workplace numbers are dropping, as we know injuries and illness and death is dropping, I would say that that's an obvious result of the extensive work of NIOSH and OSHA, and all of their activities over the last 30 years have made safer places for us to work. But as we get into the mobility of the next generation, the Generation X, as we get into the older workforce that is causing the Baby Boomers to get toward retirement, we're finding whole new elements of safety needed by the professionals out there today.

I wanted to explain just briefly that the reduction in this -- in these incidents has shown that not only have they gone down and injuries have been minimized, but the workforce has quadrupled during this same period of last two decades. As well as we are now producing nine times the goods and services during a period prior to two decades ago. We still have sustained 4,500 to 5,200 workplace deaths each year since 1992. And of those, nearly half result in motor vehicle collisions. While deaths of motor vehicle are down 15 percent, motor vehicle crashes remain the leading cause of work-related deaths, with over 2,000 each year.

A primary concern in this country's changing workforce again is the demographics that we talked about. A huge segment of our workforce, Baby Boomers, are now moving toward retirement. This is going to cause safety professionals to take a hard look at the way we train and educate our employees, but also that we should be taking on a mentoring role that we look forward to research and data from NIOSH in order to grab ahold of that mentoring process and make this next generation safer than the one that preceded it.

I would say that in -- the National Safety Council statistics say that death from accidental injury is the fifth leading cause of death in the United States, following heart disease, cancer, stroke and lower chronic respiratory diseases. However, among Hispanics in our U.S. workforce currently, the accidental injury rate ranks third, only after heart disease and cancer. And the highest rate of deaths from occupational injuries between '95 and 2000 was among Hispanic workers, with the greatest number of occupational injury and deaths occurring among Hispanics employed in the construction industry.

Now although I represent the Council on their board, it is -- I am also the vice president of safety and health for Kenny Construction Company based here in Chicago. And we are seeing, within our own ranks of employment and our subcontractors, that the need to educate -- not just train, but to educate - - and to communicate with the Hispanic workers in our industry is increasing exponentially every year.

Today's safety professionals have a challenge, and they're not limited to the workplace. We are taking - - we are recording, I'm sorry, a striking increase in the level of injuries occurring among workers who are off the job. This was I think the one theme that came from the congress this past year, and it's not just to workers, it's to their dependents. When a worker is home working on something in the garage, putting up Christmas ornaments outside, working from a ladder, operating a saw, it's all off-the-job injuries that are now rising to huge numbers. And when these people are injured, they do miss work but they're not compensated as they would with injuries that they occur while on the job. So last year 61 percent of injury-related deaths occurring in and around the home involved either workers who are off the job or their family dependents. Annual costs related to accidental injuries, including wage loss, medical expenses, property loss and direct employer costs exceeds \$600 billion. The cost of doing business alone is more than \$200 billion a year.

DR. CONROY: Okay. If you could finish up briefly --

MR. ZARLETTI: Okay.

DR. CONROY: -- you can submit -- I'll remind everyone again that --

MR. ZARLETTI: Okay, this will all be available if you need it afterwards, and I guess I would just conclude by saying that we cannot train and educate our people on the job to be safe and leave it at a 9:00 to 5:00 opportunity. We need to take that opportunity beyond and show them, with management support, how to be safe at home, how to teach their families to do the same so that they can return to work and become in the environment that we've already made safe for them. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 297.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Work-site implementation/demonstration

Economics

International interaction

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Thank you. I'm -- appreciate the opportunity to appear before you today and before NIOSH to give our input with respect to the new NORA priorities. I'm filling in for several people here today. The first is Dr. Rachel Rubin, who is the head of the division of occupational medicine at Cook County Hospital, Stroger Hospital of Cook County; second of all for Dr. Daniel Rahorchik*, who is the head of our Great Lakes Centers for Occupational Environmental Safety and Health, which the educational resource center -- research center, rather, that Dr. Conroy is the head of, and our other activities are under the umbrella at the School of Public Health. I myself am a physician practicing here. I'm professor at the School of Public Health and I direct the Occupational Health Services Institute within the School of Public Health, and I would like to underline one last thing and that is that our center here is a World Health Organization collaborating center, along with NIOSH and the University of Texas and a few others in this country.

I want to welcome you all here and welcome NIOSH here, utilizing all of those hats. We -- again, we appreciate your coming and we appreciate the NORA process of listening to those of us in the field of -- as to the creation of priorities for research and education within NIOSH.

I would only content-wise raise one general area for your consideration. I want to raise the issue of safer substitution within our general increasing concerns about chemical security, both for -- both to avoid acute catastrophic events, either intentional or due to natural -- natural events, as well as to avoid the chronic long-term effect of toxins. And I would urge NIOSH to consider the enlarging of the research

agenda with respect to safer substitution, for safer, less toxic chemicals, both with respect to their toxicities and the economics of the transfer of these technologies to assure both a just transition as well as reduction in toxic exposures.

I would only underline that this is one of the topics that makes the link between the workplace and the community that's so important to us in the Great Lakes Center, and we think makes so much sense for the occupational agenda. It also is a topic that has international ramifications and is immediately of use internationally within the WHO's sphere, as well as others.

Comment ID: 297.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

International interaction

Partners

Categorized comment or partial comment:

And with that I would like to underline as well NIOSH's continuing support for WHO and its activities with respect to occupational health on a global level. We applaud this and we urge a continued emphasis in this area.

Comment ID: 297.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Cancer

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

One particular example that I would link to bring to NIOSH's thinking in the matter with respect to the safer substitution is the problem related to ethylene oxide in its use in the health care industry as a sterilant when steam and Autoclaving is not effective or not usable. This is an area that cries out to us for safer substitution. It is an area that probably cannot be made safe, or actually I feel cannot be made safe within its current methods of usefulness with this known human carcinogen and neurotoxin.

So with that, I thank you again for hearing me and I beg your indulgence that the others are not here. Dr. Rahorchik is out on the highway somewhere trying to get his car operating, so there's an excuse for you for today. Thank you again.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 298.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good morning. Thanks for having me. It's my pleasure to be here. I've not been to one of these before. I am impressed with the eloquence with which people preceding me have spoken, and have some scribbled notes here to try to match those presentations.

I'd like to make three points today.

Number one, I'd like to reinforce the direction that NIOSH has taken with research to practice. I think that's exactly the route to take and I think it's deserving of increased emphasis. Those of us practitioners working out in industry benefit, researchers benefit, and of course ultimately workers on the shop floor benefit from that emphasis on practical, implementable solutions for workplaces. So I commend NIOSH and encourage that continued direction.

Comment ID: 298.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Capacity building

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Secondly, I want to make sure that we don't lose track of the importance of NIOSH's educational resource centers, not only in general the importance of those centers to increasing protection of workers through the product that they put out -- basically well-trained occupational health and safety professionals -- but also to recognize the importance that those educational resource centers play in research to practice. We are one of those employers that I hope achieves the high road, as was described by a previous speaker, in approach. And as an employer striving for the high road, we often bump into the edges of the envelope of understanding in the occupational health and safety area. And we rely very heavily on our colleagues in the educational resource center that -- that is -- is we're very lucky to have one located in the Twin Cities with us, and we rely very heavily on our colleagues there as we work to really break through those barriers and understand the practical approaches that we can use moving forward.

The ERCs are the place where we grow our professionals. We grow and encourage dialogues that are really going to be the seeds from which future ideas and practical research efforts emerge, and we must not lose track of them. And in fact should increase the funding that goes to those ERCs as very practical hotbeds for increasing the practice, the practice and science of occupational health and safety.

Comment ID: 298.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

And third, I want to make an appeal for a pretty focused area of research, and that is the area of exposure assessment and management. We have continuing opportunities to improve the -- both the effectiveness and the efficiency of those exposure assessment strategies, really in two ways.

One -- one at a high level in terms of the overall strategies, working to develop techniques to understand how effective those strategies are. And by effective I mean how well do those strategies identified at-risk employer -- employees so that we can introduce management techniques in order to reduce their risk. And secondly, we need to do it in an efficient mechanism as we can.

So we need research into better understanding the efficiency and effectiveness of overall exposure assessment strategies so that they can be improved and we can better protect our workers.

The bottom line is that prevention starts with a good understanding of exposure. And if we don't understand exposure, we can't do a good job of prevention and management. And secondly, the connections between exposures and disease, teasing out some of those finer relationships, and in particular teasing out synergistic relationships between multiple agents, is going to depend on better understanding of exposures. And today every time we misunderstand exposures, we misclassify an exposure, we dilute our ability to tease out those finer relationships.

So at a program level I think we need some research, and then down at a very specific kind of individual exposure characterization level we need research around techniques to improve individual practitioners' ability to make good exposure decisions. And this can be in the area of qualitative or semi-quantitative exposure assessments. Particularly, exposure modeling needs better research to understand and validate deterministic models that will aid practitioners in making good exposure assessments. And in the area of quantitative exposure assessment, better tools to aid the practitioner in making better decisions, given limited monitoring data. And I believe Bayesian statistics offer some exciting possibilities, not only in terms of those monitoring data interpretations, but also in terms of

systematically integrating, in a transparent way, qualitative judgment, modeling, and quantitative exposure assessment.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 299.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Small business

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

- Economics
- Marketing/dissemination
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Thank you. I'd like to talk just a little bit about a sector of the economy that is unlikely to receive much attention here at these hearings. Small and medium-sized businesses are a very important part of the U.S. economy, and a growing import-- they continue to grow in importance in terms of both the numbers and the number of people employed.

Right now there are about six-and-a-half million businesses -- business establishments that have fewer than 100 employees in the United States, and they employ approximately 17 -- I'm sorry -- 97 million workers. This is in a range of economic sectors, not just in manufacturing, of course, where there are import-- very important hazards in both the service sector and the manufacturing sectors. Many of these small business establishments in all of -- in all sectors have significant health and safety hazards. And if you look at the data, while the -- you do see the decreasing trend in injury rates in businesses overall, what you -- when you start to look more carefully at the injury rates by size of establishment, you don't see the decreases occurring as rapidly in the -- in the smaller and medium-sized businesses as you do in the larger ones. And in fact, injury rates are always highest in companies that are -- that

employ between 50 and 250 employees. So it's an area in -- and in manufacturing in particular, so it's an area where we still really need to pay some important attention.

Of course there are some important barriers that get in the way of accessing and helping small and medium-sized businesses. They have limited resources, and generally their staff have very minimal background in occupational health and safety.

I've met and worked with a lot of small business owners in the last decade. I've been doing intervention research in small businesses. And I've yet to hear any of them say that they don't care about health and safety. They all care a lot about it. But most of them -- and many of them admit that they don't really know what they should be doing, and they're skeptical many times when we make recommendations to them about what underlies those recommendations and why do we think something -- a policy, a program, an approach, a control -- why do those things matter and why will they make a difference.

And so the biggest issues have come -- I think really have to do with communication, as well as understanding the effectiveness of the things that we are recommending. They're not convinced, necessarily, and for good reason.

So I'd like to make a few recommendations to NIOSH in terms of putting -- first putting more emphasis on small businesses and helping them make the connection between health and safety and business productivity. That's the language they talk, especially in a small business where many of them go out of business within the first two or three years. And year to year it still can be hand-to-mouth in a -- in an economic sector where things are constantly changing. The sizes of businesses -- it amazes me from year to year -- can change dramatically from 50 to 100 to 200 and then back to 50. So they're always having to adjust.

What we need in order to be able to help them with health and safety are these things: First, we need simple, easy to use, valid measures of health and safety. For example, from the perspective of a small business, trying to do exposure sampling is almost impossible. They cannot afford it, and it isn't necessarily going to help them because it's so focused on one single exposure. They have a lot of issues. They don't -- and most of the hazards they have are not measurable as exposures.

We need easily understandable methods for us to be able to connect improvements to business outcomes and health and safety outcomes. So we need to be able to show them it matters to your business. Your productivity will improve and your costs will go down if you work on health and safety.

And we need to be able to help them figure out what we mean when we talk that very technical language that we all use in this field. What does that really mean when you're trying to solve problems? So we -- and I think there's much to be learned by health -- by communication from other public health arenas.

And finally, I think we should -- we need to identify a few key activities that really are associated with health and safety. We have a lot of things we expect, but we don't really know what exactly it is that means health and safety in a small business. I think the issues of management commitment and employee participation are all -- are both -- they need more focus and more research.

So I appreciate the opportunity to speak for a group of people that I think cares a lot about their employees, but doesn't really have a forum for sharing their interest and their needs. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 300.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Cardiovascular disease

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Cardiovascular disease

Work organization/stress

Work-life issues

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Can you hear now? Okay. I feel like a commercial.

Thank you for letting me talk today. As Lorraine mentioned, I'm the director of the occupational health nursing program at UIC. My name is Shannon Lizer. I'm a family nurse-practitioner and also assistant professor in the College of Nursing. My dissertation work was about older farmers' health status and injuries, so I will direct the focus of my comments to sector 11, which is agriculture, specifically older farmers who are 55 and above.

As you all probably know, the number of older farmers is increasing. In 2002 the mean age of farmers were 55.3 years of age, and that does reflect a trend -- an older group of people. In Illinois currently the average age is 55.1, and over half of working farmers are over 55, which is unlike other areas of our workforce.

So while we know that farming is a very dangerous occupation to all age groups, it is very dangerous, it turns out, for older farmers, who suffer more injuries and fatal accidents in farming than other age groups. And there are many reasons for that. One of -- one reason might be physiologic changes of aging. We know these occur, but typically these may not affect workers over 65, 70, 80 years of age because they are typically retired. And as we know, farmers do not retire like other occupational groups.

Chronic diseases are also a problem. We know that chronic diseases increase as we age, in the general public. Many of these I believe are undiagnosed in older farmers, who do not seek health care and preventative health care as do other groups. They're typically self-employed and are not willing to leave their work setting to go seek preventative care. They go for treatment of things they see as needed.

So for example, in my dissertation I found -- which was a study in Illinois -- farmers reported hyperlipidemia, hypertension and diabetes at greater rates than the general public of the same age group, but much less heart disease, which may indicate that these diseases are not diagnosed but a factor in their illness -- or in their injuries.

We also know that medications play a role. There have been some studies that have looked at this, but not specifically in the older group. We also know that stress is a factor in injury, and we do not particularly have data to show why or how that happens. And also the effect of mental health disorders, such as depression, and the role of depression as related to occupational injury.

So finally, I would say that I recommend that we look at research aimed at older farmers 55 and older, looking at the relationship of physiologic status, their current health status, chronic disease status, mental health outlook, the role of stress and medications to injury and accidental death. I also think that we need to look at better tracking mechanisms for these injuries, which are grossly under-reported.

In doing this research I would recommend that we involve multi-disciplinary approach, including nursing, medicine, agricultural safety and health professionals, also agribusiness and the farmers themselves, who really need to be part of the process. So I would recommend that we use community-based participatory models to look at changes in health care delivery and assessment of injury and factors that are related to that.

And I would thank you very much for letting me have the opportunity to talk with you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 301.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Traumatic injuries

Exposures

Heat/cold

Noise/vibration

Radiation (ionizing and non-ionizing)

Approaches

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

For Landscape operations - I believe some of our primary concerns are:

- * Sun Exposure
- * Noise abatement
- * Back Strains
- * Personal Protection equipment when using power tools
- * Finger or Foot injuries
- * Safe use of tools such as line trimmers, saws, power tools.

Comment ID: 302.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Training

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

The current situation among Day Laborers in construction is accidents in construction constitutes the number one cause of death among Day Laborers. Other factors play into this situation such as lack of instruction on equipment use and safety precautions. I would propose to provide proper equipment useage and equipment safety programs at strategic locations.

Comment ID: 304.01

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Violence

Work-life issues

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good morning. My name is Lezah Brown and I'm a doctoral candidate here in environmental and occupational health sciences department at the School of Public Health at UIC. And prior to returning to graduate school I practiced industrial hygiene in the governmental and private industries. Based on my exposure to the diverse occupational settings and populations during my 12 years of practice, I have chosen to concentrate my research on the impact of occupational exposures as they relate to the health outcomes in the family.

My current research is looking at psychosocial issues as predictors and antecedents of occupational injury, illness and assaults. The data for this project was collected by Dr. Kathleen M. Rospenda, who is an industrial psychologist here in the College of Medicine's department of psychiatry. The data was collected during a two-wave national random-digit telephone survey administered to over 2,000 working men and women in the 48 contiguous states, including Washington, D.C. Rospenda and colleagues collected information on many aspects of workers' psychological and social environments, both at work and away from work. The areas of interest that I feel are pertinent to this forum involve those variables possibly associated with occupational injuries, illnesses and assaults. The data collection tool captured information concerning the usual demographics of the workers, such as race, gender, age, highest educational level attained and type of job or profession, along with their income. Other personal information collected established marital status and whether or not there were children under 18 living with them.

The work environment topics that we're looking at, the workers were asked to document issues such as the number of hours they usually worked per week and whether or not they had experienced an occupational injury, illness or assault on the job within the last 12 months prior to their interview. Additionally they were asked about their perception of the presence of job pressure, job threat, generalized workplace harassment, and the status of their social support network at work. As far as the personal life aspects, the workers were asked to answer yes or no to questions about stressful life events such as did they lose a significant other through divorce or death, did they experience any financial difficulties such as bankruptcy, or did they have any other legal problems. As with the work environment questions, the study participants were asked about the status of their social support networks in away from work, but they could talk about work problems. The questions were designed to establish whether or not -- there were also questions designed to ask whether or not there were problem alcohol use issues, and whether they had sought services from any type of professional or clergy member to deal with the psychosocial needs.

The preliminary results show that in the cross-sectional data analysis for both waves that race was not significantly associated with reducing the risk of pre-- of -- of a occupational injury or illness; that older workers were not as likely to experience an occupational injury, illness or assault as were their younger counterparts; that gender was not a good predictor of -- in this population for occupational injury, illness or assault; and that stressful life events and generalized work harassment composites were significantly associated with an increased likelihood of having an occupational injury, illness or assault controlling for race, age and gender in both waves.

When we put the data into logistic regression analysis it showed that the older group was significantly associated with reduced odds of having a occupational injury, illness or assault. Along with that, the generalized workplace harassment composite showed a significant association with an increased likelihood of occupational injury, illness or assault in wave two controlling for race, age, gender in both waves, and that the stressful life events and problem drinking composites from wave one were not significantly associated with an increased likelihood of an occupational injury, illness or assault.

When we're looking at wave one and wave two, we're looking at the longitudinal information which shows that -- did these things exist before or after, we're looking for causation.

These preliminary results I suspect are the tip of the iceberg when considering important issues of the work environment and workplace.

Lastly, the types of partners that are needed to address the issues of psychosocial predictors and antecedents of occupational injury, illness and assaults should include academia in conjunction with all classifications of employers unions and employee groups.

Thank you for allowing me to testify today.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 305.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Risk assessment methods
Intervention effectiveness research
Capacity building
International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good morning. I want to thank NIOSH for the opportunity to speak this morning. My name is Tom Robins. I am the director of the education and research center, the ERC, at the University of Michigan in Ann Arbor. I guess I`m one of your hosts, as well. I also a member of the scribbled notes club, so bear with me and we`ll see how I do.

What I want to talk with you specifically about today is the role of NIOSH and NORA with respect to international global research in occupational health, over and above or beyond what we do directly here in the U.S. And what I`m going to do is first of all say a little bit about the key role NIOSH already plays in this area `cause I`m going to strongly advocate that they continue to do so. I`m going to tell you a little bit about my view of the kinds of problems that exist, especially in the developing world, in developing countries, that may be somewhat different than the problems here. I`m going to talk about what some of the specific research needs are in those countries. And I`m going to talk about why I think it`s important for all of us as Americans to support research in these areas.

So first of all, besides being the ERC director, I`m also the director of a grant from the Fogarty* International Center, which is in the U.S. National Institutes of Health. And the purpose of that grant is to support training and research in occupational and environmental health in southern Africa. Actually a 14-state area called the Southern African Development Community. We`ve been doing that for about ten years. And actually NIOSH plays a very important role in this. They`re one of the big indirect supporters. FIC doesn`t have its own money. They get money from places like NIOSH for this to happen.

In addition, NIOSH has played a leading role among the WHO, World Health Organization, collaborating centers in occupational health around the world. NIOSH is one of them, and a number of academic

institutions in the U.S., as well as in many, many other countries, are members, and NIOSH has played an absolutely key function in making this group able to address global health problems through funding and expertise, and essentially lending at some points some of their finest personnel for periods of a year or two to work mostly on WHO issues. So there's been tremendous support by NIOSH of that.

And a prime example of what WHO and the International Labor Organization are doing now that NIOSH is playing a major role in is a campaign around the elimination of silicosis, which is a lung disease that's caused by exposure to silica. Silica is present in many industries across the world. In many countries it's epidemic. Here in the U.S. we -- we've for the most part dealt with the major problems there.

So what sort of health and safety problems are maybe faced by developing countries like the ones I deal with in southern Africa that we may not see so much of here in the U.S.? Well, let me give you some examples that I've been directly involved with.

I went and toured a plant that was making paints and pigments, including lead-based paints and pigments, in what will be an unnamed country in Africa. And the management was very forthcoming about some of the issues they had, and there were many problems with exposure controls, and they had some people working there with blood lead levels that were twice the standard in the U.S. for immediate removal from work -- a symptomatic worker. So this is probably not an unusual situation. At least this company had actually measured blood leads. So that sort of gives you a sense of how things tend to look in the rest of the world.

Another example, I'm currently involved with a study of copper miners in Zambia who have silica exposure, in fact, as part of the ore. Now silica, besides causing silicosis, also weakens the immune system of the lungs. And tuberculosis -- TB is epidemic, or at least endemic. I'm going to have to be -- this is my last example. We professors can go on. Is epidemic in Zambia, and of course there's also HIV/AIDS is epidemic. And so the combination of high levels of HIV/AIDS with the silica exposure has put miners in Zambia at tremendous risk for developing active tuberculosis, by the ten-fold increase in the last decade.

So that just gives you a couple of examples. I'll skip the rest of them.

What needs to be researched? There are certain problems that have not been well characterized. A huge percent of the labor in these countries is in what we call the informal sector. And there's some of that here in the U.S., but in general the informal sector's been very poorly studied with respect to what are the major risks and what are the types of interventions that are effective when you have sort of a family level kind of employer situation.

And then finally -- I'll have to close in about two sentences. The other thing I want to point out is there's a lot of need for intervention studies, which are also applicable to the U.S. What kind of interventions are effective in these situations, and a lot of times that information can also be applied to the U.S.

Finally, besides the fact that I think it's important, ethically the right thing to do, there's also other reasons we as Americans should be interested in this kind of work, because in fact when health and safety situations are poor in the developing world and is not being supported, it actually ends up being unfair competition for American business and it ends up moving jobs away from the U.S.

So for all those reasons, I strongly support NIOSH's continued emphasis on research in global health. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 306.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Cardiovascular disease

Neurological effect/mental health

Immune disease

Musculoskeletal disorders

Exposures

Cardiovascular disease

Work organization/stress

Work-life issues

Approaches

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Hi. I'm from the University of Minnesota and the Midwest Center for Occupational Health and Safety. Thank you for this opportunity.

I'd like to recommend that NIOSH continue to include work organization as one of its NORA priorities. In the first decade of NORA, work organization was identified as a priority, and the term covered issues such as hours, schedules, job design factors associated with health. Continued research is needed with particular attention to the dual role many employees have tending to work and family commitments, and the implications for role conflict, stress and health.

Well, how many people are affected by these issues? Data from the Department of Labor for 2003 revealed the following: Among married couple families with children six to 17, two-thirds have both partners in the labor force. And among those with children under six years, half have both partners in the work force. But what about single moms? From -- women with children ages six to 17, three-quarters are in the labor force. And among those with children under six, 64 percent are in the workforce.

The potential work family stress and health effects is particularly acute for women, who traditionally shoulder more of the daily child care and home responsibilities. But why emphasize these issues for women; don't men also have work family commitments?

Yes. However, findings from time use studies show that women and men's paid labor time has become remarkably similar over the last decade, whereas the uptake of home chores has not been as similar. Moreover, the nature of home responsibilities differ by gender with implications for paid work. Time studies reveal men spend more time than women on activities that are discretionary in terms of scheduling, such as home and lawn maintenance and financial management, while women spend more time on non-discretionary activities like preparing meals and caring for children. It probably doesn't matter too much if you wait a few days to mow the lawn, but your kids are going to notice if you don't make the meal. Thus women's responsibilities have a greater potential for conflicting with paid work, as such tasks are not easily rescheduled. And these trends are only likely to be exacerbated by the data showing increasing annual work hours in the U.S.

Americans work 200 to 400 more hours per year than workers in western Europe. This translates into five to ten more work weeks per year, with implications for role conflict and stress.

But how do work hours and role conflict affect health? Studies from Sweden have documented that role conflicts and work overload are reflected in elevated stress at work and at home, which can induce symptoms of cardiovascular, musculoskeletal and immune system disorders, with implications for long-term health. Lundberg and colleagues from the University of Sweden report that female workers employed full time, in comparison to men in the same jobs of the same age, have a greater total workload and experience more stress and role conflicts than men. And this gender difference increases with the number of children. The difference between men and women's total workload increased to 20 hours per week in families with three or more children, with women approaching 90 hours per week.

What does this mean in real world terms? One example comes from one of my former research staff, who called me last week. She now works two part-time jobs and recently had a two-week spell where either one or both of her children were sick. Her one-year-old had diarrhea for ten days and her three-year-old simultaneously ran a temperature, had a respiratory infection and pinkeye, and her day care did not accept the children because of very appropriate policies on infection control.

What did this mean for her? She ended up putting together a patchwork of child care services so she could show up at work, and during this period rarely slept more than four hours a night due to her children's frequent nighttime awakenings. She too developed a respiratory infection, and by the end of ten days spoke of possibly quitting one of her jobs, if things didn't get better soon, due to fatigue and stress.

But what does work have to do with it? Aren't these problems the result of personal choices? The point of the story is that one of her part-time jobs is more flexible. It allows her occasionally to work at home to balance work and family. There's social support from other coworkers who are young mothers. And one of the jobs provides her autonomy to help work with her supervisor and set work priorities and work flow. These are all work factors that help her address the inevitable conflicts of paid work and family.

Now this story focuses on a woman who's well-educated, married and middle income. Now imagine a single mother with limited financial resources, an inflexible job or two -- how much; 30 seconds -- and a non-supportive supervisor. What is the potential for role strain and health effects for her?

So let's see, I'm going to skip to the punch line and just say that there's -- research is needed to identify the effects of work family conflict on the health of employees with children, and in particular to identify those work factors that can be modified to enhance health and positively affect productivity.

One last comment. Moreover, in a study underway right now, we're studying a cohort of about 800 women as they return to work after having their babies, and doing a longitudinal study of the first 18 months postpartum. What we've found is that total workload, perceived job stress, job flexibility and workplace support has significant effects on general mental health and postpartum depression scores. And so I think there's a continued need for work in this area and a focus on women from different racial and ethnic backgrounds and income groups. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 307.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Small business

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Training

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Once again I see OSHA's loved -- I'm up here all by my (unintelligible). I'm used to it; it's okay.

Thank you for inviting us here today or giving us the opportunity. My name is Mike Connors. I'm the regional administrator for OSHA for the Great Lakes Region. And I have two issues that I would like to talk about, and they're local issues because I know that Washington is working with your national operation to talk about input on NORA, but these are local issues that we are working on.

The first one deals with isocyanate operations. We're seeing an increase in the number and uses of isocyanates in a variety of operations. We're particularly concerned about control technology and a number of other areas. Let me explain.

One of the areas that we did an emphasis program on was truck bed liners because we heard about the use of isocyanates in there and we were concerned about it that they tend to be very small operations. We've done about 80 inspections in the past year or so, and at least 50 percent of them have had overexposures, some of them up to 39 times the permissible exposure limit. We've had a death case in Michigan, and we've had people on the fringes of the so-called containment areas that were also exposed to pretty high levels, levels that we'd be concerned about.

Now we're also not comfortable that in walking away and doing the evaluations as to whether they're over the PEL or not that we've got a safe operation when they're under, because we're seeing more and more uses of mixtures with isocyanates, and mixtures for which we don't have clear-cut guidelines on the health effects, how to analyze it and things like this. We're seeing more and more uses of it in auto body shops, two-part paint operations using polyisocyanates.

NIOSH put out an excellent publication, a summary of the HHEs* involving isocyanates from '98 to '02, and there's a lot of good information in there. What I'm asking for hopefully that you could look at in NORA is continue to work on the sampling and analytical methods. There are two or three competing techniques on how to analyze it, what needs to be done in the field, working on training materials for employers, employees, and safety and health professionals. There's still a lot of confusion out there on how to do a good evaluation in this area.

While the medical surveillance issues that are there related to the respiratory problems, we think more information on skin exposures and its importance needs to be done.

And of course something on a standard for mixtures. We are kind of jealous at the U.K. model that looks at total reactive isocyanate groups, that that might be a model that we could use, but we need more information to make sure that the health effects are there for the mixtures. We are working with the polyurethane industries to get more information out there, but we could sure use help in some of these areas.

Comment ID: 307.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Healthcare and Social Assistance
- Manufacturing
- Wholesale and Retail Trade
- Unspecified

Population

- Small business

Health outcomes; diseases/injuries

Exposures

Approaches

- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Marketing/dissemination
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The other area I'd like to ask for some help on is in making the business case for safety and health. Years ago we had a Project Minerva study that went on, and it kind of died through neglect over the years. What that program did was try and get the word out on the need for safety and health programs in the business community. Well, we think we need a similar program for not only the business community, but for the business schools, for owners and operators of medium and small-sized establishments, and in fact for safety and health professionals because the schools do not seem to really be teaching safety and health as it relates to and the need to integrate it into the business process to make it an asset rather than always being thought of as a cost center.

We have developed, working with groups -- one of which talked earlier, Brian Devlin from Life Services Network. We've worked for a couple of years in Illinois, probably three years, with the home -- with the health care industry, focusing on nursing homes; working with UIC, Abbot Labs, the life services network, long-term health care, OSHA, consultation, nurses and therapists, we've developed examples of practical studies where people did invest in equipment for assisted lift programs, developed an assisted lift program, and then we looked at the business case. How much money did it cost and what was the impact? And we saw very positive results that we've seen over and over again in the nursing

home area, that a small outlier in investment can bring back big returns. Usually the return on investment is within a year or two. We also see improved morale, less turnover of nurses and nurses aides, and better resident care and that there are less skin tears and bruising as the equipment is used.

We think there`s a story there, to go out and talk to owners and operators and show them that you can and do need to invest the money and you`ll get the money back.

We`ve put a module on OSHA`s website and it contains some case studies addressing the need for safety and health programs, the value for safety and health programs, essentially the need to control risk and build your safety and health program around that. We have examples for foundries, construction, nursing home, pharmaceutical and auto industries. We need more.

What I`d like to see is that in the future when we talk about control technologies we always put it in some sort of context. What were the before and after conditions in terms of exposures, were there ergonomic problems, airborne exposures, safety issues; what was the investment, what kind of return on the investment was there and what were the improvements noted, so that when we go out to small and medium-sized employers that we can make this case and show there are practical examples out there and have this library there available to help people in the workplaces.

And that, in a nutshell, was what I had to ask for today, so I appreciate the opportunity. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 308.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Cancer

Exposures

Approaches

Surveillance

Partners

Central Brain Tumor Registry of the United States

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Well, first of all I'd like to thank NIOSH for the opportunity to be educated here today, and also to develop some empathy for others who have concerns that they are addressing to NIOSH. I think that many of us think that our organization or our causes are the ones to put forth primarily, which is what we do. There is -- I have at least developed an awareness here and an empathy with -- with you all.

Our organization is the Central Brain Tumor Registry of the United States, and we are a surveillance organization. And I'm actually coming with a question and an offer to work with NIOSH. We receive requests from the patient community and from researchers who are investigating cancer clusters, and wondered what the surveillance policy for these is at NIOSH and how we can partner with NIOSH to help them or work with them to identify these clusters, especially with childhood brain tumors and childhood cancers. Is there --

DR. CONROY: But before you leave, could you tell us who you are? I'm sorry.

MS. KRUCHKO: Carol Kruchko, and I'm president and administrator of the Central Brain Tumor Registry, and we're located here in Illinois.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 309.01

Categorized with the following terms:

Sectors

- Construction
- Services
- Unspecified

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

- Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good afternoon. I'm actually here on two different role, to welcome you to UIC on behalf of Dean Scrimshaw*. My name is Shaffdeen Amuwo. I'm associate dean for the School of Public Health in urban health and diversity programs.

My second role here is to present a testimony, although I don't have a written one, in terms of some of the direction that I think NIOSH should go. As many of you may know, the face of this country is changing very rapidly (unintelligible) of immigrants, and they have to work. Well, you notice that immigrants generally take on some of the first jobs available to them that they are allowed to work, and some of those works are where you have very high risk exposures. For instance, when you look at cab drivers in any part of the major cities in this country, most of the ones you will see driving will be immigrants. When you look at the building industry, most of the builders, most of the carpenters, most of the brick layers, are immigrants. Then but what we don't attempt to do is to look at the contribution of this immigrants to the health disparity in the nation. Therefore I would strongly recommend that more and more research dollars should be devoted to looking at the contributions of immigrants to our health care disparity, given the fact that many of them get sick, many of them don't have insurance, many of them that does have insurance are not adequately covered. As a result, their morbidity increases the gap between -- between African-Americans, immigrants, as well as the general population. So it just makes a lot of sense to put more research dollars on the issue of exposure of immigrants in the workplace. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 310.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Okay. Thank you for giving me this opportunity to be able to give a short testimony, one that wasn't planned. My name is Adedeji Adefuye. I'm the assistant dean for Urban Health and Diversity Programs here at the UIC School of Public Health. I've listened to all the presentations in the morning and one thing we probably all will agree on is the fact that the -- there is disparities in the number of injuries when you look at the different parts of the U.S. populations. There are some groups that are affected more than others, and mostly minorities when you look at personnel injuries. And when we're trying to make sure that workplaces are much safer than they are, we cannot shy away from looking at the disparities actually in the training of health -- health care professionals, particularly those who are involved with occupational safety and health. Here at the UIC School of Public Health we are in the business of training these professionals, occupational health and safety professionals, among other public health professionals. And what I really think that both NIOSH and NORA should be considering as part of their research agenda is looking to how the disparities in the training of occupational health and safety professionals affects efforts to make the workplace safer.

Everyone here probably will agree with me that in designing interventions to reduce workplace injuries and diseases that actually occur as a result of exposures at places of work, people tend to a lot of times want to have interventions done by those who actually can associate with the kind of upbringing that they have, with the kind of environments in which they grow -- they grew up, and as such probably will be more willing to take part in intervention projects that are designed and also implemented by people of their -- of their kind, probably maybe people who look like them, who talk like them, who understand their sensibilities and everything.

And you just mentioned the question of research to service. I actually want to interject something between research and practice. Most policies are driven by research, and I really think that if we do not train enough minority professionals who will be part of the research enterprise because we know that

research actually drives policy and it's actually policy that leads to (unintelligible) design and practices that are actually effective. So my -- we -- also we need to look definitely into the training of minorities in occupational health and safety so they become part of the research agenda and actually have an impact on both policy and practice. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 311.01

Categorized with the following terms:

Sectors

Construction

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

National Roofing Contractors Association

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Thank you very much. Can you hear me okay? All right.

So good afternoon. My name is Tom Shanahan and I represent the National Roofing Contractors Association. NRCA is one of the oldest construction trade associations, celebrating its 100th year this year. Roofing businesses are typically small family-owned businesses, as Matt had alluded to earlier. We were right in there with that. And from a personal perspective, you know, working with roofing contractors has been a fantastic experience. Not only are they incredibly intelligent, but incredibly warm people who care about what's going on with their workers because there's a very family feel to it.

But roofing work is very dangerous work and OSHA recognized this in its formation back in 1970 when it -- it was -- roofing was one of its five targeted areas. And with good reason. Like I said, the nature of the work is very hazardous.

So then it only seems natural that everybody involved would do everything he or she could to see that those hazards are controlled in some way. Interestingly, for one reason or another, that just isn't the case. And that's not to say that OSHA or insurance companies or roofing contractors or roofing workers aren't effective -- aren't affected by this or they don't care, because I can tell you first-hand that they really do care and they try to do a lot about it.

But safety solutions aren't easy in the roofing industry, and -- as it might seem at first blush. If you took the -- talked to some, they'll say well, if a roofing contractor will just do this, or if the workers would just do this, or if OSHA would do that -- and it goes on and on. I think we all know that. But that doesn't get anywhere.

So what's the difference? You know, what really gets through and what -- what is it that we need to do? In essence, it sets the stage for my comments here.

For the last 17 years I've had the opportunity to work in the roofing industry as its national risk manager, and in my experience it's become apparent that what needs to occur is effective training. And you might be thinking well, no kidding, Tom; of course. But I challenge you to really consider the numbers and the efficacy of training in the construction industry. They're not very good. And they're not very good in particular for small businesses, and if you look at the small business numbers in general, they're not very good. So something is missing, even though it's something that we all would consider very obvious.

So from an effective standpoint, I think what I'd like -- what we'd like to suggest is -- I'm concerned about my time here -- is that -- recently I've seen roofing contractors who, on an exception basis, have been doing some really cool things. And so I've asked them, from a safety perspective -- they've just made safety a part of who they are as a company, and that is a difference I see from typical. I've asked them why they've done that, and some of them say well, you know, we really could not take another serious accidents and look at our employees square in the face. Or they just say, you know, we finally figured out that it makes good sense from a business perspective. And of course, you know, I'm thinking well, aha, finally, you know, you're hearing something you really think makes a lot of sense.

The reality is, as obvious as it might seem, safety isn't as obvious as you think it is. So the questions that we believe need to get studied are to what extent is safe behavior affected by training; understanding in the construction workplace what type of training works and for what kind of behavior changes; what kind of training and education affects the long-term behavior needed to impact safe decisions on the job by employees every day. And I really believe that if you can get at the behaviors, change someone's behavior to tie off a ladder, you know, what training impacts that decision so somebody does it. And then finally, and I think importantly, you know, what changes small businesses owners' minds to see that business models that embrace education and training are successful ones. In other words, what's the business case for safety and education? And after talking to some people at NIOSH, I understand -- I think it's through the University of West Virginia -- they're working on some of that, and I think that's fantastic and we would love to be a part of that.

And so in the end, you know, the idea of affecting safe behavior and understanding how that works in the training scenario I think is very key. And although obvious, we spend millions of dollars every year training, and to what end? And getting at that and understanding it I think would be great. And if I was younger and wanted to go after a Ph.D., that's where I'd be -- I would be heading my degree on. Thanks so much.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 312.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: My name is Jim Platner. I'm with the Center to Protect Workers' Rights. Now for those of you that aren't familiar with our organization, we're a non-profit that's affiliated with the building and construction trades department of the AFL/CIO. And since about 1990 CPWR has been working closely with NIOSH on research related to construction safety and health. Now -- and you know, we're really committed to working with NIOSH and we appreciate the opportunity to comment.

First I wanted to suggest that there's a lot of different initiatives, it seems like, going forward at once that are complicated to understand. And it might be useful at the front of this NORA II effort to describe, in a paragraph or two in the -- what the difference is between the ongoing part performance criteria and this NORA II effort.

You know, in my mind there's really three things going on at once that are mixed between these efforts. One is NIOSH is developing performance metrics under the part requirements that are really going to be used as a proxy for research performance by the Office of Management and Budget. And I think that's very different than the research priorities, which should be driven by surveillance, by gaps in the research literature, by evidence-based science. And then the third, in my mind, which is sort of going on at the same time in this NORA II process, is the -- almost the development of new management structures as to how NIOSH will deal with each -- like sector councils, deal with each sector, and hopefully use those to continuously update its research objectives.

I think, given the -- how long it takes to get a group like a sector council functioning, I think NIOSH should consider whether it's worth abandoning this sort of ten-year time frame. It seems to me that it could take ten years to really get a new organizational structure functioning, and it doesn't seem to me that it's necessary to have a defined time frame on a management structure like that.

Just some of the other issues that I wanted to raise is that, you know, we certainly agree that our research priorities should be based on evidence and surveillance data that we have. But I think there's a concern that when -- when we have a cross-sector council that is seen as defining priorities across industry sectors, it's important that that council understand that they're not going to divvy up and share

the money or research projects equally. I think there has to be probably a specific process for targeting money at high-risk industries. And construction, in my mind, is certainly one of those.

Comment ID: 312.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment
Intervention effectiveness research

Partners

Categorized comment or partial comment:

I'd also like to see the research priorities consider the hierarchy of controls. You know, we're in a difficult position in construction where we really want to see engineering controls for most of the exposures. But because it's dominated by small businesses and the decisions are often very scattered across the country where you've got thousands of small businesses that have to make decisions, we have to think about both the engineering controls and PPE and the efforts of groups like the National -- the NPPTL* research. We encourage and support the effort to go to research to practice, and I think those kind of applied projects are important to link to the engineering controls. And I think there's some real personnel and qualification issues that have to be dealt with from a management perspective to say we have the connections and the staff to deal with the engineering controls and the personal protective equipment in some sort of integrated manner rather than dealing with them separately, when hopefully the PPE is only going to be used until the engineering controls can be implemented.

So we've got a -- I've got a whole list of other comments, but they'll be submitted in writing. Thank you for the opportunity to speak.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 313.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Etiological research

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: This is great. Now I can bore you with two microphones.

I'm Don Garvey. I'm the construction industrial hygienist with St. Paul Travelers. I'm also a past chair of the American Industrial Hygiene Association. Today, though, I just come as a grunt industrial hygienist who works down in the trenches, so I don't have the big global picture that a lot of other speakers have been coming with.

But what I would like to suggest with NIOSH is a stronger emphasis on researching noise in construction, and particularly impulse and impact noise in construction. Mark Stefanson* with NIOSH did a fascinating little study several years ago which indicated that, on average, the typical 25-year-old carpenter has the hearing of a 50-year-old person, which -- which would indicate an exposure or a repeated, consistent, constant exposure of upwards of 100 decibels on a daily basis. Which -- which just isn't happening out in construction. Certainly we have high noise levels, but certainly not 8-hour time-weighted averages on the order of 100 decibels. So it indicates that something else is going on there.

One of the things that construction is rife with is impulse and impact noise, whether we define it as the official kind of impulse or impact noise or the short, very high-intensity noise of brick -- cutting a brick with a chop saw. In the 2004 American Industrial Hygiene Association conference, during their noise symposium, one of the symposium sessions was on impulse and impact noise. And the one sentence synopsis of that presentation was we really don't know a lot about impulse and impact noise, what -- what parameters are important in deciding if impulse or impact noise is going to be detrimental to hearing. And even if we did know which parameters to look at, we don't really have either good methods or we don't know how to monitor and evaluate those exposures.

So I would like -- I would like to see NIOSH focus more on noise in construction in general, and particularly on impulse and impact noise.

The last thing that I would like to mention, I would like to emphasize what Tom had said. He brought up an interesting point on the efficacy of training. Again, another NIOSH study, and again I believe by Mark Stefanson. Something on the order of 90 percent of construction carpenters knew that noise was dangerous to their hearing. And something like 70 percent of those carpenters believed that noise was impacting their hearing. But only about 20 percent were actually wearing hearing protection on a continuing basis, which would tend to indicate that while we're getting the point across and while we're doing the training and while we're getting the knowledge to them, it's not taking hold, it's not taking root. So what Tom said, I'd like to back that up on research on the efficacy of noise training.

So thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 314.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good day to everybody. I`m pleased to have been asked or been given the opportunity to speak today on this topic of fatalities from falls. I have personally seen and heard from many friends, coworkers and other craft`s families to have been devastated from this problem.

My name is John Shine. I have been in my trade, the insulators, since 1973. I have worked for the Local 17`s apprentice program since 1987, and I`ve been involved with the safety training, program development, and research since then.

I`ve worked in the field as a helper, an apprentice, journeyman, foreman. I worked around, saw and heard about many falls and the resulting injuries. I at first thought this was the chance that you took to be paid. As I went along from job to job, I noticed that the foremen in the companies that were interested to keep this to a minimum. These were and are motivated people. People would, could and did get hurt. These people said that there was a better way to do our job.

I have since then been teaching fall protection and prevention at our apprentice school. One day at work when I was in the field, I used the example of a painter I saw fall from a height. He had no fall protection on at all. It was not used then. I will not go into the details here, but his family should have never gotten that phone call that day. There were better ways to do his job that day.

I also know that there are better ways to protect all workers that I deal with. I`ve had two young apprentices fall at work from a scaffold, and another young man came -- was about to come into the apprentice program, fell from a pipe rack at work. These men were a terrible waste of excellent minds, who would have been a credit to our union and our craft. These are a few stories I hear about at work. I

listen to workers in the classes that I give. I give their stories back to the membership who attend our SMARTMARK program on construction safety, and the apprentice classes, also. These incidences I speak of come from them, as well as their own experiences.

When we reduce this injury and fatality rate we can keep smart, productive and interested people on the job sites. There are many directions that this study can go, and should each be addressed from all these instances.

My first one is training is for everyone, workers, safety directors, supervisors, superintendents, estimators and the owners. Each one of these people in the process needs to know what the other is doing and if they are doing it correctly. I think as I go through the other issues, this will become evident as to why it's important.

One of the big problems with fall protection from height is the anchorage point. You'd be surprised to hear and see what is done on the job sites, what workers are told to do. Some of it doesn't make sense. Electrical conduit, electrical light fixtures to be used as anchorages. How does a worker anchor to a 500-pound (sic) anchorage point when no one knows, nor will tell him, what constitutes a 5,000-pound anchorage point? Try to get an answer. This might be your fun for the day. Is it a 4-inch steel pipe sitting on a concrete beam? Could it be a 3-inch electrical conduit? Do not even think of the light conduit, which people have been told to anchor to. What do I do as a worker when there is nothing of substance to attach to? Do I put on a show, wrap the lanyard around the ceiling joist to make the safety guy happy? If I don't, I might get laid off for not following the safety rules. It might not make sense, but you do it anyway. If I do -- if I do say something, I'll be complaining. I might lose my job as a troublemaker; he asks too many questions.

The next issue could be preplanning for engineering stages. Anchorage points, as an example, have been put in place during the erection of floors and ceilings, and left in place for future use. This has been successful on many jobs lately. This will be -- put the anchorage points above the workers' heads, where they should be. This also minimizes the pendulum effect if the people fall, and minimizes swinging into stationary objects.

Next part is inconsistency of regulations, such as OSHA standard, which has two different heights that we can work from: six foot for fall, ten foot for scaffolds. I don't understand the differences, but that should be addressed. How about the inconsistency of one facility to another? One site goes to the extreme of have you in a harness on a six-foot ladder, while the other site lets you walk around 40 feet in the air on a beam.

The next one is lack of knowledge of what equipment is proper for the job at hand. There are many different types of harnesses that can be used. One type doesn't do it all. The various trades have harness types that they use consistently. This does not mean that every job is the same.

Let me continue on here. I think I'm running out of time.

DR. ALBERS: Yeah, you are out of time, I'm sorry.

MR. SHINE: Excuse me, I was almost there.

DR. ALBERS: All of your comments will be entered into the record. You know, we'll get a copy of his comments.

MR. SHINE: I'm a teacher; I guess I get too wordy.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 315.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Yes, thank you. I'd like to thank NIOSH for the opportunity to come here this afternoon and address some of our issues that I feel are important for the research of the study that's coming up over the next ten years.

My name is Tom Kavicky. I'm safety director with the carpenter's union here in Chicago and the outlying 81 counties. I've been doing this now for about eight years. Previous to that I was like Jack Shine of the insulators where I was an instructor at the training center for almost 17 years. I've worked out in the field for quite a while before that, since 1970. So I've got a background in construction and dealing with a lot of the issues that we address every day on the job with workers.

Number one, we would like to see -- over the years the issue of fiberglass has been on the list, been taken off the list. We have a tremendous amount of carpenters that are involved in insulating homes, insulating commercial buildings with different type of insulating products such as fiberglass. And we'd like to see a study done and once and for all coming up with some kind of idea -- is it safe, is it not safe; what best practices to use when installing fiberglass.

Comment ID: 315.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Second issue, and I'm in agreement with Jack Shine from the insulators on this one regarding falls. I would like to see more data, more specific data. When we talk about falls in construction from elevated and same-level surfaces, but we don't get into specifics as far as what was the worker doing when he fell. What caused the fall? And causes aren't that important as to what was he doing or she doing when the fall occurred? Was it through a floor opening? Was it while they were installing a ladder or working from a ladder? What were they doing? Were they over-reaching? More specific information so we can utilize the information at our training centers across the country and specifically zone in as to where we're seeing these issues out in the field to help better our relationship with our members and contractors and reduce those injuries.

Comment ID: 315.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Another issue is the -- we provide a tremendous amount of training here in Chicago, both through the apprenticeship program and through the skill enhancement program where the journeyman has an opportunity to come back for training. In that training, specifically the skill enhancement training, we've got about 8,000 right now members that come in for training on an annual basis. Now that 8,000 equates to a membership of approximately 43,000 members here in Chicago. I would like to know why 8,000 members make it a point to come out just about every year, taking classes, and the other 32,000 you just can't reach. And we do all sorts of promotional -- things like that. But what makes the one person -- one individual want to take the training to better himself -- and it's not only safety, but as far as skills -- and the other, majority, not take the training?

We would like to see research done along with Mr. Garvey's comments. What is it that makes one worker at a job site stand up and say I'm not going to do this because it's an unsafe act, and the majority not take that stand? I know if we could all figure that out, we'd be rich or whatever, but I would -- just wonder if that would come into being in research and study.

Comment ID: 315.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

Categorized comment or partial comment:

And I would like to concur with Mr. Garvey's comments regarding noise in construction, the impact and impulse issues, as well. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 316.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Youth

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Thank you. Thank you for the opportunity to speak. I really appreciate it. Frankly, I'm humbled by the intellect and the credentials of the people that I've been listening to for the last four to six hours. It's incredible.

My name is Al Rexroat. I represent the Illinois Regional Insulation Contractors Association. I represent the National Union Insulation Contractors Alliance, which is a national organization that I wish I could say is 115 years old like the roofers, but it is only three years old. We just started it. And I represent Interstate Mechanical Insulation Contractors. So I wear three hats. I'm a businessman and I'm an association executive. And I am not an expert on musculoskeletal disorders by any stretch of the imagination.

From a businessman's perspective, though, over the years -- I started in the business in 1964 -- I know that I have had -- the largest single case I've had against my company was a musculoskeletal disorder. It was a back injury, and the man was doing nothing wrong except doing his job. And he got injured, and it was the largest single expense we had that year.

From a businessman's perspective, this is costly because we have men that can't -- or people, men and women, who can't work. Excuse me. I have three daughters; I should remember that. But we also -- when our people aren't working, our mods go up in our workmen's comp. So from a business perspective, this is very costly for us, as business people.

So we would like to see something on -- along these lines, with especially these insidious musculoskeletal disorder things. We have men working in our industry that are young, most of them, that are installing duct wrap around duct work in buildings. And they're -- the process is that they cut the material, they smooch it with this hand and close the gap, and then they use a plier-type device with

their other hand and they make -- every inch they make a staple to hold the stuff together. Well, they do it all day long, and then they do it the next day. And then they do it the next day.

The point is that these disorders -- they don't even know it's happening to them. It's kind of like the asbestos was in our business back when I started; we didn't know it was happening and all of a sudden we were whacked with it and we were sick. Well, that's what's happening to these kids, and we need to pay attention to it.

Comment ID: 316.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

I would say -- I would agree with a couple of other issues. Mr. Connors from OSHA was up here earlier this morning. He talked about education -- educating contractors to understand that safety is a good policy for businessmen because it puts money in our pockets and keeps our men working and our women working. It's just good business. So we need that -- that's paramount importance, I think.

Comment ID: 316.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

I also agreed with Jack Shine when he talks about education of the employees, of the foremen, of his contractors -- people like me -- that we need to know that these things are happening. We need to know what the best practices are to help our people, because we are there to do that. I don't want to see guys get hurt. I don't want to see people fall. I don't want to see people get hurt.

So with that, I'll -- again, I'll thank you very much for the opportunity to speak. I do present a little different perspective 'cause I am a businessman, and thank you again.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 317.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction
Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Motor vehicles

Approaches

Partners

ANSI A-10 Committee Chair; ANSI Z-15 Committee Chair

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good afternoon. I'll keep my personal opinions to myself. I'm representing the American Society of Safety Engineers today. I'm in construction safety for 30-plus years, 17 of them as a compliance officer for OSHA. But I'm also a member now of the construction practice specialty, which has approximately 3,500 members of the 30,000 members from ASSE. We commend NORA and NIOSH for this effort.

ASSE's construction practice specialty is one of the largest and most active specialties. We have, within ASSE and the construction practice specialty, the NCA10* series for construction and demolition, which equates to 44 specific standards, that is to say, for construction and demolition subjects ranging from dredging to scaffolding. And similarly, we are a secretariat, as well, for an organization, NCZ15*, which are the safety requirements for the operation of motor vehicles, another key issue to construction.

There are two suggestions or I should say recommendations that NC-- or that ASSE would have, that being that within the construction sector research council that we would hope that NIOSH would have the chair or the A-10 committee closely involved, if not also chairing, the construction research sector. Similarly with respect to the Z-15 standards chairperson. Not that they necessarily have to be the chair for the transportation sector research council, but that we would urge you to actively involve them in any of your proceedings.

Comment ID: 317.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

ANSI A-10 Committee Chair; ANSI Z-15 Committee Chair

Categorized comment or partial comment:

Cultural ambiguity. OSHA, IMSHA*, state safety and health agencies, unions, employers and safety and health professionals are all working diligently to communicate better with and to educate Spanish-speaking workers to help keep them safe and healthy on the job. Even when we develop appropriate language documents and we use effective visuals and further build our supervisors` language proficiencies, there is still the hurdle in the cultural differences we experience in working with Spanish speakers. It is now time to go, we believe, one step further in our efforts and to support research that examines cultural ambiguities that exist within the framework of what the construction industry currently uses as its methods for communicating and reinforcing hazard information. Translated, we believe that right now of course there are some moribund, age-old traditions within the construction industry, vis-a-vis the safety toolbox -- the weekly safety toolbox talk, et cetera, et cetera. And we`re wondering, in essence, whether or not these are effective. But beyond that, we`re wondering as well about the methods for communicating and reinforcing information about hazards.

For example, Spanish-speaking workers have an approach to authority that is different than the typical U.S. approach, and may lead them to saying yes when they mean no. We should know as much as we can to understand that orientation. I got to thinking about this when someone from ASSE was going to be putting on one of these conference calls and he himself is of Spanish descent, or of Mexican descent, and he indicated that it`s often the case that the messages that these hardworking individuals take when we give them a particular order or direction in terms of their work is something different apparently. And that when we similarly do this with respect to communicating hazard information that they as well take different messages along with that. So we`re close to the -- the point being that we need a better understanding of both the workers` and the employers` cultural assumptions and that they should be the next frontier of research.

Comment ID: 317.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Partners

ANSI A-10 Committee Chair; ANSI Z-15 Committee Chair

Categorized comment or partial comment:

I think -- I commend Tom Kavicky for his remarks on the injury and illness source database. That said, I second that, and that was one of our recommendations, the full record of which will be for your review. So I think we can skip over that one, except to say, if you don't mind, that we do know anecdotally that the majority, for instance, of disabling falls in your framework, Tom -- that is, framing carpenters -- from sheathing, roof on -- work on top plates and from (unintelligible). But we don't have that substantive database that gives us anything more than the very broad brush of fall from height, or fall from scaffold at the very least, in terms of really parsing it out. That specific information would be most helpful.

Comment ID: 317.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Small business

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Partners

ANSI A-10 Committee Chair; ANSI Z-15 Committee Chair

Categorized comment or partial comment:

Beyond that, a greater focus on silica. We know that there is myriad literature out there on the subject of silica. That said, we don't ask that any further research be performed as to what the safe levels are. We have everything from the fables -- or not the fables, but the -- the tragedy of Hawk's Nest down to everything that you folks have most admirably done in the last ten years.

What we do need, however, we believe, are activity-specific pieces of information -- as one of the young presenters earlier this morning was suggesting -- for the small to medium-sized firm that's going to be able to use that information in the context of simple reading. We understand of course that there are variables, vis-a-vis, again, weather, environmental factors that go into that. But we urge you to consider at least a silica message in terms of silica information to the small to medium-sized firm with an eye toward giving them some things as to what's the most effective controls for the short duration exposures.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 318.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Cardiovascular disease
- Hearing loss
- Musculoskeletal disorders
- Respiratory disease
- Traumatic injuries
- Mortality

Exposures

- Chemicals/liquids/particles/vapors
- Cardiovascular disease
- Work organization/stress
- Motor vehicles
- Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good afternoon. Thank you for the opportunity to address the committee regarding the National Occupational Research Agenda construction sector issues. My name is Michael Watson and I am a certified industrial hygienist and representative of the safety and health department, International Brotherhood of Teamsters. Our building material and construction trade division is comprised of approximately 102,000 building material supply and construction members who may be impacted by decisions regarding the agenda.

According to data published by BLS for 2003, construction, sector transportation and material moving drivers experience 5,800 non-fatal occupational injuries and illnesses involving days away from work. These drivers perform work in highway and steel construction, water and sewer and utility line construction and repair, heavy construction and excavation work, ready-mix concrete, refuse, and construction material and pipeline transportation.

With regard to fatal occupational injuries, according to the census of fatal occupational injuries data for 2004, the construction industry sector recorded 1,224 fatal work injuries, the most of any industry sector.

CPWR published a study in 2001 titled "Trends in Work-Related Death and Injury Rates Among U.S. Construction Workers, 1992 to 1998". According to the study, the fatality rate among truck drivers was consistently higher than the fatality rate for all of construction.

The Teamsters Union urges NIOSH to continue research into diesel and combustion particulate exposure; general wellness issues such as hypertension, weight-induced diabetes and heart disease, and the use of tobacco products and caffeine. The adverse health effects of extended work cycles and chronic fatigue should be examined, as well.

Teamsters Union is particularly concerned with injuries and fatalities resulting from highway accidents and struck-bys in the heavy and highway construction and excavation subsectors, musculoskeletal injuries and disorders among construction drivers, noise-induced hearing loss among construction drivers, and crystalline silica exposure among ready-mix concrete drivers. It is the Teamsters Union position that these issues should be included in the agenda.

Comment ID: 318.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction
Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Noise/vibration
Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

The Teamsters Union is also very concerned about whole-body vibration among our drivers. Whole-body vibration is primarily responsible for intervertebral disc degeneration, lower back pain and muscle fatigue. The importance of addressing these issues cannot be overstated.

Comment ID: 318.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

- Motor vehicles

Approaches

- Training
- Intervention effectiveness research
- Marketing/dissemination

Partners

Categorized comment or partial comment:

Drivers should receive better and more thorough driver education which is specifically tailored to the driving tasks that they perform. This driver education could also include components which specifically address the importance of seat belt use, proper lifting and lowering practices, hearing conservation training, or other hazards present at the work site. NIOSH should perform research on the most effective training techniques for educating this particular group of workers.

Of course funding for research and education is the backbone of any initiative which seeks to implement change in an industry as dangerous and diverse as construction.

Comment ID: 318.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Traumatic injuries
- Mortality

Exposures

- Motor vehicles

Approaches

- Engineering and administrative control/banding
- Marketing/dissemination

Partners

Categorized comment or partial comment:

Employers and unions alike cannot and should not bear the entire cost of making sweeping changes to make our industry safer. New technologies in vehicle safety -- for example, sonar, radar and video technologies -- need to be investigated. New truck and heavy equipment design should be investigated in order to make trucks and heavy equipment more driver-friendly and ergonomically safe. NIOSH and other government agencies, including NIEHS, need to continue to fund this research and education if we're truly to get to the very core of these issues.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 319.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Mining

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Engineering and administrative control/banding
- Training
- Intervention effectiveness research
- Economics
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Thank you. And I thank you for the opportunity to speak on behalf of the construction equipment manufacturers. My name is Russ Hutchison. I'm the director of technical and safety services for the Association of Equipment Manufacturers. We are a non-profit trade association based in Milwaukee, Wisconsin. We have offices in Washington, D.C.; Ottawa, Canada; and Beijing. We have over 700 members, and we serve the construction, agricultural, forestry, mining and utility industries.

I'd like to highlight construction occupational safety areas that our members are telling us are of concern to them. Many of these NIOSH is already active in and aware of, and we are going to encourage them to stay in those -- stay working in those areas and do more -- do more, maybe expand.

The first I think one of the high priority items is silica -- silica dust control. On the top of the list are the cutting, grinding, drilling. Methods of dust control and mitigation that have practical application in the industry should be looked at. You've looked at some of them. You've begun that process. I urge you to stay active in that area.

In addition, I think it's important that you look at methods of effective communication to the construction worker. And I think this goes -- this is sort of the training area, and I'll highlight that a little bit more, as others -- and Mr. Shanahan started right off the bat with it. But we need to impact the

worker with regard to the hazard and the means of controlling the hazard. It's got to make sense to them. They shouldn't be out there in the middle of that cloud of dust not worried about anything.

Silica dust is generated by a variety of the equipment that our manufacturers produce. Not only is it the concrete cutting, grinding and drilling, but it's also the milling of concrete -- the cold planers*, as they call them -- and work is going on in that area right now. NIOSH is doing some work with the contractors and with the manufacturers. But again, this is an area that needs to be continued to address. In addition, there -- we have manufacturers of equipment used in quarries, used in mines. Their issues with regard to how you control silica dust are different, but they are another area where silica exposure is an issue and needs to be attended to.

And finally in that regard, I would urge NIOSH to put more effort or dedicate more resources to the control banding concept. I think that was alluded to briefly before, but the idea that you identify a process and then you identify the controls or the PPE that's appropriate for that process. And it allows the contractor to probably conservatively protect the employee without having to go through and do air sampling, but it will require air sampling and that's where NIOSH comes in, and I think we need extensive testing, air sampling, and it needs to be very comprehensive so we've got good numbers.

Comment ID: 319.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Secondly, training. We started it off and on -- I would again, and our members would, urge that training be a focus. We need insights into the most effective methods of training, how to best accomplish the communication process, and are there different methods that are more effective in different industries or different crafts, that kind of thing. Let`s look at classroom training. Let`s compare it with internet-based training or web-based training. Let`s look at the interactive CD, DVDs -- and these are just ideas. There are many more methods of training. But let`s compare them and see which are the most effective and share those results with the people that need to do that.

Comment ID: 319.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Traumatic injuries
- Mortality

Exposures

- Motor vehicles

Approaches

- Engineering and administrative control/banding
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

Let's move on to crane power line contacts. We have crane manufacturers and they're looking at upcoming new regulations or highly revised regulations in the crane industry. During the course of writing those -- their draft regulations, proximity warning devices and insulated links became an item of discussion. We would strongly urge that NIOSH dedicate resources to evaluating those devices. There -- there's questions and there are human factors issues related to them, and we really think it's important that those be addressed prior to the regulations -- finally adopting them.

Comment ID: 319.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

- Motor vehicles

Approaches

- Engineering and administrative control/banding
- Intervention effectiveness research
- Economics
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Other areas of focus, operator visibility. We urge you to continue your work in that area, and to try to move it into the real world, find those kinds of processes which are not cost-prohibitive.

Comment ID: 319.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

Trenching accidents, there are many of those, as you know.

Comment ID: 319.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

And finally, I would also urge that you continue your work in the noise area as we try and communicate to people that they need to pay attention to it and avoid the tragedy of hearing loss.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 320.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Marketing/dissemination
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Thank you, and thank you for the opportunity to come here. My name is Scott Schneider. I'm the director of occupational safety and health for the Laborers' Health and Safety Fund of North America. We are part of the laborers' union. We're a joint labor/management group. And laborers' union represents primarily construction workers, about 800,000 members in the U.S. and Canada.

I've been honored to be a member of two different NORA teams over the past ten years, the noise team and the intervention effectiveness team, and it was a great experience. I thought it was very useful and important work, and we did accomplish quite a bit. And now NORA is being reorganized by sector and there's a lot more work to be done, but it's a different kind of work.

Since its inception, NIOSH has focused primarily on identification of hazards and solutions. And the philosophy was pretty much -- until recently, I think -- if we identify the hazards and show people the solutions, they'll sort of naturally adopt them.

In some cases this worked. In other cases, though, NIOSH testimony helped spur the development of new OSHA standards. And while there's still some new hazards to identify, new solutions to develop, there's already a lot that's known that's not being put into practice. So the issue now I think is more how do we get people to adopt the solutions that we do know work.

So I would like NIOSH to focus in this next decade on dissemination research and intervention effectiveness research, and to fuse the NORA process with the R2P initiative. They need to do more research on the barriers to adoption than how to address and overcome those barriers.

When I visit job sites I see many obvious hazards that are going uncorrected. The 50 or so construction workers that die in trench collapses each year don't die because they don't know how to -- we don't know how to protect them. They die primarily because trench boxes were not used, even though in many cases they were sitting next to the trench at the time of the accident. So I can't -- here's a couple of things --

I mean obviously I endorse a lot of the stuff people have said before -- do more research on training effectiveness and on noise and on ergonomics and many of these other issues, which I think still need -- research should be done on them. But I'd like to see NIOSH focus -- and the NORA process focus on six areas.

One of them is how do we communicate more effectively about risk with both workers and employers so they understand the true dangers and the consequences.

Two, how can we encourage more intervention effectiveness research to show what really works.

Three, how can we better convince employers of the cost-effectiveness of interventions, calculating both the direct and indirect costs on an employer level, and making those costs tangible to employers in a simple way.

Four, how do we widely disseminate throughout the industry existing interventions and encourage their use..

Comment ID: 320.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Five, where is more research needed to fill the gaps to develop interventions where existing ones are too cumbersome or costly and there are significant barriers to adoption.

And six, to accomplish all this NIOSH I think needs to do intervention surveillance in each industry to see how widely interventions are being used, and for future reference as a measure of success. In the past NIOSH looked at hazard surveillance but didn't do intervention surveillance.

Comment ID: 320.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Work-site implementation/demonstration
- Marketing/dissemination
- Capacity building
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

As a footnote, I also would like to see -- I'd like to see NIOSH fund -- we have education and research centers around the country, but I would like to see basically translational research centers where -- R2P centers where people would take what exists and figure out how to get it into practice in their areas.

So the second decade of NIOSH (sic) needs to focus on intervention evaluation, increasing adoption of interventions and overcoming the barriers to their adoption, development of new interventions as a secondary goal, but there already exists many interventions that are being under-utilized. So thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 321.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Work-site implementation/demonstration
- Marketing/dissemination
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Thank you. Again, it's a pleasure to be here with you and to be on this panel with people I consider friends and also great work colleagues, and many of you out in the audience. I don't think there's been a person that's spoken yet on this construction panel with whom I've had a disagreement. But I found myself particularly nodding my head as Scott was talking about really there's been tremendous work done by OSHA, by NIOSH, by a number of organizations in the research area. And I think in this next decade we really need to figure out how to move this research, this education, these processes that we know work into the practice, and how we can really communicate.

Comment ID: 321.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

But I kind of sidestepped my beginning comments, so let me give a little background industry (sic) on the roadway construction industry and why I think it's so important that NORA look at this industry in particular.

Just several months ago President Bush signed a law, (unintelligible), that will provide \$236 billion through 2009 for roadway construction. The federal budget makes up about 45 percent of the total amount of money spent on roadways, so between 2004 and 2009 we're looking at about a \$500 billion expenditure on transportation, and roadway construction in particular. This type of spending makes this industry one of the most stable and also one of the most robust in the country.

It's also one of the most challenging environments, because like construction, it's ever-changing. It's never the same place when you go back twice. But it's also an environment that's moving constantly. You're not going to a construction site the same place month after month. You're going to a new location.

It's also challenging because we have vehicles coming in and out of the job site constantly, delivering asphalt, taking away dirt. And when you have the workers on foot adjacent to this big equipment, it creates a very dangerous environment.

Now we add a new segment that's unlike the rest of construction, and that's the motoring public are part of our construction sites. Most of our work is done in rehabilitation and maintenance. We're not building new roads in areas that are cordoned off. So you mix all these elements together and you find that we are in very hazardous conditions, in very small work areas because we want to keep those lanes open and keep motorists moving, and it's a very dangerous environment.

We began to address some of these issues that are coming up as a result of these environments. NIOSH has done some great work. A lot more needs to be done in that area.

The next thing we want to talk about a little bit is the worker demographics, 'cause they're also challenging. Right now about 30 percent of our workers are Hispanic, and most of those are immigrant workers. And as we've heard, and I think we'll continue to hear, while these are very important workers to our industry and very valued workers, unlike many who come to the Americas and enter into the melting pot, this segment of Hispanic workers tends to cling very tightly to many native customs and even native languages. And there's this large percentage of this immigrant population that does not even learn English like they do for many other parts of the world, so we have to deal with all those challenges. And again, with 30 percent of our workforce, some statisticians are saying that as much as 50 percent of the roadway construction workforce could be Hispanic within the next 20 to 30 years, so another huge challenge for us.

As a result of these conditions, we're looking at, in roadway construction, a fatality rate of about 30 people per 100,000, as compared to 12 per 100,000 for the remainder of construction, and four per 100,000 for general industry. Also there's a great public health concern that's combined with this, as about 1,000 motorists are killed each year in accidents that take place in work zones, while another 40,000 are injured. So there's a lot of work, both from the public health point of view and from the occupational health point of view.

Comment ID: 321.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Authoritative recommendation

Partners

Categorized comment or partial comment:

In addition, the one injury cause that stands out above all are injuries dealing with manual materials handling -- that word, ergonomics. And while perhaps many of my members would not like to see OSHA come up with an ergonomic standard, I'm sure they would more than welcome information coming from NIOSH on how we can deal with this injury. It's a huge cause of insurance claims. It's a huge cause for the industry, and we need help in this area in particular on how to do that better and to do that more quickly.

Comment ID: 321.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

We are -- as we're looking to enter this new phase with NORA we're certainly hoping to work closely with NIOSH to address many of these injuries. We really want to look and work closely with you on how we can take information that we now have, information that we will have, and put that into best practices so that every employer, as he's sitting down and trying to balance his sheet and put together a bid for a job, he understands that safety is part of that whole equation and it becomes a normal course of business and not an add-on, which it is now. And that's where we're hoping to go.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 322.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction
Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Yes, I'm not Mike Connors. The B team got sent in in the afternoon, so -- I work for Mike. I'm Charlie Shields and I'm the assistant regional administrator, enforcement programs, in the Chicago OSHA office. And it's great to see a lot of you guys out there today 'cause I've known many of you for a long time, so -- and perhaps may-- that's the first thing NIOSH should consider, and I hadn't -- I wasn't here this morning, but a lot of expertise here. Use them. Use them, you know, after you decide your agenda. Get them involved. That's the first thing.

I'm going to talk of a couple of topics today and then we'll be able to split up even in that. And I tried to organize it, so I thought okay, research need, why do we need it, maybe some examples or evidence, and what is our desired state. And the two things I wanted to talk about, first one is tower construction and tower reinforcement, and the second one -- and that's kind of a newer one, and the second one is an old -- well, not a favorite, but construction fall fatalities.

Okay, so first of all, the tower construction and tower reinforcement, and the need is safety technology for tower erection and tower reinforcement. Why? There's a couple of things going on here now. One is wind farms coming up, and the second one is adding equipment onto existing communication towers, such as high definition television. So you know, we're putting things on top of towers that were never intended to have these additional loads. And the safety and health programs are -- you know, have had some development, but not fully developed within these areas. And in fact, you know, some of these groups are asking for our help. OSHA has partnered with the -- with NATE, the National Association of Tower Erectors, and also recently our tower coordinator got called by a guy who's -- I think there's an association for wind farm people, also. So you know, we're working on that.

And the deal on the wind farms is you've got a 5,000 to 7,000-pound load on top of a monopole and it's got a 25-foot blade, and the blade's spinning and, you know, it goes around, too, and you've got a lot of forces there. And you know, I don't think there's a lot engineered yet as far as fall protection, and the

OSHA standards cover part of it but not all of it so, you know, that's not the greatest, either, formula for success, as far as us being able to push them. And secondly, there's lockout issues there. And in fact, there's been at least one lockout fatality in this country already during -- on a wind farm. So -- so that's one issue.

The second one was putting more stuff on top of existing towers -- you know, antenna platforms, you know, and the example was HDTV. You know, you're putting a lot of weight where it wasn't engineered to be put. The towers are not always being re-engineered, and they're not considering the sequence -- the construction sequence; i.e., you put in a new brace before you take the old one out. I think there's been a collapse where they took the old one out first before putting the new one in. It couldn't support it and down it came. So you know, we have to have properly designed towers, properly reinforced towers so they don't fall down and injure employees and so, you know, what's the desired state? To integrate safety and health into the wind and communication tower design and construction, and we need to develop equipment and methods to safely re-engineer existing communication towers, so that's the first one.

Comment ID: 322.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

So let's go into the second issue was fall fatalities in construction. So the need is new methods and equipment to promote construction fall protection safety. And I'm going to say some things some other people have already said. Why -- just in general, construction falls increased last year.

One minute, is that it? Okay.

We thought we were doing okay. We had a couple of years of decline, and all of a sudden we're right back up where we were several years ago. You know, we need to do more. And as a subset of that, the workplace fall fatalities among immigrant construction workers are increasing more rapidly even than for the overall population.

And I'll just reiterate briefly. You know, we'll go with immigrant, and particularly Latino in this area. We're not meeting it -- we're not -- we're not able to reach them through our conventional methods. We've tried some in this area. We've worked with church groups and with community action groups locally, and there is still a problem. You know, we need to do more there. And last year the Illinois fall fatality for Hispanics doubled, went from four to eight. So you know, we're trying and we don't seem to have, you know, mastered it yet, so there's a need.

So development of new construction methods and equipment, meaningful training materials, particularly for immigrant workers, and methods to reach these workers.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 323.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Hi, good afternoon. Thank you for giving me the opportunity to comment. My name is Janie Gittleman. I'm associate director of research from the Center to Protect Workers Rights in Silver Spring, Maryland. Today I'd like to address my comments to two areas, or two and a half areas, surveillance, training and education.

CPWR resources are used in collaboration with a wide array of agencies and organizations, including NIOSH, to conduct research on safety and health in the construction trades; NIEHS, National Institute of Environmental Health Studies, to do hazardous waste and disaster response training; DOE to do former worker medical screening; DOL for energy compensation programs claims assistance; and DoD with the Helmets to Hard Hats program to transition folks from the military into the construction trades. And at this time I'd like to make a plug or suggest the need for NIOSH to move efforts forward in NORA II towards these cross-cutting efforts to coordinate safety and health surveillance across agencies for the next decade.

Well, the goals of safety and health research are to prevent injuries and illnesses. Surveillance data are used to characterize the construction industry workforce, examine how changes affect construction safety and health, and also to use the data to lead to efforts to development and implementation of risk reduction interventions, and evaluation of the impact of interventions to reduce injury and illness on the job. Ultimately this leads to efforts to promote strategies to diffuse information throughout the industry to employers/employees that can influence policy and economics, impacting changes in safety and health.

NIOSH historically has done a great deal of injury and ill-- has a great deal -- developed a great deal of injury and illness data which can be used to understand health and safety issues in the construction sector, including environmental and radiation remediation workers at DOE sites. Surveillance data are used to identify patterns and trends, and they're critical to monitoring safety and health in this critic-- in this sector. So for example, there are many data sources that we now use to conduct surveillance.

There's the fatal assessment and control evaluation data, the national traumatic occupational fatality surveillance system data, the national electronic injuries surveillance system data in emergency rooms, the national occupational exposure survey data. There's BLS data on the census of fatal occupational injuries, CFOI; the survey of occupational injuries and illnesses, and OSHA data; the integrated information management system, IIMS. There's also additional CDC data. You'll get the point after I go through all these surveillance systems what I'm getting at -- the national interview survey data, the national ambulatory care survey data. There's also household surveys, the current population survey, the national longitudinal survey, the panel study of income dynamics, the current employment statistic surveys, national health interview surveys. Then the Census Bureau has surveys of the economic census, construction statistics series, the survey of business owners, and the IRS, who also reports in their Statistics of Income Bulletin. Then there's also private data such as the Dodge Reports and Dun & Bradstreet reports.

Well, all of this surveillance data that are collected from a wide array of governmental agencies are used to tell us about patterns and trends in the construction sector. And on a positive note, all these surveillance data are now released on a much more timely basis than had previously been done. One could conveniently query databases on the internet for information on CFOI, SOI*, FACE*, NICE*, and many of the surveillance data are standardized.

However, there are many limitations in the current surveillance data that impact our ability to identify high-risk occupation and activities in construction. Let me start with incomplete data. SOI excludes self-employed and government workers. Day laborers, new immigrants, and undocumented workers may be under-reported in government data collections, and efforts to understand and improve this reporting problem should be expanded.

Many of the surveillance systems lack denominators. There's no linkage between injury and illness data and workforce data. They lack information on industry and occupation in the NICE data and in ambulatory care surveys. There's missing data, lots of missing data, in FACE. There's non-standardized data in FACE. There's out-dated data in the occupational health supplement of the national occupational exposure survey, which was last done in 1988. And there's no information on effects of safety training for the sector in national surveys. There's also no productivity measures and cost measures, and it's difficult to get access to state-specific data.

In addition, these issues with surveillance data -- in addition to these issues with surveillance data, we'd very much like to see NIOSH address the inclusion of race as an identifier in national surveys during NORA II.

NIOSH has worked closely with state health departments over the past several years to develop occupational indicators for injuries and illnesses, and we would like to see sector-specific information collected to help target necessary interventions in construction. NIOSH is already supporting some of the construction sector surveillance and extramural programs, and to consider the overlap when considering new intramural surveillance programs.

Comment ID: 323.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

I'd like to shift focus for a minute now onto the area of immigrant worker health and safety, which other people have also mentioned today. Recent study published in The American Journal of Industrial Medicine shows that immigrant workers in construction, primarily Hispanic workers of Mexican origin, are much more likely to die or to become seriously injured in construction in the U.S. than non-Hispanics. We are deeply concerned about the national trends that detail what is happening to our members and to all construction workers. It's troubling that construction deaths are not decreasing as they should, and particularly worrisome that Hispanic immigrants construction -- in construction are much more -- for them it is much more deadly than for construction workers at large.

What we do know about Hispanic immigrants entering -- or what do we know about Hispanic immigrants entering our unions and our industry? Do we know what assumption expectations they have for the industry? What do they think about unions, or about unions in general? What do they expect regarding safety and health on the job? What's the best way to improve health and safety training for this population of construction workers? To date there's little research addressing this -- these pressing questions and NORA II ought to focus on that.

Comment ID: 323.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

There`s little work that has been done to evaluate the impact of training on hundreds of thousands of construction workers, and we encourage and support development of a national survey looking at both union and non-union training to evaluate the impact on the sector.

Comment ID: 323.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

And finally, to support efforts to educate and train the next generation of safety and health professionals, we encourage the use of resources directed toward the NIOSH ERCs to interact more with schools of engineering and architecture to promote interest in occupational safety and health.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 324.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good afternoon. My name is Chuck Stribling. I am the safety standards specialist for the Kentucky Department of Labor's occupational safety and health program. We operate an OSHA-approved state-planned program, exercising jurisdiction over private and public sector employment. On behalf of the Department I'd like to express my appreciation to NIOSH for providing this opportunity to speak to you about and participate in the development of the second NORA.

Having been bred, born and raised in Kentucky, I cannot talk that fast, so my comments -- it's genetically impossible, so my comments will be much shorter.

The Kentucky Department of Labor believes, and statistics confirm, that within the construction sector group fall protection unfortunately remains a very significant issue. We believe this is especially so in the residential construction subsector.

For the second NORA, we request your consideration of research specifically into residential construction fall protection issues. Fall protection in residential construction affects nearly all trades, if not every single trade on a residential site. With today's construction techniques and commonplace multi-level residential structures, many individuals may be exposed to significant fall hazards during residential construction. Comprehensive research and findings from NIOSH could benefit a tremendous amount of people, both within the industry and public sector.

There are many, many, many issues that could be researched, many more than my time here today will allow for discussion. However, our experience indicates that many employers and employees are opposed or reluctant to utilize fall protection during residential construction based upon one or more of four general misconceptions.

They are, number one, fall protection is too expensive; number two, fall protection is inconvenient and time-consuming; number three, fall protection is counterproductive to production; and number four, fall protection is infeasible. These four misconceptions, either taken as a group or taken independent of each other, present a wealth of research possibilities.

Additionally there are three specific fall protection issues in residential construction that we would like to submit for your consideration. Issue number one, research into the use of slide guard systems as a form of, quote, fall protection, unquote, during residential construction. Our experience reveals that data is woefully lacking related to slide guard systems when used for fall protection. Do slide guard systems indeed provide adequate fall protection? Why or why not? If so, in what applications? For what type of roofs? For what pitches or slopes? What are the minimum dimensions and installation techniques for a slide guard system to be effective?

Issue number two, research into alternative construction techniques that eliminate exposure to fall hazards during residential construction. Obviously building a residence in a manner that eliminates the hazard is the best solution.

And finally, issue number three, research into alternative construction techniques that reduce to the greatest extent possible exposure to fall hazards when elimination of the hazard is not feasible. Is there a different way to build the residence that may be safer?

Again, on behalf of the Kentucky Department of Labor, I thank you for your time today.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 325.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good afternoon. My name is Tonya Smith-Jackson. I'm the associate director of the Center for Innovation in Construction Safety and Health. I'm also associate professor in industrial and systems engineering at Virginia Polytechnic Institute and State University. Our director is Brian Kleiner*, and currently in our Center for Innovation in Construction Safety and Health, which is NIOSH-funded, we are implementing a total of seven research projects to address a variety of issues, using an integrated sociotechnical systems perspective.

But based on our existing knowledge, the existing knowledge in the domain of construction safety and health, and also from our own experiences and background, we've identified four important strategic areas that should be included in the next NORA, as it relates to construction safety and health, and these are as follows.

The first is new emphasis on mixed-methods approaches in construction safety and health research. We suggest that more emphasis be placed on the use of mixed-methods approaches that include the elicitation, collection, analysis and translation of both quantitative and qualitative data. Research that uses a more comprehensive mixed-methods approach will yield results that are more descriptive, predictive or explanatory. Construction environments are complex systems, as we know, that consist of a number of complex interdependencies. Translation, intervention, surveillance and even exploratory research are not valid unless the methods used to extract the data are appropriate for the specific environments under study.

Unfortunately past initiatives have placed higher value on traditional controlled experimentation, including field experiments that support reductionist and positivist research philosophies, and these have been used to study construction environments. These approaches have not been successful in clinical health research, as we know from several well-known examples -- and tragedies, even -- in the

clinical research literature. Yet we continue to place very high value on these approaches in construction safety and health.

To enhance external validity we would like to see more value placed on methods that are beyond the traditional, and perhaps more conducive to the study of the populations we target in construction. In addition, approaches that are multi-method and that examine the convergence of data from different research approaches should be included as a required consideration in research involving construction safety and health.

Comment ID: 325.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

The second -- we want -- we suggest a more of a focus on valid research methods and approaches using socially-valid tools and yielding socially-valid outcomes for special populations at risk, such as ethnic and class minorities, older workers, female workers, workers with disabilities, workers with low literacy, day laborers, et cetera.

The NORA agenda has for a decade placed emphasis on special populations at risk in occupational research. Construction is an environment that attracts populations that have been traditionally marginalized (sic) by workforce formalisms and policy constraints, and by scientific research that was designed and predicated on Western centric perspectives. Some of the existing research seems to have relied on simply including representatives from these groups, without consideration of how to design studies that will support equitable benefits. Simply including these groups in research samples did not -- does not necessarily yield outcomes that are beneficial to the groups.

To ensure equitable benefits in safety and health research outcomes, the research that is conducted must use methods and data collection instruments that are meaningful to these groups. For example, the use of certain quantitative metrics to assess problems or predictors or factors among marginalized workers may not be a valid method across the board. Face-to-face interviews held in local communities that allow workers to tell their stories may in fact be a more valid method compared to a controlled administration.

For some construction problems, socially valid methods for marginalized groups may not be produced by collecting quantitative data, but may be more validly studied by eliciting purely qualitative data, such as verbal reports, and by methods that do not place value on aggregated numbers or on frequencies of occurrence, but may place more value on one person's report. Yet the existing agenda does not seem

to give voice to the use of non-traditional research methods, nor has the review process and subsequent scoring of applications.

There is a need to place more value on the use of socially-centered research methods such as participatory or action research, as well. A more inclusive approach is needed in research projects involving marginalized groups, and the research domain needs to scrutinize the social validity of both the methods used, the empowerment and involvement of and the outcomes of research related to special populations at risk to ensure that the safety and health benefits resulting from research for these groups are on par with the benefits experienced by majority group workers in construction context.

Comment ID: 325.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

The third one, emphasis on research related to group process and constraints on group process. A number of events in the past decade have led to a predominance of construction environments that are informal work systems consisting of workers who are transient and unfamiliar with any given work site or setting. Research is needed that will address how to study group process, the implications of group process for construction safety and health, and the design and evaluation of interventions to improve group process, safety and efficiency.

Comment ID: 325.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Finally, we need inclusive review panels with multi-disciplinary backgrounds. As the diversity of construction environments increases, and given the demographic shifts expected to be obvious in the year 2030 where minorities and women will outnumber majority group members in the workplace, we need to ensure that our methods and research philosophies are multi-disciplinary and valid in the context of the increasing complexity of problems in construction safety and health.

In addition to methods and research philosophies, our research teams need to be consistent with the sociotechnical system principle of compatibility. The research teams that are funded should exhibit a comparable level of diversity as their target populations. We need to be ensured that review panels for such research proposals are themselves diverse, multi-disciplinary and knowledgeable of how to conduct inclusive, multi-layered, systems-centered research. Inclusiveness in the NIOSH implementation and administration of NORA will have a critical impact on our success moving from research to practice in the next decade.

On behalf of the Center for Innovation in Construction Safety and Health, I'd like to thank you for the opportunity.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 326.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Engineering and administrative control/banding

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good afternoon. There`s disadvantages and advantages of going at the end of the day. The disadvantages are that most people`s already spoke on topics that I`m about to bring up. I guess the advantages is I don`t have to speak as much and I can emphasize the points that I want to make.

My name is George Middleton. I`m the senior manager for labor safety and health services for the National Association of Homebuilders. We are a trade-based association based out of Washington, D.C. with well over 220,000 members. And within that, there`s well over 800 local associations throughout the United States. In 2005, of the 1.7 to 1.9 million homes being built, we -- our members will represent about 80 percent of that. So some of the issues that I bring to you today will impact a lot of workers in construction.

One of the first things that I`d like to emphasize and bring up again is -- obviously falls still are the leading cau-- is the leading cause of fatalities in construction. Is that the same for residential? Well, we commissioned a study -- it`s old data now, but `93 to 1995, and that follows in suit with commercial construction. So falls is still the number one fatality and it`s a big issue for us.

Within the last five years there`s been a lot of fall protection products put out on the marketplace. Unfortunately there`s a lot of lack of or no engineering data to support some of the claims that some of the manufacturers are making. Their claims are correct, in essence, that their system basically will hold 5,000 pounds per however many workers that they claim that they -- that you can attach to it. One of

the things we found, though, is what system do you attach it to? They will not stand by or they don't have -- actually I shouldn't say they won't stand by. They don't have the engineering data available to actually hook that structure onto the types of structures that our membership is currently building.

I personally have spoken to a few -- some of our larger member corporate safety directors, and they are very interested in the product, but they will not use it because of the fact of just plain liability issues. Did -- you know, they ask for the engineering data and it's not available. So I think there's an essential need here for NIOSH to look into some of the systems, and especially with this -- you know, the agenda looking into the future of ten years, on systems that can be used in residential construction specifically.

Another subpart of this is looking at the whole roofing structure in its entirety. I have seen on some websites photographs of systems where they're showing it being attached on roofing -- roof -- roof structures that is only partially sheathed. Now if you asked the Truss Manufacturers Association will you and can you give us data and will you put your blessings on the fact that you -- we can tie a system to an un- or partially-sheathed roof system, the answer is going to be no. So obviously there's some critical data that needs to be collected looking at partially-sheathed roof systems out there. So in other words, there's just a lot of inconsistencies out there when -- when people who want to utilize these systems, you know, are going to purchase them and then actually use them asking for the data and it's not available.

Somebody earlier, I believe Tom Kavicky, mentioned the fact about data and talked about that. We would like to see a better breakdown of data for falls in general. If you look at the BLS data, and I've looked at that many hours, sitting there trying to go through it and decide what useful information can I use out of this. If you look at it close enough, it doesn't really give you enough detail to be able to attack the problems of risk reduction.

For example, did the worker fall from a top plate? Did he fall to the outside? Did he fall to the inside? That data is not available and that's crucial. One pie chart in particularly (sic) that I looked at on the data stats showed, in residential construction, falls that resulted in fatalities -- I believe it was HVAC. If you looked at HVAC and the mason contractors, they had a higher percentage of fatalities than roofers. Now that's -- they're -- to me, that's very shocking. Is that data absolutely correct? I don't know. I mean there needs to be a source of somewhere to where somebody can further define that and look in detail. Unfortunately the only people I know that has that is the insurance companies, and they're not at liberty I believe to give that data out. And I believe NIOSH would have that capability, to be able to look further into the causes, and systematically maybe we can come up with some interventions. And also, lastly, be able to train toward that.

Comment ID: 326.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Small business

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Risk assessment methods

Marketing/dissemination

Partners

Categorized comment or partial comment:

I believe some-- you know, a few people have mentioned silica already. I just wanted to say that NHB's conducted a pretty in-depth literature search, and we have found very little to no data with silica exposures in residential construction. We feel that, you know, that the exposures are somewhat different than commercial construction, and we want to know where we need to protect our workers because obviously the exposures do exist out there, and at this time we don't know where to get -- gather that data.

And lastly, I just wanted to speak about training, and particularly -- it was mentioned earlier the mom and pop shops out there, you know, I've asked the question to many of them, well, what about silica exposure? And they're like well, isn't that the stuff that's in computer chips? They really don't have a grasp on what any -- you know, a lot of these hazards are, especially with silica. And that is -- you know, I'm giving you some actual answers here of what people come back to me. They don't really know what it is. I don't know if it's a mass mailing or what have you, but there's got to be a route and a mechanism in which to put information out there so they can at least become aware of the hazard before they can follow a regulation.

Comment ID: 326.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

And lastly, looking at Hispanic training, some of the hurdles. On-site training I believe is critical. If -- you know, if you go out onto a site and look and you try to put all of this stuff on the internet, most of these workers do not have internet access. We can talk about internet, internet, internet, but the actuality of it is is you -- on-site training to date is the most effective way to reach the immigrant worker population. Number one, they're doing piece work. They want to be working. They won't take time out to do training. I've worked with OSHA and NIOSH trying to get institute -- free training under the Harwood grant and we could not get participation in a classroom. It's the culture, they're -- and a communication barrier.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 327.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: So what it comes down to is I stand between Miller time and the rest of the day here. Well, one of the neat things about being at the caboose of the program is I get to listen to all of my colleagues addressing a plethora of issues.

And I guess I should start off by saying a couple of weeks ago I was briefed at an ACOSH meeting about the strategic research council and the draft of the strategic goals for NIOSH in construction. And I took notes on each and every speaker today, and I'll quickly run down through the strategic goals for NIOSH in construction, if that's all right with you, Matt.

And parenthetically, I feel that the program is well thought out and it reflects the most ubiquitous hazards in our industry.

It includes falls. Falls have been discussed today by a number of speakers. A number of speakers have focused on falls in the housing sector. But as we all know, the fall fatality is kind of an equal opportunity killer in that gravity doesn't really discriminate as to whether the person is on a structural steel member, on a roof of a house, on the roof of a building or at the edge of an excavation.

And again parenthetically, I'm going to come back to talking about the Gulf, but I think that one of the things that we all in the safety and health profession need to keep our eye on is the progression of the cleanup, the demolition and the repair in the Gulf states, because that ultimately could be one of the largest catastrophes, beyond that which has already happened, in terms of worker safety and health. For instance, one day within the last month there were three fatal falls from roofs just in Kenner, Louisiana. And that kind of a cluster is very disturbing.

But falls, on the happy side, is one of the strategic goals for the construction research council.

Electrocution, there are plenty of opportunities for research regarding electrocution at construction sites, everything from -- as our friend from the equipment manufacturers group spoke -- the new subpart, the OSHA subpart on cranes and derricks, which we should be seeing out sometime in the next, oh, four or five years, I would say. So I wouldn't panic at this point or sell all your stock in crane companies.

Struck-by -- as a matter of fact, in Chicago last week we had two people who perished when they were struck by a large piece of concrete.

And caught-in and caught-between, including trenching accidents, we're still burying people in trenches. Now it's interesting to talk about research gaps and all of the various and sundry things that we kanoodle about what we could look into. And yet the people who are getting killed on our construction sites are getting killed the old traditional ways. People are still getting buried in trenches. We had one this summer that was very tragic where we had -- and I guess they all are -- where we had a 72-year-old man who was buried in a trench and his son was buried next to him and was recovered alive. The father was not so fortunate. So I'm very encouraged that we will be looking more into effective interventions in the caught-in and the struck-by area, especially with regard to trenching.

Comment ID: 327.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Health service delivery

International interaction

Partners

Categorized comment or partial comment:

Musculoskeletal disorders, I was pleasantly surprised today to hear people from both the worker perspective and from the employer perspective verbalize what we have known for a long time, that financially these sorts of injuries are putting some employers out of business. Back injuries, shoulder injuries, a number of different types of repetitive trauma and musculoskeletal injuries really plague the construction site. When we look to other countries, especially those countries where there's cradle-to-grave insurance and where the government is responsible for workers and their families, and we take a look at how they manage musculoskeletal disorders, we find a great deal of creativity. And I think that one of the things we're up against here in our country -- and I'm not sure that NIOSH is necessarily the forum to try to overcome it; I don't know where it exists -- but is to change the culture in the construction industry to accept that sometimes it takes two people to lift an object where common practice has been using one. That's as simple as it gets.

But things like the dimensions of materials, the weights of bags of materials, the dimensions of pieces of plywood, the dimensions of drywall, other countries have been successful in changing these and making them more worker-friendly, and have reduced the incidence of work-related musculoskeletal disease and trauma.

Comment ID: 327.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

Categorized comment or partial comment:

So, moving on, noise; we heard a lot about noise today. I actually was a driller in my former life. I worked in tunneling. I worked as a laborer. And I lost a fair amount of my ability to hear. Occasionally I wear hearing aids. The other day I was in the grocery store and I had my hearing aids in, and the lady in front of me kept looking at me and I finally said could I help you? And she said are you going to answer your cell phone? So apparently I need to go back to my audiologist and get that corrected.

But noise is a huge problem, and it's something that we have just grown to expect as a part of the construction culture. If you're in the building trades for X number of years, you're going to have lost some of your hearing. As I look out in the audience, I have a few friends here that are in the same predicament that I am. And that's another cultural issue that I think we need to tackle.

Comment ID: 327.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

Occupational illnesses from lead, welding fume and silica. We spoke about silica. It's something that I know that we have people in here that feel strongly on both sides of the issue, of reducing the PEL, of increasing the PEL. But it's just interesting to me that the -- next to September 11th, 2001, the largest calamity in terms of worker safety and health, happened in West Virginia many years ago when a company was working on a tunnel and the tunnel was a part of a hydro project and they were under some constraints to quickly get the tunnel built. And so they chose a path for the tunnel that yielded two results -- well, more than that, actually. One was to get the tunnel built. The second one was to use the veins of silica that were in the route that was selected. And it was later discovered that the route that was selected was selected because of the high silica content, and it was later found out that the company was actually using the silica as a product to sell as an enterprise. But in that single project, if we -- there are a number of books that have been written about it. It's been discussed today. But The Hawk's Nest Incident by Cherniak I find to be a very interesting book -- over 1,000 workers died as a result of silica exposure. In some cases it was acute, where the workers died at their drills. And in some cases it was shortly thereafter.

I agree with the people who spoke today that said we need better data to protect our people. But I think, as a safety and health professional, I believe that if we assume that the tasks that have already been identified by OSHA and NIOSH are creating this dust -- dust which, by the way, is invisible; the dust that really does the harm -- that we overprotect our people until we get to the point where we have the data that allow us to back off on the personal protective equipment.

Comment ID: 327.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Improving surveillance, I believe that this was brought up by a number of people. One of the things that I would like to see improved or expanded upon is the FACE program. As a training organization, we have used the FACE studies a number of times to create case studies for worker training. These are real people that were killed in real accidents. I would like to see that program expanded. I know the State of Illinois Department of Public Health has tried to become a state-based FACE program, without success. I think that's intolerable, because we have a large worker population and plenty of opportunity for study. And of course, I would like to see a focus on construction.

In conclusion, I would like to thank NIOSH for coming here to Chicago. It's the heartland. We have people that have come here from a lot of different places. My ability to be here was made possible by a couple of opportunities from the National Institute for Occupational Safety and Health. The first one happened back in the early '80s when I was a much younger safety person. I was able to go back and get a graduate degree at the University of Minnesota with a full scholarship from NIOSH. For that I am deeply appreciative.

And then secondly, the Construction Safety Council was created in the early '90s by a cooperative agreement that was to create a model statewide safety and health program. The person that spearheaded that, the principal investigator, Ron Stanovich*, was a civil engineer who felt very strongly that each state should have, could have, an organization like the Construction Safety Council to reach out to the construction population to have local trainers work and local intervenors working with local contractors, local worker groups. And so that organization, once the funding ran out, was able to survive and is with us today. And under that aegis I am able to be here with you.

So again I thank you for being here. And as Bono said as he accepted the Person of the Year award the other night -- I guess it was last night -- this is the fun stuff. But what we really need to do is get the job done. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 328.01

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Marketing/dissemination

Partners

Hispanic American Construction Industry Association

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good afternoon. Good afternoon to everyone. As I was so introduced, my name is Caesar Santoy. I`m the executive director of HACIA, the Hispanic American Construction Industry Association. We`re a not-for-profit trade organization whose mission is to promote the growth, professionalism and equitable participation of its members in the construction industry.

Our membership includes over 240 companies, including architects, engineers, contractors, suppliers and related industry firms representing thousands of employees including construction workers, both Hispanic and non-Hispanic. Our membership represents, as I mentioned before, Hispanic and non-Hispanic owners, union and non-union companies, and firms with business interests in both the public sector and private sector projects.

HACIA has recently formed an alliance with OSHA to develop outreach, training and communication to promote a safe working environment for Hispanic workers. HACIA also serves on the State of Illinois Governor`s Panel for Worker Safety, as well as the board of the Construction Safety Council. How are you, Tom?

MR. BRODERICK: Good.

MR. SANTOY: In short, the safety and welfare of all construction workers is of paramount importance to us. Through our work we have found research in the area of construction industry accidents, illnesses and deaths, and their impact upon the Hispanic worker and the Hispanic community. This information is

a valuable tool which not only brings awareness of the issues to the industry, but also provides a system by which to judge the effectiveness of our collective efforts.

HACIA supports the accuracy and soundness of these statistics as provided by various experts and agencies. But their research efforts might be improved by additional tracking of injuries, deaths and illnesses; another layer of investigation, if you will. For example, just to cite some of the more readily-known statistics, in 2002 Latinos accounted for 13 percent of the construction industry population, yet they accounted for 50* percent of occupational fatalities. And again, this is a statistic that is fairly well known among the construction community.

Which leads to the following questions. What was the immigration status of these workers? What was the literacy level of these workers? What was the language proficiency level of these workers, either in English or Spanish? Awareness of these questions and issues is increasing, but these items, when combined with other factors, can lend itself to new areas of research. And again, I just want to repeat that of the three questions that I posed, there has been some work that has been started. There are some studies that we have seen. And again, referencing back to the statistics which allows organizations like HACIA and other organizations to set policies, strategies, programs and services.

And then awareness of these questions can lend itself to new areas of research. How do unreported accidents impact the overall statistics? Is there a difference -- is there a difference in incident rates between labor union members versus non-labor union members? Are incidents under-reported or not reported in cases where the employer or employee is working on small-scale projects or for small companies? These are questions -- these questions are presented to address cases which might be, quote/unquote, off the radar, or that exist independent of traditional reporting regulation and compliance requirements. How different would our statistics be if we accounted for these factors? Is this even possible?

We believe that statistics can influence policy and strategy, and provide a benchmark by which to measure progress. Because of our belief in this regard, HACIA applauds the efforts of NIOSH and NORA for their significant work, and we offer our outreach capacity and advocacy voice to NORA and NIOSH for the purpose of addressing workplace-related injuries, fatalities and illnesses.

I'd like to thank everybody for the opportunity to speak today. I'd be more than happy to answer any questions, and have a great day.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 329.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: Good afternoon. My name is Rashad Johnson. I'm with the Mason Contractors Association of America. I'd first like to start off by thanking both NORA and NIOSH for the opportunity to speak. I apologize, I do not have anything written and ready, as some of my counterparts. However, I felt passionate enough to sit up here and talk to you all, so bear with me.

Again, as I stated before, I'm with the Mason Contractors Association of America, and we are a non-profit trade association representing masonry company owners, so we are the management portion. We're concerned with all of the aforementioned topics that were mentioned earlier, such as training, fall protection, hearing loss and protection, silica, musculoskeletal work disorders, and I've actually -- we've actually worked with NIOSH on a lot of these different areas.

The two areas that stick out the most and are of most importance to our organization at this point in time would be silica and musculoskeletal work disorders.

As it pertains to silica, as already and previously noted, there's been quite a bit of research done that represents and talks about the actual exposure limits and what they should be. What I'd like to see is practical research done. What I mean by practical research is giving someone a limit to reach, but actually telling them how to get there. And we've -- some of the other people have talked about the control banding ideas, some of the ideas of a best practices, something that says what works in order to make these exposure limits feasible.

For example, when I say feasible and practical, those are the big words there. It's one thing to say hey, you should wet cut. It's another thing to understand that you can't wet cut today in Chicago on a scaffold. It's not going to happen. You need to be able to give some practical -- practical research when it comes to some of these things.

Some of the controls, there's tons of research that says that these particular action items are higher than the permissible exposure limit, but very little on the controls. We'd like to know, from a management point of view, what works. Which of these controls are going to give us the maximum amount of protection for our workers such that when we are out doing things and trying to protect our workers we know to stay away from certain things or -- or certain controls are much better than others as it pertains to safety.

A lot of the research that I've seen, and I've been working with some of the NIOSH people on the silica issue, and there are a lot of research done on -- on five or six major topics. But as I found out the hard way, and I'm sure all you all might know, too, the world is beyond masonry and concrete. There's a whole lot of silica in construction that's not necessarily related to masonry and concrete materials. And what we're finding is that a lot of those areas don't have research and don't have the same exposure, so to speak, as the high -- the high profile ones, the concrete and masonry. So I'd like to see some research done on some of those other -- some of those other things than masonry -- in construction in general. What I mean by that are different alternate materials that might have silica content, some -- some of the actual things that they do on construction sites, such as mixing mortars that might have something to do with silica and respirable silica that really don't have very much research done.

And then, again, we talked about the control banding idea, the idea of actually putting something in writing, giving guidance to the person reading it, letting them know that if I do this, I do this, I do this, then I will be below the exposure limits. And make it real plain, real easy to read. I don't have to do any monitoring. I don't have to do any testing. We know from monitoring and testing that these are the controls, whether it's respiratory protection or engineered controls, et cetera. These are the controls that if you do with these particular tasks will make sure that we're providing the level of safety that you need for your workers. That idea is not -- nothing -- is not anything foreign, and it should be something that should be investigated a lot more by NORA and NIOSH.

Comment ID: 329.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The second big topic that I'd like to discuss from the mason industry is musculoskeletal work disorders. When everyone talks about musculoskeletal work disorders or ergonomics -- that's the fancy word for ergonomics is what I call it -- and construction, realistically they're talking about masonry industry. Why do I say that? We are the industry that has the heavy materials that are manually lifted. We are the industry that has a lot of the back problems, the musculoskeletal orders (sic), et cetera. So when I hear about things such as all of these musculoskeletal disorders as it pertains to construction, we take it very personally because they're talking about the masonry industry. I would imagine that the majority of these injuries happen in our industry, and we're looking for ways to help our workers, as earlier stated, because we don't want to have to incur the cost of people hurt. And everyone knows those are not inexpensive things. But -- but again, I'd like to see some practical research.

And what I mean by practical research is the effects of smaller cement bags. If it's not a 90-pound bag, what is 45-pound bag going to do? From a productivity point of view, it might not change. But if it'll help us in terms of keeping our workers safe, then I'd like to see some research on that, focused on ways to work smarter. I don't know that there's going to be very many mechanical solutions to musculoskeletal disorders. And if there are, chances are a lot of people in the construction industry will fight it. I've seen some of the things in Europe that talk about machines laying brick and machines laying block. That's not a practical solution as far as I'm concerned, so I'd like to see money spent on practical solutions to help us protect our workers.

Thank you for all of your time. Thank you all for listening, and again, appreciate the opportunity to speak.

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 330.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Verbal Comment 2005/12/19: I wouldn't consider myself a panelist. I'm Jim O'Connor with the mason contractors here locally. I have no formal training and no letters after my name, but on a labor -- I used to be a laborer, and for a laborer's standpoint, I'll kind of address this on some common sense issues I sat and listened to. And I hear a lot of folks that know a lot more about this than me talking about training, training, training. And one of the training might be to teach people how to speak English. I know a lot of labor's -- labor's union has already gone and done that. That might be a quick way to address some of the problems is let's have an English class for some folks. Then we won't have to go through the problem of translation and all those other things. And that's -- again, it's a -- laymen's terms looking at what you guys have talked about and ladies have spoke of.

Comment ID: 330.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Another issue that's drawing my heart is personal responsibility. And some of the responsibility, I believe, needs to go to the actual worker who has been able and paid to go to training, gone and taken the training, and then refused to wear the glasses or refused to wear the safety helmet. And if it is proven that this person has gone through X amount of classes and goes ahead and does not follow the rules, that maybe that person could receive a 20th of the fine that the contractor does. And if we're truly trying to affect a safe workplace, why not make the person who's causing the problem address it in his head that hey, this is going to cost me? And I don't see anything wrong with it. Again, I'm a layman and I'm asking. I'm not telling you what to do, but I certainly think that if it was a \$25 fine and the laborer or the brick layer or the steel worker said, you know, last time I got hit for this; I'm not going to do it again, that essentially affects a safer workplace. And it doesn't have to be a terribly huge monetary cost to the worker 'cause obviously he's not making as much as the contractor. But if it does what we're trying to get done, why don't we do it?

Comment ID: 330.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Partners

Categorized comment or partial comment:

For silica, I know it's a problem, I know it's been proven to be a problem. And Tom has talked about it in a confined space where people are drilling and there's no air. Most of our contracts, and there are a lot that they're in, but a lot of them are out on walls where there is wind blowing and there's less likelihood of getting -- getting the PEL as high as you would in a tunnel. What I would like to see, and I'm sure the unions have the information, I would like to see a polling of all the unions to see -- if someone breaks a leg, I assume when they write the check to the insurance company or they write the check to the hospital, it'll say why that check is being written, broken limb, broken back, back injury, silica -- how many people have truly been affected by silica or are we really on a witch hunt? And I don't know, and I'd like to know and I think our people would like to know. And again, I'm a layman and I see a lot of people shaking their heads, so you can beat me up outside.

Comment ID: 330.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Etiological research

Partners

Categorized comment or partial comment:

But another thing that I was interested in was substance abuse is something that nobody talked about and sometimes we have difficulty getting that in our contracts. And I would like to know any of these accidents -- how many of them have been involved with substance abuse, 'cause there's post-accident testing on a whole lot of folks, and I don't think that data -- I don't know if it can be released, but I don't think that data's ever been released. So if we've got 25 falls, was one of them, was two of them, were three of them where someone had traces of substances that he shouldn't have had on the job? And are we blaming the wrong person all the time? And that -- I don't know. Again, I apologize, 'cause you guys are all professionals and I'm -- but this just seems like common sense stuff to me, so...

Note: Verbal testimony provided to NORA Town Hall meeting in Chicago, IL, 2005/12/19

Comment ID: 331.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Dermal disease

Infectious diseases

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Exposure assessment

Personal protective equipment

Partners

Categorized comment or partial comment:

) Glove safety should be further evaluated: gloves have been evaluated for barriers to bacteria, but what about being barriers to viruses and prions?

2) Alcohol hand-sanitizing gel: what is the absorption amount of alcohol thru the skin or inhaled, when the gel is used repeatedly--such as in a Neonatal ICU during a 12 hour shift? (alcohol is a neurotoxic substance.) Does alcohol gel use result in skin colonization with resistant bacteria or fungi?

3) how much body fluids and resistant bacteria/viruses do healthcare workers take home with them when they wash their workclothes at home?

How much contamination occurs to their cars, coats, washers/dyers, etc.?

Comment ID: 332.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Hearing conservation in children needs to be addressed from a regulatory and research standpoint.

Comment ID: 333.01

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

I am uncomfortable with the "industrial sector" approach to identifying research needs in occupational health. In order to control the large issues that cut across industrial sectors we need a better understanding of how work influences musculoskeletal disorders (a major issue for industry). I can not understand how efforts led by a sector can improve our understanding of causality and intervention effectiveness.

Comment ID: 333.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Musculoskeletal disorders (MSDs) remain the number one reason why people miss work. Given the rapidly rising cost of health care they will continue to plague most occupations and contribute to lost time, lost productivity, and reduced quality control. It is unclear how the NORA plan can possibly impact this problem. A better thought through approach to controlling MSDs needs to be considered.

Comment ID: 334.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities
Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles
Violence

Approaches

Partners

law enforcement agencies

Categorized comment or partial comment:

Are law enforcement agencies invited to townhall meetings? I would think they have observations on some areas of interest, such as workplace violence or highway/transpotation accidents. In addition to suggestions for research, law enforcement may also have sources of funding for research.

Comment ID: 335.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I am urging you to conduct a study on the risk of cancer faced by firefighters.

In 2004, the Bloomberg School of Public Health at Johns Hopkins University conducted a study called, An Occupational Health Investigation of Cancer Among Firefighters in Anne Arundel County, Maryland. Researchers completed a 10 month investigation to determine if cancers diagnosed among a group of Anne Arundel County firefighters could have been caused by smoke inhaled during training. The investigation was conducted at the request of the Maryland Department of Health and Mental Hygiene. The study concluded that compared to the general public, firefighters with greater exposure to fires have higher risks of cancer. However, they were unable to identify the specific risk firefighters have for cancer and other diseases. Additional research, including a formal epidemiological study, was recommended.

There are over a million firefighters across America. Cancer rates among firefighters is an issue of national significance. Senator Barbara Mikulski of Maryland, State and local officials believe further research is essential on this issue for our community public safety servants.

Comment ID: 336.01

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

The only drawback will be the time from input until the time of implementation.

Comment ID: 336.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Exposures

Cardiovascular disease

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

I was interested in finding guidelines for acquiring AED (Automated External Defibrillators). I am asking NIOSH to establish guidelines as to:

Number of Employees vs Number of AED.

Recommendations as to what industries should carry them.

The basic requirements of the unit.

Comment ID: 337.01

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Personal protective equipment

Training

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

I am concerned about the exposure of both customer and employee at Nail Salons. I do not think sufficient studies have been done in Nail Salons. I know the chemicals of interest are Methyl Methacrylate monomers and Ethyl Methacrylate. The only protection I see is the use of paper mask and no apparent ventilation in shops I have seen. I am asking that NIOSH do exposure monitoring, education to those minorities who are nail techs, and implement engineering controls in this service industry sector.

Comment ID: 338.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Authoritative recommendation

Marketing/dissemination

Capacity building

Partners

Occupational Health Disaster Expert Network

Categorized comment or partial comment:

"I am writing to express support for OHDEN, the Occupational Health Disaster Expert Network. Established under a Presidential Directive for Homeland Security for critical infrastructure protection OHDEN has a prototype webportal to assist IHs, docs, nurses and other EHS professionals plan and respond to natural and man made terror disasters.

NORA is seeking information on important occupational safety and health issues, such as: diseases, injuries, exposures, populations at risk, and needs of the occupational safety and health system. Input is also requested on the types of research and partners needed to make a difference. The following types of information may help identify the areas where new research will make the greatest contributions to preventing work-related injuries, illnesses, and deaths:

Numbers of workers at risk

Seriousness of the issue

Probability that new information and approaches will make a difference.

The entire US workforce is at risk. The seriousness is that most businesses close and do not reopen after disasters and the US needs to improve on this record in the future with likely climate change related disasters and terror. Recent events with Katrina and current activities within OHDEN to assist for a pandemic influenza outbreak are examples of where information and resources need to be coordinated for effective foresight and governance for such issues. OHDEN is a very good answer but financial and

technical resources are needed to support OHDEN. This is too important for volunteerism alone and something NORA should consider a priority. "

Comment ID: 339.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

MSDs remain the number one reason why people miss work and occur across industry sectors. Given the one "catch-all" category for MSDs and every other OH&S issue that affects more than one industry sector, there is a chance for MSDs to become a marginalized or altogether overlooked research area. With the rapidly rising cost of health care, MSDs will continue to occur in all industry sectors and contribute to lost time, productivity, reduced work quality, reduced work quality of life and increased costs. With such a far-reaching impact, we need to maintain a specific focus on MSDs in NORA2.

Comment ID: 340.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

My concern with the sector-based approach is that issues common to many industries will not be represented comprehensively or in-line with their importance and criticality. For example, musculoskeletal disorders continue to be a large problem across most industries I work in. How will this research agenda address MSD causation?

Comment ID: 340.02

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

How to accommodate the aging workforce is one issue I constantly hear about from my frequent interactions with this industry. The numbers of individuals in this category will only continue to grow over the next decade.

Comment ID: 341.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Services
- Transportation, Warehousing and Utilities
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Radiation (ionizing and non-ionizing)

Approaches

- Exposure assessment

Partners

- American Association of Radon Scientists and Technologists; EPA

Categorized comment or partial comment:

I strongly encourage NIOSH to examine the workplace exposure of a wide variety of workers to radon and radon decay products. Residential exposure is responsible for about 21,000 lung cancer deaths per year in the U.S. Other than underground miners, we have either no or insufficient exposure data for other workers such as those in water plants, fish hatcheries, phosphate plants, utility and subway tunnels, oil refineries, and those who work in spaces in ground contact (plumbers, heating service personnel, radon mitigators). I encourage NIOSH to work with the American Association of Radon Scientists and Technologists (I am President-Elect) and EPA on this issue. Thank you.

Comment ID: 342.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Exposures

Motor vehicles

Approaches

Training

Partners

Categorized comment or partial comment:

Young people are helping with very few educational programs pertaining to # to be on a tractor.

Comment ID: 342.02

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Unspecified

Population

Disability

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Many facilities in my area (Iowa) are NOT handicap accessible nor have bathrooms to allow for wheelchairs! Health care facilities!! Don't they need to accommodate?

Comment ID: 344.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Training

Economics

Capacity building

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

My number one concern is Ergonomics-Specifically Wrist-Carpul Tunnel, Shoulder-Rotator cuff, and low back strains. Somehow we have to aid manufacturing companies with money and/or education for this problem. Engineers continue to exclude ergo principles when designing. Lack of Safety input and lack of wanting to spend money to alleviate big problelms later on.

Comment ID: 344.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment

Partners

Categorized comment or partial comment:

Number two concern is Slip, trip, and falls. Lack of good flooring and Anti-slip shoes.

Comment ID: 344.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Number three concern is Machine/conveyor guarding. How are manufactures getting away with making equipment that is not properly guarded?

Comment ID: 344.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Number four is funding for more Safety training for companies.

Comment ID: 345.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Small business

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Training

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The meat and poultry processing industry has taken many great strides in an attempt to reduce the number of injuries related to repetitive tasks that workers are forced to perform. More ergonomic equipment has been designed for worker comfort and safety. Increased training efforts have been put into place by companies to avoid injuries and give workers the opportunity to become more knowledgeable about their working environments. Better personal protective equipment has also been utilized to protect workers from various injuries related to slips and falls, mechanized equipment, cutting tools, loud noise areas, etc. The industry is working together to share innovations and ideas in the area of worker safety so improvements benefit all at-risk employees. The number of injuries/illnesses continues to decline yearly.

Since members of the American Association of Meat Processors (AAMP) are mainly small and very small processors, it would be beneficial to have continued research in products and implementation strategies for small operations that are not costly or cumbersome to put into place. These plants may not have the financial resources to provide the "top-of-the-line" equipment and facilities, but they are very conscious of the dangers surrounding the industry and importance of a safe working environment. Many times in small plants, the same employee is responsible for several of the slaughter/processing steps, so it is not

an option to simply rotate the work tasks. There is a need to continue designing affordable processing/slaughter equipment as well as personal protective equipment for the small and very small processors. Additionally, training materials or guidelines designed for these types would be helpful when communicating safety messages and improving the safety of a facility.

Employers need healthy and safe workers in their plants to ensure their businesses are meeting the desired goals and production levels. It is to their benefit to provide plant employees with appropriate training, equipment, and working environments. Routine re-evaluations and educational sessions on safety in the workplace give plants an opportunity to determine if their safety program is satisfactory. Safety is a priority, and employers take pride in having safe establishments for themselves and their employees, especially small operators who only have a few people working in their plant.

AAMP is an international organization whose members include meat and poultry processors, slaughterers, caterers, food service companies, wholesalers, retailers, suppliers, and consultants to the meat and poultry industry. There are 33 state, regional, and provincial associations of meat processors that are also affiliated with the Association.

Sincerely,

Andrea H. Brown

Director of Legislative and Regulatory Affairs

American Association of Meat Processors

Comment ID: 346.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Cancer

Reproductive

Cardiovascular disease

Neurological effect/mental health

Renal disease

Hearing loss

Immune disease

Dermal disease

Infectious diseases

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Mortality

Exposures

Cardiovascular disease

Approaches

Surveillance

Authoritative recommendation

Capacity building

Partners

OSHA, BLS, state and local surveillance partners

Categorized comment or partial comment:

Remarks from John P. Sestito

NIOSH Hamilton Laboratory, Cincinnati, Ohio

February 23, 2006

I offer the following thoughts for the ongoing support of occupational surveillance generally, and occupational disease surveillance specifically. Occupational surveillance lacks the prominence of a

Sector or Cross-sector program within the National Institute for Occupational Safety and Health (NIOSH) Program Portfolio structure. So, as NIOSH moves forward under the Program Portfolio framework, NIOSH leadership should be mindful of the importance of injury, illness, hazard, and exposure surveillance data for establishing research agendas, making judgments about research priorities, and developing program performance metrics. Many of my remarks speak to disease surveillance, but are generally applicable to occupational surveillance.

Surveillance defined. Surveillance is the collection, analysis, interpretation, and dissemination of data describing a health related event, exposure, or hazard. Surveillance is critical to effective occupational safety and health programs. It enables decision-makers to identify the problem and the affected group of workers. Surveillance also describes the magnitude and severity of an issue, and assesses progress made in reducing the burden of occupational injuries and illnesses. As a result, surveillance programs create added value by establishing baseline and trend data, assisting in priority-setting and providing information to guide research, interventions, control, or prevention.

Congressional oversight in the 1980s. In passing the Occupational Safety and Health Act of 1970 (OSH Act) [29 USC § 651 et seq.], Congress mandated extensive authority to the Secretaries of Labor and Health and Human Services to develop regulations requiring employers to record and report occupational illness, to conduct medical examinations, and to notify employees of clinically significant results [29 USC §§ 655(d)(7), 657(c) and (g), and § 669(a)(5)]. In addition, the OSH Act requires the Secretary of Labor to "compile accurate statistics on work injuries and illnesses which shall include all disabling, serious, or significant injuries, and illnesses, whether or not involving loss of time from work." [20 USC § 673(a).] This authority has been delegated to the Bureau of Labor Statistics (BLS). Unfortunately, much of this broad authority remains unused.

Accurate and reliable data on occupational disease is essential for informed public policy decisions, employer and employee awareness of health problems, and employers' ability to correct harmful working conditions. Congress recognized the importance of good information systems when it passed the Occupational Safety and Health Act of 1970 (OSH Act) [29 USC § 651 et seq.] Today, 35 years after its passage, the state of present national disease surveillance systems is - as described by Dr. J. Donald Millar, the former Director of the National Institute of Occupational Safety and Health (NIOSH) - "90 years behind...[surveillance] of communicable disease." No reliable national estimates exist today, with the exception of a limited number of substance specific studies (such as on asbestos), on the level of occupational disease, cancer, disability, or deaths. It cannot be meaningfully determined if diseases from chronic exposures to hazardous substances represent a greater problem today than when the OSH Act was passed in 1970. The lack of complete, reliable, and accurate injury and illness data greatly hampers any broad-based evaluation of the occupational safety and health programs, and threatens the statistical foundations for the current NIOSH Program Portfolio of Sector and Cross-sector research. Furthermore, the existing data from employer logs, used in BLS's Annual Survey, are generally viewed as unreliable and under-report occupational disease.

Accurate and reliable data on occupational disease is essential. For public policy, these data assist the Occupational Safety and Health Administration (OSHA) and NIOSH in setting and revising health standards under § 6 of the OSH Act, as well as setting enforcement and research priorities. The early reporting of disease causing exposures to vinyl chloride and kepone heightened the public awareness of previously undisclosed dangers of occupational exposures. Occupational disease information is also essential to employees and employers in alerting them to disease patterns as early as they become

clinically significant. This is particularly important to the health of the worker, and is also significant to the employer who can take corrective action and understand the full economic cost of doing business.

BLS's ability to implement an occupational disease statistics program is hampered by the nature of occupational disease study, where expertise in epidemiology and occupational medicine is required. If the purposes of the OSH Act are to be achieved - if effective measures of prevention of occupational disease through elimination of hazards in the workplace are to be developed, and the effectiveness of these programs is to be evaluated - NIOSH must find solutions to the problems of obtaining adequate data on occupational diseases.

Future Directions and Challenges for NIOSH

Many of the following comments reflect the ongoing national dialogue on developing and improving the nation's occupational surveillance. The major "bullets" are distilled from the work of the NIOSH NORA Surveillance Research Methods Team.

- NIOSH must maintain a strong national surveillance program to establish priorities. Future surveillance should (1) maintain ongoing surveillance and disseminate of surveillance data as guided by the NIOSH Surveillance Strategic Plan, and (2) respond to emerging occupational health and hazard issues.

Problem: Federal surveillance of occupational disease is fragmented among many agencies; i.e., NIOSH, NCHS, NCI, SSA, and CDC. The current activities of these federal agencies do not assure the nation's workers access to comprehensive occupational surveillance data in the United States.

Comment: Comprehensive information for occupational disease, disability, and mortality is needed to (1) develop effective measures of prevention of occupational disease through elimination of hazards in the workplace, and (2) evaluate the effectiveness of these programs. The one agency which focuses on the surveillance of occupational disease is NIOSH. NIOSH has long-standing expertise both in the study of occupational disease and in focusing research toward better a understanding of the etiological association between disease and workplace hazards and exposures. NIOSH is well-equipped to take on the central role and responsibility for the ongoing collection, analysis, interpretation, dissemination and use occupational disease statistics.

Problem: No reliable national estimates exist today on the magnitude and trend of occupational cancer, disability, and mortality.

Comment: It cannot be meaningfully determined if diseases from chronic exposures to hazardous substances represent a greater problem today than when the OSH Act was passed in 1970. State and local mortality, cancer incidence, and disability data have significant potential as data elements within a comprehensive surveillance system for occupational disease. Such data have yet to realize their potential because of incomplete or inconsistent data collection through local and State-level data sources, insufficient resources to support State and local agencies to collect or compile these data, as well as limited and inconsistent coding and classification of employer\employment (i.e. SIC or NAICS codes) and occupation (Census occupational titles and codes) information.

Problem: Employers are unable to record, and thus report, many chronic and latent occupational diseases.

Comment: Employee and household surveys are excellent alternative sources of data on the prevalence of disease in working populations. The National Health Interview Survey (NHIS) was adapted in 1988 for occupational surveillance purposes, gathering a wide range of occupational health and safety data. Medical examinations provide more accurate methods for determining occupational disease, disease precursors, and biomarkers. The National Health and Nutrition Examination Survey (NHANES) is used by CDC to gather a wide range of population demographic and health data. The NHANES could be adapted to monitor the population for selected occupational conditions and exposure measures.

Problem: BLS surveys of nonfatal occupational illnesses are unable to identify or report diseases with a long latent period. There is no adequate evaluation of the extent of under-recognition, under-reporting, or over-reporting of nonfatal occupational injuries and illnesses.

Comment: NIOSH should establish a dialogue with our federal partners, OSHA and BLS, on the feasibility of undertaking a comprehensive Quality Assurance Program on the OSHA logs. This dialogue should explore options to assess the accuracy and reliability of employer logs and the differences, if any, in levels of occupational disease as found in medical records, the OSHA logs, the Annual Survey forms, and employee surveys. NIOSH should provide epidemiologic, industrial hygiene, medical consultation and other assistance as needed. Such efforts could be expanded to general recordkeeping and reporting for nonfatal injuries. As possible collaborators in such a program, NIOSH's state-based surveillance partners have significant experience in state-level data sources. These data sources should be explored to better understand disease under-reporting.

- NIOSH should support new program initiatives and projects to develop and adapt methods for state and non-governmental partners. New surveillance programs and research methods are advocated in the NIOSH surveillance strategic plan, as well as the reports of NORA research priorities for cancer, emerging technologies, exposure assessment methods, musculoskeletal disorders, traumatic injury, reproductive outcomes, and workplace organization factors.

- NIOSH should link the results from state-level surveillance to intervention and prevention activities. This could produce significant improvements in occupational safety and health. Recent evaluation and planning activities reinforce the importance of expanding and enhancing state-based occupational surveillance.

- NIOSH should advocate an expanded surveillance research program that focuses upon smaller employment establishments in a private sector surveillance research initiative. An estimated 7 million private sector establishments employed 115 million workers in 2001. Establishments with 19 or fewer employees accounted for 85.7% of all workplaces, but only 24.1% of all employees. Establishments with 100 or more employees accounted for only 0.7% of all workplaces, but over 46.8% of all employees.

- NIOSH should establish Collaborating Surveillance Research Centers of Excellence to guide the development of surveillance to prevention practices including new R & D teams that harness the strengths of occupational health researchers, non-government organizations, insurance carriers, and public health agencies. Specific activities within the Centers should include (1) providing technical assistance and consultation with respect to developing and evaluating occupational surveillance methods; (2) establishing outreach programs to identify specific methodological and research needs, evaluate occupational surveillance follow-up methodologies, and develop and evaluate innovative strategies for improving the quality and utility of surveillance data; and (3) expanding surveillance and surveillance research that focuses on smaller scale employment establishments.

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Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Neurological effect/mental health

Hearing loss

Immune disease

Dermal disease

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Heat/cold

Noise/vibration

Approaches

Surveillance

Etiological research

Engineering and administrative control/banding

Personal protective equipment

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

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Docket NIOSH-047

Robert A. Taft Laboratories (C-34)

4676 Columbia Parkway

Cincinnati, OH 45226

Tuesday, February 21, 2006

Dear NIOSH and NORA,

Health and safety risks in fresh fruit and vegetable packaging and processing industries across the United States include ergonomic, musculoskeletal injuries, accidents, chemical exposures, noise and stress. Agricultural workers, most of whom are Hispanic and/or female, need a safe and fair workplace. Research is needed to reduce hazards and improve conditions in the warehouses.

Thank you for the opportunity to submit comments on the National Occupational Research Agenda (NORA). I am a public health biocultural anthropologist at the University of Washington. I have been working on occupational health and safety issues in the fresh fruit warehouses in Washington State since 1997. This research was supported by the National Institute for Occupational Safety and Health (NIOSH), Pacific Northwest Agricultural Safety and Health Center Grant #U07/CCU 012926-02, the University of Washington Field Research and Consultation Group, and the Department of Anthropology.

This comment will describe the number of people affected, the current (limited) research on health and safety hazards, and specific information on occupational risks in the apple warehouses of the Pacific Northwest. It concludes that additional research on the workplace will help identify the scope of the problem and assist packing houses to reduce the risks for workers.

Packing houses, warehouses, packing sheds, canneries, and other fruit and vegetable packaging and processing plants employ thousands of workers throughout the year, all over the country. This work is often classified as 115114 Postharvest Crop Activities - this U.S. industry comprises establishments primarily engaged in performing services on crops, subsequent to their harvest, with the intent of preparing them for market or further processing (U.S. Bureau of the Census). These establishments provide postharvest activities, such as crop cleaning, sun drying, shelling, fumigating, curing, sorting, grading, packing, and cooling. The U.S. Bureau of Labor Statistics lists over 45,000 employed in the 45-2041 Graders and Sorters, Agricultural Products category (Bureau of Labor Statistics 2004). However, many if not most fresh food packing and sorting workers are part-time and temporary, interspersing warehouse work with field work or other agricultural work throughout the year. Thus, the actual number of people working in fresh fruit or vegetable packing houses, processing warehouses or canneries is much higher.

Furthermore, statistics from one industry in Washington State show that these numbers are huge underestimates of the number of people working in warehouses. Washington State is the leading producer of apples in the nation (Washington Agricultural Statistics Service 1999). More than half of the apples grown for fresh eating in the United States come from Washington State (Washington Agricultural Statistics Service 1999; Washington Apple Commission 2000). This billion-dollar industry

produces over three million tons of fresh apples for the domestic and export markets each year (Washington Agricultural Statistics Service 1993; Washington Agricultural Statistics Service 1997; Washington Agricultural Statistics Service 1999). There are about 4,000 growers and an estimated 41,000 people working in the apple industry including packing houses (U.S. Bureau of the Census 1994). This is about the same number of people as the Bureau of Labor Statistics estimates for the whole United States.

NIOSH has noted that women make up a significant part of the U.S. workforce but that health and safety issues specific to women have not been researched and addressed as they should. Women make up the majority of packing house workers. Jobs in fresh fruit and vegetable warehouses are generally segregated by gender. Women tend to be packers and sorters. Almost all forklift operators are men. Inspectors and supervisors may be male or female, though women generally hold supervisory positions on the warehouse floor, while men control the overall operations of the warehouse. Female majority jobs, such as packer, sorter and housekeeper average considerably less than comparable non-skilled labor for males, such as forklift operator (\$6.72/hour vs. \$8.77/hour in Yakima County, Washington in 1995).

There has been limited reported research on health and safety conditions in the packing houses. The literature contains some information on conditions in meat and poultry packing houses, fish processing plants, the sugar processing industry, and for pear and apple orchard workers (Cherniuk et al. 1989; Chiang et al. 1993; Jacobs and Smith 1988; Kurppa et al. 1991; Manuaba 1995; Sakakibara et al. 1993; Sinks et al. 1987). Sakakibara et. al. (1995) identified musculoskeletal disorders in the neck and shoulders from bagging pears and apples. Cherniuk et. al. (1989) found neuromuscular strain in female sugar beet sorters. Carbon monoxide in warehouses is a concern (Ely, Moorehead, and Haponik 1995; Fawcett et al. 1992; McCammon, McKenzie, and Heinzman 1996), due to the use of propane-fueled forklifts in enclosed spaces. There have also been a few studies on ergonomic strains to the back and hands from warehouse work (Gagnon and Smyth 1991; Keyserling et al. 1993; Kuorinka, Lortie, and Gautreau 1994; Studman 1998). Messing has investigated disparities in occupational injuries related to the division of labor by gender, but has not looked specifically at agricultural labor (Messing 1998). There is a dearth of information on occupational hazards and injuries to Hispanic workers.

Fruit and vegetable packing was among the top 5 industries for gradual onset upper extremity disorders in Washington State workers compensation claims between 1989 and 1996 (Silverstein and Kalat 1998). A study of work-related disorders of the back and upper extremities ranked the fruit and vegetable packing industry as 10th in Washington State for frequency of all upper extremity disorders, and 6th for those injuries with gradual onset (Silverstein and Kalat 1998). The fruit and vegetable packing industry had 2.3 times the overall industry rate for all upper extremity disorders and 3.0 times the rate for gradual onset upper extremity disorders. The Department of Labor and Industries developed a Prevention Index (PI) to combine information about the frequency of cases within an industry and the relative risk for workers in that industry compared to all other industries combined. For all gradual onset upper extremity disorders, fruit and vegetable packing ranked 6th on the basis of frequency and 40th on the basis of relative risk. It ranked 5th on the prevention index (PI = 23.0). Similarly, fruit and vegetable packing ranked 12th overall for gradual onset shoulder disorders, 10th for gradual onset elbow disorders, 3rd for gradual onset hand / wrist disorders, 19th for rotator cuff syndrome (shoulder), and 16th for epicondylitis (elbow). Clearly, this industry, which includes apple warehouses, requires further investigation and intervention to reduce work-related injuries.

In the period from July 1994 to July 1995, three occupational groupings accounted for 57 percent of the unemployment insurance claims filed in Yakima County. They were agriculture (32 percent), processing jobs (12 percent) and packing and material handling (14 percent), all of which are based in the agricultural economy (Labor Market and Economic Analysis Branch 1997).

Between 1997 and 1999, I conducted a study of the perceptions of workplace health and safety risks among female Hispanic apple packing house workers in eastern Washington State. Sixty-nine workers were interviewed using a combination of quantitative and qualitative research methods. In addition, I worked with the University of Washington Field Research and Consultation Group on a study of musculoskeletal hazards in several apple packing houses. The following data come from these studies. The quotations are taken from the interviews with warehouse workers. More details regarding data collection can be found in Snyder 2001.

Most of the problems of apple warehouse work relate to the physical labor involved in sorting and packing fresh apples. Repetitive motions, heavy lifting and awkward positions are examples of the problems identified by the Field Group (Simcox et al. 2001). In addition, many workers complain about exposure to the chemicals used to clean the apples, pesticides applied to the apples in the orchard, and waxes applied to preserve shelf-life of fresh apples (Teamsters / United for Change 1997b).

There is very little published research on chemical induced illnesses in warehouses. Many workers whom I interviewed mentioned skin rashes, watery or itchy eyes, congested nasal passages, and "allergies" resulting from exposure to these irritants. One participant told me,

"The dust makes me sneeze all day. It plugs my sinuses. It is allergies from working there a long time. It is the same in [all the areas of the warehouse]... There are many working there and they say all that stink goes into the lungs. Right now we sneeze with the allergies." DOC 331

In addition, some warehouses are very noisy, due to the large amount of machinery in use. Noise levels are of concern to management as well as workers. Some workers wear ear plugs, but personal protection devices have their own problems, since workers cannot hear if they are spoken to.

Warehouses are often too hot or too cold, as well. In general, warehouses are large buildings on cement floors with little heating. The apples need to be at cool temperatures, so localized heaters are often used to keep workers warm in winter. In the summer, the metal buildings heat up, and ventilation is a concern of some workers. Temperature control is also a place for management-employee conflicts. In some warehouses, temperature control is principally a matter of opening or closing exterior doors. Some workers mentioned difficulties with supervisors in maintaining temperatures at which they could work in comfort.

Ventilation is also a major issue for carbon monoxide poisoning. Many warehouses use propane-fueled forklifts to move pallets and crates of apples through the warehouse. In unventilated buildings, carbon monoxide can build up and sicken workers (Associated Press 1997). Some warehouses now use electric forklifts, and others have installed monitors that sound an alarm if carbon monoxide reaches hazardous levels

"They have that carbon monoxide and I think that it is really bad for your health. And the chlorine. It is so strong that your eyes get irritated. We had a meeting about that, because [several] years ago we got really sick. Almost half of the warehouse had to go home because they were so sick. And I was one of them. I thought I was going to have to go to the hospital. We had a meeting about that. We even

talked to the owner and everything. The thing is that, the only thing he said was that, 'You don't like the job, there are jobs everywhere. Go find another job.' I don't think that is right.

Sometimes they open the doors, but sometimes it gets so strong. They have a monitor there. I don't know what the name of the monitor is, but that tells you if it is really high, the carbon monoxide. They open the doors, but still you can smell that really strong. Sometimes we get headaches with that and feel nauseated." DOC 302

Some participants view accidents as an inevitable cause of apple warehouse injuries. And in fact, 45 pound boxes do fall, packing carts tip over, and fingers get caught in machinery. More insidious are the acute injuries that result when well-meaning workers try to prevent boxes of apples from falling and wrench their backs by reaching or grabbing heavy objects with sudden movements. In these cases, workers feel particularly wronged when the employers try to downplay the injury or refuse to pay for treatment. These workers feel that their injury was caused when they were specifically doing something to help the employer, and the consequences should be compensated.

"For me, it is a very fast and hard job. I am not used to it. I don't know how dangerous it is, but when you see people getting hurt, you just wish it does not happen to you." DOC 353

"But still, people are very pressured, and have a lot of work. They get way too many injuries because of what happens. They try to do 10 days of work in one week. They force the people to do a lot of work. It is difficult." DOC 105

"I don't think there is much they can do [to prevent risks] because the risks are there. All they can do about it is let you know, and talk to you about it. And let you know where are the most risks. Other than that, preventing someone from getting hurt, no, anyone can get hurt." DOC 307

In my study, 54 percent of the participants reported a workplace injury or illness (37 out of 69). This is a very high proportion of workers, and cannot be assumed to be the prevalence of injuries and illness for all warehouse workers in Washington State. However, the Field Group survey of musculo-skeletal injuries among male and female workers in three Yakima area warehouses found a prevalence of 70 percent for any problem that occurred in the current job (Simcox et al 2001). The Field Group defined a work-related musculoskeletal injury as one that occurred at least once a week, or lasted one week or more, was not an accident, occurred on the current job, and had affected the worker within the previous year. Based on these criteria, 52 percent of the Field Group sample had experienced an injury. Sixty-two percent of all women surveyed in the Field Group study met these criteria, including 55 percent of all Hispanic women.

There are many avenues for further research urgently needed for the safety and well being of agricultural warehouse workers. Public health and occupational health researchers need to increase research into the unique occupational health issues experienced by female workers, especially packing and sorting fresh fruit and vegetables. In particular, research is needed to understand the scope of illnesses and injuries associated with agricultural warehouse work, including musculoskeletal hazards and the effects of high speed low-paid tasks and the associated stress to workers. In addition, NIOSH funded researchers should work more closely with health care workers in local communities to understand and identify work-related problems. Finally, interventions such as slowing the speed of the conveyer belts, providing mats for standing and to prevent slipping, and ergonomic adjustments of the packing and sorting equipment are urgently needed.

Given the size and importance of the industry, it is critical that health and safety hazards be reduced as much as possible.

Thank you for your consideration,

Karen Snyder, PhD MPH

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Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Surveillance

Engineering and administrative control/banding

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

922160, 922120

Fire, EMS and Law Enforcement personnel are being struck at roadway incidents in greater numbers than ever before. There is no data base except for fatalities. Strategies must be pursued to protect these workers. The motoring public must be educated about the danger these responders face while they work in these hazardous conditions.

Comment ID: 349.01

Categorized with the following terms:

Sectors

- Construction
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance

Partners

Categorized comment or partial comment:

A concerted effort is needed to develop an occupational exposure database across all industry sectors. The NIOSH NOES database contains information on potential exposures that existed 25 years ago. While resources to update this database would probably be prohibited without special congressional funding, its a high enough priority for NIOSH to be proactive in seeking existing exposure data from industry. I`m aware of NIOSH`s effort to work with the AIHA to seek such information; however, additional sources of exposure information need to be investigated. For example, within DOD a number of the armed forces and others have developed exposure databases. The NAVY has a large database that contains exposure and job information collected on workers involved in ship building and repair. Likewise, the Insurance Company`s have exposure information, although not well organized, that might be of value in identifying populations at risk. Also, many of the States that have their own OSHA programs have developed exposure databases similar to OSHA`s IMIS database. Exposure data is critical for establishing research priorities and making recommendations.

Comment ID: 350.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

922160 NAICS Code. We need to have the Infra-red spectrum for WMD agents inputted into the SapphIRe portable monitoring instrument. The manufacturer isn't capable of liaoning with the authorized Governmental Homeland Security and CDC groups. This is necessary to provide more specific, rapid identification of these substances without false positives. Thus ensuring improved safety of public emergency response units.

Comment ID: 351.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cardiovascular disease
Neurological effect/mental health
Musculoskeletal disorders
Respiratory disease
Traumatic injuries

Exposures

Cardiovascular disease
Work organization/stress

Approaches

Etiological research
Intervention effectiveness research
Health service delivery

Partners

Categorized comment or partial comment:

Psychosocial/emotional characteristics (including vulnerability to stress, anxiety, and depression) strongly impact pain, injury, and chronic conditions. I hear clients asking for "real world studies using real world interventions in real world workplaces", especially those including stay-at-work/return-to-work interventions that address these issues. Thank you.

Comment ID: 355.01

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Cardiovascular disease

Neurological effect/mental health

Musculoskeletal disorders

Traumatic injuries

Exposures

Cardiovascular disease

Work organization/stress

Work-life issues

Approaches

Etiological research

Exposure assessment

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

NAICS 72

NORA Town Hall Meeting

UCLA Sunset Village Conference Center

February 21, 2006

Future Research / Service Sector: Hotel Room Attendants

Pam Tau Lee, Labor Occupational Health Program, UCB

<ptlee@berkeley.edu>

My name is Pam Tau Lee. I am from the Labor Occupational Health Program at the Center for Occupational and Environmental Health at UC Berkeley. I am here to speak on future research needs to support a public health approach to workplace health and safety for service sector workers.

I have over 20 years of work experience with hotel room attendants, and assisted in directing two recent room attendant health studies in Las Vegas and San Francisco.

In the U.S. there are over 1.5 million workers employed in this industry and the numbers are expected to increase as business continues to improve. Over the past two decades, guest services have increased; twin beds have been replaced by queen and king luxury mattresses; simple bedding by triple sheeting, more pillows, duvets or heavy bed spreads. Bathroom and sleeping quarters have more supplies, amenities and equipment. In a nutshell, the workload for room attendants has increased. But what is the implication for room attendant health?

In two landmark health studies with room attendants conducted by UCSF researcher Dr. Niklas Krause, it was found that:

- workloads have increased, and because of that,
 - 66% of room attendants report that they are unable to take needed rest and recovery breaks.
- health status for room attendants ranged from "fair to poor."
- 40% of room attendants had high blood pressure as compared to the national average of 25%.
- 78% experienced work-related pain or discomfort but only 21% of these room attendants filed formal reports.
 - 46% of the room attendants who took off work for injury or illness got well before returning to work.
- 83% took pain medication in the last 4 weeks.
- vitality and energy was rated low at 36 points for Las Vegas room attendants out of a score of 100, compared to a national average of 61.
- psycho-social indicators such as effort-reward, job strain and job control may be significant indicators for injury.

Dr. Lester Breslow recently published an article "Health Measurement in the Third Era of Health." In this article, he makes the case that health be considered as "a resource for everyday life." Given that 90% of Americans believe that their health is "excellent or good," as opposed to "fair or poor," it is reasonable that future worker health research efforts focus on sectors such as room attendants who currently do not enjoy good health, are working in pain, and lack energy to perform everyday chores. Our experience with room attendants is similar to many other low wage service sectors such as janitors and health care workers. Future research focusing on identifying workplace hazards and effective interventions, can contribute greatly toward improving health for workers in the U.S., especially the most vulnerable such as immigrant workers.

High rates of injury and illness for this sector of workers have implications that go beyond lost days and productivity. Workplace injury, illness and stress interfere with normal, healthy family activities and community engagement. In a developed country such as ours, we should have the resources to prevent these conditions from occurring.

Recommendations for future research include:

1. Comprehensive ergonomic studies that utilize the best and latest technology to measure ergonomic strain.
2. Long term studies that look at health indicators such as blood pressure, diabetes, musculoskeletal strain and other conditions among service workers and room attendants in particular.
3. Studies that measure psycho-social conditions especially job strain, job control, and effort-reward.
4. Workers' compensation and return to work. Vulnerable workers such as low wage immigrant workers are less likely to file for worker compensation. This is further complicated by the fact that there is often no light duty task available for these injured workers, and lack of access to health care.
5. Intervention studies that measure the effectiveness of interventions not only for traditional health and safety injuries and illness but also workload, work organization and psycho-social health.
6. Community based participatory research methods to incorporate those who are directly impacted in the research activities and focus on findings that can contribute toward identification of effective interventions.

Thank you

Comment ID: 356.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

International interaction

Partners

Categorized comment or partial comment:

Increased collaboration with other countries could expedite research progress and optimize results. It could be further facilitated within NIOSH.

Comment ID: 356.02

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction
Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

Categorized comment or partial comment:

Several of the alternative hearing loss prevention programs recent proposed for construction could be adapted to other sectors such as agriculture and transportation. It is important to examine the issue.

Comment ID: 356.03

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Risk assessment methods

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Hearing loss is a common work-related condition in construction. In this sector, exposure to solvents and metals might also be a factor in hearing loss. Initiatives to better understand the risk and prevent it should be sought.

Comment ID: 356.04

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Approaches

Risk assessment methods

Training

Partners

Categorized comment or partial comment:

Hearing loss is a common work-related condition in mining. In this sector, exposure to chemicals might also be a factor in hearing loss. Initiatives to better understand the risk and prevent it should be sought.

Comment ID: 356.05

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Risk assessment methods

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Hearing loss is a common work-related condition in manufacturing. In this sector, exposure to chemicals might also be a factor in hearing loss. Initiatives to better understand the risk and prevent it should be sought.

Comment ID: 356.06

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Risk assessment methods

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Hearing loss is a common work-related condition in transportation. In this sector, exposure to carbon monoxide might also be a factor in hearing loss. Initiatives to better understand the risk and prevent it should be sought.

Comment ID: 356.07

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Risk assessment methods

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Hearing loss is a common work-related condition in agriculture. In this sector, exposure to pesticides might also be a factor in hearing loss. In fishing, there is indication that hearing loss is also common. Initiatives to better understand the risk and prevent it should be sought.

Comment ID: 357.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Thank you for the opportunity to present comments regarding concerns for work-related injuries in the healthcare sector. I would like to direct your attention to the field of diagnostic medical sonography. The professionals of this valuable diagnostic imaging modality include those individuals who practice within the ultrasound division of diagnostic imaging labs, echocardiography departments, vascular labs, perinatal practices and breast imaging centers. They are employed primarily in hospitals or outpatient clinics but also staff mobile services in order to provide services to rural areas or non-ambulatory patients. The profession is not very large, especially when compared to nursing. It is estimated that there are approximately 100,000 sonographers in the United States. However, the incidence of work-related musculoskeletal disorders (WRMSDs) among sonographers is 80%, with 20% suffering career-ending injuries. 1

The use of medical sonography as a diagnostic tool has increased significantly since it became readily available to the medical field in the late 1970's. A Sonographer Benchmark Study performed by the Society of Diagnostic Medical Sonography in 2000 showed a 55.5% increase in the numbers of studies performed per year per sonographers between 1992 and 2000. Furthermore, data provided by a national radiology management and acquisition firm, U.S. Radiology Partners (USRP) that same year indicated that 42% of hospital imaging departments were understaffed in sonography. This same study reported a 71% increase in imaging volume over the prior year. Staffing shortages were perceived to have a direct effect on the quality of care, with 56% of respondents indicating that staffing shortages have diminished the quality of care their departments are able to provide.³ The impact of occupational injury on manpower and access to healthcare by patients requiring ultrasound procedures has been felt and continues to be of growing concern.

The risk factors inherent in the practice of diagnostic medical sonography have been clearly demonstrated to correlate with OSHA-defined risks for WRMSD. Solutions outlined in the Industry Standards for the Prevention of Work-Related Musculoskeletal Disorders in Sonography address feasible control measures related to administrative and engineering controls and best practices. OSHA and the Society of Diagnostic Medical Sonographers (SDMS) signed a formal alliance in Washington, D.C. in October 2004 to reduce and prevent work-related musculoskeletal disorders (WRMSD). Using the Industry Standards as a guide, the alliance goal is to provide SDMS members and others in the medical community with the tools and resources they need to reduce and prevent exposure to work-related musculoskeletal disorders.

Occupational injury in sonography is causing a significant impact to the industry and the workforce in the medical sonography profession. Patient care is being affected because this modality cannot be fully utilized due to lack of staff. This is unnecessary and could easily be avoided with education and the implementation of administrative and engineering controls. NORA has the unique opportunity to facilitate the implementation of functional programs for addressing WRMSD in diagnostic medical sonography. It is my hope that this profession will be considered as a subject of practiced-based research within the NORA program.

Resources:

1. Pike I, Russo A, Berkowitz J, Baker J, Lessoway V. The prevalence of musculoskeletal disorders among diagnostic medical sonographers; JDMS; 13(5); Sept.-Oct. 1997: 219-27.

2. Sonographer Benchmark Survey

3. US Radiology Partners Survey of Hospital Imaging Department Administrators. September 15, 2000. <http://www.usrp.net/survey.html>

4. Industry Standards for the Prevention of Work-Related Musculoskeletal Disorders in Sonography. May 2003. Developed through a consensus conference hosted by the Society of Diagnostic Medical Sonography. www.sdms.org

Comment ID: 358.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

I wanted to put in a good word for continued funding of NIOSH's research into the health effects of RF/EM fields of both low and high frequency. I feel this is a research field that has important implications for business and innovation. At the same time, this is exactly the kind of research that only government can perform with validity as it requires very long term tracking and statistical data gathering and analysis. Please consider continued support for this critical aspect of occupational health and safety. Many thanks.

Comment ID: 359.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

A significant amount of money is spent on work place drug testing programs. Research is needed, however, to determine whether these drug testing programs actually result in reductions in workplace injuries, absenteeism, employee turnover, etc.

Comment ID: 360.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

Research is needed to demonstrate whether or not employer accommodation of work-restrictions (alternate duty) results in faster recovery times, reduced work-comp costs, and less disability. My experience as an Occupational Physician has been that injured workers who are not able to return to work due to non-accommodation of restrictions have longer and more complicated recovery courses.

Comment ID: 362.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Capacity building

Partners

Categorized comment or partial comment:

The following are the full comments regarding the presentation at the NORA Town Hall Meeting in Tampa, FL, on February 13, 2006 on excavation safety. These comments are submitted personally and do not necessarily reflect the views of my employer.

As it is generally known, there are about 60 deaths each year and over 1,000 injuries from excavations. These figures are not estimates but actual reports. As such, it is widely accepted that these figures fail to account for all types of excavation incidents.

Employers who engage in trenching and excavation are expected to comply with OSHA standards at a minimum as well as consensus standards of the industry as a reasonable measure of diligence and be able to document an adequate standard of care to protect against litigation.

The OSHA standards at 29 CFR 1926.650-652 as well as the consensus standard ANSI/ASSE 10.12 are inadequate in many respects in addressing serious issues of compliance with everyday provisions and considerations.

Unfortunately, the ANSI standards failed to address all the concerns of interested parties (not represented in the committee) and instead for all practical purposes, settled in copying the text of the OSHA standard itself. To its credit the 10.12 Committee addressed a few areas of vagueness which helped clarify some issues (Compare for example the Definitions and the requirements for ramps, stairs or runways at 29 CFR 1926.651 (c). where it becomes clearer what a runway is and the slope of adequate ramps is given as guidance to the employer.

After reviewing the OSHA interpretations on the subject, one concludes that these are too general in many cases. Particularly, often OSHA answers that the "competent person" is responsible for and expected to accurately judge the conditions or assessing the risk.

The main issue of concern is the experience, skills, judgment, education and training (the competence) of the "competent person" (CP), who is expected to and entrusted to be the judge, jury and executioner of most options, systems, issues, and problems arising out of the trenching and excavation activities on a busy construction jobsite.

A competent person needs to have only authority and the ability to recognize hazardous conditions. No technical qualifications, prior experience or knowledge of trenching are required for the competent person. The following parts of the standard will illustrate the serious issues raised by this omission:

a. At 1926.651(a), the standard requires the CP to judge accurately whether surface encumbrances and nearby foundations and other buried elements may pose a risk.

b. When are surface encumbrances so located that they pose a hazard to employees? What combination of depth and proximity makes such an encumbrance a hazard? At what degree of probability is such a risk going to be addressed?

c. 1926.651(i)(1) addresses adjoining structures. What guidance does the CP have for judging that adjoining structures are too close and would be adversely affected by the excavation? At what distance is a structure 'adjoining'?

d. 651(i)(2) If excavating below the level of the base or footing of a foundation or retaining wall (while not supported or dug in stable rock) is NOT IN EVERY CASE expected to pose a hazard to employees in the trench, then what guidance is there for deciding when it COULD BE REASONABLY EXPECTED to pose a hazard to employees. Note that when not supported or dug in stable rock, the standard requires a registered professional engineer to make the determination that the REASONABLY EXPECTED hazard does not after all pose a hazard to employees?

e. At 1926.651 (c) (1)(i) competent person is permitted and required to direct or install stairs, ramps, and runways, but no guidance is provided through optional designs, and no requirement that the "competent" person has experience in the construction or installation of these systems is provided for in the standards. When does the CP decide to use a structural ramp (made of steel or wood) rather than an earthen ramp? What factor of safety, compressive strength, maximum slope, and other specifications are there to guide such a design?

Another issue beyond the capability or training of the average "competent person" is the requirement from App B that the CP judge how less steep a slope should be in response to surcharge loads from equipment or materials near the edge in App B (c) (3) (ii).

The competent person is expected to accurately classify soils. There are several problems with this concept.

a. OSHA provides a reference to the USDA textural classification system and ASTM D-2488, but no text from these sources is provided in the OSHA standards or in most "competent" person "train-the-trainer" courses. The information provided in the text of the standard itself is woefully inadequate to understand what is required for soil analysis. The sedimentation test, which is not a "strength" test, is needed to differentiate between some Type B and type C soils. It is commonly covered in excavation CP

classes but not described in the OSHA standard. Is a small excavation employer with expected to purchase the ASTM D-2488 or search for the USDA textural classification system and study it after or instead of taking one of the commonly available excavation competent person classes?

b. Another example of the standard's vague or misleading instructions is the mention of a dry and drying test. In the available literature, it is abundantly clear that to be considered thoroughly dry (by natural exposure), a sample may need up to twenty-four hours, yet the reader of the OSHA standard is led to believe that this "soil classification" is a "field" method. The other option is that of "forced" drying, but this is not readily a field method, and neither method is discussed in the standard.

c. In the 'Definitions', the standard is lacking definitions of textural classes (clay, silty clay, clayey silt, etc.) that are used to define the OSHA soil classes. The definition for stable rock (and OSHA interpretations on the subject) in the text of the OSHA standard is a circular definition in that in order to conclude that a rock is "stable rock" one must observe it indefinitely to confirm that it will stand forever when excavated with vertical sides.

A common method of "compliance" with the provisions for a competent person is to send supervisory personnel to a four hour class. This CP "qualification" through a four-hour class is plainly too short. A minimal soil overview, covering the preparation of a sample and tests for cohesiveness, water content and composition of a soil, would take longer than 4-hours if the participants are to do any hands-on. An introduction to help assess whether surface encumbrances, utilities or adjacent activities may pose a hazard and what appropriate actions on the trench would be adequate responses, as well as practice, exercises or field demonstration of excavation protective options, would require in all likelihood not less than two whole additional days.

Is the safety of employees entering trenches and excavations really served when their lives depend on the "competency" acquired by a junior foreman without prior knowledge or experience in trenching in a mere four hours? I submit NOT.

A serious omission in the standard is the lack of a requirement for logging of the daily inspections by the CP, along with the observations and soil test results supporting a soil classification, and that these records be available on the jobsite. Whether or not this may have been addressed in the preamble and discussion to the OSHA standard, it remains one of the main weaknesses and may be substantially responsible for the continuance of trench accidents.

Wherefore, as a safety professional and a person who is responsible for the safety of employees entering trenches and excavations, I respectfully request for NIOSH in its advisory role to research and publish Criteria for a Recommended Standard on Excavation and Trenching. At the very least, NIOSH should issue specific recommendations to OSHA that address these problems in the excavation standard. Clearly, after fifteen years of application of the excavation standard, OSHA is not likely to make any substantial improvements in the safety deficiencies discussed here.

Comment ID: 363.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Hazard identification

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

The health effects of exposure to electromagnetic fields (EMF) in the work environment must be defined.

Epidemiology studies may be questioned, but recent laboratory research has shown that the stress response, the universal response of cells to potentially harmful environmental stimuli, is induced by both power frequency (ELF) and radio frequency (RF) fields. In addition, new evidence from proteomics indicates that even weak ELF fields ‘...damage ...macromolecules.’ (Kültz, *Physiol Rev*, 2005). Since the same biological mechanism is evoked by non-thermal (ELF) and thermal (RF) stimuli, it is clear that safety standards based on temperature rise (SAR) are fundamentally flawed. A research agenda aimed at protecting workers must develop new safety standards that take into account (1) non-thermal responses and (2) cumulative exposures across the EM spectrum.

Comment ID: 364.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Chemical Manufacturing Sector:

1. Provide assistance to chemical manufacturers through research involving the retention of health and safety information by employees. This appears to be an on going struggle for Safety and Health professional at the work sites. Class room knowledge assessments are near 100%, but when an injury or illness occurs, the "I didn't know that" response frequently is the answer.

Comment ID: 364.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Hazard identification

Health service delivery

Partners

Categorized comment or partial comment:

2. Understanding the relationship between common medicine(s) that a chemical worker may be taking and the particular chemicals he/she is likely to be exposed to during the work shift. That is not to say the employee is actually exposed, but that there may be a potential serious synergistic or antagonistic effect should there be an exposure. (eg. working around chemicals with anti psychotic properties while taking an anti-psychotic drug)

Comment ID: 364.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Exposure assessment

Authoritative recommendation

Partners

leading chemical manufacturers

Categorized comment or partial comment:

3. Partnership or continue partnerships with some of the leading chemical manufacturers to develop Industrial Hygiene Exposure Monitoring disciplines for new chemicals and pharmaceuticals likely to become present in the work place.

Comment ID: 365.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Youth

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

- Training

Partners

Categorized comment or partial comment:

There should be a consideration on young workers. Statistics indicate that up to 80% of high school students worked in various jobs during high school. There are about 4 million students that work during Summer and 2.9 million during the school year. Students/young workers face the same hazards as adult workers. Most of the vocational school students work after school hours practicing their skills. Students are more vulnerable than adults because they are lacking physical, emotional, and cognitive maturity needed for certain tasks, and lack job experience. They are experiencing rapid growth of organ system that can be harmed by exposure to hazardous substances. Their non-fatal injury rate twice that of mature workers. They may not know their legal rights, nor which work tasks are prohibited by child labor laws. Work-related injury costs (direct and indirect) mounted to \$5 billion (Miller and Waehrer, 1998). More than half of the injured adolescents workers reported that they had not received any training in how to prevent the injury they sustained.

NIOSH must put emphasis in the NORA2 because young workers are found in every one of the Sectors.

Thank you very much.

John Palassis, CIH, CSP, CHMM

Physical scientist

Education and Information Division, NIOSH/CDC

Comment ID: 366.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cancer
Cardiovascular disease
Musculoskeletal disorders
Mortality

Exposures

Chemicals/liquids/particles/vapors
Cardiovascular disease
Work organization/stress
Work-life issues

Approaches

Surveillance
Etiological research

Partners

Categorized comment or partial comment:

An estimated 1,594,980 U.S. workers were employed as heavy and tractor-trailer truck drivers in 2004; 929,530 others worked as light or delivery services drivers.

Previous studies have shown truck drivers to be at increased risk for low-back pain; heart attack; hypertension; ulcers; cancers of the bladder, lung, prostate, and stomach; and premature mortality. Truck drivers are also more likely to smoke cigarettes, not exercise regularly, and be overweight compared with the general population. While individual risk factors play a role in the high disease risk of drivers, the extent to which occupational exposures contribute to disease and individual risk factors / health behaviors is largely unknown. Truck drivers experience a unique constellation of exposures - diesel exhaust, shift work, irregular schedules, sleep disturbances, isolation from their family, sitting for long hours in the truck cab, and stress from a prolonged state of vigilance. Yet, little research has been done directly on this population. Knowing the prevalence of health conditions such as diabetes, cardiovascular disease, and hypertension among U.S. truck drivers is important for determining the potential impact of interventions and rulemaking. In evaluating the potential health effects of the revised hours-of-service rules for trucking (effective October 1, 2005), the Federal Motor Carrier Safety Administration stated, "Because relatively little of the available evidence was derived from motor carrier

operations, the Agency had to evaluate and weigh information from different fields and adapt it to a trucking environment."

Research is needed to provide prevalence estimates for important health conditions, and to explore the associations among health status, individual risk factors, and occupational exposures related to work organization and hours of service.

Comment ID: 369.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Work-life issues

Approaches

Training

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Department of Labor's "Youth Rules" website; USDA

Categorized comment or partial comment:

MAJOR POINTS PERTINENT TO CHILDREN AND YOUTH

The 1996 National Action Plan for Children and Agriculture (adopted by the U.S. Congress and funded through a special appropriation) should be maintained as the primary strategic plan for federal agency and private sector funding and action.

By 2011, a review of progress in achieving objectives of the 1996 Action Plan (and its review at the 2001 Summit on Childhood Agricultural Injury Prevention) should be conducted to ensure priorities and funding for childhood agricultural injury prevention are appropriately aligned.

NIOSH surveillance has revealed that more than 50% of children injured and killed on farms are not working when the incident occurs. It is important that NIOSH retain a commitment to non-working children on farms because no other federal agency addresses this concern. Research is needed to understand what incentives (e.g. financial, regulatory) will motivate farm owners to remove children

from hazardous conditions on the farm. Additionally, pilot projects should be funded to determine if/how available and affordable rural childcare programs can be provided for children of farm parents and farm laborers.

Methods to increase awareness of, and adherence to, state and federal child labor laws in agriculture should be undertaken via education translation projects. In particular, the Department of Labor's "Youth Rules" website should be revitalized and used as the primary source of timely, accurate information for agricultural employers, work supervisors and youth employees.

The USDA funded a major initiative to address Hazardous Occupations Safety and Training in Agriculture (HOSTA) for young workers while NIOSH funded youth educational program evaluations, as well evaluation of the North American Guidelines for Children's Agricultural Tasks (NAGCAT). A process should be undertaken to synthesize and analyze lessons learned from these related interventions and their respective study results. Findings from these efforts should be widely disseminated to provide valuable guidance to safety professionals and agricultural employers.

We commend NIOSH for its leadership of the national initiative addressing injury prevention for children on farms. We believe benefits of this initiative are already evident and expect to achieve further success in the coming decade.

Statement submitted by:

Barbara Lee, RN, PhD, Director

National Children's Center for Rural and Agricultural Health and Safety, Marshfield, WI

(NIOSH funded: U50 OH008107)

References

National Action Plan http://www.marshfieldclinic.org/nfmc/pages/default.aspx?page=nccrahs_reports

2001 Summit Report

http://www.marshfieldclinic.org/nfmc/pages/default.aspx?page=nccrahs_2001summit_caip

USDA "Youth Rules" <http://www.youthrules.dol.gov/>

North American Guidelines for Children's Agricultural Tasks www.nagcat.org

Comment ID: 370.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Investigation on reliable biological exposure indicators is needed for workers exposed to antistain wood treatment compounds, such as tribromophenol and copper quinolinolate.

Comment ID: 371.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Hazard identification

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Occupational acquisition of MRSA and other emerging drug resistant pathogens with secondary spread to family members and nosocomial transmission to patients. MRSA rates of illness are alarming. Lifting and patient handling and hospital design also of interest. Also use of "green chemicals" and hospital disinfectants and deodorants that contribute to occupational airway diseases. These problems potentially affect all health care workers at the bedside, in home health and some of the ancillary. MRSA infections are recurrent and disfiguring and have caused serious conditions requiring hospitalization.

Comment ID: 375.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Etiological research

Engineering and administrative control/banding

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Our eyes are the most important part of the body when it comes to working at a computer display. They are the sole means by which most computer users obtain information to perform their work. In order to streamline the computer work process, the design of the visual task environment and the vision of the person need to be optimized. If there is a problem with the person's vision, then they will not be able to perform their job as well as they should.

If we think of computer work like any other production process and do what is needed to improve the process efficiency, then we discover that it is cost efficient to insure that the computer worker has good vision.

The visual symptoms that computer workers experience are the most obvious expression of the shortcomings in the ergonomics and visual characteristics of the worker. Because of the high visual demands of the computer task and the visual shortcomings of many operators, vision problems and symptoms are very frequent among computer workers. Most studies indicate that visual symptoms occur in 75-90% of computer workers, by comparison a recent study released by NIOSH showed that 22% of computer workers have musculoskeletal disorders. A large survey of optometrists indicated that 10 million primary care eye examinations are annually given in this country primarily because of visual problems at computers- not a small public health issue!

Adequate research should attempt to quantify computer use and visual stress, including affect on productivity and performance. Recent initial studies have shown a 2.3 cost benefit ratio of improving

visual performance of computer users. There need to be more studies that support this preliminary finding.

Comment ID: 376.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Work-life issues

Approaches

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

This is a statement of support for funding for the Non-Ionizing Radiation program. Protecting workers from the known and emerging health risks of non-ionizing radiation is a vital service. The public has counted on and received excellent information and guidance from NIOSH on non-ionizing radiation in the past, and it is imperative that this function continue. Possible health risks from EMF exposures (power-frequency 60-Hz electric and magnetic fields continue to be a topic of great public concern. Radiofrequency radiation sources, possible health risks and choices the public may have to reduce exposures during this time of uncertainty - while the research continues - must be handled in terms of good, independent public information. NIOSH is uniquely suited, and funding should be provided for it.

NIOSH's process for dispersing intramural and extramural research funds (the National Occupational Research Agenda or NORA process) needs to give a high priority for funding for continued involvement in non-ionizing radiation issues.

Comment ID: 377.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Other

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

31-33.

Heavy manufacturing exposes populations to biomechanical hazards. Many of these job tasks are especially risky for populations below the 50th percentile for women; however, laws prohibit discrimination practices. Therefore some people may be placed in harms way. We need to identify a common ground for worker protection when risk assessment pulls us in one direction and legal rights in another.

Comment ID: 378.01

Categorized with the following terms:

Sectors

- Services
- Transportation, Warehousing and Utilities
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer

Exposures

- Radiation (ionizing and non-ionizing)

Approaches

- Etiological research
- Exposure assessment
- Training
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Workplace exposure conditions to electromagnetic fields have increased over the past decade. In addition to electrical power sources (ELF), which NIH and WHO have since 2002, recognized as a Class 2 carcinogen, the workplace now includes wireless sources from mobile communications devices and transmitting antennas where public safety personnel, telecommunications and electrical workers, as well as newly exposed occupational groups, such as teachers in the classrooms with wireless laptop computers may be at risk. More safety training to limit or reduce EMF exposure among workers is needed, including for contract employees. Epidemiology studies and exposure assessments of high risk groups would evaluate associations between exposure and any adverse health effects. This information could be useful to public health agencies and worker safety programs whose mission it is to make workplaces safer.

Comment ID: 379.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

I understand you are seeking comments on avenues for investigation and on concerns that need to be addressed in order to keep workers safe.

An area that must be addressed at this point in time is exposure to electromagnetic fields and radiofrequency radiation.

The number of devices and base stations emitting such radiation and fields has exploded within the last ten years. Workers on buildings and roofs are constantly being exposed at close range to cell phone base station antennas. Many workers are now required to use RF equipment or use cell phones or cordless phones on the job or spend many hours in front of video display terminals. What the public and workers don't know is that a high proportion of the research on this kind of radiation and EMF is showing biological effects from it---in other words, the body's cells are responding to this low level signalling.

To what degree this may cause negative health effects is uncertain at this point, but there are credible studies suggesting that it is already having an effect on health, at least for a portion of the population, even when emissions are within federal guideline levels. Let us not wait for the possibility of noticeable harm to some of our workers before we take precautions.

Marne Glaser

Comment ID: 381.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

I would like to strongly support Dr. Bowman`s request for more research into the potential health effects of non-ionizing radiation from technologies such as cell phones. The rapid deployment of these technologies -- coupled with increasing evidence of potential health effects -- makes it imperative that we research this area more thoroughly and develop protective policies, particularly with regard children. For example, if health effects impacts even a minority of our children, then the negative impact on human health and productivity may be very large, given the widespread and growing use of wireless technology. I helped organize a group called Protect Schools (www.protectschoools.org) that worked to improve public awareness of the health effects of wireless technology, particularly as they impact children attending schools.

Comment ID: 382.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Older

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

The baby boomers are booming and working longer into retirement. I am not sure employers know how to utilize older employees in the name of productivity, especially in factories. Long hours, high-volume production, and chemical exposure have not been taken into account from the 60-70 year old employee's perspective.

Comment ID: 383.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Surveillance

Intervention effectiveness research

Partners

state-based surveillance systems

Categorized comment or partial comment:

The agriculture sector is an arena that has limited baseline data available due to lack of data collection by BLS of farms with less than 10 workers. State-based surveillance systems and agricultural centers are useful to identify the current prevalence of many hazards facing farmers(baseline data), and to measure whether any projects geared toward reducing these hazards are actually effective. Specifically, surveillance systems focused upon asthma, repetitive stress disorders, pesticides, and noise induced hearing loss are necessary. Surveillance systems that are aimed at special populations such as youths, foreign-born, and migrants, are also important for this sector.

Comment ID: 383.02

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

state-based surveillance systems

Categorized comment or partial comment:

In order to measure any improvement in efforts gained through any of the sectors, baseline surveillance data is necessary. There are currently many state-based systems for occupational health that can assist with this. NORA-2 sectors need to be aware of and include this data, and should include individuals on their committees who understand the limitations and benefits of these data for interpretation.

Comment ID: 383.03

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Partners

state-based surveillance systems

Categorized comment or partial comment:

While injury risks, such as falls, are well recognized as hazards with construction, there are many disease-related hazards also. State-based surveillance systems are useful to identify the current prevalence of these hazards (baseline data), and to measure whether any projects geared toward reducing these hazards are actually effective. Specifically, surveillance systems focused upon lead, silica, asthma, repetitive stress disorders, and noise induced hearing loss are necessary.

Comment ID: 383.04

Categorized with the following terms:

Sectors

Services

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Neurological effect/mental health

Hearing loss

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Partners

state-based surveillance systems

Categorized comment or partial comment:

The public service sector is an arena that is under-studied and has limited baseline data available due to lack of collection by BLS. State-based surveillance systems are useful to identify the current prevalence of many hazards facing these workers(baseline data), and to measure whether any projects geared toward reducing these hazards are actually effective. Specifically, surveillance systems focused upon lead, silica, asthma, repetitive stress disorders, pesticides, needle-stick injuries and noise induced hearing loss are necessary. Surveillance systems that are aimed at special populations such as youths, foreign-born, and migrants, are also important for this sector.

Comment ID: 384.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Personal protective equipment

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

USDA NCR-197 Agricultural Safety and Health committee; Extension agricultural safety specialists; state Farm Bureaus` safety staff

Categorized comment or partial comment:

NIOSH needs to step back and take a hard look at what it has been doing relative to what the real problems are in agriculture, and set NORA and NIOSH funding policies accordingly. Most hazards and corresponding solutions are well known. What is lacking are the financial and/or policy means to implement them. If farmers cannot afford to buy new equipment with the latest safety technology, or cannot afford to retrofit older equipment with newer safety technology, then NORA needs to address that. NORA needs to focus on how to implement known solutions.

An example: Hearing loss to farmers and farm family members has been very well documented, for years. We do not need more data on hearing loss; we need research on how to implement the well-known solutions: How do you get farmers to buy (or afford to buy) the newer tractors with low-decibel cabs, how do you desing hog buildings to minimize sound, how do you get farmers to buy (or afford to buy) hearing protection, how do you get farmers to wear hearing protection, how do you make hearing protection more comfortable or more socially acceptable, etc.

For those farmers who can afford to purchase the necessary technology, we need research to find out why they are not doing so, and to find out what policies have been successful in getting them to make the necessary investments.

Another example: Animal-related injuries are a very important issue in some states. Ergonomic concerns relative to raising animals are a big issue. Often the problem stems from the fact that the farmers must use very old facilities, say from the 1920's or 30's. Rather than looking at these problems on the "micro" scale, NORA needs to look at the "macro" scale, and focus research on why farmers are not able to upgrade or replace new facilities. If our factories were all built in the 1920's or 30's, wouldn't the highest, or near highest, priority be to upgrade or replace ancient factories with facilities built with health and safety in mind?

There are systemic causes to the agricultural health and safety problem that must be addressed. Finances are definitely one of them; finances limit what farmers can or want to spend relative to safety and health. (This ties into the facility issue.) Just look at how many farms are going out of business or cannot sustain themselves without off-farm income. Ask any agricultural economist about farm income. NORA needs to include research into these root causes, into why the known agricultural safety and health solutions are not being adopted with any rapidity, and how to solve or overcome these root causes. At the same time, many in the public are calling for smaller farms, for saving the family farms, for stopping so-called "factory farms". How can that be done while at the same time allowing small farms to afford to implement health and safety solutions? NORA cannot ignore this.

NORA should also do research on the differences between agriculture and other industries, so as to learn why solutions used in non-agricultural industries often do not work, or are not adopted, by agriculture.

NORA should also prioritize based on injury and illness data. NIOSH has funded some projects in the past that are well-designed scientifically, but really address lesser issues relative to the magnitude of the problem. Projects may be well-designed but have limited applicability to other more pressing problems.

In developing NORA for agriculture, NIOSH needs to not just rely on submitted comments, but on seeking out input and holding meetings with people who are really knowledgeable about farmers' issues and problems, such as the USDA NCR-197 Agricultural Safety and Health committee, or the Extension agricultural safety specialists, or state Farm Bureaus' safety staff. Everyone is busy with their own work, and attending a NORA workshop might not have been a possibility or priority. People not familiar with NIOSH may not know about NORA or the need to submit comments to this site, or they may have felt their comments would not be taken seriously compared to those from well-funded injury prevention professionals.

Thank you for the opportunity to comment.

Mark A. Purschwitz, Ph.D.

Research Engineer

National Farm Medicine Center

Marshfield, Wisconsin

Comment ID: 385.01

Categorized with the following terms:

Sectors

- Manufacturing
- Transportation, Warehousing and Utilities
- Unspecified

Population

- Language/culture/ethnicity
- Small business

Health outcomes; diseases/injuries

- Neurological effect/mental health
- Immune disease
- Dermal disease
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Work-life issues

Approaches

- Hazard identification
- Etiological research
- Exposure assessment
- Risk assessment methods
- Engineering and administrative control/banding
- Intervention effectiveness research
- Work-site implementation/demonstration
- Authoritative recommendation
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

- NORA Town Hall Meetings
- Future Research/ Manufacturing & Transportation Sectors
- Nanotechnology
- Pam Tau Lee, Labor Occupational Health Program, UCB
<ptlee@berkeley.edu>

My name is Pam Tau Lee, Labor and Environmental Justice Coordinator at the Labor Occupational Health Program, Center for Occupational and Environmental Health, UC Berkeley. I am submitting testimony to request that NORA strongly consider conducting research on the health effects and effective occupational health controls focusing on the application of nanotechnology. My testimony below is based on information provided by the Center for Environmental Health and the International Center for Technology Assessment.

What is Nanotechnology

Nanotechnology refers to the manipulation of individual atoms and molecules, by engineering matter at the atomic level. At the nanoscale, familiar materials can have dramatically different properties: changes can affect color, elasticity, strength, conductivity, and other properties.

Already nanotech materials are used in hundreds of consumer products from tennis rackets to sunscreens. Nanotech applications are currently being developed for use in computer technology, energy, food and agriculture, biomedical, the military and other fields.

Risks of Nanotechnology

Health threats can occur from the production, use and disposal of nanoparticles. Workers in nanotech industries are especially at risk, as they can be exposed to high concentrations of nanoparticles that may enter the body through ingestion, inhalation, or skin exposure. Nanoparticles used in consumer products may threaten public health, yet there are no labeling requirements for products using nanomaterials.

Particles in air pollution can be up to 50 times more damaging to lung tissue than fine particles of the same chemicals. Scientists believe that ultra fine particles are more toxic due to both their small size and their ability to carry large loads of toxic metals and hydrocarbons into the lungs, exacerbating breathing problems and asthma. Nanoparticles can also damage the body's natural defenses or, conversely, cause increased responses to common allergens.

There has been little study of the health affects of manufactured nanoparticles, but there are already reasons to be concerned. Animal studies suggest that nanoparticles can trigger unpredictable inflammatory and immune responses. Studies have found nanoparticles in the livers of lab animals and show that they can seep into living cells. In a summer 2002 study, fifteen percent of rats exposed to nanotubes in the lung unexpectedly died immediately, and a 2004 study showed damage to the brain in fish exposed to nanoparticles.

Current regulations

In 1995, Wired magazine asked leading scientists for their predictions about nanotech. The majority believed that federal regulations in the U.S. would be in place by 2000. But today, there are still no federal regulations. Since nanoparticles can change properties dramatically and unexpectedly, knowledge of the properties of a substance in bulk is useless in evaluating the risks of nanotechnologies. Yet regulators currently rely on existing chemical statues, allowing industry to market nanomaterials even though these materials have never been assessed in their nano-form. In Europe a new chemical policy called REACH requires companies to present safety data on new chemicals but analysts have noted that even this new policy fails to address the special risks posed by the unique, unpredictable and untested properties of nanoparticles.

The Need for Precaution

The insurance industry's concerns are useful guideposts: Allianz Insurance and Swiss RE have each developed briefings that point to the hazards and lack of regulations. They call for minimizing exposures and note that some nanotechnologies may be excluded from coverage.

I believe that the occupational health community can draw on the lessons from the electronics industry. When Hi-Tech was first introduced, it was promoted as a clean industry with little risk to the health of workers and the environment. Today, the damage to worker health by the use of multiple toxic chemicals is well documented. Many of these processes were subcontracted to small businesses, facilities that did not have the resources to effectively control the hazards, nor were they effectively monitored by the manufacturer or government agencies. This practice especially put the health of low-wage and immigrant workers at risk. It is sound public health to get in front of this emerging technological advancement that works to identify health concerns and sound occupational controls; be proactive rather than reactive.

Recommendations for future research include:

1. Occupational health effects from exposure, use, handling and transportation of nanoparticles.
2. Identification of hazards from occupational and take-home exposures of nanotechnology in manufacturing and transportation.
3. Identification of effective controls/interventions to protect workers from exposure to nanoparticles.
4. Application of worker-based participatory research methods to identify health effects, occupational take-home exposures, and effective interventions for this emerging technology.

Comment ID: 386.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Exposure assessment

Risk assessment methods

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

I think there should be an emphasis on the validation of safety program evaluation questionnaires and ergonomic risk assessment tools.

NIOSH should take the lead in testing these types of tools and making them available online for general use.

For example, there has been a great thrust for the development of safety program standards (ANSI Z-10, AIHA etc). However, quick questionnaires as criteria for rating program effectiveness are largely not available. The AIHA tool is quite intensive and costs \$100- a price most companies will not pay. OSHA has the old PEP tool, but few people know about it and it was never validated for use. NIOSH could perfect this tool to help companies achieve OSHA VPP status or Z10 certification.

In general we also need to develop gold standard ergo risk checklists (such as the former Washington State and OSHA checklists). There are too many tools out there currently- some are likely valid, but others are junk that water down the perceived value of ergonomics.

If a few methods can be deemed as valid by an authority such as NIOSH, companies will use them. Companies do not necessarily want to be forced to have ergo programs, but they do want standardization and voluntary guidelines so progress can be tracked.

Comment ID: 386.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Etiological research

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Mitsui Sumitomo

Categorized comment or partial comment:

NIOSH should also focus more on collaborative epidemiological studies with workers compensation insurers to help determine financial benefits of ergo, safety, and medical management practices using the insurance database.

At Mitsui Sumitomo, we are interested in such studies, but often lack the time and expertise to complete them. Feel free to contact me personally for more info.

Comment ID: 386.02

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work-life issues

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

More ergonomic intervention studies are needed, for engineering changes but also administrative controls:

Job rotation

Conservative, early treatment

Stretching

Physical abilities testing

Comment ID: 387.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Work-site implementation/demonstration
- Authoritative recommendation
- Capacity building
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

General NIOSH research and NORA comments from the ICWUC/UFCW. An edited version was presented at the Piqua, Ohio Nora meeting on March 6.

My name is John Morawetz and I am speaking today on behalf of the International Chemical Workers Union Council of the United Food and Commercial Workers Union. I have been active in this field for almost 30 years; I worked for NIOSH in the early 1980's, then for the Molders Union, and I currently work for the chemical workers both as the Director of a national HAZMAT training program for a Consortium of seven unions and as the ICWU's Director of Health and Safety. These comments are on behalf of the chemical workers union.

First, NIOSH has a proud history of service to America's workforce. From Health Hazard Evaluations, Industrywide Studies, Control Technology to Hazard Alerts, library services, respirator approvals and the NIOSH Pocket Guide, to name a few areas we are familiar with, NIOSH is the primary national research organization in improving our nations workplaces. For the chemical industry and many others, for people at companies both large and small, NIOSH is viewed as an important source of assistance in what is all too often a difficult situation and your help is welcomed. For the ICWU Health and Safety activists, there is no other place for them to turn for all these services and followup.

In these efforts, NIOSH provides essential services and although not all activity results in a scientific article, they are invaluable services. We have often called NIOSH and you have rapidly responded, walked us through a range of technical subjects and met our needs. We will continue to assist in securing adequate funding for your institution and in the future restore full staffing levels.

NIOSH conducts research in a tripartite format which involves both management and labor at each stage. Workers all too often perceive themselves as at best, subjects, and at worse, "guinea pigs" for research. Worker and union involvement helps to minimize this, produce better and more useful research and is a practice to be consistently implemented in all research efforts.

Second, the overall aim of research should always be kept in mind. Occupational Health and Safety research is not done for its own sake; it is done to identify areas to intervene, to improve the workplace, to lower exposures, to lower illness and injury rates, to give workers and their employers information to ask the right questions and to get answers that will improve people's working lives. All NORA projects, therefore, should include implementation and evaluation on how the research is utilized.

Comment ID: 387.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing
Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Third, NIOSH should continue their efforts to investigate hazards such as nano technology and special populations. Industries, hazards and demographics change and NIOSH must have the necessary resources on hand to launch investigations. Some may be industry specific while others will cut across various sectors, similar to the original NORA priority research areas, and will therefore be an issue, I presume, for the Cross Sector Research Council. Although not a new area, most workplaces rarely have a single exposure. I am well aware that multiple exposures presents significant difficulties for the researcher, but it's an area of great concern for workers and need of continuing investigation.

Comment ID: 387.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Fourth, we all need to review the overall NORA process and accomplishments to date. NIOSH has committed significant resources and we need to clearly understand what are realistic short and long term goals. NIOSH should continue to openly discuss what the accomplishments were of the first decade, what was learned and what questions remain in each of these priority areas. I've tried to find current information on the NORA web site however it does not look like some web pages have been updated for some time.

Comment ID: 387.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

Fifth, for all research, documents need to be issued timely for our members and any recipient to make full use of them. All publications should be examined for their usefulness to the workers they are intended to serve. Clear recommendations and brief synopsis, as well as the full document, need to be available for NIOSH's hard work to be useful to the communities it serves.

Comment ID: 387.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Sixth, the use of significant NIOSH resources in recent natural disasters clearly will delay or reduce most other research efforts. Although we firmly support all efforts to secure additional funding, the political reality is that NIOSH will have to use existing resources. Rather than trying to accomplish everything with finite resources, NIOSH must have a plan to adjust its normal research agenda when responding to another anthrax incident or hurricane. These will occur and we are pleased that NIOSH can contribute its expertise to these public health disasters but they will have a significant negative impact on other work.

Seventh, we have serious concerns on the future possibility of contracting out of NIOSH's workforce.

We do not believe this is in the best interests of either quality research, NIOSH's workforce (many who are members of the AFGE), NIOSH as an institution, the companies and workers who are NIOSH's stakeholders or our national interests. Chasing the elusive rhetorical goal of cheaper work all too usually only serves the lucky contractor but few else.

Eighth, a related point is the need to preserve and strengthen your highly qualified and dedicated workforce. Although there are many excellent professionals outside NIOSH some of whom are here today, a strategic view should balance the contracting out of research projects with the need to preserve your internal professional resources. Specific priorities will change but ensuring your strong professional staff and institution is crucial. We are concerned that some figures indicate a decrease in research funds.

From a national perspective, NIOSH adds a valuable approach and skills to public health. NIOSH needs to remain institutionally separate within the nation's public health structure to insure continuing and appropriate emphasis on protecting our workforce. A recent example of NIOSH's contribution was their collection of anthrax exposure data after a musician was infected. The rapid use of antibiotics to his friends and fellow musicians, one might say fellow workers, is a protective measure that we learned

after the failure to take these steps for Washington DC postal workers in 2001. Tragically, occupational health research all too often reaches conclusions at the expense of the health of workers, as in the death of postal workers in 2001. NIOSH, and its NORA agenda, is a vital institution in investigating and disseminating information to decrease this national burden.

Thank you for your time.

Comment ID: 388.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Neurological effect/mental health

Immune disease

Respiratory disease

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

My interest is in Health and Safety in the general environment with two aspects of environment in mind. I carry out surveys in homes and workplaces for Radiation - Technical (Man-made) Electromagnetic influences and natural (but distorted) radiation from the earth which cause areas of disturbed energies commonly known as "geopathic zones". Both of these influences contribute to the overall radiation load in the working and living environment with very serious consequences for human health.

and well-being. One of the worst cases I encountered was a young woman who, after giving birth to her eldest child (son) gave birth to two babies with severe deformities and parts of the body missing. Both died within 8 weeks of birth. The environmental source of her problem was her workplace. Having located the source, my advice was to move her workplace to another part of the office. She did so and subsequently gave birth to a healthy daughter. When her first child was born she had worked in a different office in another part of the building. Among the illnesses that I have come across are the following; cancer, leukaemia, CFS(ME), depression, general malaise /fatigue, digestive upsets, allergies, ibs, asthma, immune suppression. Two of the childhood leukaemia cases I came across are living normal healthy lives after 3 & 8 years respectively. Where there is doubt or uncertainty about the aetiology of an illness, the living and working environments must be examined for the aforementioned influences. The solution can, in most cases be as simple as moving a work-station or a bed.

Yours, Con Colbert, Dublin, Ireland.

Comment ID: 389.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

We are interested in seeing:

-More epidemiology done to assess the correlation between manganese from welding and potential health effects. Right now work comp and plaintiffs lawyers are using flawed science to justify large claims. We want to see better research into this area.

Comment ID: 389.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

-Isocyanates. Specifically we want to see better methods to assess exposure. We really feel this is important as we have limited ability to identify problems in the workplace. Everyone knows about the limited ability of current sampling methods, so sampling results are questioned at every corner. Though sampling is valuable, it could be even more valuable if the methods were better and we could show even lower exposures.

Comment ID: 390.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Hearing loss

Dermal disease

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

I plea for NIOSH and other federal agencies to provide more support to hazard and disease surveillance activities. Currently there is no comprehensive national surveillance system for occupational illnesses not for nonfatal occupational injuries. Adopting the following recommendations can help fill this gap. These include:

1. Expand the National Exposure at Work Survey (NEWS). NIOSH supported extensive exposure surveys in the 1970s and 1980s. These provided estimates of the numbers of workers exposed to almost any occupational toxin. Unfortunately, no exposure surveys have been conducted recently. The most recent national exposure data available is from the 1980s. Given the substantial changes in the US economy over the past 20 years, these 1980 exposure estimates provide interesting historical data but are of little relevance for estimating the numbers of workers exposed to a given toxin in 2006. NIOSH is currently working on a pilot exposure survey. But this pilot is limited to the health care sector and involves only a few hospitals in Washington State and Oregon. There is a glaring need for updated exposure surveillance data. Without this information, it is difficult to identify public health priorities, since information on the number of exposed workers is one compelling statistic needed for this prioritization.

2. Support an occupational health supplement to the National Health Interview Survey (NHIS). The NHIS is considered the principal source of information on the health of the civilian non-institutionalized population in the US. Unfortunately, the NHIS collects little information on work-related health and safety problems. To rectify this, in 1988, NIOSH supported an occupational health supplement to the NHIS. This supplement was a rich source of data to assess the magnitude and severity of several work-related outcomes including occupational injuries, dermatitis, carpal tunnel syndrome, back pain and lung diseases. The NHIS occupational health supplement needs to be repeated to provide up-to-date statistics on magnitude and trends that cannot be obtained anywhere else.

3. Support development of a computer program that will automatically code industry and occupation information. Information is captured by many public health records systems. These include death certificates, cancer registries, and birth defect registries. However, this information is rarely utilized to its full potential. This is often because the industry and occupation information is not available in a useable form. Often it is not available in an electronic database and is not coded. Coding industry and occupation information by hand is very time intensive. NIOSH developed an automated coding system to provide 1990 Census codes to industry and occupation. However, these codes are now outdated and have been replaced by the 2000 Census codes. A new automated coding program needs to be developed that will permit industry and occupation information to be coded into 2000 Census codes. Such a program would vastly increase the usefulness of industry and occupation information that is currently collected, and could lead to improved and expanded collection of useful industry and occupation information.

4. Provide support to the National Occupational Mortality Survey (NOMS). NOMS is a mortality statistics database. Since the early 1980s, NIOSH along with NCHS and NCI supported State vital statistics programs collection and coding of decedents usual industry and occupation. Approximately 27 states participated in this program. This program generated a large number of peer-reviewed publications and allowed NIOSH to assess mortality patterns and risks in various industries and occupations. Unfortunately, this database has not been updated since 1998. As this data becomes more dated, the usefulness of NOMS to detect and access mortality patterns becomes weaker and less relevant.

5. Increase support to state-based surveillance programs. State health agencies can provide essential information for nationwide occupational illness and injury surveillance. Although a vast majority of states conduct surveillance of adult lead poisoning through the Adult Blood Lead Epidemiology and Surveillance program, relatively few states conduct surveillance of other occupational disease and injuries (e.g. pesticide poisoning, asthma, pneumoconiosis, and fatal injuries). In addition, no states receive targeted funding for surveillance of some of the most important occupational disease and injuries, including dermatitis, musculoskeletal disorders, and noise-induced hearing loss. It is amazing that these are among the most common disorders arising in US workplaces, and NIOSH has not targeted resources to place them under surveillance. This information is important to identify the magnitude and trends of occupational disease and injury, to identify emerging occupational health and safety problems, and to target scarce public health interventional resources. NIOSH needs to identify, facilitate and encourage the development of model state-based surveillance programs.

Comment ID: 390.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

6. Re-initiate the writing of "criteria for a recommended standard" documents. These are important documents. Since NIOSH was created in 1970, it has written many criteria documents. These are used to develop and support recommended criteria for safety and health standards under development by OSHA and MSHA. However, to my knowledge, NIOSH has not released a criteria document is approximately 8 years. (In 1998 two criteria documents were released: one for metalworking fluids and another for occupational noise exposures.) Although these documents require a large amount of effort to produce, their creation is important for protecting the health and safety of American workers.

Comment ID: 391.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Support development of a computer program that will automatically code industry and occupation information. Industry and occupation information is captured by many public health records systems. These include death certificates, cancer registries, and birth defect registries. However, this information is rarely utilized to its full potential. Coded data is the most electronic-friendly form of industry and occupation information. NIOSH developed an automated coding system to assign 1990 Census codes to industry and occupation. However, the program was prone to coding errors and the codes it assigned are now outdated. A new automated coding program needs to be developed to improve and expand collection of useful industry and occupation information. Surveillance data that may be grouped by industry or occupation is critical for the growing number of hard-to-study occupations or industries that do not keep centralized personnel records. It is needed to improve the quality and quantity of injury, illness, and exposure data for prioritizing safety and health research for these industries. These data may be used to track progress and evaluate prevention efforts. Development of an automated computer program that will automatically code industry and occupation information is the next step in closing the gap between work and health.

Comment ID: 392.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance
Training
Authoritative recommendation

Partners

Categorized comment or partial comment:

John Howard, MD

Director, National Institute for Occupational Safety and Health

Docket NIOSH-047

Robert A. Taft Laboratories (C-34)

4676 Columbia Parkway

Cincinnati, OH 45226

March 6, 2006

Dear Dr. Howard,

Thank you for the opportunity to submit comments as part of the National Institute for Occupational Safety and Health (NIOSH) preparation for the second phase of the National Occupational Research Agenda (NORA-II). As a physician with the Occupational Health Branch (OHB) of the California Department of Health Services (CDHS), I am writing to urge you to continue funding surveillance for occupational pesticide illness. Funding from the NIOSH Sentinel Event Notification System for Occupational Risk (SENSOR) project has allowed OHB to conduct surveillance of occupational illness from 1987 to 1992 and from 1997 until the present time.

Over the past eight years, I have been the project lead for the pesticide portion of our occupational illness surveillance program. This work remains important for several reasons. A third of the nation's agricultural workforce is employed in California. An estimated 1.1 million farmworkers worked on California farms in 2001. Widespread pesticide use in agriculture creates significant risk for these workers. In addition, our surveillance program reveals that structural pesticide application (in buildings) also poses risks to a variety of building occupants, including workers and vulnerable populations. Moreover, our surveillance program captures changing trends in pesticide use and resulting illnesses. For example, pyrethroid pesticides, once thought to be completely safe, are increasing in use and are associated with a growing proportion of illnesses. Finally, our target population is underserved workers with limited health and safety resources. A large proportion of pesticide illnesses occurs among agricultural workers with limited or no English language skills and with inadequate awareness of their workplace rights.

The California SENSOR pesticide program contributes a significant proportion of cases to the NIOSH national pesticide illness surveillance database. In 1998 and 1999, 58% (588/1007) of work-related non-disinfectant pesticide illnesses cases reported to NIOSH were from the California program. Moreover, the incidence rates for acute occupational pesticide-related illness were highest in California, possibly reflecting a combination of high illness risks and better case reporting. Because of relatively unique data sources available in California, we are able to collect and analyze occupational pesticide illness cases through multiple modalities that are not possible in most other states.

In spite of the high numbers of pesticide illnesses reported in our state, we believe that these and other occupational illnesses are underreported because of multiple barriers to recognition and reporting of these and other occupational illnesses. These barriers include physicians' lack of knowledge about the subject area and reporting requirements, and lack of knowledge and fear of reprisals among workers. In order to prevent occupational pesticide illness, we need to continue to identify and address both illnesses and barriers to reporting.

We place great emphasis on case follow-up and workplace investigation. We believe that this approach allows us to identify recommendations for the primary prevention of pesticide exposure and additional illnesses. As a result of our investigations, we have identified methods to reduce occupational illnesses due to pesticide use aboard aircraft, agricultural use of fumigants, and pesticide drift. With supplemental NIOSH funding, we have been able to expand our work on preventing occupational pesticide illness. Among other activities, we have assessed the efficacy of pesticide training for farmworkers and suggested methods for improvement; prepared a curriculum for training physicians on pesticide illness; and evaluated the efficacy of laboratory reporting of cholinesterase test results for surveillance of occupational pesticide illness.

An important reason to continue pesticide illness surveillance is that our current methods detect only acute pesticide illnesses. We are fairly confident that a large number of chronic illnesses associated with pesticide exposures remain undetected. Continued funding for surveillance of occupational pesticide illness can lead to improved primary prevention of pesticide exposure, resulting in decreases in both acute and chronic illnesses associated with pesticides.

In summary, given the large, underserved population at risk for occupational pesticide-related illness, the magnitude and scope of this preventable occupational disease, and the potential for primary

prevention methods to reduce the burden of disease, we believe that surveillance for this condition should continue in California as well as in other states.

Sincerely,

Rupali Das, MD, MPH

Public Health Medical Officer

Comment ID: 393.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Transportation, Warehousing and Utilities

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Partners

Categorized comment or partial comment:

We have experienced trans-border (state and international) issues with migrant workers in our state. Workers may be exposed here, seek treatment in another state and live in a third location. NORA should address facilitating reporting across borders. This applies for agricultural and other transient workers, such as those in the transportation industry.

Comment ID: 393.02

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Worker exposure to second-hand tobacco smoke in casinos is a concern for our state as gaming facilities are becoming major employers in areas where there is little alternative employment.

Comment ID: 394.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Occupational exposure to 50/60 Hz EMF cuts across multiple occupations, and is especially important where there are high currents, large motors, and work in very close proximity to energized high current electrical equipment. There are exposure issues with other frequency ranges that cut across occupations as well.

Comment ID: 394.02

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Neurological effect/mental health

Exposures

Cardiovascular disease

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Engineering and administrative control/banding

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

There are US and international guidelines for limiting occupational exposure to EMF, though the models and input data used by guideline setting organizations to relate 50/60 Hz magnetic field exposures to induced current densities differ significantly. A number of scientific and compliance issues are ambiguous or unresolved. The purpose of these guidelines is to protect workers from acute effects such as cardiac and neural stimulation. Work is needed to: better document supporting data and differences in various guidelines, develop operational definitions, evaluate dosimetry models and assumptions, delineate "safety" factors, define understandable, achievable compliance measures and measurement, and work with guideline setting organizations to fill important data gaps.

Workers with implanted devices such as pacemakers need better information to understand risks associated with exposure.

Comment ID: 395.01

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Marketing/dissemination

Partners

Categorized comment or partial comment:

From: RICHARD KRAMER [mailto:RICHARD_KRAMER@fmc.com]

Sent: Thursday, January 12, 2006 9:40 AM

To: Dwyer, Jami Girard

Subject: RE: Happy New Year!!!

Jami,

I started the following text on 1/5. I got taken away for some operational tasks and you had already sent me some other data by then. So, a bit of this is dated. However, I wanted to get the improvement ideas off to you for your long-range planning work.

The hydrohoist was actually called a Coal Airlift Hydrohoist. I believe Phil presented a paper at an SME show about it. The principle is pretty straightforward. Imagine a u-shaped tube, one leg of the tube is higher than the other. Water is pumped into the high side and flows out the low. At the bottom of the U, ore is injected into the pipe and the flowing water carries it to the surface.

It sounds a bit like a perpetual motion affair, but Phil constructed a working prototype in Colorado. I consider it interesting because we mine a soluble mineral and the ore could be dissolving on its path up to surface. Once there, the water could be processed in one of our plants and the remaining product could be processed in another plant.

There are lots of benefits for us if this thing works. Before I stuck myself out by proposing the project, I wanted to see where the research was at. I did find that Lindahl has his name on a patent for a piece of the technology--he proposed introducing compressed air with the product to enhance the flow up the pipe.

The technology may be something the Gov would be interested in helping develop. Any mine that wants to improve total capacity output could install this pipe in their existing shaft and add a few tons per hour with out tearing out the existing hoist works.

As far as other ideas for improvement: (Keep in mind that many of these might already exist in a form and others are just the strange mental concoctions of a mine engineer!)

Remote sensing of strata boundaries. A device that can measure the distance from the cutting head to the upper or lower boundary of the seam. There is some technology available, but its not "there" yet. Stolar, a company in Raton, NM, has done some work in our mine on this. The benefits are improved direction/horizon control, better roof conditions, enhanced ability to operate the continuous miner from a remote location. The technology is a fair distance from being reliable.

Employee monitoring devices. Some kind of marker device that can locate the wearer in the mine works. Of course, after Sago, this will be a big issue. There is technology out there that does this too, but its not that good.

All-in-one bolting. This is a roof control device that can drill a hole, release a resin and anchor itself all in one trip into the hole.

Mine-wide communication through utilities. Are there ways to better utilize the pipe and conductors in the mine infrastructure for communication by inducing the radio signal on the pipes and creating a huge antenna. This saves a big, old mine from installing all the new leaky feeder and such that comes with the current, working systems. I know a company called RIMTech was marketing some of this, but it was not that good.

Ground penetrating radar to see caving over a longwall. Can GPR "see" the extent of gob caves in deep longwalls?

Those are just a few, I hope I am not to "Buck Rogers" on it.

Sorry for the delay, have a super Thursday!

Rich [Kramer]

Longwall Coordinator

FMC Corporation

307 872 2297

Comment ID: 396.01

Categorized with the following terms:

Sectors

Mining

Population

Other

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

Employees listed as mechanics and repairmen have consistently experienced more fatalities, permanent disabilities, and occupational illnesses than any other occupation code in the mining industry in the past few years, yet the research portfolio seems to be built around the MSHA classifications (powered haulage, ground fall, etc.)

Comment ID: 400.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Small business

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Training

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Comments offered to NIOSH, as NORA is revised

Carol Rice, Ph.D., CIH

Professor

University of Cincinnati

Under Section 21 of the Occupational Safety and Health Act, NIOSH shall

provide for the establishment and supervision of programs for the education and training of employers and employees in the recognition, avoidance and prevention of unsafe and unhealthful working conditions in employments covered by this Act.

These are very specific phrases in the Act--phrases that characterize the outcomes of training and education: recognition, avoidance and prevention. This comprehensive description given to NIOSH extends the responsibility well beyond the creation and dissemination of information. Information understood and retained is essential to any increase in knowledge--the foundation for activities that lead to recognition, avoidance and prevention. However, knowledge alone cannot provide the vital skills, abilities and attitudes to fully recognize hazards, or to design and successfully implement actions

or programs to avoid and prevent unsafe and unhealthful conditions. Identifying meaningful outcomes and the success of the outcomes in the work setting requires research.

In the current climate of smaller regulation and even smaller enforcement, it is increasingly incumbent on employees to take improving their safety and health into their own hands. Increasingly, a union or active joint labor-management committee that might provide effective health and safety training resources are absent, especially at small companies. NIOSH can, and is in fact mandated, to address this need. Certainly the crafters of Section 21 intended that the change to a more healthful and safer work environment would be successful—a result that can only emerge from continued research, and then research to practice.

Currently, the need is enormous.

In dimension it exceeds that of improving science literacy—which has been identified by President Bush as a national priority.

And the easy approach of providing information is a fundamentally flawed and failed system, as illustrated by a situation we have each been subjected to or witnessed:

The struggle with written directions to operate any one of the wide array of electronic devices now on the market.

(This has been reviewed recently in a strictly academic mode by Burke et al, AJP 96:315-324.)

While the task is large, it must also be recognized that the benefits are also large. Workers participating in training designed through research in one sector to increase knowledge, skills and abilities and to develop attitudes that support continued diligence and improvement are able to make changes that improve working conditions. Four anecdotal reports follow:

We now use cameras in confined spaces—camera goes in, people remain out.

We had not had an ammonia release in our facility for many years... Because of the skills my team members had, we were able to isolate and abate the ammonia leak efficiently and were able to keep anyone from getting hurt.

Training was helpful in siting and setting up a decon line for a spill of chlorosilanes caused by equipment failure. A portion of the hazardous material formed hydrochloric acid fumes when it mixed with moisture in the air. Even though it was a very hazardous situation, only one person received minor injuries and was treated and released.

Training changed our work behavior and made us think about working safe.

(See final report, Midwest Consortium for Hazardous Waste Worker Training to NIEHS, October 2005).

The economists can put dollar figures on these examples; they are essential to documenting value to employers and insurance companies. To the workers and families of the workers who benefit from the training, the dollar value is not relevant. They are guided by the expectation that each day their family member will return from work with no diminution in health.

Most importantly, the benefits of avoided exposures are meaningful on an individual level—and the individual is our foremost constituent in occupational health and safety.

The following are some steps to consider in addressing this mandate of quality training to achieve recognition, avoidance and prevention:

--. Update and supplement the NIOSH review by Cohen and Colligan, 1998 to identify models of worker training and education that have proven to accomplish the NIOSH mandate. This will be very useful in identifying gaps and sector differences.

--. Identify targets for improvement and design research to identify why current approaches have not met the need, such as:

a. training programs needed: industry sectors or cross-sector operations where increasing workforce skills, abilities and attitudes in “recognition, avoidance and prevention” would have substantial impact on health.

b. better use of existing media: For those who will be workers, NIOSH might conduct research to identify effective methods of implementing the NIOSH school checklists as part of the science literacy initiative in teaching programs.

--. Define knowledge, skill, ability and attitude goals resulting from the research

--. Conduct intervention research to evaluate the impact of training

Evaluation of the impact of each element will necessarily include feedback from participants after the return to work.

These ideas are not new to NIOSH leadership. They are articulated here because I believe Section 21 must be at the forefront of a comprehensive approach focused on research that will benefit workers during the next decade. In both large and small workplaces, the workers are central to the reduction of unsafe and unhealthful working conditions. They need this research, and it is the legal mandate of NIOSH to identify through research the determinants and elements of both educationally effective and cost effective programs to increase health and safety at work.

Comment ID: 401.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I believe that more research needs to be conducted on the hazards of weld fumes. So far, all of my research has shown me that there is no definitive study on the effects of weld fumes. I believe that this should be a long-term study to in order to accurately see the over all picture. I am troubled that a judge in Ohio has cleared the way for employees to sue welding wire manufacturers if they develop Parkinson's disease. What evidence has this judge seen? OSHA has plenty of TWA's and other measures for components of weld fume, but I think it is time we take a look at the weld fume as a whole.

Comment ID: 402.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

Top research areas:

UG hardrock: rockmass response; ground support; blast damage control; blast reliability; eliminate rockfalls; proximity warning for workers on foot around remote muckers; time for a new generation of cap lamps (lighter, brighter)...

UG coal: better exit/evacuation strategies...

UG general: a new generation of self-rescuers, SCSR's; better communications; hoisting safety & communications; ventilation; increased activity in ug Uranium mines -- redistribute USBM tech transfer re: radon daughters...

Surface: highwall stability, deep pits, affects of tire shortage on equipment accidents, ug mining in proximity to surface mines (Bingham Canyon planned block cave, large surface blast effect on ug opening stability)...

Comment ID: 402.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Heat/cold

Work-life issues

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

Health/People: effects of shiftwork--long hours, long rotations. Stress and/or fatigue factors in accidents. Does overuse of caffeine + stress = more cardiac problems? Drug/alcohol addictions -- prescribed Rx (i.e. Ambien to sleep, Provigil or excessive caffeine to stay awake); heat stress...

Safety/Surveillance: Near miss reporting; better "real" data; behavioral factors; influx of new workers w/ no experience, exodus of experienced workers, demographics...

Mills/Mineral Processing: Chem Haz, Emerging Issue Nanomaterials (good contact = Courtney Young, MT Tech Metallurgy/Mineral Proc Dept., Butte), Noise elimination.

Comment ID: 402.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Courtney Young, MT Tech Metallurgy/Mineral Proc Dept., Butte

Categorized comment or partial comment:

Mills/Mineral Processing: Chem Haz, Emerging Issue Nanomaterials (good contact = Courtney Young, MT Tech Metallurgy/Mineral Proc Dept., Butte), Noise elimination.

Comment ID: 403.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Intervention effectiveness research
Work-site implementation/demonstration
Authoritative recommendation
Health service delivery
Emergency preparedness and response

Partners

Migrant Clinicians Network based in Austin, TX

Categorized comment or partial comment:

Town Hall Meeting

January 17, 2006

Seattle, WA

Migrant Clinicians Network

Comments and Recommendations

On the National Occupational Research Agenda, Agricultural Sector

Good Afternoon, my name is Deliana Garcia and I represent the Migrant Clinicians Network based in Austin, TX. The Migrant Clinicians Network is the nation's oldest and largest clinical network dedicated to improving the health of the mobile underserved. For 22 years we have worked to prepare clinicians to meet the health care needs of migrant farmworkers, those "persons who cross a prescribed geographic boundary and stay away from their normal residences overnight to perform farm work for wages," and other mobile, underserved workers. Occupationally-related illness and injuries continue to be some of the most complex and frustrating health care events handled in the primary care practice setting.

I am grateful for the opportunity to address you today with our recommendations for the Agricultural Sector of the National Occupational Research Agenda under development. Your work will have enormous impact for many years to come.

We have seen this in the critical pesticide-related research that has been conducted over the last 10 years based on the previous National Occupational Research Agenda. The body of knowledge has greatly improved. Yet those crucial advances must be taken to the next level. Understanding of the impact and effects of pesticide exposure must be translated into clinical evaluation strategies, and treatment and management protocols for the clinician in the field. Related to the research to practice initiative, Our first recommendation would be that NIOSH funded research include an applied component to swiftly translate findings into clinical practices. We ask that future requests for proposals include requirements to link research findings to programs or organizations that can apply the results. In this way as studies are designed and executed, they will have as a specific aim the rapid deployment of major findings into the setting where they will have the greatest benefit. Currently, MCN is involved in a five-year partnership with the U.S. Environmental Protection Agency to integrate pesticide practice guidelines into the primary care setting. We would like to see additional partnerships with NIOSH that take the cutting edge research sponsored by your agency to the front-line provider.

Comment ID: 403.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Our second recommendation is that the Agricultural Sector of the National Occupational Research Agenda redouble its efforts to study injuries and illnesses resulting from occupational insults to workers. When caring for migrant workers, it is critical that the clinician look beyond just pesticide exposure at incapacitating injuries resulting from rapid and repeated motions, awkward body mechanics, and the strain of supporting excessive weight. I would suggest that pregnant women workers are of particular concern. These work requirements results in a whole host of traumatic injuries and musculoskeletal disorders that greatly impact the longevity of workers in many segments of the agricultural industry. The longer-term effects on the human body are not fully understood. Yet, due to these injuries, we see a growing number of workers no longer able to maintain employment either in agriculture or in another work setting. For many of these individuals, their very survival and that of their family depends on the ability to work at whatever job is available to them. The field of workers compensation and rehabilitation has far to go. I would again urge that future research incorporate the identification of strategies for the prevention, as well as, the treatment and clinical management of these injuries. The NIOSH-Northeast Center for Agricultural and Occupational Health (NYCAMH) provides an outstanding example of research in this area that has been translated into clinical recommendations and more efforts like this are needed.

Comment ID: 403.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

While there is enormous concern about the impact of injuries and exposures on adult workers and the young children in the families, little attention has been paid to adolescents, older children ages 14-17, functioning as emancipated minors. Reports of studies looking at the changing face of migration repeatedly indicate that the migrant population is increasingly non-English and non-Spanish speaking and getting younger. These young workers are not yet fully developed either physically or psychologically but life circumstances have required that they function in the adult world of work. They are, however, children unfamiliar with worker protections and often incapable of requesting assistance and additional research is needed to understand the impact of occupational injuries and illness on the adolescent worker. We do not believe that this population can be adequately addressed in adult research. Our third recommendation is that research funding targeted at children remain in place with a special focus on the older child. We have benefited enormously from our partnership with the NIOSH-National Children's Center (Marshfield, WI) and our active involvement in the Childhood Agricultural Safety Network. Such partnerships led to the development of highly sought after resources to help educate farmworker families. Continuation of this kind of intervention is critical. Again, it is important that the research work to assist the health care provider in understanding the effects on the developing body and identify strategies for prevention and clinical management.

Comment ID: 403.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Authoritative recommendation

Health service delivery

Partners

Categorized comment or partial comment:

There are a number of additional occupational issues facing the migrant agricultural worker that merit attention and research. For instances, there is a dearth of information regarding water and sanitation. In a recent pesticide study in the state Washington, researchers asked farmworkers what issues were most pressing to them. Many expressed concern regarding field sanitation and access to water. Research examining the conditions of sanitation and access, as well as the health implications would have an important impact on health care and policy in this area.

Comment ID: 403.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Another topic includes exposure to hazardous chemicals from large animal confinement. These are just a few examples.

In the brief time available to me, I would like to reiterate our appreciation for the work of the National Institute for Occupational Safety and Health and the importance of the agenda under development. We ask that in the coming ten years funding be dedicated to: So our recommendations:

- Linking studies to organizations able to translate finding into clinical strategies.
- Broadening the research agenda beyond pesticide-related illnesses to strengthen the emphasis on musculoskeletal disorders.

- Expanding child-focused initiatives to include the emancipated minors functioning as adult workers.

Thank you again.

Note: Similar verbal testimony was provided during the NORA Town Hall meeting in Seattle, WA, 2006/01/17, and was given Comment ID w507.

Comment ID: 405.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

I am concerned about the health effects of non-ionizing radiation in the workplace and its potential effect beyond the workplace and NORA

Comment ID: 406.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

I am very concerned about the health effect of non-ionizing radiation in the workplace and its potential effect on all of us.

Comment ID: 408.01

Categorized with the following terms:

Sectors

Unspecified

Population

Other

Health outcomes; diseases/injuries

Cancer

Cardiovascular disease

Traumatic injuries

Exposures

Cardiovascular disease

Work organization/stress

Work-life issues

Approaches

Engineering and administrative control/banding

Training

Intervention effectiveness research

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Night shift work causes sleepiness, falling-asleep incidents, performance decrements and accidents at work, as well as insomnia when workers try to sleep during the day after work. Night work is a risk factor for cardiovascular disease, gastrointestinal disorders and breast, colon and rectal cancers. Up to about 10 million full-time US workers work permanent night shifts or rotating or other shift schedules that often include night shifts. Stimulants (such as caffeine and modafinil) during the night shift and sleeping aids (such as hypnotics and melatonin) for daytime sleep provide minimal help. However, it is possible to eliminate or greatly reduce the physiological problems associated with night work by resetting (phase-shifting) the circadian body clock to a night work, day sleep schedule. This adjustment rarely happens in night workers. However, intermittent bright light at work, sunglasses during the commute home and dark bedrooms have been shown to produce circadian adaptation and improve performance during the night shift in combination laboratory/field studies. More research is needed to perfect these techniques and devise the most practical and feasible methods to phase shift circadian rhythms in night workers. Then the shift workers have to be educated about how to use and modify

these techniques, and the employers and families of shift workers have to be educated about what they should do and what they should not do to help night workers avail themselves of these techniques. Public education about the health and safety consequences of night work will be vital for producing the cultural changes necessary to permit full-scale adoption of these techniques.

Comment ID: 409.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer
Reproductive
Cardiovascular disease
Neurological effect/mental health
Hearing loss
Dermal disease
Musculoskeletal disorders
Respiratory disease

Exposures

Cardiovascular disease
Radiation (ionizing and non-ionizing)

Approaches

Etiological research
Engineering and administrative control/banding
Authoritative recommendation

Partners

Categorized comment or partial comment:

Urgent research funds needed for non-ionising radiation. Please read enclosed, this is a matter of emergency.

March 2006

Mobile Phone/Mast Radiation

I attended the first meeting for the EMF Discussion Group at the Health Protection Agency for Radiation Protection (HPA - RPD) on 2nd March 2006; the meeting was chaired by Sir William Stewart and included key people from the HPA, Department of Health, Mobile Operators Association (MOA) and representatives from campaign groups. It was a positive meeting and hopefully the first of many. Sir William has invited the EMF Discussion Group to provide a forum to consider health concerns related to exposure to EMFs and provide an input to EMF advice from the HPA.

Discussion needs to be followed up with action and I along with fellow members of the group are committed on behalf of EHS people, cancer patients and the many other people suffering with problems related to emfs to see this through to the end. I would like to take this opportunity to thank Sir William Stewart for opening up an important and urgent debate. Details about the meeting will be posted on the Health Protection website.

Reporter Nic Flemings article in the Telegraph 4/11/2005 reported Dr Jill Meara of the Health Protection Agency as saying people who think they suffer from electro-sensitivity should consider keeping their distance from electrical appliances. This was the advice from the Health Protection Agency following the Irvine report:

http://www.hpa.org.uk/radiation/publications/hpa_rpd_reports/index.htm

It is not good enough telling the estimated 2 million EHS people suffering to keep their distance from electric devices. What do you do if you have a phone mast next to your home? How do you keep away from that?

What sort of society are we living in when only certain people are allowed to earn a living, consigning the rest to live out their lives in pain, enforced poverty and isolation? By encouraging the proliferation of wireless devices, society has created an invisible under-class who are denied the opportunities available to everyone else. ES victims are often unable to use their talents and capabilities to earn a living through denial of access to transport and places most people take for granted. With other forms of disability, society has taken the view that such a situation is unacceptable and as legislated to ensure equal access and equal opportunity.

It is offensive, dismissive and wholly unacceptable to say "keep your distance from electrical appliances" or "Get over it, take a pain killer" then you could travel to work and be employed in our WiFi office surrounded by cordless and mobile phones". They have no idea or any understanding of the nature of EHS, why should we be any different to the recognised EHS people in Sweden?

We want prevention and protection, we need to be treated with respect and honestly represented by the people in power we deserve nothing less.

The UK has allowed the highest output of radiation in the world. The UK recently adopted lower levels of radiation by accepting guidelines set by the International Commission on Non-Ionising Radiation Protection 'ICNIRP'. However, the ICNIRP standard does not offer any form of protection other than from the heating effects of microwave radiation. In other words ICNIRP only protects your body from properties of high levels of elevated temperatures. A very substantial body of peer reviewed science clearly shows many biological changes have already happened.

The Government and Health Protection Agency Radiation Protection (HPA RPD) -formerly known as the NRPB now admit that magnetic fields at the power levels of 0.4 microtesla doubles the risk of contracting leukaemia, whilst other European Countries have brought down their power levels to 1 or 2 microtesla, the UK remain 100 times higher. They also admit that they have known about this for over three years. www.electric-fields.bris.ac.uk/PressRelease.htm

The Government has taken over £22 billion in the selling of the licences to the mobile phone industry. They put £3.5 million back into research along with £3.5 million from the Mobile Phone Industry. Further support was announced on November, 04 for research on three additional studies for the MTHR programme. While we welcome further research, we are concerned that it lacks true independence and would prefer the funding to go to an independent group of scientists.

Other countries medical professions recognise that some people are sensitive to non-ionising radiation. Sweden now has a medical register of 285,000 and California 700,000. We believe these figures are underestimated, since many people are not aware that their symptoms are connected to a condition known as electro-sensitivity or hypersensitivity (EHS) people. However, if the same figures apply to the UK this could indicate over 2.1 million people are knowingly or unknowingly affected to environmental fields (EMF).

Sir William Stewart, head of the UK's Health Protection Agency (HPA), has called for the precautionary principle to be invoked, especially where children are concerned, as they will absorb a higher dose of radiation and for a longer period of time.

We are now seeing evidence of cancer clusters appearing in radiation from phone masts after long-term exposure, throughout the UK. There appears to be a cancer epidemic across Europe with younger people developing this deadly disease.

The Naila Study, Germany (November 2004) - This study, conducted over 10 years was released by The Federal Agency for Radiation Protection, Germany. Medical doctors compiled case histories since 1994 - 2004, looking at heightened risk of taking ill with malignant tumours. They discovered a threefold increase after five years exposure to microwave radiation from a mobile phone mast transmitter for up to 400 metres distance, compared to those patients living further away.

A study carried out by Ronni Wolf MD and Danny Wolf MD, Kaplan Medical Centre, Israel (April 2004) discovered a fourfold increase in cancer within 350 metres after long-term exposure to microwave radiation from a mobile phone mast and a tenfold increase specifically among women, compared to patients living away from the mas

Five other short-term mobile phone mast studies have also found significant health effects such as headaches, dizziness, depression, fatigue, sleep disorder, difficulty in concentration and cardiovascular problems:

Santini et al (Paris) [Pathologie Biologie (Paris)] 2002

http://www.emrnetwork.org/position/santini_hearing_march6_02.pdf

Netherlands Ministries of Economic Affairs, Housing, Spatial Planning and Environment and Health Welfare and Sport. (TNO) 2003

<http://www.unizh.ch/phar/sleep/handy/tnoabstractE.htm>

The Microwave Syndrome - Further Aspect of a Spanish Study - Oberfeld Gerd. Press International Conference in Kos (Greece), 2004

<http://www.mindfully.org/Technology/2004/Microwave-Syndrome-Oberfeld1may04.htm>

Austrian scientists Dr Gerd Oberfeld send out a press release 1 May 2005 with this report:

'A study in Austria examined radiation from a mobile phone mast at a distance of 80 metres; EEG tests of 12 electro-sensitive people proved significant changes in the electrical currents of the brains. Volunteers for the test reported symptoms like buzzing in the head, palpitations of the heart, unwellness, light headedness, anxiety, breathlessness, respiratory problems, nervousness, agitation, headache, tinnitus, heat sensation and depression.

Bamberg, Germany 26-April, 2005

Dr C Waldmann-Selsam, Dr U. Säeger,

Bamberg, Oberfranken evaluated the medical complaints of 356 people who have had long-term [radiation] exposure in their homes from pulsed high frequency magnetic fields (from mobile phone base stations, from cord-less DECT telephones, amongst others).

People suffer from one, several or many of the following symptoms:

Sleep disturbances, tiredness, disturbance in concentration, forgetfulness, problem with finding words, depressive mood, ear noises, sudden loss of hearing, hearing loss, giddiness, nose bleeds, visual disturbances, frequent infections, sinusitis, joint and limb pains, nerve and soft tissue pains, feeling of numbness, heart rhythm disturbances, increased blood pressure episodes, hormonal disturbances, night-time sweats, nausea: Open letter to German Prime Minister following from the Bamberger study <http://www.tetrawatch.net/links/links.php?id=stoiberlet>

If you compare the results of the "Bamberger Appell" study to "The Microwave Syndrome - Further Aspects of a Spanish Study Oberfeld & Navarro 2004". Both studies seem to show the same symptoms being reported at the same level of powerflux density.

Campaign groups have also been working with retired physicist Dr John Walker. Six studies now show an increase in serious illness appearing in radiation from masts after long-term exposure. I would suggest that the threefold increase found in the Naila study up to 400m and the fourfold increase found in the Israel study will be much higher. These figures will be diluted; they will have taken in the whole area within the 350/400m range. Dr John Walker's research clearly shows the clusters of illness appear in radiation at exposures of around 1.5v/m, which is below the guidelines significantly permitting around 40 to 50 v/m (varying according to microwave frequency). We believe the increase will be approx 10 to 12 per cent within concentrated areas see examples at:- <http://www.starweave.com/gallery/> This situation demands proper and full investigation

The hamlet of Wishaw is a prime example:-

<http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2003/04/25/nmast25.xml>

Five ladies developed breast cancer

One case of prostate cancer

One bladder cancer

One lung cancer

Three cases of pre-cancer cervical cells

One motor neurone disease age 51, who also had massive tumour removed from the top of his spine.

People have developed benign lumps

Electro-sensitivity

Three cases of severe skin rashes

Many villagers suffering with sleep problems, headaches, dizziness and low immune system problems.

Horse with blood problems, continuous treatment needed by the vet.

Out of the eighteen houses surrounding the mast at up to a range of 500 metres, 77% of the tiny hamlet had health related illness believed to be as a result of radiation from the mast. The out break of illness occurred in 2001 after seven years of exposure to the radiation emitted by the T-Mobile mast. We are now in contact/communication with many people who are suffering from this form of radiation throughout the UK and Europe.

One other important fact is that since the Wishaw Mast vanished on November 2003, many of the residents are reporting a restored feeling of well-being. The residents are reporting improvement in their sleep patterns and increased energy levels. The headaches and dizzy symptoms have disappeared. We have recently seen a baby boom with three babies born in the village, one of the ladies had previously had treatment for pre-cancer cervical cells, another had previously suffered a miscarriage. We have also seen a return of wildlife in the area and the horse has since recovered and is now strong and healthy and no longer needs treatment. Finally a tree has blossomed for the first time in 10 years in line with the mast.

<http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2003/11/30/nmast30.xml&sSheet=/news/2003/11/30/ixhome.html>

Many animal studies have shown biological effects. The most recent study White Stork *Ciconia ciconia* by Alfonso Balmori Vallodolid, Spain is published in *Electromagnetic Biology and Medicine*, 24: 109-119, 2005.]

Behavioural observations of white stork nesting sites up to 300 metres were carried out. Productivity and behavioural observations were made. The results have shown microwaves are interfering with reproduction which is comparable with other lab studies.

Animal studies are of great importance as biological effects cannot be put down to psychological effects.

Microwaves seem to also be interfering with human reproduction according to a recent paper by Dr Imre Fejes of the obstetrics and gynaecology department at the University of Szeged in Hungary who concludes: "The prolonged use of cell phones may have a negative effect on sperm production and male fertility that deteriorates both concentration and motility." See news report-:

<http://www.timesonline.co.uk/article/0,,2087-1159951,00.html>

The effects of EMR are being felt by wildlife and the environment as a whole, Birds, bees, worms, trees are all being affected. We need to fight for not only the future of mankind but for the future of the whole environment.

Medical Doctors are also campaigning for precaution.

Finland: Helsinki Appeal 2005

http://www.emrpolicy.org/news/headlines/helsinki_appeal_05.pdf

The Helsinki Appeal 2005 from EMF Team Finland calls on the European Parliament to act promptly for the adoption of the new safety standard in the European Union. Physicians and researchers, feel great concern about the Precautionary Principle not being sufficiently applied to electromagnetic fields. They want the standards recommended by ICNIRP to be rejected, because recent scientific studies report various disturbances caused by mobile phone and other RF radiation. They also appeal to the European Community to take prompt measures for solving the refunding of the REFLEX project, which showed evidence of genotoxic effects of mobile phone radiation and should be continued:

<http://www.emrpolicy.org/>

The Irish Doctors` Environmental Association believes that a sub-group of the population are particularly sensitive to exposure to different types of electro-magnetic radiation. The safe levels currently advised for exposure to this non-ionising radiation are based solely on its thermal effects. However, it is clear that this radiation also has non-thermal effects, which need to be taken into consideration when setting these safe levels. The electro-sensitivity experienced by some people results in a variety of distressing symptoms which must also be taken into account when setting safe levels for exposure to non-ionising radiation and when planning the siting of masts and transmitters.

Catania Resolution September 13-14, 2002, 16 world leading scientists at the International Conference State of the Research on Electromagnetic Fields, Scientific and Legal Issues, by ISPEL*, the University of Vienna, and the City of Catania, held in Catania (Italy) on September, 2002,

Thirty GPs in Liverpool

http://icliverpool.icnetwork.co.uk/0100news/0100regionalnews/tm_objectid=13656858&method=full&siteid=50061-name_page.html

It was reported in the Liverpool Echo on November 2003 "bad medicine". A group of thirty, hospital doctors and consultants have signed a petition over the installation of a mast which they believe is a risk to health.

Freiburger Appeal

http://www.laleva.cc/environment/freiburger_appeal.html

In October 2002 a team of German medical doctors started the Freiburger Appeal. After seeing a dramatic rise in severe and chronic diseases, they have noted a clear temporal and spatial correlation between disease and exposure to microwave radiation. The appeal has since been signed by thousands of doctors.

My oncologist and breast cancer surgeon supplied me with a letter on 9th December 2003 stating that "we agree that there is some scientific evidence that suggests microwaves can damage cells but as yet there is no direct evidence that this is a problem in humans. We would agree that this issue needs to be raised at the highest level and funding released to support the debate and independent research to get a definitive answer."

Furthermore, the Russians, Chinese and many other parts of Europe are rejecting ICNIRP standards and are concerned about the biological effects. The Ministry of Chinese Health revealed that in the last ten years studies on radiation similar to that emitted by the mobile phone industry have shown a majority of results are showing biological effects. Out of 154 studies, 88 or 57% have shown biological effects such as cancer, genetic molecular and cellular changes, electro physiology effects, behaviour changes etc. in a

survey by Dr Henry Lai, Washington University, Seattle 2003. It said that the amount of evidence for biological effects and the characteristics of these are so alarming, that all efforts should be dedicated to find a way to minimize these effects.

China held an International Conference September 2005 in order to discuss and establish Asian Commission on Non-Ionizing Radiation Protection (ACNIRP). Research scientists have found that relatively low-level of RF (radio-frequency) radiation can lead to DNA breaks.

The REFLEX report also highlights RF-induced DNA breaks. The REFLEX project was set up to investigate the effects of low-levels of RF radiation on cellular systems; cost of approximately \$3 million. The work was carried out by 12 research groups in seven European countries. Yet again it was shown RF radiation could increase the number of DNA breaks in exposed cells and could also activate a stress response - the production of heat shock proteins. It was clear chromosome damage could be seen in the cell exposed to mobile phone radiation over 24 hour's exposure. You can view an image of the cell damage on Dr Gerd Oberfeld's Westminster Presentation on www.radiationresearch.org for the full report visit

http://www.verum-foundation.de/www2004/html/pdf/euprojekte01/REFLEX_Final%20Report_Part%201.pdf

The Daily Mail reported a 25% increase in young people being hit by mouth cancer on 25/9/05. The British Dental Health Foundation (BDHF) said risk factors are normally caused by smoking and drinking, however none of these are common risks in younger people. The figure is forecast to rise sharply in the next ten years, with people in their twenties and thirties increasingly vulnerable. (Daily Mail Report 10/11/03).

I am concerned that radiation from phones will intensify around the mouth if children or adults are wearing braces or have fillings, metal intensifies radiation. See statement http://www.chemistryquestion.com/English/Questions/ChemistryInDailyLife/23c_microwave_metal.html. This is an area that needs urgent attention!!!

Also enclosed recent BBC report on 50% increase in cancer in teenagers as reported by Tim Eden - from Manchester's Christie hospital

<http://news.bbc.co.uk/1/hi/health/4366606.stm>

I have taken this fight to Westminster, visited Director Generals in Brussels along with fellow trustee Mike Bell and scientists Dr Oberfeld and Professor Olle Johansson. I have given evidence to Birmingham and Liverpool City Council, met with Merseyside Fire Authority along side Dr Gerard Hyland and given presentations to 100's of packed meetings throughout the UK.

I and also met with Health Secretary Patricia Hewitt on 6th January 2006 with fellow trustee Brian Stein. I met with Minister, Solicitor General QC MP Mike O'Brien on 1st October. David Davis Shadow Home Secretary met with Mike Bell, Dr Oberfeld and I earlier this year and has encouraged us to keep him up to date with any further developments

Overall background radiation is excessive not least because we have eleven national infrastructures, four GSM operators, five 3G, one TETRA and shortly the Network Rail GSM. No other utilities duplicate their infrastructures, yet maintain competition. Further, the mobile phone operators have gone far beyond being a utility, into hi-tech mass marketing of entertainment and business services.

For the sake of us all especially our children, non-ionising radiation is a high priority for public health. Mobile phone networks should use the lowest possible exposure values, exclusion zones for masts from schools and homes should be brought in based on current empirical evidence. A huge education programme should be launched providing public information, encouraging the use of mobile phones for emergency use only.

Mrs Eileen O'Connor

Trustee - EM Radiation Research Trust - www.radiationresearch.org

Founder - SCRAM (Seriously Concerned Residents Against Masts) - www.scram.uk.com

Comment ID: 410.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I am concerned about the lack of data showing that EMF radiation is safe, eventhough we are being exposed to this type of radiation everywhere from work to in our homes.

Comment ID: 411.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Marketing/dissemination
International interaction

Partners

Categorized comment or partial comment:

Control Banding, an innovative risk assessment and risk management model, has received international attention. The model assigns intervention approaches ("control bands") to work tasks after the completion of a semi quantitative risk assessment. Control banding tools are attractive because they offer employees and workers across industry sectors simple, accessible risk assessment strategies that can be used to target the tasks that require exposure controls or professional risk assessment advice. NIOSH should 1) continue to communicate the Control Banding concept to both workers and managers (especially in light of the increased interest in the Globally Harmonized System for the classification and labeling of chemicals) and 2) fund research that seeks to validate the model.

Comment ID: 412.01

Categorized with the following terms:

Sectors

- Transportation, Warehousing and Utilities
- Unspecified

Population

Health outcomes; diseases/injuries

- Traumatic injuries
- Mortality

Exposures

- Motor vehicles

Approaches

- Surveillance
- Etiological research
- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

With motor vehicle-related crashes the number one cause of occupational fatalities, there is little information available on the much larger group of crashes that result in injuries to the workforce. Having access to the events associated with the crash, as well as the classification by industry, occupation, season and geographic locations of those involved would provide the Network of Employers for Traffic Safety and other mission-similar organizations with the opportunity to better understand the risk factors and develop more effective and meaningful strategies to prevent these motor-vehicle related incidents.

Comment ID: 414.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Partners

Categorized comment or partial comment:

An Urgent call to Fund Research into the Health Effects of Non-Ionizing Radiation

I am concerned about the risk of the growing problem of electro-smog and its impact on people in the workplace where technologies that emit various types of electromagnetic radiation are growing in number. There has been significant research that suggests that there may be significant health risks from ongoing exposure to such radiation. Because of this potential risk and the speed with which these technologies are propagating, it is crucial that funding for research into the health effects of non-ionizing radiation, including Radio Frequency Radiation (RF) and Extremely Low Frequency Radiation (ELF), be made available immediately. The failure to provide such funds over the past ten years has allowed this hazard to grow, putting many people at risk in ways that we have not taken the necessary steps to understand or mitigate. The longer funding for such research is delayed, the greater the number of people whose are at risk of having their health compromised by excess exposure there will be and the more difficult it will be to mitigate the risk that is being created. Please see that substantial funding for research into the health effects of non-ionizing radiation, RF, and ELF are made available as soon as possible.

Comment ID: 415.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Training

Intervention effectiveness research

Capacity building

International interaction

Partners

Categorized comment or partial comment:

There is emerging evidence that coordinating and integrating worksite health promotion and occupational health and safety enhances the effectiveness of efforts to promote and protect worker health. Integrating worksite health promotion and occupational health and safety is a core principle of numerous international efforts and declarations in support of worker health, and has been the subject of growing interest internationally.

Occupational health and safety and worksite health promotion clearly share the common goal of promoting worker health, with complementary functions in protecting and enhancing the health of workers, and thereby provide an important opportunity for coordinated and integrated efforts.

As part of the next phase of NIOSH research, it is important that research include an agenda for integrating OSH and worksite health promotion. Research to develop and test effective intervention strategies integrating OSH and WHP requires an interdisciplinary approach. Advancing knowledge in this area requires that we attend to barriers for scientists, including the real work of assembling multi-disciplinary teams and identifying funding sources to support integrated studies. Overcoming the segmentation of these fields ultimately will require an inclusive, comprehensive model of work and health, providing for resolution – or at least understanding – of our differences assumptions, vocabulary, research methods, and intervention approaches. Multi-disciplinary research teams can help to address this gap in our current research base.

Comment ID: 416.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Neurological effect/mental health

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Updating of existing meta-analyses of adult leukaemia and brain tumour studies and of cohorts of occupationally exposed individuals to EMF.

Studies of ALS and electric shocks and magnetic fields.

Surveys and epi studies of workers exposed to RF, particularly for neurodegenerative disease.

Comment ID: 416.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Work-life issues

Approaches

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

Looking at complex exposures and mixtures (e.g. RF at different frequencies and modulations).

Methods to combine residential and occupational exposures

Comment ID: 416.03

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Radiation (ionizing and non-ionizing)

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Wireless Technology: More research is needed for cell phones and 3G Wireless Wide Area Networks, WiFi - Wireless Local Area Networks, and WiMAX - Broadband Wireless Access Technology

Comment ID: 417.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction
Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

National Occupational Research Agenda Town Hall

February 21, 2006, Los Angeles

Comments from

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I want to thank the National Institute for Occupational Safety and Health (NIOSH) for convening these meetings around the country to hear input from many people and organizations about the workplace health and safety needs that should be addressed in the next 10 years of the National Occupational Research Agenda (NORA).

I represent the Occupational Health Branch in the California Department of Health Services, a non-regulatory public health program that conducts research and provides services to prevent injury and illness among California's workers. Our program was created in 1978, after exposure to dichlorobromopropane was found to cause sterility in a group of manufacturing workers despite the existence of studies showing the chemical had this effect in animals.

One of the important responsibilities of our program is to translate scientific data into practical information for employers and workers to use in creating safe and healthy workplaces. Another is to

collect and summarize statistics describing worker illness and injury. As a public health agency, we are charged with investigating the causes of illness and injury and making recommendations for their prevention and control. To carry out these functions, we have the legal right to enter California workplaces, review health and safety records, and interview both employer representatives and workers.

Meeting the occupational health and safety needs of California workplaces and workers is a daunting challenge. We have over 16 million workers and over 1 million worksites that fall under OSHA jurisdiction. Some are located in large urban areas such as Los Angeles, the nine-county San Francisco Bay area, and the rapidly-growing Central Valley. Our state's large geography includes vast rural regions where many other workers are employed.

California borders both Mexico and the Pacific Rim and, as a result, large numbers of recent immigrants enter our workforce from Mexico, Central and South America, and many different Asian countries. The language, literacy, and cultural challenges of providing effective health and safety training to our workforce are enormous.

Twenty-five percent of California's workforce is employed in the private services sector, where many jobs provide low wages, long hours, significant health and safety risks, and no benefits such as health coverage. Another 15% of our workforce is in government services where the working conditions and benefits are likely to be somewhat better, but musculoskeletal disorders related to computer use are widespread, and stress due to inadequate staffing and looming layoffs takes its toll. Other important industry sectors in California include agriculture, with over half a million workers, and construction with almost 900,000 workers.

California workers are exposed to long-recognized hazards like silica in sand and gravel mining and falls on construction sites. But our state is also a center for new high-tech industries like nanotechnology and biotechnology, with a host of potential hazards that may not yet be identified or well understood.

It is extraordinarily difficult to reach the large numbers of small businesses in our state with the latest health and safety information; over 87% of California firms employ fewer than 20 workers. Like other states across the country, we are seeing changes in the nature of work that include fewer regular, full-time permanent jobs with benefits and, instead, more use of contract and temporary jobs, where health and safety is often not a priority.

Given these challenges, the Occupational Health Branch has to make difficult decisions about where to focus our limited resources. One of our priorities is to identify and address the unique concerns of low-wage, immigrant, and underserved workers. Under this focus, we have, for example:

- Collaborated with others to develop safer workstations to reduce musculoskeletal disorders in Asian and Latino garment workers;
- Provided educational seminars and materials statewide to improve the quality of safety training in construction ("BuildSafe California");
- Investigated deaths among Latino and other workers in Los Angeles County; and
- Promoted the creation of the Working Immigrant Safety and Health (WISH) Coalition, a unique network of community-based organizations and others who are concerned about these workers and their communities.

Our program has a long history of collaborating with NIOSH, public health departments in other states, and many other organizations on these projects. We are one of 13 states currently funded by NIOSH for occupational health surveillance and prevention activities, with a particular emphasis on work-related asthma and pesticide illness. NIOSH funding has played a crucial role in enabling our program to track many types of injuries and illness, to investigate worksites and formulate recommendations for prevention, and to carry out special projects to address health and safety problems in high-risk industries and occupations.

We recommend that NIOSH consider the following priorities for the next decade of NORA:

1. Place special attention on supporting research and other activities that will improve working conditions for low-wage, immigrant, and underserved workers.

These workers are found in large numbers in the services sector, as well as in other sectors that are high-hazard and significant in California, including agriculture and construction. NIOSH should support and promote efforts that:

- Determine the most effective ways to provide health and safety information and training that is appropriate to the languages, cultures, and literacy levels in the workforce;

Comment ID: 417.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction
Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

-- Develop effective interventions for preventing and reducing musculoskeletal disorders, a major contributor to workers' compensation costs and cause of lost work days and disability (often unreported and uncompensated);

Comment ID: 417.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services

Population

- Language/culture/ethnicity
- Small business

Health outcomes; diseases/injuries

Exposures

Approaches

- Marketing/dissemination

Partners

Categorized comment or partial comment:

-- Disseminate available information that can be used to improve working conditions (i.e., hazard information, research findings, best practices), particularly to reach large numbers of small businesses and their diverse workers;

Comment ID: 417.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

- Work-site implementation/demonstration
- Marketing/dissemination
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

-- Involve partnerships between occupational health professionals/researchers and community-based or other organizations that have special access to these workers and knowledge of their needs;

Comment ID: 417.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

- Work organization/stress
- Work-life issues

Approaches

- Intervention effectiveness research
- Work-site implementation/demonstration
- Health service delivery
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

-- Determine how best to address health and safety within the context of other important problems and issues these workers face (e.g., language barriers, poverty, working long hours and/or multiple jobs, limited education, lack of access to health care and/or permanent employment, exploitation, other life stressors).

Comment ID: 417.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Intervention effectiveness research

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

state health departments

Categorized comment or partial comment:

2. Enhance and expand partnerships between NIOSH and state public health departments for conducting occupational injury and illness surveillance and intervention activities, and to assist in translating research findings into safer workplace practices (NIOSH's Research to Practice initiative, or R2P).

We work closely with many NIOSH staff who understand that state-based programs are uniquely positioned to carry out these efforts; for example, we:

- Have legal right of access to workplaces to carry out public health investigations;
- Have statutory access to data sources (e.g., California's Doctor's First Reports of Occupational Injury or Illness and electronic Workers' Compensation Information System) for conducting epidemiologic analysis and "sentinel event" case follow-up investigations;
- Are part of the state's public health infrastructure, with useful ties to colleagues in communicable and chronic disease control, environmental health, family health, and health services delivery;
- Have existing relationships with local partners including trade associations, unions, community-based organizations, health professional organizations, and local health departments;
- Have a long history of collaborating with other states, NIOSH, and the Council of State and Territorial Epidemiologists (CSTE) to share information and experience, and to promote a growing network of state-based programs to prevent occupational injury and illness.

NIOSH support, collaboration, and technical assistance have been critical to many of these state-based activities. We have been successful in encouraging more states to expand their efforts in this important area of public health. More states are gaining expertise in doing this work and are able to identify important state priorities that need to be addressed, propose well-conceived research efforts, and write competitive grant applications. Therefore, we recommend that NIOSH:

- Increase the total amount of funding for activities conducted by state public health departments;
- Provide enhanced funding for projects that involve developing and implementing intervention projects;
- Support proposed partnerships that allow states to work with stakeholder groups to address health and safety issues identified in a participatory group process (such as the BuildSafe California construction industry training effort funded under the NIOSH Core Surveillance cooperative agreement); and
- Partner with states on efforts that involve widespread dissemination of research findings and adoption of the best health and safety practices in our states' workplaces.

We look forward to working with NIOSH and others in creating new opportunities and approaches for promoting workplace health and safety in California over the second decade of NORA. Thank you again for the opportunity to offer these comments.

Comment ID: 418.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Authoritative recommendation

Partners

Categorized comment or partial comment:

In 2005, the ACGIH recommended a TLV of 1 mg/m³ inhalable particulate for most wood dusts. The ACGIH does not recommend appropriate exposure monitoring methods to enable comparison with their TLV's. NIOSH has only one method in its manual for inhalable particulate. Many industrial hygienists and researchers believe the equipment listed in that method to be inappropriate for wood dust, and, if it is so used, there are probably few, if any, industries where wood products are sawn or sanded that would meet the ACGIH TLV. Urgent research is required to provide hygienists in the forest products industries with guidance as to the appropriate technique for assessing exposure to wood dusts.

Comment ID: 419.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

I am concerned about the health effects of non-ionizing radiation in the workplace and its potential effect beyond the workplace

I would like this issue included in NORA

Comment ID: 420.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Marketing/dissemination

International interaction

Partners

Categorized comment or partial comment:

The effectiveness of the Material Safety Data Sheet (MSDS) has been hindered by workers' inability to understand the information presented because it is often vague or generic and the sheets also contain additional information beyond the basic hazards information for chemicals. It has been estimated that the average literate worker understands only 60% of the safety information on an MSDS. The MSDS does not have a uniform format and this reduces the worker's comprehensibility to understand the standardized terms. The HCS requires that the MSDS be written in English and this makes it difficult for American workers who do not speak English as a first language and worse for illiterate workers to be able to understand the safety information on the MSDS. The accuracy and completeness of the chemical safety information on most MSDS are severely lacking. It has been determined that only 11% of all MSDS are completely correct. The European Classification and Labeling Inspection of Preparations (ECLIP) found only 25% of all SDS are correct.

The current lack of effectiveness of both the MSDS and SDS can ultimately create safety and health and transport problems domestically and in the international trade system. To combat these problems, international manufacturers, transporters, industrial producers, warehouses and emergency responders need to have a global means of communicating chemical hazards and a classification system.

Comment ID: 421.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

I am troubled by the lack of a coherent approach to deal with our most vulnerable workers, the immigrant workforce, who, though they are covered by OSHA, do not complain to OSHA, talk to OSHA, or exercise any of their rights under OSHA. They are far less likely than the English speaking workforce to have adequate training in the hazards that they face. These are the workers now doing the industrial work, facing the most hazardous exposures, with the least protection. They only rarely find their way to a tertiary care clinic such as ours and when they do, they are afraid to let us call their employers. I have read that some between 12 and 17 % of our workforce, depending on sector, is from Mexico alone. I have no seen hard numbers which I understand are difficult to obtain. But this is a lot of people at risk! I recognize they are covered by OSHA but they will not

I would like to see NIOSH taking the lead in trying to establish a framework for absorbing these workers safely into our workplaces. I know NIOSH is concerned about minority/vulnerable workers and has held conferences and funded projects in many setting. It's not enough.

I am not sure what NIOSH could do short of advocating an amnesty for workers and establishing an aggressive program to inform immigrant workers of their rights. Perhaps, in accordance with NORA's new sector based approach, a strategy could first be developed for a particular sector. But I feel we need a coherent strategy to keep up with our rapidly changing workforce in addition to the small and wonderful efforts that are already taking place in some places. I would like NIOSH to:

1. Seek to develop and present data on this segment of our workforce in a more systematic way. We don't even know how serious the issue is, but with more and more of our hazardous jobs falling to this workforce, we should know. How can we do this without injuring the people we are trying to protect?
2. Develop and publish guidelines on how to do outreach to these workers, perhaps based on the projects they are already supported. What groups should we be approaching to partner with? What has been successful elsewhere?
3. Make available sufficient money for this work, so we can catch up with our rapidly changing workforce.

Lacking data, it is hard to demonstrate that something could make a difference, but we cannot afford to overlook the extreme vulnerability of this workforce and allow our traditional protections to be eroded.

Comment ID: 422.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Risk assessment methods

Engineering and administrative control/banding

Personal protective equipment

Authoritative recommendation

Partners

ORC, DuPont, PPG

Categorized comment or partial comment:

One priority for this sector is the need for guidance documents for workers who handle or work with unbound nanoparticles. There are a number of good partners in industry (ORC, DuPont, PPG, etc) that should be willing to participate. A major immediate need is research on the effectiveness of engineering controls and personal protective equipment (PPE). A longer term need is to develop exposure limits for nanoparticles.

Comment ID: 422.02

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Mortality

Exposures

Cardiovascular disease

Heat/cold

Approaches

Engineering and administrative control/banding

Personal protective equipment

Partners

IAFF, IAFC, NFPA, DHS, equipment manufacturers

Categorized comment or partial comment:

One of the leading causes of death among firefighters is heart attacks. It has been speculated that heat stress caused by their equipment may be one of the underlying causes. Research on new materials and technologies that reduce heat stress among firefighters and first responders is needed. An example research project would be cooling garments that would be worn underneath turnout gear, hazmat suits, bomb suits, etc. Potential project partners include the IAFF, IAFC, NFPA, DHS, and equipment manufacturers.

Comment ID: 431.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Cancer

Exposures

- Chemicals/liquids/particles/vapors
- Radiation (ionizing and non-ionizing)

Approaches

- Surveillance
- Etiological research
- Exposure assessment

Partners

Categorized comment or partial comment:

21,000 people die each year in the United States from radon-induced lung cancer. The occupations that have the potential for elevated radon exposure is quite broad - http://www.cheec.uiowa.edu/misc/radon_occ.pdf

Mine workers, including uranium, hard rock, and vanadium

Workers remediating radioactive contaminated sites, including uranium mill sites and mill tailings

Workers at underground nuclear waste repositories

Radon mitigation contractors and testers

Employees of natural caves

Phosphate fertilizer plant workers

Oil refinery workers

Utility tunnel workers

Subway tunnel workers

Construction excavators

Power plant workers, including geothermal power and coal

Employees of radon health mines

Employees of radon balneotherapy spas (waterborne ^{222}Rn source)

Water plant operators (waterborne ^{222}Rn source)

Fish hatchery attendants (waterborne ^{222}Rn source)

Employees who come in contact with technologically enhanced sources of naturally occurring radioactive materials

Incidental exposure in almost any occupation from local geologic ^{222}Rn sources

Farming (plowing), grading, etc.

Employees of radon chambers

Hospitals (radium implants, etc.)

Academia and research facilities that use ^{222}Rn or ^{226}Ra .

Antique stores and collectors (radium items)

Research is needed on the distribution of radon exposure nationwide in the workplaces. In addition, little is known about the fate of radon progeny nanoparticles in regard to their redistribution in the body.

Comment ID: 437.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Immune disease

Respiratory disease

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

Hello,

NORA funding for research about the adverse health effects of non-ionizing radiation exposure and a public education program is urgently needed!

A local newspaper in Wisconsin recently covered an extraordinary case of health improvement at a local school. Angela Olstad, a teacher diagnosed with benign multipel sklerosis, suddenly recovered completely from her condition after the installation of electrical filters which significantly reduce high frequency transients from the power net:

<http://www.jacksoncountychronicle.com/articles/2004/02/12/news/00lead.txt>

An article that recently ran in the Vancouver Sun:

<http://getpurepower.ca/resources/vancouver.sun.pdf>

Highlight:

>One of her subjects was Brad Blumbergs, 28, who was diagnosed with progressive >MS when he was 25. When Havas met him, he could not walk without a cane or >railings. Since his diagnosis, he had lost 30 pounds and looked, said Havas, like a >drug addict. Havas installed 14 filters in his home and within three days he reported >walking unaided. Two weeks later, Havas returned to videotape Blumbergs and was >shocked at his improvements. When she arrived, he was shovelling snow from the >driveway. He could walk forwards and backwards and did a little dance for the >camera. "You can't even tell he has MS," she says, adding she has seen similar

>results from others with M.S.

More information about the filters can be found below:

<http://www.electricalpollution.com/>

Read Angela Olstad`s touching letter to the public five years after the installation of the filters!

More information about case studies done with the filters(and related EMF/health research) can be found at:

<http://www.stetzerelectric.com/filters/research/>

The results include a reduction of the number of people using asthma inhalators a public school from 37 to three(and those are only used prior to phy. ed. classes).

20% of the staff expressed reduction of symptoms(headaches, migraines, allergies etc. etc.) during a single blind study!

Havas & Stetzer, who conducted the studies described below, were recently interviewed on Wisconsin public radio:

http://wpr.org/webcasting/ideas_audioarchives.cfm?Code=bme

Monday

12/12/2005

5:00 PM

Ben Merens - 12/12M

Have you experienced unexplained dizziness, memory loss, or physical weakness?

After five, Ben Merens` guests say electronic pollution may be the cause of these and other ailments.

Guests:

- Magda Havas, Associate Professor of Environmental and Resource Studies.

- David Stetzer, Owner of Stetzer Electric. www.stetzerelectric.com

Highlight:

* The blood sugar of diabetics and electrosensitive people sky-rocket after only 20-60 in front of an electrical device. Stetzer`s comment: "I doubt that people can affect their blood sugar value psychosomatically!"

I hope you will take your responsibility and avoid futher damage and a safe world for future generations!

Best regards,

Jimmy Granstrom

Comment ID: 439.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Respiratory disease

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Exposure assessment

Marketing/dissemination

Partners

Categorized comment or partial comment:

Lobstering Industry:

As the island physician on Vinalhaven Maine for 10 years from 1994 to 2004 I observed lobstermen`s work related injuries on the boat and previously unstudied frequent respiratory symptoms from their winter workshops. Through a NIOSH Pilot Project/NIOSH Training GrantT42/CCT 110421 in 2002 and with mentorship at the Harvard School of Public Health we quantitated lobstermen`s exposures to indoor paint fumes, for the first time.

This remains an understudied industry with over 7,000 lobsterman representing a 262 Million dollar a year industry in Maine alone. (2002 figures)

In contrast, more centralized industries with fewer total employees such as Bath Iron Works (BIW) in Bath Maine receive significantly more attention to work related risks.

I therefore recommend that NIOSH fund further measurement of lobstermen`s occupational exposures, document exposure related illnesses, and facilitate outreach to lobstermen to reduce these exposures. Lobstering is a thriving industry, one of New Englands quintessential industries, and deserves nothing less.

Thank you,

Rick Donahue, M.D.

Comment ID: 439.02

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment
Authoritative recommendation

Partners

Categorized comment or partial comment:

Health Care:

As a practicing Family Physician I see an acute need for NIOSH to study and recommend optimal approaches to stopping the spread of infectious agents in the health care work setting. Identifying clearly the levels of personal protection, and air quality needed for specific infectious such as Avian Flu, Pertussis, and Bio-terrorism. We are woefully unprepared, although on paper preparations may look good.

Thank you,

Rick Donahue, M.D.

Comment ID: 442.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Mortality

Exposures

Approaches

- Surveillance
- Authoritative recommendation
- Marketing/dissemination

Partners

Categorized comment or partial comment:

A Town Hall Meeting for the
National Occupational Research Agenda (NORA)
Tuesday, March 21, 2006

Comments by Robert E. Koedam, M.S.

Chief, Fatality Investigations Team

Surveillance and Field Investigations Branch

Division of Safety Research, CDC/NIOSH

Hello, my name is Robert Koedam. I serve as the Chief of the Fatality Investigations Team within the Surveillance and Field Investigations Branch, Division of Safety Research, NIOSH. Within the Fatality Investigations Team lies the Fatality Assessment and Control Evaluation (FACE) program. I would like to speak today to impress upon the NORA Research Program industry sector managers, coordinators, and research sector councils the significant impact that the FACE program can have on NIOSH's research

agenda - across those sectors with high numbers and rates of fatalities. As a matter of fact, between 1983 and 2005, the FACE program completed 2,096 fatality investigative reports - including investigations in all eight NORA Sector Programs.

The Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries collects occupational fatality data that are useful in setting safety research and prevention priorities. We know that the BLS data collected is highly effective in identifying common causes of death and worker groups that have experienced large numbers and/or rates of occupational injury.

What we also know is that unfortunately, there are "gaps" in the data in that it does not completely include the needed detail that would enable researchers to clearly identify a specific hazard, identify the specific factors that allow workers to be exposed to a hazard, and/or identify a specific means to control an emerging or existing hazard. In order to develop effective, sector-specific prevention measures, more in-depth information is needed to understand all of the circumstances and events that lead up to and contribute to fatal injuries.

The NIOSH FACE program fills this niche' nicely through the execution of it's primary objectives - which include identifying work situations at high risk for fatal injury, performing in depth on-site investigations, collecting specific, comprehensive information, and performing analysis of collected data. This data analysis includes all information related to the agent, host, and environment in the pre-event, event, and post event phases of the incident. NIOSH FACE has both an intramural and an extramural component (currently active in 15 States.) The State FACE programs, because of their close relationships with other intra-state agencies and safety organizations, as well as with employers and workers, have also been particularly effective at administering FACE programs while reaching out quickly to employers within their respective state when hazards are identified and prevention strategies are developed. This type of collaboration would work well within the NORA sectors as well.

Perhaps the most unique characteristic of the FACE program is that it contains the surveillance component as well as the field investigation component. The field investigation component allows for the gathering of the needed detail pertaining to an incident. This enhances the existing BLS data and fills many of the existing information gaps. Perhaps more importantly, the additional detail collected during field investigations allows for the development of a summary fatality report that includes prevention recommendations that can be immediately used in future or existing training programs, and feeds into the implementation of safety controls and research - including product substitution, developing engineering controls and administrative controls, and addressing the development and/or use of adequate personal protective equipment.

Each of the FACE-generated reports and documents also incorporate a dissemination component. The dissemination component allows the summary reports and their timely, effective, and realistic prevention strategies to reach those who can intervene in the workplace - thereby preventing future similar incidents. The dissemination has included forming partnerships with other government agencies, civilian agencies, trade associations, trade journals, and private and corporate industry. The NIOSH FACE program has been able to direct this information to targeted audiences in a variety of FACE products and interventions - including working with partners such as the OSHA training institute and its satellite training centers to incorporate FACE reports into safety and health training as case studies.

In closing, with very limited resources, FACE has contributed to changes in regulations and equipment and current research. FACE materials are also used in training for employees, and by employers by creating a safer work environment through the implementation of the aforementioned safety controls. These direct impacts and R2P examples include, but are not limited to; the State of New Jersey enacting safety laws regarding lights in swimming pools, OSHA implementing CPL 2-1.36 - which covers the Interim inspection procedures during Communication Tower Construction Activities, a North Carolina OSHA telecommunication tower standard, and engineering and administrative controls implemented by the international community following two investigations by Nebraska FACE of accidental injections from Micotil 300®, a deadly cattle antibiotic. Other impacts include the implementation of FACE findings into training programs in the telecommunication tower, roadway construction, and logging industries - just to name a few.

I urge you to consider including surveillance, as well as the FACE program in your NORA recommendations.

Thank you for this opportunity to speak before you today.

Comment ID: 443.01

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Partners

Categorized comment or partial comment:

Research is needed on asbestos in mines: 1) to determine if winchite, richterite and other asbestiform amphiboles should be classified as asbestos, 2) to determine if non-asbestiform cleavage fragments of amphiboles should be classified as harmful, 3) to determine whether intermediate asbestos fibers (e.g. talc-anthophyllite) are dangerous, and 4) to determine how best to distinguish the above species.

Comment ID: 444.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Manufacturing
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer
- Immune disease
- Dermal disease
- Infectious diseases
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Indoor environment

Approaches

- Hazard identification
- Exposure assessment
- Risk assessment methods

Partners

Categorized comment or partial comment:

I would like to highlight the need for research in allergy and immunology. It is one of the identified cross-sectors that doesn't fit nicely into any one of the defined sectors. There is, however, often a very close linkage between work place exposures and the immunological health of the workers. This can range from skin exposures to various chemicals that cause a simple contact dermatitis, to more systemic or inhalational exposures that can cause allergic reactions, sometimes being acute or severe like anaphylaxis, to much more chronic problems such as occupational asthma.

There are work place exposures that are not necessarily related to any particular occupational setting but can occur in relatively clean environments such as office buildings and schools to more hazardous places such as manufacturing plants or farms. In modern society, the increased use of personal protective equipment in the form of latex gloves resulted in a million workers with latex allergy, a difficult and sometime life-threatening condition. Water damaged or damp indoor places, for example, can grow molds that after relatively long but low dose exposures, result in allergic reactions such as rhinoconjunctivitis or more serious problems such as asthma or hypersensitivity pneumonitis.

Sometime these are high dose exposures, but they often low dose, chronic exposures that are difficult to detect and to characterize. There is much work that needs to be done to understand these problems, to develop biomarkers for these kinds of exposures, and to be able to assign workplace risk. Monoclonal antibodies can be developed and used for exposure assessment. We need to establish standards of measurement that relate to the risk. There are relatively new technologies such as proteomics that could be very powerful in identifying and characterizing biomarkers and workplace hazards.

The other side of the coin are exposures which do not stimulate the immune system but suppress it. In these situations, such as exposure to welding fumes or certain manufacturing chemicals, an immunosuppression occurs. Here, instead of a hyper-reactivity or an allergic response there is a reduced immune activity and this can leave workers more susceptible to infections or the development of cancer and other diseases. Laboratory hazard identification methods can help identify potentially immuno-reactive materials in order to prevent worker exposures. Better methods of assessing the immunological status of a worker should be developed where either hyper-reactivity or immunosuppression can be detected early so intervention can occur before the development of disease.

While allergy and immunology are not readily placed into a sector, they are extremely important for workers health and should not be overlooked.

Comment ID: 445.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Authoritative recommendation

Partners

Categorized comment or partial comment:

Exposure assessment to coarse aerosols requires appropriate monitoring methods. The ACGIH now recommends sampling a wide variety of coarse aerosols in accordance with an internationally harmonized "inhalable" sampling convention. This recommendation extends to many pesticides, metals (nickel, molybdenum, beryllium), organic dusts (flour, wood, asphalt), and inorganic dusts (glass fiber, diatomaceous earth), as well as to the large class of Particles Not Otherwise Specified. NIOSH has developed only one method for inhalable sampling (for the specific case of formaldehyde on wood dust) and needs to develop more. Recommended limit values for the thoracic fraction (NIOSH metalworking fluids REL, ACGIH sulfuric acid mist NIC) are also being developed. The only currently available thoracic cyclone has too low a flow-rate to meet the requirements of sensitivity for these methods. NIOSH needs to research the issue of coarse particle measurement to provide appropriate exposure assessment technologies to practitioners.

Comment ID: 445.02

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

The proliferation of risk assessment and control models, for example the approach known as "control banding", without formal validation studies is worrisome and should be addressed by NIOSH.

Comment ID: 446.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Marketing/dissemination

Capacity building

Partners

North Carolina

Categorized comment or partial comment:

North Carolina is a prominent agricultural state. It ranks nationally in the amount of pesticides used and numbers of farmworkers employed in agriculture. Pesticides have been found to cause both short and long term health effects. Our agricultural status places workers at high risk for overexposure. There is no system in place in NC to track, respond to, and help prevent, incidents of pesticide-related illness. We would like to establish a pesticide surveillance system and this would require federal dollars put towards occupational surveillance.

Comment ID: 446.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Capacity building

Partners

state departments of public health

Categorized comment or partial comment:

Specific occupational-related hazards continue to cause unacceptable injury and fatality rates and require monitoring. Occupational surveillance programs are fundamental to assessing and responding to issues affecting worker health and safety across sectors. These activities are usually conducted by state departments of public health and they rely on federal dollars to support them. Funding for surveillance appears to be dwindling. Further, the new NORA priorities may diminish its importance. We are asking that that surveillance be valued as an approach to help reduce injuries and fatalities and be funded in an equitable fashion.

Comment ID: 447.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Respiratory disease
- Traumatic injuries
- Mortality

Exposures

Approaches

- Surveillance
- Capacity building

Partners

Categorized comment or partial comment:

My name is Mike Attfield.

I am Surveillance Branch Chief in the Division of Respiratory Disease Studies. I second what Dawn Castillo has said.

Surveillance data form the underpinning of the work of NIOSH. Without knowing the where, what, and when of disease occurrence we cannot make informed and logical decisions on where to place our research and prevention efforts. We cannot measure where we are, and we cannot assess the worth of what we have done. In other words, Surveillance is a critical tool for measuring our needs and our success.

This applies to all of outcomes, whether mortality, injury, or morbidity. It applies to all of our sectors, from Agriculture to Wholesale and Retail Trade.

I feel that a lot of lip service has been given to surveillance. Yet, over the recent years surveillance activities have been contracting rather than expanding. In connection with this I'd like to mention two of our surveillance applications that supply us with critical information.

The first of these is our state-based surveillance program. This program is one of the few to supply morbidity data. It also leverages federal funds with state and local effort, and provides a very practical mechanism for disease detection and prevention. Yet state-based surveillance is marginal in that only a slight minority of states can participate in the program because of limited funding. In respiratory disease we have been lucky to retain our asthma and silicosis states, but the whims of the funding mechanism could see these critical components disappear at any time. In addition, since the state-based program is cross-cutting and extramurally funded, its significance and utility may not be apparent to the industry sectors, resulting in the potential for it to be overlooked or neglected.

The second surveillance I will mention concerns death certificate coding for occupation and industry. For almost 15 years NIOSH and NCI paid for the records from a subset of states to be coded for occupation and industry. This enabled us to publish extensive data on the relationship between mortality and work in various occupations and industries. It showed us where disease was occurring, and it enabled us to track those trends over time.

For over 10 years we published that information in the WORLD Surveillance Report, a periodic compendium of occupational respiratory disease mortality and morbidity information. The information has been used widely both internally and by our stakeholders.

In 1999, funding for coding ceased, and unless funds are found, it will not resume. With this cessation, we have lost a major source of surveillance data, not only for respiratory disease but for many other outcomes too.

Since we will need to monitor the success of our efforts, as well as detect new problems in the occupational health arena, it behooves us to improve our surveillance efforts, not permit them to languish. For this reason I argue for the maintenance and expansion of our state-based program and the resumption of funding for I & O coding for death certificates, in part or whole. The results will benefit all sectors and provide objective data for furthering the work of NIOSH.

Thank you.

Comment ID: 448.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Unspecified

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Mortality

Exposures

- Infectious agents
- Chemicals/liquids/particles/vapors
- Work organization/stress
- Heat/cold
- Noise/vibration
- Radiation (ionizing and non-ionizing)
- Work-life issues

Approaches

- Etiological research
- Exposure assessment
- Engineering and administrative control/banding
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Capacity building
- International interaction
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The following was going to be presented at the Lowell town meeting yesterday. I was unable to attend.

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Statement to the NORA Town Hall Meeting

3/20/06 Lowell MA

Funding and Promoting Multi-Level Work Organization Research Initiatives
and Researcher/Practitioner Collaboration

Introduction:

I was trained as an ergonomist here at UMass Lowell. In a number of different sectors, the trajectory of my research has led me through an expanding examination of risk factors for MSDs, starting with job-level biomechanical exposures, to include the contribution of psychosocial risk factors, and finally to examine the underlying multi-level work organization characteristics, including organizational structure and culture.

One of the 8 sectors identified for the NORA sector-based approach is HealthCare and Social Assistance. Working within the Veterans Health Administration, our research team has been studying the relationships between organizational characteristics of healthcare facilities, the working conditions experienced by employees, and product quality: i.e., the safety and quality of care delivered to patients. Of the 8 NORA sectors, Healthcare is arguably the one in which a systems-based, multilevel approach to improving employee health has been adopted and accepted for the longest time, with the largest body of useful data to study and evaluate relationships between organizational characteristics, several levels of work organization, working conditions of employees, and quality/safety of care delivered to patients.

Interestingly, the primary driver for the explosion of information about the healthcare sector is not concern for employee health, but the recent 'discovery' of a fact that most practitioners already knew, at least qualitatively: that there are between 48,000 and 98,000 preventable deaths per year due to medical errors, as estimated by the Institute of Medicine. However, the focus on patient care has translated into increased attention to employee working conditions and resultant health status (both mental and physical) as a primary path through which organizational characteristics, culture, and systems exert their effect, negative or positive, on quality and safety of care.

The problem for occupational health research:

Workers are still exposed to a wide range of risk factors: for traumatic accidents, for occupational disease, and for job stress. In hospitals and many other sectors, these include:

- Biomechanical (physical) risk factors for MSDs - force, posture, repetition, vibration, etc.
- Psychosocial risk factors that contribute to MSDs as well as job stress
- Chemical and biological exposures
- Physical agents such as radiation, noise, temperature, etc.

Primarily as a result of research sponsored by NIOSH, as well as other federal, union, and private sources, many of the most egregious risk factors have been greatly reduced or eliminated. But in parallel with these exposure reductions, workers and their employers experienced increased exposure to the global marketplace and neoliberal economic policies. Competitive pressures, local, regional, national and global, have a profound influence on how work is organized within healthcare institutions and within other companies. The intransigence of remaining occupational health problems, the difficulty with even identifying the full spectrum of exposures as well as controlling them, is partly due to their multiple roots in this hierarchically nested structure of work organization exposures.

Indeed, it becomes more difficult (and it was always difficult) to draw the boundary at the door between the workplace and the "rest of life". For example: our Ergonomic Technology Center developed an ergonomic program with an aerospace manufacturer that was experiencing a very high incidence of MSDs and was unable to address them with traditional, very well designed workstation changes. We finally realized that the group of young engineers who were experiencing very high rates of MSDs was the first crop of students who had used computers regularly, from kindergarten on. They entered employment as an already compromised, predisposed or even preinjured workforce. This demonstrates the need for casting a wide net when trying to identify exposures for occupational illness.

The basic message is this: as the low hanging fruit of obvious, job-level exposures are controlled, the occupational health problems in healthcare (and in the other sectors as well) are increasingly the result of multi-level "exposures", a complicated and recursive network of characteristics of the job, the work teams, the departments, facilities, and even extra-organizational factors: the economic, political, technical, educational and cultural environment in which the facility operates.

The good news: what already exists to address these factors?

1. A broad and vital area of research and practice under the umbrella of Organizational Development, Industrial/Organizational studies and associated, practice-oriented fields.
2. A growing tradition of Action Research and Participatory Action Research, to develop theory and practice based in the ownership of both data and research approaches by the populations studied.
3. In Occupational Health intervention practice, there is now wide experience with large and small participatory interventions (that is, development of sustainable, continuous improvement programs, based in labor/management teams that own, guide, evaluate, and correct the interventions) and widespread acceptance of the practical usefulness of this approach
4. Recent NIOSH and NIH emphases on cross-disciplinary, inter-disciplinary and trans-disciplinary research.
5. The recent emergence of Occupational Health Psychology as a vibrant discipline in its own right, not just a poor stepchild of psychology. Supported by NIOSH and the American Psychological Association, this field brings together researchers and practitioners from the diverse set of traditions and practices noted above. The interdisciplinary approach generates theory and interventions targeting the work environment as well as the individual, to create healthier workers, workplaces and organizations.

The need: Recommendations for NORA

Fund and promote research that addresses the full spectrum of multilevel work organization analysis already detailed by NIOSH in the 2002 booklet, "The Changing Organization of Work and the Safety and Health of Working People". This builds on the work organization focus of NORA 1.

Fund and promote multi-institution, cross-disciplinary, consortium-based research efforts that bridge and combine the expertise and practice disciplines of the wide range of participants outlined above. Our group had very good experience with the power of this approach working with the MSD consortium funded by NIOSH

Request that these multi-disciplinary grant applications explicitly lay out a roadmap for forging learning partnerships between academic researchers and field practitioners. The sad truth is that these disciplines do not often talk to each other, although the forum provided by the Occupational Health Psychology approach is beginning to make inroads into the communication barriers, and NIOSH Research to Practice initiatives can encourage this communication. As a researcher I have developed a wealth of information about the complex relationships between healthcare organizational characteristics, employee working conditions, and quality/safety of patient care. But my training and experience do not fully prepare me for developing interventions designed, for instance, to change the organizational culture.

In sum, we recommend that NORA take a two pronged approach to controlling the multilevel causes of occupational disease:

- Fund and promote research that identifies, with quantitative and qualitative approaches, the multi-level web of factors underlying job-level exposures and disease.
- Fund and promote active collaboration among the research and practitioner disciplines outlined above.

The benefits of funding and promoting these approaches are simply stated:

This approach allows us to identify underlying risk factors and interactions of risk factors that are not immediately identifiable on the shop floor but that have a profound effect on job-level risk factors and disease.

This multi-level, multi-disciplinary approach to the identification and control of workplace risk factors is a more efficient way to improve employee and organizational health, compared to our traditional approach focused on job-level exposures. An intervention aimed at changing organizational culture or practice can simultaneously reduce seemingly disparate job-level exposures (e.g., biomechanical, psychosocial, and chemical risk factors) rooted in work organization.

This multilevel, multidisciplinary approach is also efficient in reducing the chances that solely job-level interventions often encounter - sub-optimal performance, limited or no change, and even unanticipated negative effects.

Comment ID: 451.01

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Surveillance
- Hazard identification
- Etiological research
- Exposure assessment
- Risk assessment methods
- Engineering and administrative control/banding
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

NIOSH has made many important contributions in exposure assessment and methods development by supporting basic research in analytical chemistry, aerosol science, clinical laboratory science and toxicology. This focus and these areas should remain a center of attention in NIOSH's future research agenda.

The conduct of occupational epidemiologic and exposure control studies, depends on the development of robust scientific methods for measuring exposures and health effects. In turn, the development of field ready methods depends on a firm foundation in the basic sciences.

It has been estimated that there are about 80,000 chemicals listed in the TSCA inventory of chemicals in commerce. Of the approximately 2,800 high production volume chemicals that the US imports or produces, EPA has reported that 43% have no basic toxicity information and only 7% have OSHA standards. Although there is now underway an EPA voluntary program for companies to supply missing toxicologic data, there is a glaring gap in human data for these widely used chemicals. This is a gap that NIOSH could fill by focusing epidemiologic studies of these chemicals, many of which are used in commercial products that could also cause non-occupational exposures.

Over the past several years, there has been a push to move away from exposure surveillance and quantitative exposure assessment and towards a control banding approach to exposure control.

Although on the face of it this has the potential to be a useful tool in the public health arsenal of prevention, there has been very little work done to validate this approach across a range of industries, jobs and tasks. This type of validation through measurement of exposures would assure that this public health intervention model is actually protecting workers adequately. I strongly encourage NIOSH to engage in a rigorous and extensive validation of the control banding approach before encouraging its wholesale adoption.

However, in order to do research on new chemicals in commerce or to validate the control banding approach, it is likely that new methods of exposure assessment will have to be developed. NIOSH has always been in the forefront of exposure assessment methods development, yet in the past few years this pre-eminence has been declining as resources have dried up. This is an important area for NIOSH to focus its resources. Areas of exposure assessment that need particular focus include:

1. Development of analytical methods. Currently there are several hundred NIOSH analytical methods for use in exposure assessment with several dozen added over the past few years. However, as I mentioned above there are almost 3000 high production volume chemicals and over 80,000 other chemicals in commerce. We need exposure assessment methods that can identify and characterize exposures as they appear in new products and processes such as nanotechnology, as well as to help us identify the hazardous components of older technologies such as metalworking fluids

2. NIOSH should expand its work in the development of methods for assessing mixed exposures.

- Increasingly we see dermal exposure as an important route of exposure and even a target organ for the development of systemic health effects. Yet, methods for dermal exposure assessment are in their infancy.

- There is a desperate need to work on methods for assessing multiple exposures within occupations or industries. It is time to develop the tools to address multiple chemical exposures in a workplace, as well as the physical and psycho-social milieu of a worker when assessing occupational hazards.

- One set of tools that NIOSH could put more of a focus on would be the use of biomonitoring methods to assess the relationship between external exposures and internal dose. These methods should not substitute for measurement of external exposures, which is where control interventions must be targeted, but, they can help us understand the relationship between various routes of exposure and potential health hazards.

- Other tools that should be developed include pharmacokinetic models that could be used with animal tox data to back extrapolate equivalent human exposures as part of a basic risk assessment for the many unregulated and unstudied chemicals in commerce.

3. Another important area for NIOSH research is to encourage toxicologists and analytical chemists to collaborate in identifying classes of chemicals with similar biologic activity. Then analytical methods that measure these classes of materials, rather than each compound individually could be developed. For example isocyanates as a class rather than each type of isocyanate separately. This type of approach could simplify exposure surveillance and exposure assessment for epidemiology. In addition, it would facilitate the validation of control banding which uses the concept of "risk groups" for chemicals to assign them to control bands.

4. In addition, there are many situations where measuring with direct reading or portable and expedient field methods, even those with less accuracy or those measuring only classes of chemicals, would be

extremely useful in targeting control efforts in the field. For example, the constantly changing work environment of construction would greatly benefit from a portable method to measure airborne silica exposures in the field. Development of new robust, convenient and quick measurement methods that can assist field personnel in determining what level of control to implement should also be a priority for NIOSH research.

Although developing practical public health interventions in the field of occupational safety and health is vitally important, so too is the basic research needed to improve our understanding of the nature of workplace exposures and their health effects. I strongly believe that a major focus of NIOSH research should be in the basic science of developing exposure assessment methodologies. For if not NIOSH, then who will support the fundamental science of our field?

Comment ID: 453.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Mortality

Exposures

Approaches

- Surveillance
- Capacity building

Partners

Categorized comment or partial comment:

The surveillance of occupational illness and injury fatalities within each of the eight sector groups can not be fully addressed, unless within a cross-sector program there is research focused on developing a system of coding industries and occupations from death certificates using the new classification of employer/employment (NAICS codes) and occupation (Census occupation titles and codes - COC codes). Since the Year 2000, the availability of mortality statistics of illnesses and injuries from death certificates by industry and occupation does not exist. Two reasons for the lack of this information are 1) The insufficient funds at the state level to code the literal text from the death certificates; and 2) The lack of an industry and occupation coding system capable of coding with the current NAICS and COC codes, and one that is capable of being intergraded into current vital statistic programs (e.g., Electronic Death Registration (EDR) system) at the state level. If we want to continue to monitor the mortality trends for occupational diseases in this country then plans need to be developed within a cross-sector program for decade two of NORA.

Comment ID: 454.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Health service delivery

Partners

Categorized comment or partial comment:

NIOSH National Occupational Research Agenda

University of Massachusetts, Lowell

March 20, 2006

Name: Terri Arthur

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Topic and title of comments: Occupational osteoarthritis in the older worker

I appreciate this opportunity to bring the concern of: Repetitive lifting, walking for hours (8, 10, 16 hour shifts) on cement floors, non-ergonomic work situations creating undue stress on weight bearing joints.

As the average age of nurses at the bedside is advancing and is now noted at 46 years, and the healthcare industry continues to grow at the fastest rate of all industrial sectors, this concern of injury is important.

It has been my experience that: Many nurses report bone and joint disease requiring extensive surgical repair and replacement. This is particularly true as the nursing workforce is aging. Workers who would

normally require this type of orthopedic surgery in their late 60's and 70's, are now requiring this surgery in their 50's and 60's. Nurses and other workers in the healthcare industry are also developing osteoarthritis of the feet from cement floors in hospitals and osteoarthritis of the back from repetitive lifting.

These conditions are not recognized as work related injuries and therefore workers are on their own when in payment is due for medical treatment and lost time wages.

I would like NIOSH to: conduct research related to the issue of osteoarthritis in nurses and others in the healthcare industry, in relation to the work environment, mainly long hours and inappropriate conditions, specifically large work areas and cement floors, and address this issue as a work related injury.

Thank you for this opportunity to share my interest and concern before the NIOSH, National Occupational Research Agenda.

Comment ID: 456.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Immune disease

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Personal protective equipment

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

NIOSH National Occupational Research Agenda

University of Massachusetts, Lowell

March 20, 2006

Name: Gail Lenehan, RN EdD FAAN FAEN

Address:

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Topic and title of comments: Continuing problem of latex allergy among health care workers.

I appreciate this opportunity to bring the concern of: Nurses and others experiencing continuing symptoms of latex allergy, inability to work in hospital settings, a lack of access to safe medical care, and an inability of latex allergic nurses to accompany children to medical appointments/hospitalizations.

My experience has been: As a member of the Massachusetts Nurses Association Congress on Occupational Health and Safety, long time editor of a national nursing specialty journal, and advocate for victims of latex allergy since 1997, I am familiar with nurses and physicians who continue to struggle to earn a living and obtain safe health care due to latex allergy that was developed from exposure to latex at work.

The problem is: "Low protein", "low powder" latex gloves are being aggressively promoted by industry and even some researchers with ties to industry, as being completely safe when they are not. Common sense dictates that less allergen (low protein) and less ability to enter lungs (low powder) would likely decrease the number of users becoming sensitized, but we shouldn't be lowering the rate of sensitization, we should be eliminating sensitization and eliminating life threatening reactions in those already sensitized. It only takes a few molecules of latex to cause an anaphylactic reaction. Please consider that it does not matter what amount of peanut butter a person with peanut allergy eats. The results of exposure are rapid, dramatic and can be deadly. It is not different with latex.

The vigilance and response to latex allergy seems to be relaxing. Strides made to make hospitals safer are being reversed. In settings where latex gloves have been eliminated, they are coming back in.

Allergenic latex gloves with high protein and high powder continue to be used in prepared medical procedure kits such as those used to insert a urinary drainage catheter and to suture a wound.

The myth that latex is required for barrier protection from is being promoted when we know that many synthetic gloves provide equal and often superior barrier protection from bloodborne pathogens exposure. The fact that synthetic non-latex gloves, are even safer than low protein, low powder latex gloves is being ignored.

The Massachusetts Nurses Association Congress on Occupational Health and Safety is aware of nurses and doctors, who are already allergic to latex who have still not been able to return to hospital settings. Many will never be able to return if latex gloves are used, no matter how attenuated. Worse, these same nurses and doctors and other health care workers are also patients whose access to medical care is seriously compromised.

Widespread ignorance about latex continues. An OR team with a latex allergic child on the table called me last week to ask whether it was OK to use a silicone catheter on the patient. [Silicone and other synthetics are a completely different material than allergenic (rubber) latex and pose no hazard to someone allergic to latex.] This occurred in a hospital in which one OR nurse educator had made changes that made the hospital safe for staff and latex allergic patients, but when that nurse left two years ago, latex gloves began to be ordered once more, and the hospital's gains in safety have been lost.

I am aware of new nurses coming into health care facilities with virtually no knowledge of latex allergy as it relates to them or their patients. This is directly opposed to the recommendation in the 1997 NIOSH Alert: Preventing Allergic Reactions to Natural Rubber Latex in the Workplace, clearly states that employers should "provide workers with education programs and training materials about latex allergy".

I would like NIOSH to:

-- ensure that articles and preliminary quotes from NIOSH funded researchers do not reinforce the myth that low protein, low powder latex gloves are safe. They are safer, but they are not safe.

-- continue to raise consciousness and educate health care professionals about latex allergy and strategies to keep staff safe, including the fact that latex, no matter how attenuated, is still dangerous to those who have begun their sensitization.

-- conduct research related to the effect of using synthetic, non-latex gloves, not just low protein, low powder latex gloves.

Thank you for this opportunity share my interest and concern to the NIOSH, National Occupational Research Agenda.

Comment ID: 457.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Heat/cold

Noise/vibration

Radiation (ionizing and non-ionizing)

Approaches

Hazard identification

Etiological research

Partners

Categorized comment or partial comment:

I wish to offer support to the request from Dr. Bowman for more intensive NIOSH funding and support in the area of non-ionizing radiation (NIR). There are still important biological questions to be resolved for cell phone use, power frequencies (ELF), pulsed electric and magnetic fields and NIOSH is uniquely suited to perform that work.

Due to possible limited funding for the ELF/MW/RF area I would propose that this request for continued NIR work in this area be folded into a larger area denoted as Physical Agents. When this is done then topics such as pressure vessel safety, heat and cold stress, electrical safety, noise, laser non-beam issues, vibration-whole body and impact, optical radiation (ultraviolet and infrared), illumination, infrasound and ultrasound can be addressed which would help with obtaining research funds across the spectrum of topics. It is vitally important that the entire spectrum of physical agents not be dropped by NIOSH since the field has a large impact on almost all workers. I recommend NIOSH provide funding for physical agents effects studies for all the above topics as well as the very important work that Dr. Bowman is doing in low frequency and RF/MW areas.

Comment ID: 458.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

- Radiation (ionizing and non-ionizing)

Approaches

- Authoritative recommendation
- International interaction

Partners

Categorized comment or partial comment:

It is critically important that NIOSH maintain a vigorous program in bioelectromagnetics research. Exposure to electromagnetic energy at both radiofrequency (RF) and extremely low frequency (ELF) is nearly ubiquitous in the workplace. In particular, opportunities for RF exposures continue to increase because of many devices that are part of the information technology activities in the workplace, including wireless devices for communications, security, and process control. RF energy also remains in widespread use for a wide variety of industrial purposes. It is apparent that applications of RF energy in all areas will continue and grow with no foreseeable limit. Similarly, electric and magnetic fields at low frequencies, particularly in the extremely low frequency (ELF) range, also are ubiquitous in the workplace and are inherent in a large number of industrial processes.

NIOSH must continue to be a center of excellence and a knowledge resource in bioelectromagnetic research concerning the above areas of workplace concern. This can only be done effectively and at the necessary level of professional standing by continuation of a high-quality research program. I recognize that this program will be of modest size in numbers of scientists and budget commitment, but the program is no less important for those reasons. In fact, the modest program size represents an opportunity to advance knowledge and maintain a necessary resource for the health of the nation's workers at relatively low cost.

In considering the importance for occupational health of NIOSH programs in the ELF and RF areas of bioelectromagnetics, I am struck by the leverage the current program has had. This is particularly exhibited by its impact on development of science-based worker health and safety guidelines and in the formulation of health standards in the USA and worldwide. Moreover, NIOSH scientists have played a leading role in research conducted under guidance from the World Health Organization and, in a worldwide study of exposure to wireless handsets that is being conducted by IARC (a WHO agency).

RF and ELF exposures of great diversity occur in all sectors of the workforce. For this reason, and others, I am pleased to have this opportunity to address the importance to the Institute agenda of a strong research activity in RF and ELF bioelectromagnetics in the forthcoming decade.

Asher R. Sheppard, Ph.D.

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Comment ID: 459.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Work-site implementation/demonstration
Economics
Authoritative recommendation
Emergency preparedness and response
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Agriculture has historically been ranked as being one of the top 3 most dangerous industries in which to work, based on fatality rates. In addition, this industry is always in the top 3 industries for having the most fatalities. This tells us that besides being at high risk for death (rate), there are also a large number of deaths associated with the industry of agriculture.

The single most prevalent event associated with agricultural production deaths are tractors. A known intervention has been around since the 1960's (ROPS) and has been a voluntary ASAE standard since 1976 for all new tractors manufactured in the US. However, tractor fatalities due to roll-overs still remains the #1 problem for agriculture production. We need to fund research in the following 2 areas in order to address this issue:

1. Fund intervention research (or demonstration projects) to identify the reasons why farmers do not install ROPS on their tractors and what barriers need to be addressed in order to rectify the current situation (including financial incentives and/or policy initiatives);
2. Fund research into whether pre-ROPS manufactured tractors can be effectively retrofitted with a low cost, easy to mount ROPS, since this group of tractors currently make up the majority of tractors which are on American farms.

Comment ID: 460.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Mortality

Exposures

Work-life issues

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Agriculture production has high rates of fatalities for older workers, older than 65 years of age. This is a unique aspect of agriculture production, since this class of workers is generally retired from all other industries. Having this older class of workers brings special issues into occupational safety, such as medication issues, general health status, mental acuity, vision/hearing impairment, physical dexterity limitations and recuperative/regenerative issues associated with injury. These are all issues which should be researched in order to better protect and serve this population.

Comment ID: 460.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Work-life issues

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Additionally, young agriculture production workers are at increased risk of death compared to their counterparts in all other industries. The reasons for youth work, hazard issues, supervision and risk abatement should all be foci of research into the youth mortality problem.

Non-fatal injuries to youth are important. Injury prevention to youth working in agriculture should be funded. Also, youth being injured due to living or being present on a farm should not be ignored, since USDA/NIOSH research indicates this is the majority of non-fatal injuries which occur to youth on farms. Funding to prevent or mitigate these effects should be a priority.

Comment ID: 462.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Youth
- Older
- Disability

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

- Work-life issues

Approaches

- Engineering and administrative control/banding
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Emergency preparedness and response

Partners

- physical therapists

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good morning. Thank you for the opportunity to provide comments to NORA. My name is Janet Peterson, and I'm a physical therapist and an ergonomic consultant in the Seattle area. I also am current board member of the American Physical Therapy Association, or APTA, and a past president of the Physical Therapy Association of Washington.

In looking at future research directions, I'd like to encourage NORA -- and it's really just acknowledging what you are already doing -- to consider an interdisciplinary model when creating research teams. Various disciplines, including engineering, epidemiology, medicine, psychology, physical therapy, and

basic scientists working together with the end user of businesses and industry, can produce a more comprehensive outcome than a single discipline working alone.

One example of this is the upcoming collaboration between APTA, the Association of Rehab Nurses, and the American Occupational Therapy Association on a project entitled "Therapeutic Use of Patient Handling Equipment". This is the continuation of a very successful corroboration with the ARN last year when we developed and published a white paper on safe patient handling.

The purpose of the upcoming program is to develop clinical tools that will assist the clinician in the selection, implementation, and assessment of safe patient handling technologies to reduce the risk of injury for both care givers and patients. Physical therapists are well suited to assisting the research of work-related musculoskeletal disorders. They're educated at the doctoral level now for about 70 percent of the programs across the United States and master's degree level for the remaining, and work in a variety of settings including research -- clinical research, basic research and industry.

There's other presenters already on the docket today that can -- that can show that there's evidence already that repetitive motion, stressful postures, and forceful exertions are associated with a variety of musculoskeletal disorders. The rub with that is that I think there's still a great deal of lack of acceptance of that information out there, especially in the business community.

Where I think that physical therapists may have a special role in NORA or NIOSH-related research is in looking at things like older workers, those with chronic diseases, obese workers, children, things where you're really looking at specific musculoskeletal issues and chronic disease issues that may have an impact on the kinds of interventions that you're looking at to reduce musculoskeletal disorders.

You know, one small thing -- and you mentioned nanotechnology -- that really gets to me as a physical therapist and alarms me is looking at all of the -- how all of our PDA devices and things are getting smaller and smaller and smaller, and our older and older eyes are -- and repetitive issues with thumbs and fingers are problematic, and on the other -- on the other end of the scale, you know, we have -- right here in our area Microsoft is doing basic research on -- and just came out with a new computer keyboard design, and I just saw a presentation from the primary research on that and asked questions like well, did you think about the younger computer user and how the large keyboard is a mismatch with their anthropology -- or anthropometrics? And the response was, well yeah, but the money is driving us elsewhere. And the money is driving us so that we are not detaching, for example, the numeric pad on the keyboard -- on the new keyboard. If you could detach that you could save a lot of musculoskeletal issues with shoulder, elbow, hand problems on the right side. And computers obviously are -- cross all of the sectors were -- that were listed today because everybody's using computer technology to some extent or another in their work.

So I -- APTA -- on behalf of APTA, and we applaud NORA's efforts to seek further evidence to assess the most effective interventions for decreasing the risk for work-related injuries, and we invite you to include physical therapists in those efforts. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17

Comment ID: 463.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services
- Unspecified

Population

- Other

Health outcomes; diseases/injuries

Exposures

- Work-life issues

Approaches

- Etiological research
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Capacity building
- Health service delivery
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thanks. Good morning. I'm Patricia Butterfield. I applaud the inclusion of a cross-sector research council to address issues across the eight proposed sector areas. Many workers living in America's small towns work across sectors holding down two or more part-time jobs. It's essential that the research agenda by NORA address the health and safety needs and the system needs of such workers.

Critical issues faced by rural workers and their employers include rural workers that are employed 40 or more hours a week, but still lack having health insurance. What barriers exist in rural communities? What are the infrastructure needs? What types of incentives do we need for small employers to offer their workers benefit packages? How does the lack of private or public insurance impact worker injuries and illnesses associated with workers compensation claims? Our pilot work in rural Whatcom County, Washington outside of Bellingham and in Bozeman, Montana and Gallatin County, Montana -- which is not in this region, but is nearby -- our pilot data, 45 percent of our workers did not have private healthcare insurance.

Some of them had two or three different jobs, and they worked not in the service industry, but they might be thinning sugar beets in the spring, working in Burger King in the winter, and then working in construction in the fall, and that's a very common scenario.

Another work -- another issue is what are the needs of rural workers caught up in economic downturns? Economic trends in the inter-mountain and Pacific northwest are changing, with fewer families involved in agriculture and mining and more families employed in service industries. Low income families are frequently caught up in local economic downturns, which may result in the loss of health benefits, extended periods of un- or underemployment and the loss -- and the economic necessity of multiple part-time jobs. In addition non-urban areas have relatively few employers, and there's very few options in terms of other types of -- of ways to go.

Rural areas experience wide seasonal variations in employment, a phenomenon that Bashier* refers to as a feast or famine economic cycle, which we see in many areas that are gentrified. Whether you're looking at, you know, ski areas or rural areas in central Washington, you see this kind of urban flow. What resources and what types of research do we need to do to really understand this phenomenon in terms of both housing and the experiences of workers? One of the things we saw in rural Gallatin County was a donut effect where poor workers needed to move out of these areas as they became gentrified and move out into areas where they had no resources, and move out into unincorporated areas of the county.

The last area I want to address in terms of the theme of rural workers are the lack of occupational health professionals in rural communities, leaving many employers without the requisite information they need to look at risk reduction opportunities. They tend to see illnesses and injuries in workers as a specific event related to a specific worker rather than a pattern of risks that can be assessed and minimized.

What types of things can we do to reach out in meaningful ways through occupational health professionals? I direct the nursing program here. We're well suited to providing nurses in those areas, but a lot of times employers are not able to -- small employers are not able to hire a nurse. Actually I see Karen Bowman in the area. She's one of our graduates that has done consulting work with small companies all over the northwest, including out on the Olympic Peninsula. What research do we need to really look at the feasibility of such types of opportunities to meet the needs of rural employers and workers?

These and many other issues impact the lives of a considerable proportion of the U.S. workforce. The sustainability of a rural community depends on the vitality of its local employers. A NORA-supported research agenda needs to address the reality of rural workers and employers across sectors. Thank you for the opportunity to comment this morning. Thank you, Max. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 464.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Capacity building

International interaction

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: I'm an Associate Professor in the Environmental and Occupational Health Sciences at the University of Washington and a practicing occupational medicine physician. I direct a training grant that provides opportunities for health and safety professionals and scientists from Asia and Latin America to study at the University of Washington that's jointly funded -- leveraged, as you might say; as Sid would say -- between NIOSH and NIHS. My goals to encourage NIOSH to include support for international occupational health and safety training and research in its next -- in its next National Occupational Research Agenda or the continuation of the former one. It will protect B- in the end protect American workers.

You might ask why should NIOSH fund occupational health and safety and research outside the United States? I'll give you two good reasons, though there are more. The first reason, based on an ethical mandate, is just that we in the United States, as we give economic support to populations struck by natural disasters and epidemic disease, it's also appropriate that we help protect workers and their families from developing countries from the consequences of occupational illness and injury which, where social nets are inadequate or nonexistent, can be as devastating as natural disasters.

A second reason, potentially more in keeping with the mandate of the Occupational Safety and Health Act which brought NIOSH into being, is that approving the occupational health and safety standards for the workers in developing countries through training of health and safety academics and professionals will in fact protect workers in the United States.

And how does this work, you might ask. The lightning fast movement of capital across borders as a result of the neoliberalization of the world economy has made the flight of jobs a painful daily reality for

workers in developed -- in developed countries. This mobility of capital in jobs has led to a bidder's war among developing countries where, in order to attract investment, salaries and benefits must be low, and the workplace environmental regulations must be enticingly unintrusive. The bidder's war cannot be totally ignored by developed countries. In order to compete with developing countries in the new global marketplace and maintain industrial activities in the developed countries, industries there must cut the cost of production at home or decrease the relative cost advantage presently enjoyed by competing countries.

In industries such as agriculture, where land capital is not transferable, survival unquestionably will involve correcting this discrepancy in some way. Several options exist for reducing this cost of production. One of the most obvious is by reducing the costs related to the workforce. Mechanization of labor is one option that's been particularly the aim of the Washington tree fruit industry as displayed by the technology road map. This is a long-term strategy, as new tools must be developed and tested and deployed.

Another more immediate option is cutting the expenses of employing workers. This includes reducing the cost of salaries and benefits and health and safety standards. The news is full of large companies who have chosen this approach. The arguments for the repeal of the ergonomics initiative, both nationally and in Washington state, were based on this premise. It's evident that the low cost of workers including -- the -- the low cost of the workers, including health and safety, in developing countries is driving the move to limit these costs in the U.S. O'Rourke* and Brown made the point by amending the question posed by the economist Freeman, who had asked whether American wages were set in Beijing, by saying -- asking whether the world's B- world's health and safety standards and conditions are set in coastal China. Morgensen* made the same point in his chapter on workers' safety under siege, stating that the globalization of the free market economy is eviscerating the sociopolitical framework that assures that workers -- that assures workers the rights to free association and safety and health protection in the United States and around the world.

Industry in the U.S. will no doubt work to level the playing field in one way or another. I would argue that the best way is to increase the standards for worker health and safety in competing developing countries, rather than lowering our own. Lowering our own standards will increase the number of injured and ill workers and their families, requiring support from the existing social -- social safety net. It is a false solution that results in an inefficient covert cross-subsidy of industry by the greater society. I believe the training of occupational and environmental health professionals and researchers in developing countries will lead to a data driven pressure on governments to improve their occupational and environmental safety standards.

My experience as an educator at a world class university with a high quality occupational and environmental training capacity, and my experience internationally, tells me that there are ample developing country professionals and scientists looking for these skills and knowledge who are committed to improving the health and safety of the workforce in their own countries. We need only give them the tools, and they'll do the rest.

In summary, I believe that NIOSH -- that by NIOSH supporting and training occupational and environmental health scientific and professional workforce in developing countries, an important portion of the relative cost of production -- the relative cost of production advantage enjoyed by competing countries will be diminished. This will contribute to a leveling of the playing field and a

reduction in the downward pressure on American health and safety regulations. It will in the end help protect the health of American workers. This is clearly not the only solution, but it is an important investment for NIOSH and for America to make. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 465.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you, Noah, and thank you to NIOSH for the opportunity to comment on the research agenda, and also thanks to our friends at the University of Washington for hosting this event.

My name is Claude Golden. I'm here representing the Boeing Company. As most of you know, Boeing is the largest aerospace manufacturing company in the world. We're the number one U.S. exporter. Our products are commercial airplanes, defense projects, and space exploration vehicles. We have over 150,000 employees in 67 countries. Our largest site of operations is here in the greater Seattle area, and the vast majority of our manufacturing occurs in the United States.

Most would agree that the main purpose of occupational safety and health research is to reduce the risk of injury and illness to our workers. The best way to accomplish this goal is to help employers build the most effective safety programs, and to help government adopt the most productive regulations. Effective research is practical research, and research should be targeted to high risk exposures and high risk industries.

There is a finite pool of resources available to any employer, no matter how small or large. It's very discouraging to be forced to spend those resources on compliance with standards where there is very little risk at your workplace and have fewer resources left over to spend on higher risk areas in your workplace. Research dollars should not be used on esoteric subjects where injury and illness rates do

not show high risk. Aerospace and all of the sectors should be targeted for research in those areas where statistics indicate a problem. And manufacturing sectors should also be contrasted and not necessarily pulled together with construction and agriculture in terms of risk analysis where the types of risk can often be very different.

We need much more research on effective mitigation methods of compliance through pilot projects and fit for use and usability testing. We need field testing of different approaches to reduce risk. Oftentimes small pilot programs are inadequate to address very broad questions of productivity issues. Research the best methods for industry to more easily comply with standards, and you'll really see an improvement in safety.

Comment ID: 465.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Toxicology research should always be cross-referenced and combined with epidemiology research.

Comment ID: 465.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

And as we've heard about nanotechnology, that emerging field needs to be researched for methods of monitoring and detection, and for protection methods of workers.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 466.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cardiovascular disease
Musculoskeletal disorders
Respiratory disease
Mortality

Exposures

Chemicals/liquids/particles/vapors
Cardiovascular disease
Work organization/stress
Noise/vibration
Motor vehicles
Work-life issues

Approaches

Training
Intervention effectiveness research
Economics
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: I`m an Assistant Scientist at Oregon Health and Science University in the Center for Research on Occupational and Environmental Toxicology. I`m also an adjunct faculty member with the Portland State University Occupational Health Psychology Program, which is one of the original eleven NIOSH/APA co-sponsored occupational health psychology programs, which is a very excellent interdisciplinary training effort. I am an industrial organization psychologist and an applied behavior analyst. My research areas are diagnosing the causes of deficiencies or excesses in critical behaviors relevant to health and safety, self-management and motivation.

I`m here to highlight basically the plight of occupational drivers, their health and safety needs, but I also have experience with other transportation populations. The transportation and warehousing sector in 2003 represented seven percent of employment, but 19 percent of illnesses and injuries in the workplace. In 2004 it was the second highest fatality -- number of total fatalities, transportation. The plight of occupational drivers is highlighted by urban transit operators, where literature reviews have

shown that this population has higher rates of hypertension, heart disease, respiratory disease, alcohol consumption, smoking, and musculoskeletal disorders.

In the state of Oregon, in the trucking industry, our highest number of workers compensation claims are in that industry. In 1999 there were twenty -- nearly 2,500 claims totaling \$25.5 million in costs. Our occupational fatality investigation program, Oregon FACE -- we're one of 14 states with a FACE program -- showed that in 2003/2004 nearly half of our fatalities had a transportation component.

A particular trend of interest is that mobile machinery operation fatalities often involve the worker being outside of the vehicle, so behaviors in and around machinery while it's not in transit.

And in general I just would like to emphasize that the trucking industry is the backbone of the economy in many ways. And their health and safety and well-being is a significant public safety concern, especially when hazardous materials are being transported or when large semi trucks are involved in collisions on the highway.

This -- occupational driving is faced with significant constraints. Performance is generally a function of ability plus motivation minus constraints. Constraints for truck drivers include hours of service regulations that give them approximately three hours of discretionary time during the work day. Truck drivers work 1.5 times the hours of a regular 40 hours per week worker annually, and often work 60-70 hours over seven to eight-day periods. They're exposed to vibration and postural constraints for up to 11 hours a day, and are paid by the mile, which encourages driving those 11 hours.

They face serious diet, activity and sleep constraints. They're basically rotating shift workers. Their dietary choices are limited to what's available at truck stops, and we are all aware of the sugar, fat, and salt available at those locations.

They're also constrained by where they can go to be active, and during cold and rainy and wet conditions it's very difficult for drivers to get in activity.

Psychosocial factors relevant to truck drivers include the isolated nature of the work. Isolated workers like drivers have less exposure to modeling, feedback, social reinforcement, and have less opportunities for assistance from workers in dangerous situations.

Stress is also a psychosocial factor with great concern to this population. Work/life balance, significant time away from family, traffic, and the stresses of sustained vigilance over 11 hours of driving a day; delays with loading and unloading material, which means you're not getting paid for rubber on the road.

Another psychosocial factor relevant to this population are public perceptions of the occupation. The public often views drivers as being at fault for collisions by default. There are stereotypes about drivers and what they are like, and the occupational prestige of the profession sometimes is discriminatory.

We also need to learn more about the characteristics of drivers, their individual differences. The Getting in Gear health promotion program, which is one of the first comprehensive health promotion programs among drivers, appeared to have significant challenges keeping drivers in the program. They had a nearly 50 percent attrition rate, and drivers failed to use phone consultations, health consultations, or free fitness memberships.

A few final notes about particular interventions that I think are important to study for this population. The first include self-management, feedback from technological monitoring systems, and training interventions. The second area is encouraging involvement, which I've already mentioned, recruiting

drivers into health promotion programs and retaining them. The third point is the crossover between safety issues and health issues and driving. I have not yet seen data that a healthy driver is a safe driver, but there`s a popular perception that that is the case. And last of all, these critical organization of work issues -- vibration and posture constraints, limits drivers face related to activity and diet, and exposures to such things as diesel exhaust when sleeping in a trailer and in the winter time when engines are idling.

And that concludes my remarks. Thank you.

Comment ID: 467.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Healthcare and Social Assistance
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Surveillance
- Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Hi, I'm Catherine Thomsen, and I'm with the Oregon Health Services Environmental and Occupational Epidemiology Program. I am the epidemiologist with our occupational health programs, as well as some environmental, because as a small state we kind of try to do as much as we can. I want to thank NIOSH for coming around to as many parts of the country as possible to hear all the different input that there is on the National Occupational Research Agenda, because I think there are a lot of issues that are really critical to all of us.

I am also really excited about the idea of this being a reinvigorated process. I thought that the first ten years of NORA was really interesting and helpful for helping to set the tone nationally for the kind of focus that there would be on occupational safety and health issues.

Oregon has had a very active state-based occupational safety and health program for about 15 to 20 years now. Although we get almost no state funding, we're reliant almost entirely upon funding from NIOSH, we have been conducting surveillance of different conditions in the state for quite a number of years. And I'd like to make the distinction between surveillance and research because I think that that's a really important point.

We do ongoing data collection in our state, as does the State of Washington, to try to supplement some of the data that we're able to get at the national level. And this is really critical for us to be able to identify the trends, new emerging issues that are occurring, as well as the patterns that are currently existing, so that we are able to better address what the needs are, what the real issues are in worker safety and health in our states. I think that looking forward to the cross -- this new round of NORA, to

what used to be called NORA II but is now the continuation of NORA, is -- one our biggest concerns is how these cross-cutting issues will be addressed.

In the first round of NORA there was the more condition-specific focus, and so a lot of the funding that came to states like mine was for a very particular issue. For example, we had a burn surveillance program. We had a pesticide surveillance program, and we also had a dermatitis program. We've worked in asthma, in the fatality assessments that Ryan was referring to, and we were able to do a fair amount in there. It's very exciting the idea now of being able to look at an individual sector and look at the multiple different factors that are affecting the health of the workers in those areas. But there is still I think the potential problem of any time that you are siloing or looking with one particular structure at the health and safety issues, and so I just want to highlight some of the things that we have done in Oregon and how some of those issues might be needing to be considered by the cross-sector research council or by even some of the individual research councils.

In Oregon we had a project through our dermatitis program looking at latex, and Max had mentioned this morning that that was one of the issues that came up, and they worked very hard at NIOSH to get the word out to healthcare facilities across our nation to limit exposures to latex, if not to completely remove those from a number of healthcare facilities. What we found in Oregon, looking at our data with our ability to partner with a number of different -- number of different healthcare facilities, sentinel data sources, as well as looking at some ongoing data sources, was that the latex gloves were then being diverted into other sectors. It went from healthcare then into a lot of the service sectors, including to child care and to food service. And what we found was that the number of latex-related problems that we were seeing in food service industry rose dramatically in a very short period of time. And we were lucky enough in our state to have very good relations with a number of different agencies, and we actually won a NORA Partner Award -- so another reason why we like NORA so much in our state -- for our work with the local health departments to do inspections of the restaurants, with the restaurant industry in our state, and also with the labor union that represented, while a minority, still some workers in food service. And we were able to do an education campaign and eventually to have a policy change in our state to remove latex from the restaurants, so it is no longer okay to be a food service establishment and in food preparation to use latex gloves.

But they are still used in a number of other areas, and so to latex, even though it is not an issue now in that sector, could still be moving into another industry sector.

Another one of the areas that we've worked on in Oregon is pesticide poisoning prevention. And we've had mostly national, but also some state funding in that area. We've worked with our state Department of Agriculture. And while agriculture is a very important area for pesticide use and poisoning prevention, we have also in our data in Oregon seen that a number of years we've actually had more occupational pesticide poisoning events reported outside of agriculture than within agriculture, in office settings and in warehouses in particular. And so again this is not necessarily something that is limited to an individual sector, and something that needs to be addressed across different sectors. So that information -- the outreach and education efforts, the toxicology information -- can be shared across those different industry sectors.

DR. SEIXAS: Can you sum up, Catherine?

MS. THOMSEN: Yes, I will try to do that very quickly.

Now the other topic that is of great importance to us is special populations. I am a public member on the National Advisory Committee for Occupational Safety and Health and on the committee that is looking special populations. And we're very concerned that both federal -- OSHA as well as NIOSH are working together to really try to address some of these issues. Aging and youth workers are other areas where we feel like it's very important, and so it's important again to share that information, the outreach and education.

So to sum up, in Oregon we think that state-based surveillance is a really important issue. It's good to have these ongoing data surveillance efforts, and they can't always be pigeonholed into a specific industry or by a specific condition. And so we very much look forward to participating and collaborating on the cross-cutting issues with the research council, nationally as well as regionally. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 467.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Older

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

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Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance

Partners

Categorized comment or partial comment:

Comments from Margaret S. Filios, SM, RN, State-based Lung Disease Surveillance Project Officer, Surveillance Branch, DRDS

My comments pertain to the function, location, and support for occupational injury, hazard, and illness surveillance.

Concern #1: Surveillance appears to lack importance because it is not specific to any one Sector or Cross-sector program, although it is critical to informing research priorities.

Concern #2: The activity of identifying and using surveillance data to inform research priorities by the respective Sector Research Councils will become static.

By its very definition surveillance is on-going. While each of the Sector Research Councils may identify and use surveillance data to develop their respective agenda's, once this activity is complete, I'm concerned that the ability of surveillance data to inform each Sector Research Council will stop.

The current NORA2 structure doesn't appear to allow for surveillance data (which is on-going) to continually inform the Sector and Cross-sector Councils. Occupational surveillance activities are 'outside' the current NORA2 structure.

Concern #3: The ability to identifying where surveillance is 'located' within each Program Portfolio is too prescriptive and may limit its impact.

While this does allow identification and action on data needs and gaps, it doesn't allow surveillance to inform the Programs of emerging problems identified by surveillance data that may be out of context of the specific Sector/Program/ or Cross-Sector.

Recommendations:

-- Include at least 1 representative with expertise in occupational surveillance on each Research Sector Council and at least 1 on the Cross-Sector Council

-- Make sure current data systems are maintained, enhanced and supported

-- Include or develop a transparent mechanism for occupational surveillance data, and surveillance activities at the state level, to inform the Research Councils of emerging or re-emerging issues and problems.

Comment ID: 469.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Personal protective equipment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thanks, Noah. My name is Jim Denovan, and I'm President of EIC Environmental Health and Safety, but today I'm here representing HELP, Health safety and Environment Laboratory Professionals. It's a group of health and safety professionals within the biotechnology and biomedical industry, and we meet on a once-every- two-month basis to help the member companies in our organization to solve their joint problems.

I'll tell you a little bit about the biotechnology industry. In the Seattle area, the greater Seattle area -- well, actually in Washington State we have about 190 biotechnology companies. Forty percent of those are R&D therapeutic drug-based companies. About 30 percent are diagnostic products and around five percent are plant, agriculture, and animal research companies. Generally these companies start out in research and development in clinical trials, so mostly laboratory kinds of operations, eventually go to process development -- if they make it. And then if they really make it they get into manufacturing, and they will start manufacturing drugs or what-- or the diagnostic product they are making.

Within Washington State they employ close to 20,000 people. Most of companies employ less than 50, but of course there are several large biotech companies within the Washington State area. We also have many other centers within the U.S. that have large numbers of biotech companies: San Francisco Bay area, San Diego, New Jersey, North Carolina, Boston, Iowa, just to name a few, and Portland has a few, also. These companies generally are biologically-based or chemically-based or a combination, and so they may be working primarily with human tissues, human blood and fluids, or they may be working with specific organisms -- viruses, bacteria, that sort of thing; we're doing research on those, developing vaccines -- or as chemically-based. They can be working with thousands of different chemicals. One

chemical -- one company, excuse me, that I work with has approximately 13,000 different chemicals in their inventory -- a lot of different chemicals.

Now all these companies have very good control, fume hoods, all the latest in laboratory equipment, but they do have a lot of issues that I believe need to be addressed from a research standpoint.

One of them is multi-chemical exposures. A chemist might work with a hundred different chemicals in a day, in a given day. They might be working with multiple carcinogens, mutagens, reproductive toxins, that sort of thing, and of course with mixtures of different chemicals. And more research is needed on the effects of these small exposures and the effects of the mixture --exposures to mixtures.

Data on glove penetration, especially for these obscure chemicals, is extremely difficult to find out what gloves work for what chemicals, especially when you've got all of these rare chemicals that you're working with.

Compiling Information on infectious agents -- great book put out by NIH/CDC, "Bio-safety in Microbiological and Biomedical Laboratories," but we need more -- we need more information on occupational exposure from infectious agents, laboratory exposures. Health Canada has some great microbiological MSDSs. It would be nice if we had something applicable in the U.S. that gave us more information in one place. Eventually you can find the information, but getting it in one place.

And then developing safer standard analytical processes. There's a lot of different processes that are used by every company to do analysis -- perhaps for proteins, RNA, DNA, that kind of thing. Many of them -- they use radioactive material to do those analyses. These companies try to figure out other means of doing this with safer types of materials, but so far they haven't been able to do it because they're small. But a larger body that could do the research -- one example is a Western blot which is used for protein analysis, you use sulfur 35 -- there must be a different way to do that to -- that would be a safer process.

And that's basically it.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 470.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Hazard identification

Etiological research

Exposure assessment

Risk assessment methods

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Barbara Silverstein, SHARP Program. There are two things that were addressed by earlier speakers that I really would like to support. One is that as NIOSH moves more into the sector-based research, I think it's important to recognize that sectors are pretty critical for intervention research and for dissemination of information in figuring out ways to do that the most effectively. However it should not be done at the expense of basic kinds of research that need to underpin all of our more applied research methods. So I would definitely support NIOSH continuing and even, if possible, expanding some of the basic research that's necessary for the rest of us to be able to move forward.

Comment ID: 470.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Marketing/dissemination

Capacity building

International interaction

Partners

Categorized comment or partial comment:

The second thing is I would like to second what Matt Keifer had to say with respect to the role of NIOSH and NIOSH's occupational health and safety partners in both research and training in the international arena. I think it's particularly important, as the rest of the world is involved in harmonization in terms of both standards and practices, that we be an integral part of it and help in the research, expertise development, so that we also can learn from others and have a healthier and safer work environment.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 471.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thanks, Noah. There`s just a few other topics I would like to elaborate on, some that have been discussed, some that have not. I think one of the interesting topical areas are our kids as kind of a workforce at risk. Kids are exposed to computers at younger and younger ages now. At age five, 80 percent of kids are using computers either at school or at home.

Another problem is obesity in the United States. Combined with being a kid, and obese kids may be older -- they`re 18 when they enter the workforce, but physiologically they may be older due to the greater exposure to repetitive low-force work and their sedentary nature of what it is to be a kid today.

So I think kids are a very important population, and they may be predisposed or more predisposed than prior populations as far as their physical state entering the workforce.

Comment ID: 471.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

International interaction

Partners

Fogarty Foundation

Categorized comment or partial comment:

The other thing I'd like to elaborate on is what Matt Keifer presented, is the need for NIOSH to take on more of an international role. Basically we're outsourcing a lot of our problems to developing countries, and I think we have the knowledge and infrastructure to help these developing countries. And it would be great if NIOSH could leverage with some of the work of the Fogarty Foundation and other international countries to assist in occupational health-related issues.

Comment ID: 471.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Fogarty Foundation

Categorized comment or partial comment:

And the last thing I wanted to talk about is just the focus and the strengths of Region 10, our area. Washington is a self-insured state. There`s just a great wealth and depth of resources collected here. And a lot of this is evidenced by the work done by SHARP, Barbara Silverstein and others, as well as Gary Franklin, just looking at the cost of occupation-related entries.

And the final comment I wanted to make was maybe a model. There`s an interesting model in Ohio State, the safety grants program, where they`re tying funds to understanding occupational injuries and the costs and benefits. And I think that`s been a very interesting and successful model for delineating the cost and benefit of occupational health.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 472.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you, Noah, and to NIOSH for holding this meeting. I'd like to talk a little bit about training. In 1998 an excellent publication came out from NIOSH by Alex Cohen* and Mike Colligan* in which they reviewed the training literature. They concluded that of the several thousand -- I think it was 2,000 to 3,000 locations they reviewed from the peer-reviewed literature -- that 80 -- 80 -- met the basic requirements for a scientific publication that could be evaluated based on basic scientific principles. Recent training research, meta-analyses have been published in the academic literature, almost ignore totally the research on the shop floor -- I mean training research on the shop floor. And I think it's because they've concluded that it isn't high quality research.

Increasingly I think training research -- the thing that probably disturbs me the most is aimed at -- is internet-based and really aimed at what used to be called the MTV generation. It is rapidly moving and aimed at people that are easily distracted. This is not good training for a lar-- a significant section of our population, and the one that worries me the most is the one that's coming from outside the country where we're outsourcing our work and our production to. Some of those people are coming into this country. And in the research we've done with Hispanic workers, which is one of the largest groups that I'm speaking of, they're averagers of education and most in Oregon come from Mexico, are -- is 5.4 to 5.6 years of education.

Now what that means is that half of that group has got less than 5.5 years of education, and many of them have not been to school at all. Those people are not going to learn from internet-based training. And I think primarily one of the biggest problems is the speed of presentation, but another is the keyboard, which is -- has appeared scary to the people that we've worked with, though we've been working on this issue ourselves.

I think most people abandon the hope of making change happen in the workplace, particularly in the agricultural workplace, if they are not able to change the equipment and sell it to the company. If it

involves training, forget it. It just isn't going to happen. I have to make a new piece of equipment that will protect people. And I think they're ignoring training, which is I think a critical and will remain a critical issue for that workforce.

The second issue I'd like to turn to just very briefly is the issue of durability. Most OSHA training requirements are annual or one time only. And yet there's very little training research on durability. How long does the training information that you get -- the information you get in training -- how long does it last? A principle often reminds -- my wife often reminds me of happily is use it or lose it. And I think the fact is we -- if we don't use the information we get in training fairly quickly, we lose it fairly quickly. In research we've done with kitchen workers on using -- making the correct selection on fire extinguishers to put out fires, you have three or four options from which to choose. We taught them what is the correct option to use for electrical fires, for hot oil fires, and so forth. And when we went back and tested them six months later, they'd completely forgotten that. Now happily they'd not had to put out a fire in that period of time. But if they had, they would not be reaching for the right fire extinguisher. In lab-based research we've done where we've looked -- and that's just cause we only looked at it at six months when they had lost that information. Had we looked at it earlier, we don't know when -- how long they retained it really, but in lab-based research, within weeks, and certainly within a month, people have lost significant amounts of the training -- the information they've learned in training if they don't use it in their occupation.

So, two things I wanted to say, and did I mention my name is Kent Anger* and I'm from Oregon Health and Science University. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 473.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Hearing loss

Exposures

- Work organization/stress

Approaches

- Etiological research
- Exposure assessment
- Engineering and administrative control/banding
- Intervention effectiveness research
- Work-site implementation/demonstration
- Marketing/dissemination
- Emergency preparedness and response

Partners

- National Hearing Conservation Association

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Looks like some people will still be filtering in here as I talk. Thank you very much, Noah. I'm a research scientist at the University of Washington, Department of Environmental and Occupational Health Sciences. I actually want to commend NIOSH for continuing this NORA process and for gathering all this public input. I think that's a very valuable service they're providing. And I for one am enjoying getting everyone's take on where we need to go for the next ten years.

I also want to say I think the sector-specific focus is a very interesting idea, and I'm glad to see there's some infrastructure in place to deal with the cross-sector issues, but I also want to emphasize that I

hope cross-sector issues are not in any way downgraded because obviously they impact many, many of these sectors -- essentially all of the eight that I've seen identified so far.

In fact, one specific issue I'd like to speak on that covers just about every sector, every industry out there, is occupational noise and noise-induced hearing loss. Obviously this is not a new issue by any means. It's no nanotechnology. In fact, we've known for hundreds and hundreds of years that if you're exposed to high enough noise, you will lose your hearing. Nevertheless, this remains a tremendous issue that we face in the area of occupational health and safety, not only in the U.S. but throughout the world. There are literally millions and millions of workers in the U.S. alone who are exposed to potentially hazardous levels of noise, further millions who have already suffered permanent and irreversible noise-induced hearing loss. That's a pretty heavy disease burden just in the U.S., and if you look globally the numbers are tremendous. In fact, there's an article that just came out in the American Journal of Industrial Medicine that tried to describe the burden of noise-induced hearing loss globally, and the numbers are just staggering. So I do again want to applaud NIOSH for including hearing loss in the first round of NORA, and I want to emphasize that it really needs to stay there. It's not as if we've fixed this issue by simply having it in the first NORA.

Again, despite all the information that we have on noise and noise-induced hearing loss, this remains a tremendous essentially obstacle that we need to face. There's been very little regulatory enforcement on this particular exposure. A lot of industries in the U.S. have acknowledged that they have high noise exposures, but the solution has simply been to hand out hearing protectors. And as I talked to some construction workers last week who described to me having to stick an ear plug in their ear with a pencil as far as they could and then stick a second ear plug on top of that in their ear to just get enough noise, it occurred to me that perhaps hearing protectors alone is not a viable solution in America.

In fact, it's a flawed and ineffective approach to depend only on hearing protectors, and I what I'd like to encourage NIOSH to do is emphasize and promote the development and implementation of effective noise controls in the industry. There also needs to be much more of an emphasis on the behavioral and organizational aspects of preventing noise-induced hearing loss in the workplace because there are myriad issues that present to workers who try to wear hearing protectors. Without this research on noise controls and on organizational and behavioral aspects of hearing conservation, workers will continue to lose their hearing.

I'd also like to put in a plug for basic research as a way to develop and disseminate information that's very practical for the industry. For example, we've just finished up a prospective study of noise-induced hearing loss among construction apprentices. And from this basic research came seven peer-reviewed manuscripts, eight master's theses, a joint effort to develop a hearing conservation program with the local associated general contractors; a collection of educational materials, some of which are available out at the booth; a web site that offers information for the public, and a variety of other very practical results that have come out of this supported basic research. So I think that basic research definitely needs to have a large and perhaps larger space on NIOSH's funding.

And finally I'd also like to put in a plug for NIOSH support of partnerships like the one that NIOSH and the National Hearing Conservation Association have. NIOSH and NHCA have sponsored several workshops that have looked at ototoxics and solvent exposures, and also exposures to impacts and impulses for noise in the workplace. Those workshops have produced very practical, very usable

materials that have benefited hearing conservationists, regulators, academics, and ultimately and most importantly, workers out in the workplace.

So thank you very much for giving me the opportunity to put in my two cents` worth, and let`s hear from the next speaker. Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 474.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cardiovascular disease
Neurological effect/mental health
Immune disease
Traumatic injuries

Exposures

Cardiovascular disease
Work organization/stress
Violence
Work-life issues

Approaches

Etiological research
Intervention effectiveness research
Economics
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you. I'm really pleased to be here this morning. My name, as Noah said, is Mary Salazar, and I'm a professor in the Department of Psychosocial and Community Health at the University of Washington. And I want to say that these comments reflect not only mine, but also my colleague, Dr. Randall Beaton*, who's a research professor in the School of Nursing as well.

I want to begin by thanking NIOSH for the work that they've done these past years -- really since the first NIOSH priorities were identified in the early 1980s -- in the area of occupational stress. And I'm here to address that issue, an issue that I think has a profound effect on all of American workers and is in -- present in every workplace in one form or another.

The adverse effects of stress has been well documented in the literature. These effects include an array of psychological conditions such as depression, anxiety, sometime sleep disturbances, as well as physiological conditions, including cardiovascular diseases, gastrointestinal, immunological disorders and so forth. For example, one study found that an exposure to even a month of high levels of stress dramatically increased an individual's susceptibility to upper respiratory infections, and another study

identified a direct -- a very direct relationship between workers who had low control on the job and poor health.

Inordinate workplace stress may lead to work performance decrements, decreased attention in concentration, increased distractibility, increased muscle tension, and poor judgment. And of course the results of these things might be things such as low productivity, burnout, and even an increased rate of accidents. In more extreme cases exposure to workplace stressors may be a work -- or excuse me, a risk factor for violent acts such as suicide, homicide, and other forms of assault on self or others.

Occupational stress is ubiquitous. It's everywhere. Studies suggest that close to half of workers view their jobs as somewhat or extremely stressful, and that the majority feels that their jobs have become more stressful in recent years. In one study about half of the respondents indicated that job stress adversely affected their health, their personal relationships and their job performance.

The causes of stress are multifactorial and they're really difficult to quantify. There are numerous factors that contribute to occupational stress, and these include things like increased workload, declining job satisfaction, unsafe working conditions, and oftentimes management and leadership styles. Workers' stress levels are related to the structure of work, the organizational culture and climate, and interpersonal relationships at work.

And lastly, occupational stress is costly. Claims for stress-related conditions are the most expensive claims in the workers compensation system on a per claim basis. Other costs related to stressful working conditions include increased absenteeism rates, on-the-job injuries, increased health insurance costs, workplace malfeasance and higher turnover.

So what needs to be done? To summarize, it's increasingly clear that although psychosocial hazards may be more nebulous and less tangible than other categories of workplace hazards, they nevertheless exert a pervasive influence on the health and safety of American workers. There are no quick fixes for the multitude of stressors experienced in the workplace. Indeed, recent strategic advances in our understanding of occupational stress, largely supported by NIOSH, must continue and must be accelerated. Despite the number of studies that have effectively documented the cause and adverse effect of occupational stress, there's still a great deal of uncertainty and confusion about the nature and definition of stress, the evidence linking working conditions to health and safety, and the breadth of problems attributed to stress.

While much has been accomplished since NIOSH first identified occupational stress as one of its top ten priorities, there's still much work to be done. The conditions that lead to adverse health and safety outcomes are deeply embedded in the climate and culture of organizations. And unfortunately, competition and nearsighted economic priorities often lead to unhealthy and unsafe compromises. Organizations are constantly dealing with competing priorities, and sometimes the choice must be made between short-term profit and worker safety.

We need to continue in our efforts to understand how work-related stress affects workers, and we also need to determine what factors cause the greatest burden. And more importantly, we need to develop and test interventions to ameliorate conditions that lead to adverse stress responses that affect workers, their families, and our communities.

Thank you for the opportunity to share these comments.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 475.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Infectious diseases

Traumatic injuries

Exposures

Work organization/stress

Approaches

Etiological research

Engineering and administrative control/banding

Training

International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: I'd like to first thank NORA for hosting these town hall meetings. My name is Karen Bowman. I'm the Chief Consultant with Karen Bowman & Associates, an international occupational environmental health firm based in Seattle. I'm also the vice president of the Washington State Association for Occupational Health Nurses, and I am the environmental health consultant for Washington State Nursing Association.

Inappropriate staffing is the number one concern of nurses today, not only because of the effects it has on patient care outcomes, but also because of the detrimental effect it has on health and safety of nurses. Presently research is available that demonstrates the causal relationship between poor staffing policies and patient care outcomes and safety. Now research is needed using current data that explores the relationship between staffing patterns and on-the-job injuries of nurses.

Healthcare is the largest growing industry in the United States, employing over 12 million workers, with nurses constituting the majority. One out of every 100 U.S. citizens is a nurse. There's three million of us. It's a large -- it's the largest group of healthcare providers in the United States. The healthcare industry is expected to grow exceedingly over other industries over the next ten years. It's estimated that, between 1996 and 2008, 14 percent of all new jobs will be in healthcare, adding another 2.8 million new jobs to the United States. With this growth and given that nurses make up that largest

portion of those new jobs, it's imperative to identify and eliminate occupational hazards that cause injury and illness to this work group.

A recent Institute of Medicine report, "Keeping Patients Safe, Transforming the Work Environment of Nurses", not only shows the relationship between nurse staffing practices and increased errors, it also emphasizes that poor working conditions, including poor staffing practices, is not only related to the patients' risk of nosocomial infections, but also to occupational injuries and infections among staff.

In a cross-cut -- excuse me, in a cross-sectional study of more than 1,500 nurses employed on 40 units in 20 hospitals, poor organizational climate and high workloads were associated with 50 to 200 percent increase in the likelihood of needle stick injuries and near misses among hospital personnel and primarily nurses. And needle stick injuries are the principal exposure route for hepatitis B, hepatitis C and HIV.

Emerging new infections such as SARS and avian flu highlight the need for improved health and safety systems for hospital personnel. For example, the SARS outbreak was mostly hospital-based, and in many of the countries where the outbreaks occurs -- occurred, nurses were the largest group that was affected. Nurse staffing issues and organizational problems, along with the lack of appropriate fit-testing for respirators, are thought to have compromised the containment of SARS in Toronto. And nurse staffing shortages have been identified as major factors in how hospitals will manage future potential biological threats.

Therefore, future research in the global healthcare community is needed addressing staff levels and the risks for healthcare associate infections, occupational injuries, and illnesses. In addition, research findings will assist occupational health professionals determine what's needed for surveillance, work practice changes, and health and safety training of workers.

Poor staffing, increased frequency of schedule changes, and increased shift work for those nurses who are not normally acclimated to those shifts cause circadian rhythm disruptions, leading to a variety of physical and mental health issues, some of which Mary Salazar mentioned -- GI disturbances, depression, exhaustion, increased accidents on the job, and lateral abuse.

Stress manifests differently according to specialty, nursing specialty and facility. Intensive care unit nurses and hospice nurses perceive an increase in stress directly related to death and dying. Whereas med/surg nurses directly relate it to overwork, and poor staffing and mandatory floating to other units.

When you add up all the healthcare industry sick codes, hospitals, nursing homes, home health and residential care, healthcare is the leading industry in the State of Washington for back injuries. Without appropriate staffing, one policy to reduce these injuries is totally eliminated. We do not fully understand the impact staffing has on the magnitude of occupational injury and illnesses in healthcare -- in the healthcare setting, excuse me.

Occupational health professionals have an obligation to protect and advocate for nurses, along with other allied healthcare professionals. Further research identifying occupational health hazards related to poor staffing patterns will not only help develop systems to decrease patient errors, but will also improve the health and safety of an endangered profession, as evidenced by the global nursing shortage. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 476.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Violence

Approaches

Training

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you. Good morning. My name is Chris Barton, and I'm a registered nurse and the Secretary/Treasurer of District 1199 Northwest, representing 20,000 healthcare workers across Washington State. We're a local union of the Service Employees International Union, representing 1.8 million healthcare workers, building service workers, and public sector workers.

I'm glad to participate today and speak on behalf of my local union and our international union and thank NIOSH for planning this series of town hall meetings. In the limited time before me today, I'd like to briefly touch upon a few more of the significant workplace health and safety issues facing our members, and the important role that we believe NIOSH can play in addressing them.

However, first we'd like to recognize and support NIOSH's decision in this second round of NORA to move towards an industry-based approach. NIOSH historically has done some of its best work when this industry-based approach has been taken, as been demonstrated in such sectors as agriculture, construction and firefighting. The service sector is clearly worthy as a separate priority area, as the vast majority of injuries and illnesses now occur in this rapidly growing sector.

Furthermore, healthcare and social assistance also deserve their own category, as this growing sector reports a disproportionate (sic) share of reported injuries and illnesses, with hospital workers now suffering

rates higher than workers in mining, manufacturing, and construction. Nursing home worker rates are substantially higher. In fact, taken as a group, healthcare workers now suffer a higher absolute number of injuries and illnesses than any other industry sector.

We also want to reaffirm our support of NIOSH focusing their very limited resources on applied or intervention-based research. While some basic research is also necessary, our experience tells us for many of the hazards our members face, the solutions have been known for years, if not decades.

The main problem that workers face is getting these known solutions adopted in the workplace, where the rubber meets the road, so to speak. NIOSH needs to do more to identify the obstacles that prevent known solutions to workplace hazards from being implemented and develop more practical guides, such as NIOSH alerts, to spur the adoption of these controls at the work site level.

Publishing and publicizing studies that highlight pilot intervention programs by progressive and responsible employers is another important avenue to motivate others to adopt similarly protective measures.

NIOSH is to be commended (sic) for its past work for recognizing and addressing hazards facing healthcare workers by issuing alerts on latex allergies, needle-stick injuries, and most recently on hazardous drugs. There`s clearly a need for more NIOSH alerts on the ranges of hazards facing healthcare workers. Such hazards worthy for more NIOSH alerts include an alert on how healthcare worker staffing levels impact the quality of patient and rates of worker injuries and illness rates, as we just heard; an alert on how to best control glucardihide* exposure and the use of substitutes; an alert on controlling technologies for reducing anesthetic gas exposures on both the operating and especially in recovery rooms; and an alert on implementing workplace violence controls in healthcare and mental health settings.

The issue of workplace violence prevention in particular has never gotten the attention by NIOSH that it deserves, based on the very high number of injuries caused by these acts. It was buried within the traumatic injuries NORA category, and we believe has suffered from a lack of leadership commitment and a lack of resources as a result. Last year Marty Smith, a community mental health worker and a member of my local, was violently killed in his client`s home. A survey we just completed of over 300 Washington State community mental health professionals found more that (sic) three out of four workers recorded being assaulted, including one in five being physically assaulted in the past two years. Nearly two out of five workers reported that they felt they did not get sufficient training in workplace violence protection. NIOSH needs to provide more tools for front line mental healthcare workers to avert such attacks in the future.

And finally, perhaps the biggest unaddressed hazard facing healthcare workers that deserves additional attention by NIOSH is the epidemic of neck, back, and shoulder injuries among healthcare workers being caused by inherently dangerous practice of manual patient lifting and transferring. Nurses on average are getting older, while patients on average are getting heavier. This is a recipe for disaster, as such conditions promote a shortage of nurses willing to work in healthcare. In fact, 12 percent of nurses who have already left the profession report the main reason being that they have already suffered one or more of these preventable, disabling injuries.

While at least one NIOSH-funded study has appeared in a peer-review journal showing how the use of mechanical lifting and transfer devices, with or without the use of lift teams, can save backs and bucks, it

is clear that what now is needed is a healthcare worker-friendly NIOSH alert -- a tool book, if you will -- on implementing a safe patient handling program.

Thank you for your attention and the opportunity to provide these comments.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 477.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding
Work-site implementation/demonstration
Economics
Emergency preparedness and response
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: This is quite a role. My name is Barbara Silverstein, and I'm the Research Director for the Safety and Health Assessment and Research for Prevention Program at the Washington State Department of Labor and Industries. At the request of the Washington State House of Representatives' Commerce and Labor Committee, we recently committed -- completed a patient handling task force report with stakeholders from both labor and business in hospitals, nursing homes, home care, home healthcare, hospice care, and pre-hospital medical services, such as emergency medical services. I'm including in -- what I'm going to hand over to you are the -- a list of suggested approaches for addressing patient handling concerns that were identified by task force members. We also have a final report of the task force that's available upon request if NIOSH would like a copy.

As the last two speakers said, there's an integral relationship between patient and staff safety with respect to increasingly older, heavier, and often sicker patients being cared for by skilled healthcare workers who are getting older, thereby -- therefore, making recruitment and retention of qualified, experienced staff a critical issue in and of itself. The legislative committee requested that the Department of Labor and Industries convene this task force to examine current lifting programs, policies, and associated challenges in Washington state; to examine how the programs work and how they're funded; to review the current literature in the workers compensation data; and to identify the culture necessary to sustain a successful program. I think these issues have also been touched on by the previous speakers.

Let me briefly say that we did as requested, and I would like to first present some conclusions from the task force and then talk a little bit about some of the issues.

First, all of the hospitals and nursing homes that we visited were working to implement a no-lift program in some form, with the intent of reducing staff and patient injuries. This was less evident in the other sub-sectors of healthcare. The literature review of facilities with no-lift programs clearly shows reduced injuries to patients and staff, reduced time loss, reduced costs, and reduced staff turnover, and there's very little question about that.

A clear barrier to implementing no-lift programs is lack of funding to purchase the mechanical lifting equipment, despite the relatively high return on investment that has already been demonstrated. Home and pre-hospital medical service sectors may present some unique, but not insurmountable, challenges to minimize manual lifting. Developing and testing these solutions in this sector should be a research focus.

So with the workers compensation analysis that we did in Washington state, musculoskeletal injuries, particularly of the back, continue to be a problem in this industry. In 2003, in the state fund workers compensation program, healthcare employers had 3.9 times the compensable or lost time back injury claims rate as other sectors combined. For the self-insured in 2003, which represent most of the hospitals, the healthcare sector had 1.5 times the compensable back injury claims rate of other sectors combined.

In our literature review and the review of the workers compensation data, we were able to estimate that in Washington state approximately \$32.8 million are spent annually in workers compensation claims in hospitals and nursing homes combined. A 53 percent reduction in the claims rates, which is the median reduction that we see from the literature -- all the studies in the literature -- would save basically in Washington state \$17.4 million a year in direct claims costs. So when thinking about the equipment and the difficulty in purchasing it, there's some disconnect.

With the site visits, I think it's important to say with the hospitals and nursing homes that they're similar in that their services are provided in facilities that are under their control. However, they are dissimilar in patient acuity, staffing type and level, and financing mechanisms. I think this is important when you're looking at sector-based research to look at sub-sectors as well. Hospitals and nursing homes were different in the stages of moving toward no-lift environments. All of them had some type of mechanical lifting equipment, with most hospitals having at least one ceiling lift. Both management and employees interviewed recognized that while mechanical patient handling equipment was essential, it was not sufficient without an integrated program or process in place. And all recognized the increased challenge presented more obese patients.

The biggest barrier to full implementation of a no-lift program in hospitals and nursing homes was the up-front cost of equipment. For the home sector -- and again this involves home health, home care, and hospice care -- the goals there are to keep the client at home for as long as possible. And this, in and of itself, presents a unique challenge that requires I think more investigation.

Homes are often not structured for ease of client-assisted transfers. The home sector workers often work alone. The client handling equipment is not generally portable, and insurance rarely covers any kind of mechanical lifting devices.

With respect to emergency medical services, they have amongst the most difficult tasks in transferring and handling patients. One of them was -- that we identified was as a result of having no-lift programs in nursing homes -- that there is a transfer of risks from the nursing home to the EMS worker who picks up the injured nursing home patient who is on the floor in the nursing home.

The next part of that has to do with government involvement, and let me just say what I think NIOSH should be doing in terms of government involvement. Not only should there be funding for testing and evaluating no-lift approaches in home and pre-medical service sectors, NIOSH should work with federal healthcare agencies, such as Medicare, to determine the costs and benefits of including portable patient handling devices into federally-funded home care. Additional evaluation of ways to reduce physical load in pre-hospital medical services is urgently needed. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 478.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Exposure assessment

Engineering and administrative control/banding

Personal protective equipment

Partners

NNI, ISO, ANSI

Categorized comment or partial comment:

Verbal Comment 2006/01/17: First I want to thank NIOSH for this opportunity to give input to its research agenda. And I want to thank Noah and the Northwest Occupational Health Center for coordinating this event. My name is Ron Tubby. I am with Intel Corporation. I am the program manager for chemical management with our corporate operations. I'm an alumni of the University of Washington program so it's an honor to be back here again talking with folks in this setting. I've been with Intel for over 15 years.

Intel as a company has over 16,000 employees in its Portland, Oregon operations, and Portland is by far and away Intel's largest location. We have our significant research and development operations there in Oregon that research the next generation of logic processing devices and memory devices that we introduce into the market. Intel employs about 100,000 employees worldwide. About half of those employees, little bit over half of those employees, reside in the United States. We introduce about \$40 billion into the U. S. economy annually. You didn't hear that from me because we're announcing revenues this afternoon, so don't run and call your stockbroker.

The semi-conductor industry sector in the United States represents about 230,000 workers and that's about \$100 billion of revenue annually. That's made up of about 90 companies in the United States, and you can generally multiply those numbers again by two if you want to look at global numbers for the semi-conductor operations worldwide. The semi-conductor industry spends about \$14 billion annually on research and development, and our company is a significant contributor to that by over half.

In terms of the people that engage in manufacturing devices that you use in the consumer market. and work in our factories and work with chemicals and work with equipment to manage and process those chemicals, that represents about 50,000 workers for us globally. In the last ten years we have seen a shift of our revenue sources from the North American market, which used to comprise about 60 to 70 percent of our sales, to the Asian market, which now comprises about 60 percent of our sales. Commensurate with that shift in market, we are shifting our manufacturing operations to reflect those markets and manufacture products in those emerging economies. That poses new challenges for us, as it does for many other industries, as I'm sure you're familiar.

For us specifically, we have engineering staff and technician staff that work inside of our clean rooms inside of our factories that work with chemicals on a daily basis, and process materials through those machines that make the devices that you use. Our top research needs and concerns as an industry and as a company -- first on top of the list is nanomaterials, and we've talked about that several times, several speakers have mentioned that today. In our industry specifically, we will see growth in the next five years in the use of those materials, quantified in terms of the dollars we spend purchasing those materials, from a \$50 million market to well over a billion dollar market in the use of those materials to manufacture the devices that we sell. That presents a significant increase in the use and propagation of those materials in our workplaces, and significant challenges to occupational health professionals and industrial hygienists to come up with effective and consistent and matching control strategies to ensure that our workers are safe when they are using those materials.

Likewise, the equipment market that will process those chemicals will go from what is today a \$500 million market to well over a \$3 billion market five years from now. That's projections from the Semiconductor Industry Association. If you think on what that might look like ten years from now, you can see probably a logarithmic growth in both the use of the materials and the use of the equipment processing those materials. So we need help in research in toxicology, pharmacokinetics, permeation and transport of PPE*. There's some real fundamental industrial hygiene and occupational health questions that we need help getting answers to, and research to back that up.

NNI, ISO, and ANSI* are fully engaged. We need NIOSH to be a player in those conversations in helping us create a safe workplace.

Comment ID: 478.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Radiation (ionizing and non-ionizing)
- Work-life issues

Approaches

- Authoritative recommendation
- Marketing/dissemination

Partners

- NNI, ISO, ANSI

Categorized comment or partial comment:

Second on our list of research needs is wireless technology. Many of you today use computers that have wireless LAN devices, and I mean that's transformed the workplace. You can now sit in Starbucks and be as effective in Starbucks as you can in your office setting. What we will see over the next five to ten years is a evolution of that from a personal 30 to 50 to 300-foot network to a community network, which will pose interesting challenges and interesting benefits to us. But you'll see cell towers -- like cell towers -- projecting broadband wireless signals to the consumer market. You'll be able to access content, instead of through a wired device in your house, through radio signal.

That presents unique risk communication and hazard communication challenges as we have seen with cell phones, as we have seen with WiFi and wireless LAN. What people cannot see, what they cannot feel, what they cannot smell comes with, I think, additional and significant risk communication challenges. And we've seen that frequently in the wireless LAN space in terms of our markets.

Comment ID: 478.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing
Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Authoritative recommendation
Marketing/dissemination

Partners

NNI, ISO, ANSI

Categorized comment or partial comment:

Another issue we need help with, and we`ve seen this over the last -- emerging over the last three years, is help with pandemic and fomite control strategies for businesses. SARS introduced those terms, that language to us. Avian flu is challenging us right now. We`re, as a business, trying to develop strategies to deal with what may happen should we face that kind of outbreak.

Comment ID: 478.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Partners

NNI, ISO, ANSI

Categorized comment or partial comment:

Commensurate with the use of nanomaterials, we need help with control strategies when we lack environmental health and safety data. Increasingly, we are using new and novel materials that don't come with a breadth of toxicological research. That leaves us in the space of having to apply (unintelligible) principles in many cases, and we need help in looking at the use of complex materials in synergistic combinations.

DR. SEIXAS: Can you sum up there, Ron?

MR. TUBBY: We introduce over 5,000 new chemistries into operations every year. And increasingly a significant percentage of those new materials coming in fit that makeup where we lack basic tox research to support the kinds of control strategies that we have to implement internally to our company.

And I'd like to thank NIOSH and the Northwest Center for the opportunity to provide these comments. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 479.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Well, thank you, Noah. My name is Dave Eaton. I`m a professor of Department of Environmental and Occupational Health Sciences at the University of Washington and Associate Vice Provost for Research at the University of Washington. I`d like to thank NIOSH for the leadership in providing this opportunity for me and other NIOSH stakeholders to provide input into the National Occupational Research Agenda.

NIOSH provides a critical component of the national strategy to reduce occupational injury, illness, and disease by supporting both basic and applied research that then provides a scientific foundation for the regulatory polices that protect worker health and safety. I`d like to address to [sic] critical areas of research, and this is focused heavily on basic research, that I hope will become a central element of NORA, both of which are technology-driven and represent the applications of new cutting edge science to major occupational health issues.

The first of these is exposure assessment. The importance of good quantitative measures of actual exposures to occupational hazards, particularly for chemical and physical agents that represent chronic health risks, really cannot be overstated. This is particularly important for occupational epidemiology studies, oftentimes of which serve as the foundation for new insights into disease relationships with exposures, that often relied in the past on crude estimates of exposure to assess occupational risk to chemical and physical hazards, oftentimes crude in the sense of exposure assessment being based on job title, or even more crude measures of actual exposure.

Poor exposure assessment can lead to erroneous conclusions about the hazard or the presumed safety of a chemical or a physical agent in the workplace. I encourage NIOSH to stimulate new innovative approaches to occupational exposure assessment to take advantage of the new tools of genomics, proteomics, and metabolomics that have been developed as an offshoot of the Human Genome Project. Applications of these tools may identify new molecular bio-markers of exposure that will help to

accurately and quantitatively quantify biologically relevant exposures to chemical or physical agents in the workplace on an individual basis.

Although much work remains to be done in the development and application of these tools to occupational exposure assessment, the time is now for NIOSH to recognize the promise of these approaches and to invest in basic research that will ultimately lead to accurate quantitative bio-markers of exposure, some of which may even allow retrospective assessment of past exposures. Better exposure assessment will reduce exposure misclassification in occupational epidemiology studies, thereby increasing both the power and the accuracy of such studies to identify real associations between exposure and illness or disease.

Comment ID: 479.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

The second area I'd like to address is for the application of new technologies to occupational illnesses and diseases is in the area of genetic susceptibility, also an offshoot of the Human Genome Project. OSHA as you know is mandated by law to protect even the most sensitive individuals from workplace hazards. It's now becoming evident that the same exposure to a chemical or physical agent may affect one individual but not another, based largely on subtle genetic differences. For example, it's now well established that chronic lung disease from occupational exposure to beryllium is largely confined to a relatively small portion of the workplace population that carries a genetic disposition to the disease. Although the recognition of this poses huge ethical challenges in how such personal information is used, it is critical to understand the magnitude of variability and sensitivity to workplace hazards if one is to establish workplace standards that are both cost effective and adequately protect sensitive individuals.

Such information is also useful in understanding the etiology of disease. Another example of where genetic sensitivity has been shown to be important in occupation diseases is perhaps worth illustrating. A colleague of mine, Dr. Martin Smith at the University of California Berkley, recently published an article in Science Magazine about a year ago that demonstrated that a subset of workers with specific genetic variance demonstrated a measurable decline in white blood cell counts and other markers of blood or hematotoxicity following occupational exposure to benzene at workplace concentrations at or below the current standard of one part per million. And this is a study done in an international circumstance in a workplace population in China. Although the long-term biological significance of the effects that he measured is not certain, it clearly demonstrates that the current tools of genomics can help to identify susceptible populations to occupational hazards and help to quantify the range of human variability. And I would add that in addition to using interesting genetic bio-markers of susceptibility, Dr. Smith utilized some really cutting edge exposure assessment tools. So he combined the best of new technologies in exposure assessment with genetic susceptibility.

As I stated previously, there are many ethical, legal, and social implications of using genetic susceptibility information in workplace hazard assessment and policy. NIOSH should support both the basic research necessary to increase our understanding of individual susceptibility, and policy research to ensure that such information is used in a socially responsible manner.

So as NIOSH goes forward with their next ten-year research agenda, it's important that the advances in basic science and technology be built into the research agenda and future funding priorities.

Thank you again for the opportunity to comment on the NIOSH NORA. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17. Paper referenced was provided to the NORA Coordinator in hardcopy: Qing Lan, Luoping Zhang, Guilan Li, Roel Vermeulen, Rona S. Weinberg, Mustafa Dosemeci, Stephen M. Rappaport, Min Shen, Blanche P. Alter, Yongji Wu, William Kopp, Suramya Waidyanatha, Charles Rabkin, Weihong Guo, Stephen Chanock, Richard B. Hayes, Martha Linet, Sungkyoon Kim, Songnian Yin, Nathaniel Rothman, Martyn T. Smith (2004) Hematotoxicity in Workers Exposed to Low Levels of Benzene, *Science*, 306:1774-6. The abstract (<http://www.sciencemag.org/cgi/content/abstract/306/5702/1774>) and Supplementary Online Material (<http://www.sciencemag.org/cgi/data/306/5702/1774/DC1/1>) were available as of March, 2007.

Comment ID: 480.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Reproductive

Exposures

- Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Concurrent to this submission I am submitting the published manuscript:

Lawson, C.C., T.M. Schnorr, G.P. Daston, B. Grawjeski, M. Marcus, M. McDiarmind, E. Murolo. S.D. Perreault, S.M. Schrader, and M. Shelby. 2003. An Occupational Reproductive Research Agenda for the Third Millennium. *Environmental Health Perspectives* 111:584-591. Editor's note: Accessed March, 2007: <http://www.ehponline.org/members/2003/5548/5548.pdf> .

This is the research agenda recently set by the NORA 1 team.

Historically there have been working conditions in each of the sectors which have had a negative effect on reproductive health. In the agriculture sector, pesticides like ethylene dibromide and dibromochloropropane have had adverse effects on sperm production and function. In the health care sector ethylene oxide and anesthetic gases have had negative reproductive health effects in both men and women. Several chemical exposures (e.g. 2-ethoxyethanol, dibromochloropropane) in the manufacturing sector have been associated with fertility problems in men and women. Boron, lead, and nickel are examples of known reproductive toxicants in the mining sector. Sexual dysfunction of bicycling police officers is a recent example of reproductive health issues in the service sector. An example of reproductive health issue in the transportation sector is lower sperm counts in long distance truckers who are seated for long hours. (More extensive list is in the Lawson paper page 584). It is

paramount that each sector research council considers reproductive health as a legitimate and important health issue. They should each be given a copy of the Lawson paper indicating that occupational reproductive health research is needed in each sector.

The NORA 1 goal was to set a research agenda to address serious occupational health issues. The reproductive health research agenda was published in 2003 and should be key element in setting each sector's research agenda.

Comment ID: 481.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Surveillance

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Yes. Thank you, and thank you for having me. I've always wanted to say this in front of a group. I'm from the fishing industry; I'm here to help you -- since I never get to say I'm from the government, I'm here to help you -- so I did it. I don't need to say that anymore. It's gone.

I want to focus on fishing vessel safety, and just before I even begin, say this is -- I understand this is a really hard industry to study because it's so dynamic. I mean it's -- basically you're studying an environment in which the place people are sitting and standing on works in all cardinal directions, and the environment is exposed to weather and it's just -- it's not a controlled laboratory. It's very difficult.

So I have five points I want to make that I think are worthy of NORA to look at in terms of research.

One is traumatic injuries. I was doing a drill once on a boat in Petersburg. It was the -- 90 percent of the ownership of Icicle Seafoods, these old Norwegians in their 70's. I had six of them all in one class together, and all their hands were on the table. And I was debriefing the drill with them, I realized there wasn't a complete set of fingers on that boat. You know, there should have been 60 fingers there; there was only about 48. And it's just endemic in the industry, and we don't have good statistics on that due to a number of things.

Everybody is collecting the data differently so it's even hard to get a handle on it when you don't know what injuries are happening with what frequency. So if nothing else, just that collection of data would be good and that's going to -- but that will be a challenge. A lot of it's hard to collect due to liability and privacy issues and the Jones Act and many other things, but it's very worthy to try to do something about.

Comment ID: 481.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Emergency preparedness and response

Partners

Categorized comment or partial comment:

The second issue -- it's closely related -- is ergonomics. How many people here have bad backs? If this was a group of fisherman it would have been 90 percent would have raised their hand. It's totally endemic to the industry. You can tell experienced crew members and fishermen because they have scars on their wrists that go this way. Not this way, that might be due to something else. But they go this way because of -- they've been getting the operations to open up their carpal tendon sheathes so that nerves don't -- when they get inflamed, can -- won't bother them so much. And many, many other things. The work that Don Bloswick* has done out at the University of Utah is a great beginning on that, looking at ergonomics and developing procedures and practices for fishermen to use. The challenge of course on that one is getting people to change their work habits.

Comment ID: 481.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

The third issue, which is related to the first two -- again, all of these are related -- is fatigue, fatigue on vessels. There's been some work done on that in fisheries in Australia and at IFISH II. At the IFISH II Conference, the Australian women working on that were interested in working with the UK and Alaska fleet to begin to study that a bit. And the challenge and problem there is the management and work regimes may not be compatible with any of the guidelines they could develop for this. Developing a work schedule on a fishing boat -- when you're on literally 24/7, weeks on end, when in the middle of the night, when it's not your watch, you've got to get up to haul gear, to tie up to the dock, to do other necessary work is going to be a really hard one to do.

Comment ID: 481.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Surveillance

Etiological research

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Fourth issue, which is again very endemic, and not much work has been done with it that I know about, is hearing loss. Any fisherman that's been around boats for 10, 20, 30, 50 years especially has -- many of them have hearing aids, and it's very difficult for them to hear, which means that they can't hear alarms on boats. They can't hear things on the radio with other machinery noises going on, so -- and they just can't hear communications between -- between crews, so it would be good to develop some data on the long-term effects of hearing loss on fishing vessels, if nothing else except just to develop some awareness that this is a problem.

Comment ID: 481.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

And the fifth issue -- I'm glad Ken brought this one up. Thank you, Ken. I thanked him during the break - - was we are involved with training fishermen in how to survive major casualties at sea. And as a result of this training, we train them to be drill instructors and do skills once a month so that in a casualty at sea they'll be able to put on their immersion suits in 60 seconds, fight a fire efficiently, et cetera, et cetera. But what's the -- I think the term Ken used was the training durability of this -- what type of refresher training needs to happen and how often should these skills be reinforced. Ostensibly (sic), they're supposed to be reinforced once a month during the drills, but the only data we know about says that about only 18 percent of the boats at best, overall, are doing drills once a month. The training they may get just might happen when they get their once-in-a-lifetime drill training. So it's important I think to study the digression of the -- of those skills over time.

And this is important not just to look at that to see what that retention skill rate is, but as a lot of your work goes into -- it's not just facts and figures you're dealing with, but it's going to be used to set policy also, and I think it's really important when you're looking at some of these things to remember that. People are going to be using this information to set policy and regulations and other things, so that's it.

I'll just conclude with saying that the research that's going to be taking place in this -- hopefully in fishing vessel safety is not going to take place in a sterile lab. It's a very dynamic environment and lots of challenges in that, but it's very, very worthwhile. It's the -- always been the number one and two loss rate in industry so it'll be great to have your attention. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 482.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Small business

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Training

Intervention effectiveness research

Economics

Authoritative recommendation

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good morning. My name is Ken Lawrence, and I don't know where Chris is. I didn't even know Chris was supposed to be here. I came up from Portland. I'm with the Coast Guard -- what used to be the Marine Safety Office down there. Now we're something called the sector, to more properly recognize a more multi-mission organization. I'm the commercial fishing vessel safety coordinator down in Portland, and my representation along the coast is the Oregon and coastal Washington small fishing communities. Basically, we have about 2,000 vessels with crew size varying between one and five, so we're talking about small organizations. We're talking about family businesses, that sort of a smaller organization.

Jerry has eloquently addressed a lot of the issues that I have. I'm going to go and repeat, for -- just so that I can stay with my notes, a little bit of that. But basically what we've seen with small fishing vessel casualties and fatalities at those rates, although the numbers are small, the rates are unacceptably high, somewhere between 70 and 300 fatalities per 100,000 workers, depending on what specific fisheries. And almost all of those are directly attributable to human factor causes and lack of safety and survival training.

The exposures that commercial fishermen have to deal with -- it's a very dynamic environment. You've got the physical marine environment, and especially during the winter off the Pacific northwest that seems to concentrate the fatalities and the vessel losses that we're used to seeing. There's a very highly competitive and complex, market-driven economic forces that influence all of this behavior. There's very complex and often risk-promoting fishery management that drive a lot of those economic forces, as well as a long tradition of risk tolerance and avoidance of regulation within the industry, either the government or self-industry.

There's a lot of lip service lately that's been paid to safety, but when we get down to it there's not always a lot of action. The population that we're dealing with -- this is one of the great unknowns as far as the Coast Guard is concerned. We've got a very diverse, mobile, disaffected and seasonal employee base. We've got people that will one season fish in Oregon, and then they're down to California, then they're out to the south Pacific. These folks are moving all over the place.

There's a lot of data out there, but there's very little rational denominator information out there that I've been able to cull that allows us to go ahead and get a more quantitative idea of some of those risks, especially by specific fisheries. A lot of the conclusions that we end up coming to when we start playing with numbers -- there's lots of swag, wild-ass guesses, and it's very rarely more than a broad brush across the entire industry, which makes a specific fishery intervention very difficult to develop or justify.

Some of the failures in the systems that we've seen is the commercial fishing industry, for the most part, lacks OSHA jurisdiction and the regulations from the Coast Guard have had, in my opinion, a poor prevention-based result history. And there's very poor injury tracking, although there are some specific areas -- Alaska, for example -- where they are very good at tracking the injury rates and some of those data. But the communication and the applicability to other fishery sectors can be ambiguous, complicated at the least.

As far as our key partnerships, I've enjoyed a long working relationship with the NIOSH Alaska Field Station, and I want to thank them for their research and support over the years in the fields of crab vessel safety, deck safety, training studies, PFD usage studies, those sorts of things. It's very specific research and development that's allowed the Coast Guard to partner with industry and to make some very specific, effective interventions to try to minimize some of those fatality rates.

The other NIOSH sponsorship that's I think benefited the Coast Guard quite a bit is the sponsorship of the IFISH Conferences, the International Fish Industry Safety and Health Conference. The first two, in Woods Hole and in -- I'm sorry was it Woods Hole or Newfoundland? Woods Hole, and the second one in Sitka. The third one is coming up here in Chennai, India in another couple of weeks -- has provided us a really valuable forum to get the -- some of these key players together to start concentrating and figure out where some of the vacuums and the holes in the data and the information are so that we can go ahead and start to fill in some of that collective knowledge that we have.

Some of the future research that I'm looking forward to working with my NIOSH colleagues, as well as Jerry Dzugan, for example, the Alaska Marine Safety Education Association, the areas of crew training and crew competence, which are going to help us get a handle on some of those human factor accident causation, as well as a better idea of injury prevention. Generally, the Coast Guard is very attuned to an accident when somebody dies because those numbers are hard to hide. But injuries become almost transparent given the population group. We really don't have any handle on injury prevention.

government and industry interventions and policy and regulations. So I want to thank NIOSH for a chance to make this input.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 483.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Language/culture/ethnicity

Small business

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Work organization/stress

Motor vehicles

Approaches

Surveillance

Etiological research

Exposure assessment

Engineering and administrative control/banding

Training

Work-site implementation/demonstration

Authoritative recommendation

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: My name is John Garland. I'm a professor and timber harvesting extension specialist in the Forest Engineering Department at Oregon State. I should point out the remarks are my own and not those of the university.

For the past 32 years I have been providing problem-solving education, research implementation, and technology transference in building of human capacity for the forestry sector in Oregon and the region nationally and to some degree internationally. I'm the ergonomics research leader for the International Union of Forestry Research Organizations which deals with international cooperation on forestry research.

The emphasis in my career has been on selection training, motivation, and safety and health for the forestry workforce. Over the years I've participated in three revisions of Oregon's safety code over ten year cycles, and have seen the efforts to improve safety in that sector advance through those revisions.

I don't need to tell you that forestry work is dangerous. The news media does it for us regularly, in that it's among the top industries and has been for the past 30 years. I think what I would tell you, though, is that there have been improvements, and Oregon has seen a reduction in fatalities in the logging workforce that are significant over the years, going from fatalities in the 40 person per year range down to less than ten and some years just one or two. So there have been changes that do work.

However, logging workers are aging faster than the general male population. I mean that for the entire group. More than 45 percent of the workers are over 45 years of age, and that isn't the way it was in the past, so that workforce is aging substantially. Firms themselves are becoming smaller, so their ability to do management and oversight to improve safety is becoming less and less. In addition, recruitment among the forestry sector is reduced because of comparative losses in relative wages compared to other industries. So forestry workers are losing ground compared to other opportunities.

There have been increases in the Hispanic population of all western states that I'm aware of, but in Oregon we've grown from four percent in 1990 to about -- over ten percent right now. And that means that that Hispanic workforce is also finding its way into the sectors. Some firms have Hispanic crews entirely, with separate gringo crews, and others are mixing the cultures, with some interesting complications in language problems. We'll see Hispanic populations make up more and more of the forestry services sector.

Mechanization continues in the forestry sector and improves safety, but it changes the kinds of hazards related mostly to maintenance kinds of injuries and sometimes injuries from thrown objects, let's say from the machines themselves. Operators suffer cumulative trauma from the work that they do in long hours and restricted positions, and that's been noted in other countries.

In recent years I've worked with synthetic rope to replace wire rope in logging as a tool to reduce workloads, but it really needs to be done on a system-wide basis rather than a rather isolated research projects.

New technologies able to monitor workers status by the clothing they wear would give us some good insights as to what the workloads are and what the fatigue factors might be for workers, and this relates to the nanotechnologies listed earlier.

Training is crucial to forestry workers, but effective approaches and evaluation of materials hasn't been done along the same lines. We don't have materials that can be used within the individual firms themselves. Sometimes the training schools do quite well, but are not sustainable once the grants run out.

Oregon's landmark revision of the Forest Activities Code changed it from a prescriptive code of do this/don't do that sort of an approach to more of a safety and health management where workers are asked to be competent for the work that they do. And the training and supervision and oversight needed to produce that is what's called for in the codes. So we have different approach for the logging sector now, and we'd like to see some evaluation of that to see what would happen.

Let me just list quickly the ideas that relate to that for OSHA or NIOSH research that would be helpful. Demographics of the forestry workforce -- there are about four different regions for the forestry

workforce. We lost ground when we changed some of our industrial classifications, so there now no is -- there is no series relating to this sector. So we need to look at the demographics.

The aging workforce is critical. We ought to treat the workforce more like we do trees. Consider regeneration, a little fertilization in terms of education, and consider the old growth that is our aging workforce.

We need to have the technological developments necessary, and the prior sources for that in the federal government with USDA and the equipment manufacturers is no longer there. Those have been cut back. So if safety is going to be the prescription for research, it may need to come from something like NIOSH.

We need evaluation of training strategies and documentation of those systems that work within firms, and we need to find ways to integrate the Hispanics into the logging and the forestry services workforce, keeping in context the cultural and language differences, indeed including some of the risk-taking behaviors that may be different for the Hispanic culture.

I think we need to look at the new approaches to safety and health regulations that I mentioned and study whether or not those have merit for small firms that we're working with.

One special project that I've called for for years has been understanding the risk-taking behaviors of seriously disabled workers. Once all the dust has settled, it would be helpful to find out what was really going through the minds of the workers when they actually encountered the incident. You can't do it right after the accident for a variety of reasons, but I've had anecdotal evidence that workers provide important risk-taking characteristics interviewed some time after the accident has occurred, and that hasn't been done for forestry workers. It would be very helpful.

Operator overload and cumulative trauma from machine operators is an area that will continue to be of importance as more and more of these operations are mechanized.

I'd like to see us study smart clothing and worker feedback in real time so we could tell when the stress is high, when the worker fatigue is at high levels, and I think there are some technologies now in military uniforms that provide a starting basis for this, as well as monitoring heart rates and other measures that we have traditionally used.

Comment ID: 483.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Services

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research

Partners

Categorized comment or partial comment:

One of the areas that's been critical in recent years has been fighting wild land fires. And much of the applications have been done by individual workers with shovels and by airplanes. But there's a whole category of work that needs to be done with mechanized equipment that can make this wild land firefighting more effective, and that hasn't been studied from its safety and health aspects and certainly needs to be looked into. I've not had good success encouraging that among the firefighting community.

Comment ID: 483.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Two other points, we need to evaluate research proposals within the CDC research system because I think the process now doesn't give good attention to the kinds of proposals that may help the forestry sector. It tends to focus medical research rather than operational research.

And finally, I thank the opportunity to speak to you today.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 484.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Work organization/stress

Heat/cold

Approaches

Etiological research

Exposure assessment

Engineering and administrative control/banding

Training

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Still good morning. My name is Bill Krycia. I'm a Regional Manager with Cal. OSHA Enforcement out of Sacramento. I'm also the Chair for the External Advisory Panel for the Western Center for Agricultural Health and Safety at the University of California at Davis where my daughter now goes. I'd like to thank you for this opportunity, and talk about western ag. And I've been reading these comments and trying to -- you know, the great speakers this morning -- and trying to follow with that. And what I'm going to say, to me, sounds so simple that I'm almost embarrassed to say it, but I feel that I have to say it here. And that's that western agriculture, California agriculture, is very labor intensive -- very labor intensive. And that that labor workforce has a significant population of non-English-speaking immigrant, low-income laborers. And that brings special needs I think to the west coast.

Leaping into things that I want to address from an enforcement standpoint, it's clear that this group does not file complaints with us, so they're almost invisible. That doesn't mean that they don't have needs. And I may be speaking from my very limited perspective as an OSHA enforcement person, not a

consultant. I'm an enforcement person. My folks are -- you know, write citations. We sign off on citations. We take employers to court, and we do all those things that a lot of folks don't really like. But from that perspective, there's -- there are groups out there, the Penaros*, I was just thinking about the Penaros when we were talking just now about logging, and I know that next week we have to reach out to that group. And so there's a lot of things that we're trying to develop right now that I think bear some research, even though I haven't included them in my notes here. But I think that that's a group we need to outreach to in research and find out what hazards address those folks and what needs they have.

To get back to my notes, I'd like to suggest that we continue with ergonomics in agriculture. California has a hand-weeding standard, and it addresses one facet of ergonomics in agriculture, and there are a lot of other issues in ergonomics and agriculture that need to be addressed, not the least is hand harvesting. I think that we need to continue on and take a look at issues for that.

I'd like to see additional research on the practice itself of hand weeding and the impacts of the engineering, horticultural and administrative interventions that employers are currently involved in. I think we need to follow up on that. Just because we have a standard now, I wouldn't want to see that dropped.

Work involved in high heat environments has been in the focus this past season for us. And California currently has a temporary emergency standard in effect. There's clearly a wealth of literature and research on the subject of heat-related illness, but I see significantly less information available on the components of agricultural workloads. One of the things I said I wouldn't do but I think I'm going to do it is say that -- you know, my initial review -- and I'm not an epidemiologist, I'm an industrial hygienist -- is that it's almost all exertional heat stress. And so that's one of the things that I think that we need to bring to -- information in, maybe do a little bit more research on, so that the -- it's important for employers to have this so that they can understand what exertional heat stress is and have information to train -- I wasn't going to talk about training but I heard other people do that -- so that they can train their employees, to protect their employees. I think that's just critical for prevention, so research on that.

I also think that information about the early recognition of heat-related illness is absolutely critical, and so these employees -- these agricultural employees -- work in remote locations, some exceptionally remote locations. And they're at some distance and time from advanced life support, and so the failure to recognize heat-related illness very early means that they only recognize it when the employee's in the final stages of heat stroke. And when it takes 45 minutes to get an ambulance out some place that doesn't have advanced life support, or it may take, in some cases, 90 minutes to get a helicopter if they even call a helicopter, that's unfortunately in about a dozen cases been too long. So I think we clearly need to address early recognition.

One of the other things, too, that I've noticed this past year is night work in agriculture. I don't think anybody else is talking about that, and what I mean by that is they harvest at night. They harvest tomatoes, they harvest grapes. And there's other night work going on, and some it's due to they're -- they're trying to avoid the heat, and some of it's due to the special crop requirements. You know, they want a nice crisp white wine for the consumer and so they'll harvest at night. So that's okay. But when they run over and kill their employees, that's not. And our standards, I noticed, are -- they really haven't

addressed that. I think that's a change in an agricultural practice, and I would suggest that additional research be done on night -- night work in agriculture.

I'd also like to acknowledge the western ag centers, both of them, for their input. One of the things I've talked about my myopic focus on enforcement, and I really use the ag centers to kind of broaden that because again, like I've said, the workforce that we're dealing with in agriculture doesn't call in and file complaints about it's too dusty. They don't generally file complaints, even in California, about ladders. I don't see that, and there's some work to be done on ladders, too.

Okay, and I'd like to thank NIOSH for their cool publications that we use a lot, and that's it.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 485.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Washington State Department of Natural Resources

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good morning, members of NIOSH and OSHA. Thank you for the opportunity to provide input on the future research on reducing work-related injury and illness in employees in agriculture, forestry, and fisheries. My name is Jim Sedore. I've been the Safety and Health Manager for the Washington State Department of Natural Resources for the last 20 years.

The state manages about five million acres of state-owned land, and protects 12.7 million acres of -- of private and state-owned forest lands for wildfire management. We have approximately 1,200 employees, 400 summer firefighters, and 400 inmates who work for us every day.

Employees file approximately 180 work-related claims per year that require medical attention beyond first aid. Despite the exposures to wildfires, SCUBA-diving, mine inspection, and timber harvesting, the DNR has one of the lowest rates of claims per hour of any state agency. At your request, I can provide statistics on accidents, severity, and frequency for the last six years.

Comment ID: 485.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Personal protective equipment

Health service delivery

Partners

Washington State Department of Natural Resources

Categorized comment or partial comment:

However, I'd like to talk about three related claims that need further research. I appreciate John's comment related to timber, and we can talk about old growth, mid growth, and reprod. In old growth, age-related injuries -- as retired parameters result in older employees in the field, what can employees and employers do to reduce the number and severity of age-related injuries? I'd like to give two examples.

Injuries to load-bearing joints -- the number and seriousness of knee injuries are increasingly significant in field employees over 45. DNR employees, most them now cannot retire until they're 65. It's one thing for a person to carry a chain saw up and down the mountains when they're 25, 30 years old, but when you're 60 do you want to do that? What can be done to improve conditioning, footwear, medical treatment for knee injuries? In the past five years DNR employees have suffered 127 knee injuries costing \$320,000, including about \$50,000 dollars in time loss, an average of \$2,500 per knee injury.

Comment ID: 485.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Partners

Washington State Department of Natural Resources

Categorized comment or partial comment:

Hearing loss -- the cumulative effect of years of working around equipment, even with hearing protection and engineering controls, is resulting in significant hearing loss in aging employees. Much hearing protection is cumbersome and unclean in a logging and firefighting environment. We also see of course hearing loss occurring -- hearing injuries occurring in young ages, but manifesting itself in degrees of hearing loss as they become older.

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Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work-life issues

Approaches

Intervention effectiveness research

Partners

Washington State Department of Natural Resources

Categorized comment or partial comment:

Among the mid-aged workforce, creating and maintaining a physical fitness in wild land firefighters and natural resources workers is more and more an issue for us. While vehicles and equipment are great, there are many places where fire engines and bulldozers can't go.

In government, managers don't know if they can justify fitness programs and gym memberships to the taxpayer. However, many tasks in natural resources environment require a high level of physical fitness. Objective research is needed to show if there is a value of on-the-job fitness programs on injury prevention, productivity, and sick leave reduction.

Ideally this research would identify the most effective fitness and conditioning programs for those people who must do arduous work. This research would follow up on current NORA research projects on aging effects and intermittent work capacity, effects on physical conditioning on lifting biometrics, and evaluating the effectiveness of the logger safety training program.

Comment ID: 485.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Partners

Washington State Department of Natural Resources

Categorized comment or partial comment:

The last -- the new workforce, the upcoming workforce I call weak, fat, and electronic. In years past, natural resources employers often hired children of loggers, farmers and fishermen. The young population -- this young population is shrinking and being replaced by young adults who are great with the joy stick, but have never used a chain saw. They can operate an iPod, but they don't know what a manual transmission is. And more and more of them are overweight with asthma or diabetes. What medical exams or fitness tests are best at identifying the fitness of applicants?

As much as our young culture becomes more high tech, how do we teach arduous, hand-labor skills like digging a fire trail or operating a chain saw to remove downed trees?

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Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Washington State Department of Natural Resources

Categorized comment or partial comment:

Lastly I'd like NORA to do a better job of marketing the results of your research. We need to implement the findings of many NORA research projects by sharing the results with employers. On the web I found many NORA research projects that apply to my workplace, but I could not find many results or implementation strategies to apply in the woods.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17. A written expansion of these comments was submitted as w4597.

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Categorized with the following terms:

Sectors

- Construction
- Services

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Traumatic injuries

Exposures

Approaches

- Surveillance
- Training

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you very much for inviting me here and for putting me at the end. We've been waiting for my colleague, Guillermo Torres, who had car trouble, but he never showed up, so I'm just going to have to speak on both of our behalf. I am the Executive Director of CASA Latina, and we're a community-based organization that educates and organizes low-wage workers -- mainly low-wage immigrant workers. We've had a day labor center for immigrant day laborers that we've been operating for seven years. We're also a member of the National Network of Day Labor Organizers, which is a national organization that includes 30 different organizations around the country located in 12 different states.

Our experience is typical of all of these organizations. We were formed in response to the growing number of day laborers gathering on the streets to be picked up by contractors that need them for home renovations and residential construction, and homeowners that need help with their gardening or any other type of home improvement projects.

We have -- we started to organize this underground economy to provide more protection to the workers, as well as to address public safety issues related to unorganized laborers using the public sidewalks as a hiring hall. We see over 1,000 day laborers who register at our center per year in Seattle. In addition, there are at least 500 who never register at our center and prefer to work on their own on the outside -- on the sidewalks surrounding the center, or in different Home Depots in the area.

It's very hard for us to measure the number of day laborers who are working outside of our center, but we know that it's growing because more and more places have sprung up as pickup sites. A few years

ago, there was -- all of the pickup was done in the Belltown* area, and now there are pickup sites in several Home Depots around the area. And in one Home Depot in the Soto* area, there's 50 to 75 workers that gather there daily.

And these day laborers form a growing and significant sector in the labor force; however, they operate in an underground economy where few records are kept.

Workplace injuries are very common. We see people with bad backs, cut fingers, cuts on their legs, et cetera, and we know anecdotally that most day laborers receive very little safety training on the job. When they're hired for one day or two days, the -- their employers -- doesn't waste any of that time giving them any safety training. And many times they're left alone unsupervised.

Often they're expected to complete work for which they've had little or no training, and they're not able to do it. Part of this is because they say that they know how to do something just to get the job, when they actually have never had any experience doing it. And if safety equipment is available, they often don't use it since there's very little supervision. And culturally they don't have the experience of using that safety equipment in their own countries even if they have had experience doing that type of work before.

This is a huge unregulated field where little data is available, so it's very difficult to determine the proper remedies. Because the problems are undocumented and therefore it's so invisible, it's very hard for us to get resources to address these problems.

We need research on the extent of safety training and workplace injuries of day laborers, and particularly on immigrant day laborers. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 487.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Work-site implementation/demonstration

Emergency preparedness and response

Partners

USDA, Department of Education, Maternal and Child Health Bureau

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Well, I'll try not to get this started off wrong and be tackled up here the first -- first subject. Good afternoon. My name is Shari Kuther, and I am here to represent the Progressive Agriculture Safety Day Program and its governing body, the nonprofit Progressive Agriculture Foundation.

The Progress Agriculture Safety Day Program trains local volunteers and provides the resources needed to conduct one-day, hands-on, age-appropriate community-based safety days for children. This program relies completely on corporate sponsors, such as Farm Plan, Bear*, Case, IH, and it reaches children throughout the United States, its territories, and into Canada.

I have actually been involved in the program since 1998 when I first applied to begin coordinating a safety day for my community in Nezperce, Idaho. We're proud that since its inception in 1995, more than half a million children and adults have participated in this program.

Representing the Progressive Agriculture Safety Day Program as a volunteer coordinator, I'd like to tell you how my community and others involved in this international program have benefited from several NIOSH-funded initiatives.

First of all, in 2002 NIOSH funding was awarded to the University of Alabama's Institute for Social Science Research to evaluate the program, which was at that time called the Progressive Farmer Farm Safety Day Program. My community was one of 28 involved in this study. At the same time, funding was awarded to the University of Kentucky College of Nursing to evaluate similar programs. These

studies have -- results have demonstrated that our programs have a positive impact on children's knowledge, attitudes, and behaviors.

Also, the Progressive Agriculture Safety Days have benefited from NIOSH-funded materials and program developed by the National Children's Center in Wisconsin. First of those that we use is the North American Guidelines for Children's Agricultural Tasks, also known as the NAGCAT Guidelines; Safe play areas on the farms, a review of child safety -- a review of the child safety section of the National Agriculture Safety Database or NASD; and also the multi-organization Childhood Agricultural Safety Network. Many grants awarded to various recipients through the National Children's Center have also allowed our staff to develop and/or evaluate new lessons and guidelines, such as reaching migrant farm worker children, evaluating the age appropriateness of the program curriculum, reaching old order in a Baptist populations, and developing a variety of teaching resources. All of the evaluations and projects that I've just listed would not have been available to our programs or to my community without the funding provided by NIOSH.

At the same time NIOSH has probably funded many other research studies having implications for our program, and we need further guidance in using these results. We do greatly appreciate NIOSH support.

Thanks to NIOSH we have made progress in teaching children to safe on farms located across North America. However there's still much to be done. We urge that NIOSH funding be targeted toward continued evaluation of programs such as ours that rely on corporate donations. There should be greater collaboration and advanced planning between NIOSH and other federal agencies, such as USDA, the Department of Education, and the Maternal and Child Health Bureau. For example, both NIOSH and USDA funded separate evaluations of tractor certification programs.

Lastly we request that funding be available directly to nonprofit organizations, such as the Progressive Agricultural Safety Day and Farm Safety for Just Kids. These organizations have the capability and track record of incorporating NIOSH-funded research results into grass roots level programs that fulfill NIOSH's research to practice goal. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 488.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: You actually pronounced it like they do in Montreal, which is refreshing. It's great. Here we say Dansereau. I am Carol Dansereau.

I'm with the Farm Worker Pesticide Project, which is a nonprofit directed by farm workers and their allies. And I want to urge that high priority be given to increasing research on farm worker pesticide issues. Certainly the huge number of workers affected, the high toxicity of the chemicals involved, both in terms of acute and chronic effects, and the documentation of (unintelligible) exposures warrants this priority. That documentation includes extensive urine and dust sampling, air monitoring in California, pesticide instant reporting; focus groups with farm workers here in our state that found that three out of four experience health effects from pesticides at work, but most of that is not reported; and our cutting-edge cholinesterase monitoring program, which you're probably familiar with. But in its first year, two years ago, one of five of the workers who were monitored had the significant depressions of cholinesterase after handling the pesticides. This last year, with a wider pool of workers, it's one in ten, though the majority of workers have depressions after they start handling.

I want to highlight two specific research needs. One is related to exposure monitoring. We have lots of general information about exposures happening. We have the cholinesterase monitoring evidence of actual physiological changes from exposures. But what we don't have is exposure monitoring itself that shows the concentrations of chemicals to which workers are being exposed.

It's very important to pay attention to the California air monitoring and the results down there. The California researchers have found that very high percentages of the general population are inhaling agricultural pesticides in concentrations that exceed health guidelines, and they warn that farm workers are almost certainly inhaling at much greater rates.

So we want to see research that focuses on collecting this kind of data, which is sorely missed in the policy discussions that we're having. We also want the research to target identifying what sorts of exposure methods there are so that governments can establish the kind of monitoring that we should be having as a matter of course in these workplaces.

And it is ironic to me that we have in other workplaces, industrial workplaces, air monitoring, exposure monitoring, as a given where we're talking about relatively small concentrations of chemicals and unintentional byproducts of manufacturing in general. Whereas in this workplace we have intentional massive direct releases right next to workers, and yet we have no monitoring.

Comment ID: 488.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Risk assessment methods

Partners

Categorized comment or partial comment:

The second research area that I want to highlight is the need for research related to pregnant farm workers. The terrible events in southern Florida with the severe birth defects of farm worker children have spotlighted this issue over the last year. I want to mention that I work with farm workers in Mattawa, a small town here, who are deeply concerned about the very high levels of cancer in their children. Now we have no idea whether the birth defects in Florida, the cancers in the children in Mattawa are caused by pesticide exposures, but there is every reason to believe that pesticide exposures are causing health effects, birth defects, cancers, other health effects in some farm worker children.

Because of the toxicity data that exists for the chemicals that we are dealing with here and because we know exposures are happening, we need to focus on this very vulnerable population and be gathering information such as how many pregnant farm workers are there, what kinds of concentrations are they being exposed to, and what does that mean for their fetuses and embryos. And as we do that, we need to use things like focus groups and forums in which farm workers can speak freely.

Comment ID: 488.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Authoritative recommendation

Partners

Categorized comment or partial comment:

I'm sure I'm almost done with my time so I will end by asking that the research institutions here, NIOSH and others, and the researchers also take seriously the need to go beyond the research and to leverage action. And in particular, I would urge you to advocate government-mandated exposure monitoring and collection of data that is sorely missing in this area. Please speak out for air monitoring and other exposure monitoring in this workplace, which is lacking in this workplace and that's really a travesty. Speak out for national cholinesterase monitoring, pesticide use reporting, and other data collection.

And also I would urge you to speak for the precautionary principle. If ever there is a time to break the silence and speak about the need for precaution and advancing sustainable agricultural alternatives to end these exposures, this is the scenario because we are talking about highly toxic chemicals. We are talking about documented exposures. And we are talking about exposures not only for farm workers but for their extremely vulnerable children.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 489.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Work-life issues

Approaches

Surveillance

Etiological research

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good afternoon. Thank you very much for this opportunity to speak here today. Most people who know me know that I can't say anything in five minutes, so I want to thank Sharon Morris for slicing and dicing some of this, so -- sorry if I go over a little bit. I'm speaking this afternoon on protecting young workers. Those are the folks under 18, who are our future adult workforce. I'll begin with some general comments about young workers in all industries, and then continue regarding youth working in agriculture.

While focusing on issues of a specific industry, it's important not to lose track of the cross-cutting issues unique to this special and vulnerable population, regardless of industry sector, and the subgroups within them such as immigrant workers. When I began working at the Washington State Department of Labor and Industries in 1991, I was assigned to work on an advisory group to update our non-agricultural child labor regulations; the agricultural regulations had already been updated in the previous couple of years. My first question to ask was where is the data to tell us where these kids are getting injured or killed? Where are they working?

That set me on the path I continue today to look at data trends beginning in 1988 to the present in our workers compensation program, as well as searching the literature for others doing this work. The field at that time was quite limited. In addition, at that time health and safety professionals did not really consider the issues facing young workers typically, nor did those in pediatric or adolescent injury

prevention acknowledge that work was an important contributor to morbidity and mortality. We spent years trying to blend these disciplines.

I want to acknowledge the remarkable work that NIOSH has done to bring us to where we are today regarding the body of knowledge about teen workers. As a result we can proceed with new directions in addressing causes of injuries and prevention strategies. We've identified a great deal about the patterns of injuries and where they are happening, but not necessarily the why or the how to fully prevent them from happening in the first place.

My initial thought when I first began working in this arena is what could be more mom or dad and apple pie than keeping kids in school and keeping them from getting injured or killed at work. After all, isn't their primary job supposed to be getting a basic education to be able to have more job and career options available to them.

My next realization when I started to look at the data and the literature was dismay at how many were getting injured, and often severely and even killed. I work in a regulatory arena, and jurisdiction is an issue that determines where youth can and cannot work and when. And so protecting them becomes a political issue no different than for adults. However, I believe youth are different and deserve special protections by those who claim to be responsible for their well-being. That would be all of us.

Risk to youth should be addressed regardless of industry and irrespective of regulations. Youth face the same hazards as adults, but are at a disadvantage to protecting themselves. We know that there are different protections for teens, depending on which industries they are working in. In agricultural settings teens can do far more dangerous activities and at a younger age than they can do in non-agriculture. On a family farm there are no protections in the form of work restrictions, unlike non-agricultural family businesses. Teens under the age of 18 have been found to be injured at a rate two times higher than adults.

A majority of the injuries may be minor, so to speak -- lacerations, strains and sprains, and contusions and burns. However, many that I have found in this state have been amputations, concussions, dislocations, fractures, head injuries, and multiple injuries, injuries with potential to have severe long-term consequences. Like adults most of the claims cover medical costs only -- approximately 85 percent for medical costs, 15 percent for lost work time. But to qualify for work -- lost work time or time loss payments, the injured worker must have a specific number of days lost. Here in Washington that's three days; elsewhere it may be more.

However, we cannot compare the severity of these injuries between youth and adults. Youth do not work in the same pattern as adults. They do not work consecutive days. So if you think about it and they lose three days of work, that may mean a more severe injury because they're not working full-time. And then they are missing more, just as important, age-appropriate activities such as school, sports, extracurricular activities and the like.

There is little or no data on the consequences of these early work experiences -- experience injuries, either in terms of their psychological impact including their general attitudes about work and risk, the effect on their future career options and potential loss of earning power, and long-term disability and associated costs. We need more research in this area.

We in Washington State have an amazing database on our workers comp claims with the majority of Washington employers insured through the state fund and managed by labor and industries. It's an important database that can point us in the right direction, but it has limited -- it has limitations.

There is under-reporting. Teens may not -- may be working informally and therefore not come to the attention of the system. This is a particular concern when young workers -- by my anecdotal evidence and talking to hundreds of teens over the years -- is that they -- they are unaware of their right to file workers compensation claims. Given that a large proportion of youth are uninsured, teens need workers compensation to be able to access appropriate care for occupational injury as soon as possible to mitigate the severity and complication.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 490.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

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Comments provided at an internal NIOSH NORA 2 forum March 21, 2006, Morgantown, WV.

I am speaking today regarding the Agriculture industry, North American Industry Classification System (NAICS) code 11. In order to assure that the NORA 2 priorities are data driven, I will attempt to provide some data for this industry. What I provide is not comprehensive, but it is compelling.

For 2004, the latest year that data is available from the Bureau of Labor Statistics (BLS), their released "National Census of Fatal Occupational Injuries in 2004" (CFOI) reports that the Agriculture, forestry, fishing & hunting industry had the highest fatality rate among all the industrial sectors with 30.1 deaths/100,000 workers. Mining came in second (28.3 deaths) followed by the Transportation and warehousing sector (17.8). This compares to an all industry average rate of 4.1/100,000 workers.¹ The Agriculture industry's rate is over seven times (7.3) the industry average.

The Agriculture, forestry, fishing and hunting industry was ranked 3rd in the total number of deaths (659). Construction was ranked first (1,224) followed by the Transportation and warehousing sector (829). Mining had 152 deaths and was ranked 12/15 industry sectors.²

Speaking of mining (and since we're in WV), the Sago mine tragedy is still fresh in our minds, even though it is beginning to fade from the headlines. This calamity took the lives of 12 men in a close knit mining community not far from here. There was an outcry by news commentators and editorial writers about the "human cost" of coal as an energy source. However, can you imagine the outcry if farmers were to die in groups of 12? The Agriculture sector could sustain that number every week (12 deaths a week) for a year and still be under the 2004 total number of fatalities (624 vs 659). But these deaths do not generally happen in groups and thus escape the national media, even though they appear all too often as single incidents in our nations local newspapers. The point I wish to make is that there also is a "human cost" to the most basic of our human necessities, food. We must not forget this point.

Within the industry of Agriculture, crop and livestock production (which most closely parallels the occupation of farming) accounts for 70% (458/659) of the deaths in the agriculture, forestry, fishing and hunting sector. Surveillance studies have shown there are high fatality rates for older agricultural production workers (those older than 64 years of age) along with higher numbers of deaths for these older workers. A 2001 study of 7 years of CFOI data found these older agricultural production workers had a fatality rate of 65.9/100,000 which was 2-3 times the rate of other agricultural production age groups and 13 times higher than the national average (5.0/100,000). Also, these older agricultural production workers incurred 2-4 times the number of deaths of their younger agricultural production age groups.³

Additionally, young agricultural workers are at increased risk, too. The youth who work on farms face unique risks which are not present for many other young workers. These include machinery, large animals, electrical hazards, chemical hazards and excessive noise. From 1992-2002, the agriculture production workforce 15-19 years of age comprised 7.1% of the total youth workforce (full time equivalent - FTE adjusted) but incurred 15.8% of all the fatalities. For workers under 16 years of age, the agriculture production sector accounted for 60% of the deaths, and for workers 10 years of age and younger, the agriculture production sector accounted for 79% of all the deaths. The highest fatality rate for this time period among young agriculture production workers was for 15 year olds (18.5/100,000). The rates for young agriculture production workers was 3.6 times higher than their counterparts in all other industries.⁴

For young agriculture production workers, fatality rates for the time periods 1992 – 1996 and 1997 – 2002 were calculated. In comparison to young workers in all industries, the rates were lower for all age categories (15 – 19). However, for agriculture production 3 of the 5 age categories increased during 1997 – 2002. The 15 year old rate was 24.1/100,000, an 81% increase over the 1992-1996 time period. The crop production sector had the highest occupational fatality rate among youth @52.2/100,000 (for 15 year olds) during 1997-2002. The overall rate for 15-19 year old workers in all industries decreased between the study periods while it increased for agriculture production.⁵

The previous statistics have all been fatalities. However, there have been a number of surveys conducted for non-fatal injuries which NIOSH has sponsored that indicates there is a greater percentage of injuries occurring to youth who live on farms from non-work activities.⁵ There is no other industrial sector where the workplace is also the home and leisure activity area for the worker and his family. This provides for some unique and complex situations which have to be understood and addressed in order to reduce the unacceptably high numbers and rates of agricultural injuries and deaths.

Let me conclude by noting that the Agriculture industry consistently ranks high in both the rate and number of occupational fatalities. It is an industry sector which warrants priority funding and our attention and efforts in order to alleviate this situation. Within the agriculture production sectors, there are high rates and numbers of death for older farmers. Also, there are high fatality rates for young agricultural production workers as compared to their counterparts in all other industries. Additionally, nonfatal injuries, both work and non-work related, occur to youth who live on farms. The unique situation of working and living on farms creates many opportunities for research and intervention activities that are not found in any other industry. There is a human cost associated with the production of food in the US that I believe is at an unacceptable rate and frequency for those who work in these sectors. I would encourage you to keep this in mind as priorities are selected and put forth for the NORA 2 initiative.

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Comment ID: 491.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Engineering and administrative control/banding

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Mary, you`re a hard act to follow. I will try and stay under five minutes. So my name is Barbara Morrissey. I`m a toxicologist at the Washington State Department of Health, and I work in our state pesticide program which conducts surveillance for pesticide-related illnesses and injuries -- and that includes occupational and un-occupational events. I just want to thank NIOSH for funding pesticide illness surveillance in general through the former Pesticide Sensor Program and encourage your future support for this activity and also research that helps these surveillance programs evolve and continue to be relevant and collect relevant information.

Our state program is actually funded by state general fund dollars. We have not been -- we have not been a NIOSH sensor program, but we have received two grants over the years to enhance our surveillance program. One of these grants helped us identify some of the gaps in -- especially in under-reporting, and helped us settle some of the issues that we`ve had in coming up with good denominator data. And a grant that we were just awarded is going to help us dig a lot more deeper in our interview strategy and how to dig up root cause for the incidents that are occurring, and hopefully help us get a better list of risk factors and preventable causes of these illnesses.

I just want to make a few comments for why pesticide illness surveillance should stay on the NIOSH radar screen. One of course we`ve already heard about, that farm workers are a high-risk population, both in terms of their pesticide exposure and in terms of their ability to manage health effects. And if we want to prevent pesticide-related illness in this high-risk population, we really do need to understand how their exposures are occurring and what are -- what are the safety messages and who needs to hear them.

And one of the reasons that our public health program is really important in this area is that we get the stories that the other regulatory agencies often miss. That's because our regulatory agencies, at least in Washington, are largely complaint-driven. If a farm worker calls and reports a safety problem, then these agencies will go out and investigate. But many farm workers are unwilling to make a complaint. They are afraid they will lose their jobs. Others just may not know the workplace laws, or they may just fear speaking to anyone in the government because of their legal status.

And our program is different. If a farm worker sees a healthcare provider for a pesticide-related illness, then we're notified of that and we call them. Then we hear their story and we ask what could have prevented the exposure. We offer to report the incident to regulatory agencies, but for the most part they ask us not to, and that -- at least in this case -- in these cases, their experience is not lost because we can then take the data that we collect from them and we strip off the personal identifiers, and then we can provide that to the regulatory agencies in an aggregated way so that they still get an idea of what's happening in the field without the farm workers being put at risk for loss of their job. And then of course we also publish our data so that all of our partners can use it as well.

Just to underscore this difference in our ability to get stories, in a recent two-year period our state OSHA program at LNI investigated 30 complaints involving agricultural workers. The other regulatory agency that works in this area, the Department of Agriculture, issued violations for 23 incidents of human exposure to agricultural pesticides. And during this same time we investigated 248 cases and sufficiently documented 148 cases of illness or injury from agricultural pesticides. So the numbers aren't totally apples -- or they're a little bit apples and oranges, but I think you get the general idea.

Just a recent story -- this is a case that happened in 2005 -- to just illustrate the importance of being -- trying to be proactive and get these stories. There was a group of women told by their foreman to change the sprinkler heads on an irrigation pipe in an apple orchard. The orchard had been sprayed the day with a potent organophosphate insecticide. The re-entry level was -- the re-entry interval was 14 days so the workers should have donned their full PPE before entering the field, but they did not. There was a strong odor noted by the crew. Only one woman in the group reported symptoms, and she did seek healthcare so we found out about her. Her symptoms were not severe, but they lasted for about five days and she was pregnant. She did not want to report the incident to authorities because she lived in the orchard and the foreman was her husband.

Now in this case we had the opportunity to talk with the foreman and also the employer to make sure that the -- what was broken there would be fixed and that mistake would not happen again. Then we were also able to, again without personal identifiers, share that story with the regulatory agencies.

Am I getting close?

DR. CONWAY: You're over.

MS. MORRISSEY: I'm over.

DR. CONWAY: That was a good story. Compelling.

MS. MORRISSEY: So can I just tell you two more things? So in terms of research for --

DR. CONWAY: Two more short things.

MS. MORRISSEY: -- for NIOSH, we would really support some field research into engineering controls that will prevent exposure to farm workers, and I'll hand you the rest.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

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Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Surveillance

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Hi. Thank you for the opportunity to speak. My name is Anne Powell. I work for Northwest Regional Primary Care Association. We are a nonprofit member association of community and migrant health centers in Region 10, and that includes Alaska, Idaho, Oregon, and Washington. Just to let you know, community and migrant health centers are public and non-profit organizations that receive federal funding under the Public Health Service Act. They provide comprehensive health services that are high quality, cost-effective, and culturally appropriate to underserved communities, without regard to financial or immigration status.

My position at the Association is the migrant health coordinator so I provide resources, trainings, and do some conference planning for healthcare providers that work in those health centers. And just -- I wanted to thank NIOSH for their support with our Western Migrant Stream Forum, which is actually happening next week in Portland, Oregon starting next Friday. They fund our research and evaluation track at that conference.

So anyway, I'm here today to speak briefly about the issue of immigrant agricultural workers who migrate to Alaska, or elsewhere even, to work seasonally in the fishing and canning industries.

First I will give a brief background on farm workers, which -- I missed out on some of the talks this morning so you may already have heard some of this information, but there are an estimated three million farm workers in the United States. Within our region we have probably over 583,000 migrant seasonal farm workers. As you've heard before, they are largely Hispanic, and according to the National Agricultural Workers Survey, 81 percent of farm workers reported Spanish as their native language; 44 percent self-reported that they could not speak English at all.

So due to a combination of factors including poverty, language, and cultural barriers, low literacy, frequent mobility, and fear of the system, migrant farm workers have minimal access to healthcare and social services. So last spring, May 2005, in Anchorage, Alaska my organization, Northwest Regional Primary Care, held a organized discussion with some Alaskan healthcare providers on the issue of migrant fishery workers and cannery that also work in the lower 48 as agricultural workers, and this is basically what we found.

There`s not a lot of data on this population that is duly employed. Administrators and clinicians from migrant health centers in Washington, Oregon, and Idaho have seen these patients that -- you know, they may mention that they work -- they pick apples in Wenatchee. And then during the off season they head up to Alaska to the fisheries and maybe canning salmon in Alaska -- in Kodiak, Alaska, for example.

So they also reported that the fishery and cannery workers came from many different backgrounds and nationalities. They migrate from cities all over the United States -- cities and states all over the United States including North Carolina, Florida, California, Salt Lake City, and Seattle of course, as an example. And so I wanted to point out that a lot of these same areas have high levels of agricultural workers and agriculture industry.

So my recommendation is that there is a need for data on the number of migrant workers that work in both in agriculture and the fishery/cannery industries because both of these jobs are obviously extremely hazardous, physically demanding, and require long strenuous working hours. And they also have the potential for exploitation and can result in significant environment and occupational related injuries, such as musculoskeletal disorders.

I think this data would be useful for many reasons, but for the purpose of today`s discussion, the workers who are employed in a combination of agriculture and fishery and cannery work may have multiple or more complex occupational health problems. And these problems are likely compounded by the barriers to care that many migrating immigrant workers suffer, which I mentioned earlier.

So anyway, thank you so much for the opportunity to speak today.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 493.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Engineering and administrative control/banding

Training

Work-site implementation/demonstration

Economics

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: My name is Mike Gempler, and I'm Executive Director of the Washington Growers League in Yakima, Washington. I also serve as Vice President of the National Council of Agricultural Employers, and I also serve as the Chair of the EPA/OSHA Committee of the National Council of Agricultural Employers. And I would like to thank NIOSH and the researchers here for doing the work that they do and for working with our industry, and for the generally cooperative and collaborative attitude that we have seen put forth, especially here in Washington State. I very much appreciate that.

I would like to speak generally about a few perceptions and recommendations. First of all, our industry supports measurable results in research. We would like to see measurement of how many agricultural employees are benefiting from various types of research. We're frequently asked to support or endorse research projects or to cooperate to give access to employers in our industry. And I think a lot of the research projects kind of blend together in the minds of the employers and start to lose relevance, and I think it's a challenge before all of you to measure the impact of this research.

We will support safety research that brings results. A few of the approaches related to that. First of all, pesticides may not present a hazard that impact as large a population of employees as other hazards. It needs to be recognized. The industry feels that research on pesticides sometimes is disproportionately -

- or the research is sometimes disproportionately focused on pesticides, to the detriment of research on other hazards that may in fact affect more agricultural employees.

We think that there should be a fresh look at education and training, changing the culture of the workplace, promoting and developing a culture of safety within the agricultural workplace. It's difficult with high turnover, short duration of employment, a lot of factors. We think there's a lot to gain there.

Also research should grow with the changes in the technology of the industry. Some of that is occurring now as we're looking at picking platforms, harvest aide equipment. The new technology that's coming on line, let's make sure it's safe, let's make sure it's ergonomically appropriate, et cetera.

Research implementation approach, in addition to relevant basic research, our industry supports research that brings -- that results in practical solutions, that brings the research to the field, if you will, and implements it. In this way we can really maximize the impact on the safety of the agricultural workforce.

And lastly, communication -- communication, the way researchers communicate, it affects trust, affects cooperation, affects public policy, and affects public attitudes about all this, and especially the subjects of that research. Media releases impact our industry but not always positively. They don't, in and of themselves, necessarily change behavior or result in more safety. Sometimes they just make people mad. And I think there needs to be an examination of why media releases are issued, what purpose they serve, how it coordinates with the overall dynamic of a collaborative approach to safety, and how it relates to appropriate risk communication to the public. And I think it's a very important area that we need to explore together as we move forward. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 494.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Yeah, and I'd just like to correct that -- and thank you, you got my name right. I'm only going to be speaking on heat-related illness in the -- in looking how much time there was I didn't feel it was appropriate to prepare for cramming those two topics together.

I work for Columbia Legal Services. Again, my name is Evi Licon. I'm a staff attorney, and I focus on issues of health and safety affecting the farm worker population in the state of Washington. I have spent some time on working on pesticide issues and Carol very adequately covered those. And I'd like to second what she had said, and really offer my support on that issue and the fact that it is a huge risk to so many workers in our state, and we really need to continue focusing on those efforts to protect workers.

Comment ID: 494.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Heat/cold

Approaches

Training

Authoritative recommendation

Marketing/dissemination

Health service delivery

Partners

Categorized comment or partial comment:

What my office works on again is we do what's called impact litigation and legislation. We work on issues that affect a broad range of workers in the state of Washington. And within our own client consultations and seeing what's kind of coming in through our intake procedures, we can get a gauge of what is needed in this state, and heat-related illness has come up as a really major topic in the state.

There was a death in the summer of 2005 in the state of Washington and this issue kind of came to a head. It spurred (sic) a state agency, Labor and Industries, to do an in-depth study of accepted labor and industry workers compensation claims over the past ten years, and they've come up with a number of close to 450 claims that have been accepted. This doesn't include claims that were just filed, claims that were decided for whatever reason weren't going to be investigated. This is a widespread issue across the street -- across the state, excuse me. Labor and Industries has done a wonderful job with that study, and it indicates the need for more focus and more effort on these issues. Deaths for any reason should be unacceptable in any occupation in our state.

In light of the death that occurred in Washington, there were also six deaths that similarly occurred in the State of California. California has passed an emergency rule-making due to these heat-related deaths. And it's starting to become an issue of greater importance and an issue that's really come out into the light, so to speak, because of recent deaths unfortunately.

There are several factors that need to be looked at when you think about heat-related illness, and one of those is a provision of water by employers. Although this is already provided in the Washington Administrative Code, it is certainly not abided by by all employers. Also in the summer months, more

water needs to be -- to be going into the body to keep hydration levels appropriate. There are also needs to be access to cooled areas and shade for our workers. They also need to experience a few research -- research shows five to seven days is appropriate for an acclimatization of the workers to a hot environment. The same would go for a cold environment.

And in this case workers that are working during summer months become -- their body heat, their core temperature rises significantly, especially as in the case with Manuel Camacho* who died this past summer. He'd worked in the field for 40 years. He was wearing leather chaps and swinging a machete, cutting down weeds in the hot fields. And if there had just been a little more knowledge on the part of the worker and the supervisor to know that when you're wearing leather in a really hot temperature in a place where the air doesn't escape very easily, the heat stays in this area, they would have known that because of the fact that he wasn't sweating and he was experiencing other grave symptoms that death was upon him very shortly and -- you know, so we need education and training on the areas that need to be focused on, which is water, provisions of shade and cooled areas, training and education specifically in those areas.

And also how do you access emergency information. Do they have phone numbers where they can call?

Do they also know how to treat on a first -- I'm thinking in Spanish right now -- on a first response where you have your CPR and other issues where if they start to notice that they are experiencing these symptoms, they know how -- okay, we need to get this person to the shade, we need to take their clothes off.

They also need to be educated on what they're wearing in these fields if they're not working with pesticides, which is a separate issue. You don't want the cotton and things that really absorb the chemicals but when you're dealing with just heat and not the application of pesticides, you want to be wearing cool clothing. And some workers are more aware of these issues than others, but a lot of these workers that don't even know the English language and they're depended on to be bringing in these products for us, we need to be providing them with them with a safe environment.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

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Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Manufacturing

Population

Language/culture/ethnicity
Other

Health outcomes; diseases/injuries

Infectious diseases
Musculoskeletal disorders
Respiratory disease
Traumatic injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you for giving me the opportunity to comment today. I'm a professor of pulmonary and critical care medicine in the department of internal medicine at the University of Nebraska Medical Center, and I have a long-standing interest in rural health and safety.

I would like to propose that the food processing aspect of agriculture be actually included in the agriculture sector. And I say that because the plants where meat packing occurs or other food processing are usually located in rural areas. They take the materials that are brought in from farms and turn them into what we know from the grocery store. And many of the workers are rural people. Often they also work in production agriculture.

I'd also like to point out that meat packing in particular has a very high rate of injury, both repetitive motion injury and injuries such as lacerations.

And finally many of the meat packing plant workers, and I'm sure this is true for the other aspects of food processing, have many unmet health needs. In Nebraska a large number of them are Hispanic. They do not have ready access to healthcare because many do not have health insurance. Many of the providers do not speak Spanish. And their health needs include such things as chronic illness like diabetes, also infectious diseases such as tuberculosis are on the rise again in the communities where there are a lot of immigrant people working in meat packing.

So those are my comments. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 496.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Surveillance

Exposure assessment

Training

Marketing/dissemination

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good afternoon. I'm Paul Gunderson, a farmer on the high plains and advisory board member for the Inter-Mountain Center for Agricultural Safety and Health located in the great state of Colorado.

If you and I were to read the book entitled, *Through the Looking Glass and What Alice Found There*, by Lewis Carroll we discover that the red queen runs frantically just to stay abreast of circumstances. This futile race is suggestive I believe of the evolutionary forces that keep both pathogens and their targets on the move. Such I believe is the case with infectious zoonotic disease, largely because in our life span changes in climatic conditions and agronomic and husbandry practice have permanently altered human exposures within North American agricultural work sites. Additionally, demographic changes in the agricultural workforce in many regions of our nation has permanently altered the perception of risk by individual workers due to life experiences from abroad that are different from those here in the U.S.

Just this past summer the emergence of the B. anthracis as an infectious bacterium in cattle, cattle handlers, pen riders, and veterinarians on the northern high plains, extreme northeastern South Dakota, extreme southeastern North Dakota is a reminder of a work site risk that is perpetuated by both a profound change from cool, dry weather to warm, moist conditions on the northern high plains, and changes in agricultural technologies which I submit (unintelligible) by a geographic diaspora. These are also due to workforce interactions that are changing with livestock and the emerging concentration of livestock enterprises.

And if anthrax weren't enough, we have other examples -- Q fever, several of the hantaviruses, swine brucellosis, and tsutsukans disease or T fever. Because these infectious diseases occur in populations exposed to agricultural risk they're quite likely to go unrecognized, at least initially, and under-reported in this nation's disease reporting networks. That's true because these networks are notoriously unable to capture these kinds of phenomena, and in the written comments I'll detail that in more -- more adequately.

As a nation it's my postulate that we can do better, and NIOSH is in a unique and favored position to promote resurgence of our nation's capability to detect and interdict these kinds of infectious zoonotic outbreaks. NIOSH could encourage its funded agricultural centers to focus some resources, first of all on target local surveillance tests within selected high-risk agricultural settings. Secondly, NIOSH could develop additional laboratory capability which would be in a position to make critical detection. And thirdly, NIOSH could develop field-tested educational materials for (unintelligible) centers to do that, materials and strategies for use by working agricultural populations and perhaps even clinicians who are responsible for their healthcare.

Additionally, NIOSH itself needs to hold onto its current laboratory capability as well as its occupational hygiene capacity so that it stands ready to assist state public health departments, local public health agencies, and perhaps local medical facilities and veterinarians in interdicting zoonotic disease. It's important to prevent spread and identify opportunities for its prevention at the agricultural work site and surrounding environs, in part because of the infectivity associated with some of these agents.

Included for NIOSH could be new laboratory and field-base detection capability, as well as development of new assays; laboratory assurance and certification activities and development of training materials for laboratory technologists.

Thank you for the opportunity this afternoon. It's always fun to appear before colleagues.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 497.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Marketing/dissemination

Capacity building

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: I`m Betty Ann Cohen. I`m a physician with Central Washington Occupational Medicine so I`m in Yakima. I`m in the middle of the agricultural communities there. And one of the things that -- you know, the Holy Grail of occupational health is prevention. We don`t want people getting injured. But the truth is we can -- we can go for that goal of zero, but across all industries, we`re not going to reach zero. And I think one of the things that needs to be addressed is how are these people educated and taken care of after they are injured.

There`s a huge lack of information amongst the physicians and clinicians out there providing care to these people. They`re not informed in a way that helps them to get better, that helps them to get back to work, and there`s a lot of research that could be done in this area. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 498.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Infectious diseases

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Training

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you, George, and thank you to NIOSH and the Northwest Center for convening us to provide input and to exchange ideas, which is a wonderful forum. So greetings from New England. Do I get the prize for coming the farthest? I hope so, and so my name is Ann Backus. I'm an instructor in occupational safety and health at the Harvard School of Public Health and director of outreach there in the Harvard ERC.

Over the past five years I have worked with the fishing community and the U.S. Coast Guard in New England, and organized with George and the NIOSH Alaska Field Station Anchorage the first International Fishing Industry Safety and Health Conference, which was held in Woods Hole in 2000. And I currently write for Commercial Fisheries News a column called "Fish Safe", which appears every month or every couple of months. And also I'm an active member of the Maine Commercial Fishing Safety Advisory Council which -- the members of which are appointed by Governor Baldacci.

I bring you comments from a variety of people of the Harvard School of Public Health and from the fishing community. I would like to make five points, and many of them you've heard from Jerry and Ken this morning, so I want to echo the importance of their remarks as well.

Number one, the NIOSH-funded centers are a very important infrastructure and funding source for research and agriculture and fishing sectors.

Number two, there's a need for generic, which I'll -- what I'm calling generic research -- research agenda that crosses the industries within this sector.

Three, there's a need for fishery-specific research to reduce traumatic injury and fatalities.

Four, there's a need for research on exposures of bacterial origin and associated antibiotic resistance.

And five, there's a need for toxicological research on pesticides, volatile organic compounds, hydrogen sulfide and other compounds and chemicals that revisits the (unintelligible) and time-weighted averages and brings them into line with exposure levels and types in today's workplaces.

First infrastructure, so the NIOSH-funded education and research centers, of which I'm one -- an employee -- and the centers for agricultural disease, injury research, education, and prevention are extremely important, especially for the success of research in rural and non-urban settings such as farms, forests, and coastal villages. The ability of our researchers to gain the confidence of prospective research subjects and to be seen as having a substantive hypothesis, integrity relative to the research process, and competence for the analysis and interpretation of research is greatly enhanced and supported by the presence of these centers and by coming from them.

Melissa Perry, who is a colleague of mine, is doing hearing loss research in the Vermont farms, and I've been doing some work with the fishing community. Both of us have been funded by NIOSH pilot project money.

In terms of NORA research areas, the area I called generic, some of the research needed is common to agriculture and fishing. One, work-related hearing loss from exposures to tractors, conveyors, engines, and winches; two, particulate matter, PM 2.5, and ultra-fines associated with grain dust and pot buoy sanding and branding; three, polycyclic aromatic hydrocarbons, PHs from diesel exhaust and heat-branding styrofoam pot buoys; four, endotoxin from cotton, grains, and algae-covered rope; and five, volatile organic compounds such as paints, degreasers, and solvents.

In both industries -- that is agriculture and fishing -- there is a major concern about child labor and childhood exposures. Kids on farms and in fishing communities are often pressed into service at an early age. And very young children -- in the fishing communities, anyway -- are often in their parents' workshops working right alongside the sanding and heat-branding of styrofoam pot buoys and the painting and being exposed to particulates, PAHs, VOCs, and endotoxins. High school students who are apprentices often sleep above the workshop and are exposed during the night as well.

Is that a one-minute sign already? Okay.

So fishery-specific work is very important and the work platform, as Jerry Dzigan told us this morning, is very dynamic in the fishing industry so we need fishery-specific research to help us understand that work platform.

In terms of the biologics, the warming of the oceans, bacterial infections once confined to tropical latitudes are going to be with us in the temperate zones. And we have had deaths -- one death, anyway -- in Chesapeake Bay from vibrio vulnificus, which is an exposure that we noticed was in the Gulf Coast during Hurricane Katrina.

And in terms of toxicology, the researchers at the Harvard School of Public Health are very interested in having this be a decade in which we relook at the (unintelligible) and TWAs and try to put those in line

with what`s happening in terms of the current day technology and research on low level exposures. So thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 499.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Training

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you. I'd like to thank NIOSH for the opportunity to talk today and also to work with you over the last five years on your deck safety project. I'm a naval architect, which means that I provide engineering work to boat owners. My company works with the majority of the Bering Sea fishing fleet that is based in Seattle. There's an awful lot of boats here that go up to fish up there and then come back in the off seasons.

We've heard a lot about issues earlier. Two I'd like to focus on are traumatic injury and fatigue. And then I have a couple of other items to talk about as well.

When we talk about traumatic injury, one thing to remember is that these are distant water fleets. If somebody's hurt on a boat in the Bering Sea, if they're lucky there'll be Coast Guard fixed-wing plane overhead in about three hours. If they're -- the nearest person with first-aid treatment on Coast Guard cutter or helicopter may be six to 12 hours away. The nearest hospital may be a day. So we're talking -- a traumatic injury that may be painful and causing damage locally when you're near a hospital could be disabling when you're out on the ocean.

Comment ID: 499.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Marketing/dissemination

Partners

Categorized comment or partial comment:

My last comment is that if you`re providing anything to an industry, it needs to be in the language that the industry can understand. Most of the people in this room are scientists and you can -- it`s really easy to talk to scientists. It`s easy to talk -- for an engineer to talk to engineers. What we need to do is learn to talk to the workers.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 499.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

The other issue is fatigue. On one of the boats I was on, the crew told me the captain's really nice to us; we sleep four hours a night. They had about three half-hour breaks for meals in there; the rest of the time they were working doing heavy manual labor.

Comment ID: 499.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Now onto the other issues, the first of them is stability. About half of the fatalities on board fishing vessels are from stability issues, whether because the boat capsizes and rolls over; or because of watertight integrity, the boat floods, the water gets where it's not suppose to be and the boat goes down. We need to focus on training as far as making sure the people are following their stability booklets.

We also need to make sure that stability instructions are within the reach of the fishing vessel owners. We heard Ken Laurencen this morning talk about how he has about 2,000 fishing boats in his district. Virtually none of those boats has any kind of engineering plans that we can use to develop stability instructions. If we have to do a stability tests on those boats so that we can give them instructions, we have to recreate those plans. And that drives the cost of the stability tests and instructions up to about the same as it would be for a factory trawler. So the cost of stability instructions for a 50-foot boat is about the same as it is for a 300-foot factory trawler.

And I don't know how you tell -- I've had people who say to me I can't afford that; I'm sorry. And we have to say I'm sorry, we can't do it for less money than that. We can't give you a good answer. There are probably ways we can get that within -- the stability instructions within their reach, and we need to look into how we can do that.

Another third of the fishing vessel fatalities are from man-overboard incidents. NIOSH has done some research on factors that influence survival of crew members once they go in the water. But there's been little research into what separates the near-miss from the accident, and even less research into what

separates the accident from the fatality. Knowing these differences is key to reducing the fatalities from man-overboards.

Comment ID: 499.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

Finally, we also heard about the issues of using high-tech fiber ropes in -- from the people in the forestry industry. These are also moving into the fishing industry. But one of the problems is that there's no retirement criteria for these ropes. And on fishing boats these could be lifting anywhere from 10,000 to 200,000 pounds. They're under a lot of strain and if they break and there's someone in the way, there's going to be an injury or fatality. Right now the only way to look at whether these boats (sic) need to be retired and replaced is a guy looking on and saying yeah, that looks like it's okay. That's not going to do it, especially with fishermen who are known for reusing things well beyond when they're supposed to be. We need to do some research into when we should be replacing these -- these ropes and when they need -- if they can be spliced, if they can be repaired, or a -- damage means that they just need to be replaced.

Comment ID: 499.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Marketing/dissemination

Partners

Categorized comment or partial comment:

My last comment is that if you`re providing anything to an industry, it needs to be in the language that the industry can understand. Most of the people in this room are scientists and you can -- it`s really easy to talk to scientists. It`s easy to talk -- for an engineer to talk to engineers. What we need to do is learn to talk to the workers.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 500.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Well, thank you, and indeed INND is the Institute for Neurotoxicology and Neurological Disorders. INND is much easier. So thank you very much for having me here, and I wanted to thank NIOSH and the other representatives for coming here and listening to us.

Like I said, my name is Stephen Gilbert. I have a PhD. in toxicology. My research and professional activities are focused on ensuring that people live and work in environments that allow them to reach and maintain their full potential. In addition to be a researcher, I've owned and operated a biopharmaceutical contract research company, so I'm very familiar with a lot of OSHA and NIOSH regulations, which is very good, very helpful. And I'm currently an affiliate associate faculty member at the University of Washington. I left my full-time academic pursuits, in part because I wanted to put more effort into translating research findings into policies and practice that protect public health. You know, for example, advances in the knowledge about the adverse health effects of low-level lead exposure have implications not only for our children, but for also workers in the lead industry. Lowering the Center for Disease Control blood lead action level from 10 micrograms per dust liter reflecting the current scientific understanding of the effects of lead on childhood learning has implications for lead industry workers and take-home. It's a great example of translating our scientific knowledge into relevant policy matters, and it's real interesting that it's not happening.

I'm also a member of the Washington State Pesticide Incident Report and Tracking Panel, commonly referred to as PIRT. The PIRT Panel was formed to ensure that the state agencies responsible for pesticide regulation coordinate their incident investigation reporting and educational activities in a timely manner to protect worker and public from pesticide misuse. Mostly recently Washington state -- and you heard a little bit about this -- established a cholinesterase monitoring program for farm workers exposed to pesticides, and found that a significant number had depressed cholinesterase levels. A number of commonly-used natural and synthetic pesticides, and indeed weapons-grade nerve gases work by blocking the activity of cholinesterase, which is essential for normal nervous system function. (Unintelligible) monitoring effort demonstrated that some workers are being exposed to pesticides despite applications, regulation, and efforts to reduce exposure and spray drift. The unintentional exposure to pesticides from drift following aerial and ground-based applications are of particular concern to applicant workers, communities, homes, and schools. Policy makers, such as the PIRT Panel or the Washington State Legislature and DR agencies, need more information on the (unintelligible) of exposures, such as the work done by Drs. Rich Fenske and Michael Yoth* at the University of Washington, which examined community exposure to pesticide drift. We need to know how to translate this research into best practices and to evaluate the effectiveness of regulations and guidelines once they're in operation.

NIOSH has an important role to play in encouraging research in program evaluation methodology, translating research to best practice techniques, and procedures that can be implemented to reduce or eliminate exposure.

The challenge of pesticides is evident in that there are about 900 pesticide active ingredients currently registered. Approximately 88 million pounds of active ingredients were used in the United States in 2001. Our experience with pesticides indicates that NIOSH should invest in research that moves beyond the classic risk-assessment approach to ensure workers' safety and community health and safety. NIOSH can be a leader in the paradigm shift away from the standard hazard evaluation toward research and effective exposure prevention. Workers and community members receive multiple chemical exposures that are not well characterized by the classic hazard and risk-assessment approach. The uncertainties related to the hazards of multiple chemical exposures will not resolve soon, which argues for preventive approach. We have a vast amount of knowledge from the biological and toxicological sciences. We need to heed the lessons learned and take a precautionary approach to pesticide as well as the potent compounds, such as those emerging from the biopharmaceutical industries and more recently from the nanotechnology materials. So I think we have a lot of work to do, and I really think we need to work on translating research into good best practices and prevention in this area. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 501.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Training

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Capacity building

Health service delivery

Emergency preparedness and response

Partners

Pesticides Stewardship and Pesticide Worker Safety Programs in the Office of Pesticide Programs of EPA

Categorized comment or partial comment:

Verbal Comment 2006/01/17: My name is Kevin Keaney. I'm the chief of the Pesticides Stewardship and Pesticide Worker Safety Programs in the office of pesticide programs in EPA headquarters. The office of pesticide programs headquarters is a 900-person -- has a 900-person staff, which I think would indicate the importance that the agency places on concerns related to the use of pesticides, the safe use of pesticides. This program also has staff in ten regional offices.

My particular focus in our group's focus is driven by two regulations -- three regulations, I'm sorry. One a recent regulation related to pesticide containers and containment, a soon-to-be-proposed regulation on pesticide recycling, and two regulations that focus on the span of labor that work with and around pesticides and the health implications that are inherent in working with and around pesticides. The regulation governing the agricultural worker protection, the field worker, and the regulation that tries to establish standards for certification of competency of pesticide applicators.

We also have an aggressive grant initiative in the healthcare provider arena to better prepare healthcare providers to recognize and manage pesticide poisonings and to gain information from the field clinician level of the effects of working with and around pesticides.

My remarks today are focused primarily on the practice aspect of research to practice. And I would like the theme that NIOSH and those here would carry away would be the more aggressive collaboration between agencies on -- in these areas and capitalizing on scarce resources to better effect the changes that we think would be necessary to better protect human health and the environment.

We are about the business in my office of trying to establish competencies, competencies for applicators, competencies for workers, and competencies for healthcare providers that have to deal with both of these segments of labor. We do support financially a number of NIOSH projects. We are in a long-term grant relationship with -- recently established a long-term grant relationship with PNASH to better affect the way healthcare providers are trained and to establish essentially champions in the area of public health for better training in the awareness -- the raising of awareness of how to deal with the implications of working with pesticides.

We also support the Migrant Clinicians Network that you'll hear a spokesman for later today in their efforts to bring tools that would be developed and awarenesses that would be developed to the clinician level and feedback that information to us in the pesticide program.

What I work with are field programs, and the value of field programs is the information that can be brought back into the agency so that the registration of pesticides and the specific directions of use for pesticides and the mitigation measures that are incorporated in the training for pesticide users can be more realistically shaped and functioned by the field information that we get. To that extent we help, through an inter-agency agreement, the funding of the sensor network, the Sentinel Event Notification System of Occupational Risks, and the pesticide aspect of that. And we would -- we heartily endorse that project and are committed to funding -- helping fund the expansion of that project so that at some point we can have SENSOR network information coming from the agricultural -- the states where there is high labor working with and around pesticides. and we can get a better sense of the actual incident -- incident picture in the country, which we don't have at the moment, and we can use that then to better regulate pesticides.

We also have an extensive training network that we've established through grants under the umbrella of AmeriCorp. We have safety trainers -- bilingual safety trainers dealing with agricultural workers in a way that provides them with the basic principles of safety so that they can help protect themselves, but also tries to engage them in ways that would make them active participants in a safety net of safety training, safety -- safe clinicians services, and so forth. We would benefit by research in that area from NIOSH into methods that would better reach this -- into this community, it's a challenge, as -- as many of you know, the nature of the agricultural workforce is varied from the migrants coming in to work a seasonal -- a seasonal session to the resident labor to the fairly sophisticated applicators in aerial settings and ground rig settings. So it's a challenge to reach into that community and actively engage them in the matter of protecting themselves and by protecting themselves protecting human health and the environment.

So I would heartily endorse your move to bring research to practice, and we should be more aggressively collaborating in these -- in these efforts, and I hope that we will.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 502.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Work-site implementation/demonstration

Economics

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Cooperative State Research Education Extension Service through the Department of Agriculture

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you. I've got a lot more things to say than I have time for, which is why I've given you the comments there. I'm Mitch Ricketts. I am a Certified Safety Professional. I work for Kansas State University Research and Extension. One of the things that I would like to say -- and I think we probably all know it but maybe don't think about it enough -- is that there is a real disconnect between the way that we think and the way many farmers think, particularly in terms of safety and health. And to illustrate that I want to tell you a little bit of a story.

Last summer an agricultural worker that I know was using a PTO-driven auger to transfer soybeans from a grain bin into a truck. He and his coworkers started the auger and soon they found that it was not quite in the right position to dump the grain into the truck. They were in a hurry so rather than shutting off the PTO, the man in charge -- who was a middle-aged worker; he's about my same age, he had done this work all his life -- without shutting the power off, he leaned over the auger to try and move it by hand.

Now this same worker -- about a week before a pin had sheared off the drive on this auger and about a week before he had taken the shield off and he replaced the pin with a long bolt, and he didn't have time to put the shield back on. So as you can imagine, he went to lean over the auger and as he did, the bolt grabbed his clothing -- I wasn't there, but there were two witnesses and what they told me is it flipped him head over heels and slammed him against the ground. Then something very fortunate happened, which probably saved his life. The auger ripped his clothing completely off. Had it not done

that it would have wound him up in there, and he probably would have been crushed or suffocated. To give you an idea of the power of this auger, he was fully clothed before this happened, but when he ended up on the ground he had two things on. One was the collar of his tee shirt -- not the rest of the tee shirt -- and the other was his left boot. Okay? Everything else was gone, everything but the collar of the tee shirt. He tells us he was wearing underwear and even those weren't there anymore. But that probably saved his life.

This -- as I said, this was a very experienced worker. He never would have let his employees do that. He knew better than to do that. As I visited with him the next week, you know, I asked him what -- what can we do to make sure that this sort of thing doesn't happen in the future, and he told us the kind of things that I'm sure every one of you in here have heard. He said, you know agriculture is a very dangerous business. He said sometimes we have to take risks in order to get our work done. Most of us would not agree with that. Most of us believe that there's no job worth risking our -- our health for in order to get the work done.

So I think the safety culture in agriculture is something that we really need to work on. One of the questions is how -- how can we deal with the safety culture among farmers. I think the only way that we're ever effectively going to do that is if we enlist farmers and laborers to help us -- or to help develop approaches that are practical and profitable in their own workplaces. Farmers are not going to adopt methods unless those methods make sense to them. It's not enough for those safety methods to make sense to us. Farmers will not adopt new methods for improving safety unless those methods are also efficient, profitable, and realistic in relation to the goals and resources on the farm.

In that regard, I would like to encourage NIOSH through NORA to encourage more partnerships with the agencies and organizations that are already set up to work with agriculture. In particular, the Cooperative State Research Education Extension Service through the Department of Agriculture has a system of local extension offices, experiment stations, and land grant universities throughout the United States. I know in Kansas, the state that I'm from, we have agents in every county of the state, and I think -- I think most states are like that as well. Farmers are already used to working through this network, and typically when rural people have questions, their first call is to a county agent or to the land grant university or to the agricultural experiment station.

This is a great resource that's out there. Most of the big changes that have occurred in agriculture have taken place through the efforts of the cooperative extension service, the agricultural experiment station, the land grant universities. It is difficult to imagine how we're going to make any major changes in agriculture without getting this group of people more involved. I realize that in some regions of the country that -- that group of folks has been very much engaged, but not in every region of the country.

So my challenge to NIOSH and to NORA is to go ahead and get this group of folks more involved in every region of the country. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 503.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Exposures

Approaches

Training
Intervention effectiveness research
Work-site implementation/demonstration
Marketing/dissemination
Emergency preparedness and response

Partners

agricultural businesses and organizations, such as the National Council of Agricultural Employers (NCAE); USDA

Categorized comment or partial comment:

Verbal Comment 2006/01/17: I believe it's everything, yes. Hi, my name is Sharon Hughes and I represent the National Council of Agricultural Employers, which is the only national organization that's devoted to representing agricultural employers from the farm management viewpoint in Washington on labor and immigration issues. We represent the growers and producers interests before the federal government on -- on these issues and work closely with Congress, the Immigration and Customs Enforcement Bureau, the Departments of Labor and Agriculture, the Occupational Safety and Health Administration, and the Environmental Protection Agency. NCAE membership is open to growers, producers, processors, cooperatives. Other agricultural organizations at the state, local, and national level belong to the council, and we thereby have membership in all 50 states dealing with labor-intensive agricultural crops.

As NCAE's Executive Vice President I've had the opportunity to work with the Department of Labor's review of the hazardous occupations orders regarding children's work in agriculture, advised on the USDA's Hazardous Occupational Safety and Training and Agriculture Initiative. I was one of the employer representatives to the International Labor Organization when they developed their safety and health in agriculture protocol a few years ago. And I also served as advisor on several NIOSH-funded projects, including our current project with the Marshfield-based National Children's Center for Rural

and Agricultural Health and Safety where we're testing a strategy to motivate employers to improve the safety conditions for hired adolescent workers.

Our organization has a vested interest in the safety and health of agricultural workers.

For today's statements I have five key points to make. First, NIOSH-funded investigators should be required to partner with agricultural businesses and organizations, such as NCAE, to plan and implement studies; then disseminate the results that have practical application for agricultural producers and hired workers. Too often there's a disconnect between what academics want to study and what is of real importance to agricultural producers and/or their hired workers. Many papers and scientific journals have virtually no impact on the health and safety of agricultural workers.

Second, NIOSH research should identify effective health and safety interventions targeted for hired farm workers, especially those with short-term employment requiring skills and machinery operation. For many of our crops there's a brief window of time for planting or harvest. Workers circulate through quickly and may not return for a second season. We need help in providing effective training and safety interventions for these employees.

Third, the NIOSH agricultural research agenda should address cross-training of workers in agriculture. Skills building, including safety aspects, would improve worker options for promotion and longevity in agricultural work. Many of our trained employees have moved out of agriculture into construction, retail, and other occupations that offer full-time, year-round employment. Ideally, farm workers would be cross-trained and given opportunity for upward mobility within the agricultural industry, and we need help with this type of research into doing that type of skills training.

Fourth, NIOSH should maintain designated funds to test and disseminate effective programs that agricultural producers can use for promoting health and safety among legally employed young workers ages 12 to 17. Many employers flatly refuse to hire teen workers because of all the regulations, the liability concerns, the inability to get workers compensation coverage, et cetera. But agriculture can provide safe, meaningful employment opportunities for the local youth. The NIOSH children's initiative has ensured a focus on this topic, and we support its continuation.

Finally, new strategies are needed to bridge the research to practice gap. You may want to consider jointly-funded projects between USDA and NIOSH. As the speaker before me indicated, working with extension personnel at the state and local levels would be very effective in being able to actually implement the practices, you know, with the growers. The USDA HOSTA initiative for youth, tractor, and machinery certification might benefit from further testing, evaluation, and promotion via the NIOSH regional centers. And there are other health and safety issues that could benefit by linking NIOSH, you know, with the cooperative extension personnel.

I will go ahead and submit the written comments at a later date, but I do want to thank you for this opportunity to address.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 504.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Cancer

Traumatic injuries

Mortality

Exposures

Motor vehicles

Work-life issues

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good afternoon. It is indeed a privilege to be here. I am Jane Elam from Lexington, Kentucky, the horse capital of the world. I have been involved with Kentucky Farm Bureau for many years. I'm serving currently on the State Safety Advisory Committee. My husband and I farm a six-generation horse, cattle, and tobacco farm.

I introduced myself stating that I am from the horse capital of the world, but my state holds another record, being near the top for all terrain vehicles accidents and deaths. We have many reclaimed coal mines and fast, hilly country sides that promote ATV riding -- abundant tourists and locals riding at these sites that promote ATV riding and cause injury problems.

The sites are always glad to collect a few bucks from riders who use them. We have the largest ATV dealership in the nation located in eastern Kentucky. ATV accidents, which are usually head injuries, can be greatly reduced with proper use of helmets, especially on farms, but they are not widely used by ATV drivers.

Motorcyclists are another problem group -- a group that has gotten the lawmakers to rescind the mandatory helmet law in Kentucky. This is a problem in itself.

My message today is education and research, because that is the only way to reduce injuries and deaths. We were at the top of the nation's farm deaths and injuries before our Department of

Agriculture started an education program. Now we have cut these statistics in half since farmers are using roll bars and seatbelts on tractors.

Other ways we are educating are by holding safety camps, health and wellness camps for all the ages, and working with 4-H and FFA in pilot programs. Many people think farm accidents are inevitable, but they are preventable when children and adults are educated how to be safe on the farm.

Being from a top tobacco and coal mining state, we again hold another record as being near the top for lung cancer and related health problems. We are working on solutions through education and research. Results will be slow coming because of habits and peer pressure. We are asking our General Assembly, as they go into session this year, for monies for research and education to help deliver the health and safety story. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 505.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Heat/cold

Approaches

Training

Marketing/dissemination

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good afternoon, everybody. I thank you for the opportunity to speak today. I'm Regina Cullen Luginbuhl from the North Carolina Department of Labor. I'm representing my agency and also ECU, the agrimedecine program.

I want to tell you a little bit about agriculture in North Carolina since we're on the other side of the universe in this kind of a different place. In North Carolina agriculture accounts for 22 percent of the state's revenues and employs 18 percent of the workforce. You probably know we're tops in tobacco, but also turkey, some really delicious healthy fruits, blueberries, and some good vegetables -- my personal favorite, cucumber pickles. And our Christmas trees go as far as Hawaii and Japan, and they usually end up in the White House for whoever is the President. It's going to be his tree, too.

But I also want to talk about the migrant labor workforce that puts all these things on our tables. It's an indeterminate number. Some people say it's a 100,000, and some people say it's 300,000, and some people just tell us to go and find out. We don't really know, but we do know they start -- they all start in the agricultural area pretty much. Most of them are from Mexico. Some of them now from Laos and Cambodia, and the ag start is at the bottom of the ladder. They might go on up into construction. We don't really care about that, either. We just -- our job is to make sure they stay safe on whatever step they're at.

I want to talk about three safety topics -- the ones we know about.

The first one has to do with injuries and death from heat stress and heat stroke. That's been addressed earlier, but I can tell you from our point of view it's pretty important. We had three workplace fatalities this past summer, 2005, and they were all heat stress/heat stroke. And these were guest workers, people that were guests in our country. They came here under the H2A Program.

At the time of their death they were working for the farmer that hired them, and they were doing the job they were paid to do. They were not alone when they died. Their fellow workers were with them, and in two of the three cases their employer was with them as well. I really don't think anybody ever intended that these deaths would take place.

So why did they take place? Studies point to work rest cycles, adequate hydration, job cross-training. My personal bet, recognition of the hazard. I think if anybody knew, any of the workers knew, if the worker himself knew, and the farmer knew that some of those symptoms were going to be life threatening, they wouldn't have put them at the end of the field to rest.

Comment ID: 505.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Our second pick is pesticides. That's also been a theme this morning -- this afternoon. Some of my colleagues in North Carolina are really convinced that we do need a reporting system that works. Right now we don't have one. We need chemical exposures that can be traced, understood, and prevented. We need to record exposures. We need a record. In California we have a state law that mandates doctors' reporting illnesses from occupational exposures to local health offices. So surveillance is important.

he Department of Labor takes care of the HazCom, Hazard Communication Standard, and we've noticed when we issue citations there's three of them that typically occur. Most growers don't have a written program. They don't post their Material Safety Data Sheets, and they fail to train their employees.

Comment ID: 505.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

Third topic -- this actually is a -- it's going to end on a happier note. In North Carolina we've created a gold star grower program. Those are the guys who do it right. They would do it right whether we were there or not, and they sort of manage us. Sometimes I like to think we're managing them, but of course that's not the way it is. And in many of our conversations they told us what their most serious workplace safety issue was. How nice, and I didn't guess it anywhere close. It was driving their vehicles on the rural roadways. Everybody in the room I guess was on top of that.

So we got some government money, state government money, and got some slow moving signs out, and they promised not to put them on their mailboxes. And we educated the public, which was their number one issue. And the grant provided us with an intern so I think that's always useful, a useful way to put your money, and she got her MPH out of it. So I'd like to see that sort of effort continue and maybe move on in North Carolina to the roll-over protection.

So I think there's a few things that are important to us. One is that the education we have, we share it with farm workers and with farmers, and that we listen to both groups, and that we get additional help from folks like you. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 506.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Work-life issues

Approaches

Surveillance

Etiological research

Training

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Farm Safety 4 Just Kids; Progressive Ag Foundation day camp program

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good afternoon. My name is Marilyn Adams, and as the spokesperson and founding president of Farm Safety 4 Just Kids, I take this opportunity to thank NIOSH personally for the past efforts that you have given to the child farm safety and health issues. The majority of our funding comes from agribusiness, but we also depend upon NIOSH. We depend upon the studies to justify ongoing corporate donations and to justify the categories that we need to address. We feel strongly that NIOSH should continue its dedicated and separate focus on children in the coming years.

The Children`s Farm Safety and Health Initiative was appropriated by Congress as separate funds and for the sole purpose to be sure children were not forgotten. I know because I was there. I was one of the members of the national committee that worked really hard to make this happen.

Collaboration and support from others in the agricultural safety and health field is crucial at this time. Networking and project funding provided by NIOSH centers, such as the National Children`s Center, the Great Plains Center, the Southeast Center, have really directly benefited the Children`s Farm Safety and Health. For example, the network created by the National Children`s Center has given Farm Safety 4

Just Kids the opportunity to work with under-served world populations with educational materials both for Spanish-speaking populations and for the Amish.

Community outreach programs that address the entire family and protect children are extremely vital to preserving the rural environment. Farm Safety 4 Just Kids has nearly a 140 grass roots volunteer chapters across North America that reach more than one million rural children, youth and farm families each year with life-saving educational materials based on research to practice principles. In year 2000, Farm Safety 4 Just Kids developed an educational packet called "Farm Tasks, When Are Kids Ready?" This educational tool is based on the North American guidelines for agricultural tasks created by the National Children's Center.

Farm Safety 4 Just Kids has also created a farm safety day camp manual in response to a two-year evaluation done by the Southeast Center on farm safety day camps. Some of our chapters who conducted these day camps were trained by the Progressive Agriculture Camp Program. I mean, excuse me, the Progressive Agriculture Safety Day Program.

ATVs are extremely important. You've heard that more than one time today. Along with the Great Plains Center for Agricultural Help, Farm Safety 4 Just Kids surveyed the attitudes and behaviors of youth on ATVs during the recent national FFA convention. Two educational sessions with peer to peer education were also conducted. The results are being used to shape up -- shape an upcoming educational tool that includes a community planning guide, paper and pencil activities, demonstrations, posters, presentation materials, a brochure -- and the list goes on.

Our vision at Farm Safety 4 Just Kids is simply keeping rural kids safe and healthy. For agriculture to continue as a viable and prosperous industry, we need to make sure agricultural safety and health outreach programs are researched, implemented, and evaluated on an ongoing basis. We also need to make sure our efforts are geared at reaching all generations within the family unit from the curious toddler asking for a ride with grandpa on the tractor, to the 12-year-old wanting to ride an ATV, all the way up to the teen that's working around the power take-off for the first time. Our education and awareness efforts are timely and effective.

In closing, Farm Safety 4 Just Kids is working to deliver grass roots programs based on research to practice. We take pride in creating programs and educational materials that are based on the foundation of networking, research, evaluation, and awareness about farm safety and health issues. Farm Safety 4 Just Kids is prepared to expand our organization to implement the intervention that has already been tested, while continuing to specifically address the needs of children, youth, and farm families through community outreach programs.

In addition to my verbal comments, I have a handout that describes our priorities in ATV safety, rural health, and tractor safety. And yes, we would love to partner with you on the tractor safety initiative.

Three key points that I'd like to quickly make. Children's initiatives should remain viable and separate. Recipients of NIOSH research funds should strongly encourage the partner -- to partner with organizations such as Farm Safety 4 Just Kids and the Progressive ag Foundation day camp program to ensure that the knowledge gained through research is implemented at the grass roots level. Even better yet, direct funding to the nonprofit organizations to be provided to organizations such as ours that have had proven track record conducting and disseminating educational programs based on the NIOSH funding -- funded research. Okay. I firmly believe that if steps are taken in this direction -- and I wanted

to say this most importantly to you, sir -- the modest reduction of children`s agricultural injuries and fatalities, together we can assure that agriculture will remain a strong, viable industry for years to come. Thank you, Sir.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 507.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good afternoon. As he just said, my name is Deliana Garcia, and I represent the Migrant Clinicians Network based in Austin, Texas. The Migrant Clinicians Network is the nation's oldest and largest clinical network dedicated to improving the health of the mobile under-served. For 22 years we have worked to prepare clinicians to meet the healthcare needs of migrant farm workers, those persons who cross a prescribed geographic boundary and stay away from their normal residence overnight to perform farm work for wages, and other mobile under-served workers.

Occupationally-related illnesses and injuries continue to be some of the most complex and frustrating healthcare events handled in the primary care setting. I am grateful for the opportunity to address you today with our recommendations for the agricultural section -- sector, excuse me -- of the National Occupational Research Agenda under development.

Your work will have enormous impact for many years to come. We have seen this in the critical pesticide-related research that has been conducted over the last ten years based on the previous NORA. The body of knowledge has greatly improved, yet those crucial advances must be taken to the next level. Understanding of the impact and effects of pesticide exposure must be translated into critical evaluation strategies, and treatment and management protocols for the clinician in the field.

Related to the research to practice initiative, our first recommendation would be that NIOSH-funded research include an applied component to swiftly translate findings into clinical practices.

We ask that future requests for proposal include requirements to seek to link research findings to programs or organizations that can apply the results. In this way, as studies are defined and executed they will have a specific aim, the rapid deployment of major findings into the settings where they will have the greatest benefit.

Comment ID: 507.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Our second recommendation is that the agricultural sector of the NORA redouble its effort to study injuries and illnesses resulting from occupational insults to workers. When caring for migrant workers it is critical that the clinician look beyond pesticide exposure at incapacitating injuries resulting from rapid and repeated motion, awkward body mechanics, and the strain of supporting excessive weights. And it would be important at this moment to also highlight that this work has not been conducted looking at female farm workers and female workers in other occupations who are currently pregnant.

These work requirements result in a whole host of traumatic injuries and musculoskeletal disorders that greatly impact the longevity of workers in many segments of the agricultural industry. The long-term effects on the human body are not fully understood, yet due to these injuries we see a growing number of workers no longer able to maintain employment either in agriculture or in any other work setting. For many of these individuals their very survival, and that of their family, depends on the ability to work at whatever job is available to them. The field of workers compensation and rehabilitation has far to go. I would again urge that future research incorporate the identification of strategies for the prevention, as well as the treatment and clinical management, of these injuries. The NIOSH Northeast Center for Agricultural and Occupational Health, NICAM, provides an outstanding example of research in this area that has been translated into clinical recommendations, and more efforts like this are needed.

Comment ID: 507.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

While there is enormous concern about the impact of injuries and exposures on adult workers and the young children and their families, little attention has been paid to adolescent workers, older children ages 14 to 17 functioning as emancipated minors. Reports of studies looking at the changing face of migration repeatedly indicate that the migrant population is getting -- that is increasingly not English speaking and also non-Spanish-speaking, is getting younger. These young workers are not yet fully developed either physically or physiologically -- or psychologically, excuse me -- but life circumstances have required that they function in the adult world of work. They are, however, children unfamiliar with worker protections and often incapable of requesting assistance, and additional research is needed to understand the impact of occupational injuries and illnesses on the adolescent worker.

Our third recommendation is that research funding targeted at children remain in place, with a special focus on an older child because we do not believe that this population can be adequately addressed in adult research. We have benefited enormously from our partnership with the NIOSH National Children's Center in Marshfield, Wisconsin and our active involvement in the Childhood Agricultural Safety Network. This partnership led to the development of highly sought-after resources to help educate farm worker families. Continuation of this kind of intervention is critical. Again it is important that research work to assist the healthcare provider in understanding the effects on the developing body and identify strategies to prevent and clinical management.

So as I'm closing I'd like to reiterate linking studies to organizations able to translate the findings into critical strategies -- clinical strategies, broadening the research agenda beyond pesticides, and

expanding the child-focused initiatives to include the adolescent worker who is functioning essentially as an adult. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17. Expanded written comments were submitted and given Comment ID w403.

Comment ID: 508.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Work organization/stress

Work-life issues

Approaches

Surveillance

Etiological research

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: I've already said I might sound like God with this and so I hope you listen appropriately. It's -- we pronounce it "Petrie," but I've had Greeks and Romanians both tell me that they know people in their countries with that name and gave me that pronunciation. I asked my dad about it, and he just said I'm American, so -- I am Chip Petrea from the University of Illinois at Urbana-Champaign, the Department of Agriculture and Biological Engineering. I also have an appointment with the Centers for Environmental and Occupational Safety and Health at the University of Illinois Chicago, which is an ERC center for NIOSH.

I would like to speak about older farmers, that being those farmers older than 55. I know lots of places older farmers -- or older guys, and older white guys in particular, don't get a lot of good press, but there's a lot of them out there. The average age in Illinois is something over 55 for farmers, going up. So I have four particular factors related to that category of farmer that I'd like to address.

One is the physiological changes of aging. We have a lot of data on lots of things that takes place as the body ages. However, related to farming we do not know how these changes may interact with the continuing workload and the long hours that farmers tend to do. I served on a dissertation committee

of farmers in northern Illinois, and they routinely put in 40 to 60 hours, which is similar to what my dad does and he's 74.

There's lots of information on chronic diseases and the increasing prevalence of those diseases as individuals age. However, we do not know what the impact of those may be on the older farmers. We know that lots of farmers, particularly the older generation, are not typically preventative health oriented. They only go when they need to to a physician or clinic, and sometimes not then, and whether -- the suspicion is that there's lots of undiagnosed chronic diseases out there that are -- in fact there are some of them that have been diagnosed but may be under-medicated, and so there's -- their relationship of those factors to injuries and fatalities is not well understood.

The relationship between prescriptions and over-the-counter medications with farming and farm health and safety, in Illinois we lose 10 or 12 older farmers every year from tractor overturns, and it would be nice to know what kinds of medications those individuals were taking and whether there was any impact of that on their particular situations.

And also the role of stress and mental health problems such as depression and anxiety. We know that farmers spend more of their times being humans than they do being farmers, but they do have a particular set of circumstances that bears to be better understood.

I would recommend that there be a specific NORA research target of older farmers in production agriculture to assess the role of physiological changes of aging, health status, chronic disease, mental and physical health effects, and the effects of medication as they relate to occupational injury and mortality. I would like to see the continued work on better mechanisms to document farm and farm-related injuries and fatalities. We of course recommend a collaborative approach between nursing, medicine, agrimedecine, agricultural safety and health, agribusiness, public health, and of course the farmers, their spouses, and their family members. And NIOSH has a nice publication on community-based participatory research that I think offers a model that we can follow. And I would also offer that the -- related to older and aged farmers that something similar to the current previously work related to the rural and agricultural children's efforts would provide a good model, and also the USDA cooperative states research, education and extension service AgrAbility project, which relates to disabled farmers and their families, are both good models for furthering the research that we need and the appropriate mechanisms for guiding both preventative as well as facilitative programs. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 509.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Training

Marketing/dissemination

Partners

extension service professionals

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Glad to see there's so many people still here, and thanks for the opportunity to speak this afternoon. I am Dee Jepsen, the director for agricultural safety and health programs at Ohio State University. I am also the President of the National Institute for Farm Safety, which is the leading professional organization in the nation that's dedicated to occupational safety of agriculture workers.

When asked about the topic of my session I simply chose to speak from an extension perspective, so I may be echoing some of the remarks from my colleague, Mitch Ricketts. For those of you who are not familiar with extension, oftentimes referred to the cooperative extension service, let me just briefly summarize it as an educational research and service organization that receives funding from federal, state, and local budgets to address issue-based initiatives.

Extension receives financial and programmatic support from the stealth government agency familiar with ag, that being the USDA. From a historic perspective the extension service came about in 1913 through the Smith Lever Act. This Act called for the information generated by the research and the academic communities to be disseminated to the citizens and put into use. So with no disrespect to my NIOSH officials who I know and who developed that R2P logo, I would like to say that extension and the federal land grant institutions are the original crafters that the research to practice model.

Now in all seriousness, I do want to acknowledge NIOSH and their efforts to incorporate R2P in the current research expectations. Basic and applied research findings through the R01, R21, and feasibility studies are much needed in the ag sector. Each study, whether it's farm-related asthma, injury

surveillance, noise-reduced hearing loss -- I could go on and on -- these studies are just bricks that help form the wall of research in the agricultural workplace.

But this wall that we built can also be a barrier between the researcher and the workforce. Perhaps the findings are there, but the common practitioner does not know what to do with them.

This is where extension comes in. Extension professionals can take those findings and transform them into a more palatable format for teaching and training. Utilizing the R2P model, researchers can be sure that the occupational workforce, including farm families, are getting the most current findings and strategies for prevention of illness and injury. Extension is comprised of four major program areas, not just agriculture, but also family, youth, and community development. Extension has a presence in every state of the nation and often in every county or parish.

Extension professionals work directly in the communities that they serve. They are faculty members of their state land grant universities and are familiar with methodology, program planning, and systematic evaluation. I heard this morning and then again this afternoon that the NORA agenda will encourage partnerships. I recommend that extension be that logical and effective partner when it comes to the agriculture sector.

The regional agriculture centers have the ability to work directly with the extension professionals in their area. These professionals have access and the rapport with the agricultural workforce.

The mission of extension program is to take information to the people. Extension can effectively target the appropriate audience and utilize research findings in their local communities. On the local level, extension professionals have community linkages with the veterinarians, the public health departments, and local clinics or hospitals. Including extension in the R2P process ensures that the researchers that have valuable occupational findings -- that their findings are being put to use. In a nutshell, extension can be those wheels for research, knowledge, and safe workplace practices.

Let me conclude by saying that long after the grant dollars expire, and we all know they do, extension offices will still have a presence in the communities. and can keep the information and the best management practices set by NORA progressing. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 510.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good afternoon, everybody. And I certainly would like to thank NIOSH for organizing this opportunity for listening, and for myself for learning from many of you from the audience, and also an opportunity to contribute to the next ten years of research with regards to agricultural health and safety.

I am Anne Greenlee, and I'm an Associate Professor with Oregon Health and Science University within the School of Nursing. I have a secondary -- that's my primary appointment. My secondary appointment is with the Center for Research on Occupational and Environmental Health, and I am located on the LeGrand Campus. That's about four and a half hours away from the Portland Campus. And I'm developing a new program of research there within the School of Nursing, so I've had an opportunity with over the last year and a half to talk with some of the producers and veterinarians in the area. So I have kind of a short message that underscores really what has already been discussed with regards to beef production and dairy industry in northeast Oregon and southern Idaho.

And essentially the issues as far as health and safety, traumatic injury, really stem from animal handling issues, understanding the animals and moving the animals about, bull/human interactions and yard maintenance with regards to heavy equipment. So many of -- I guess what I'm -- what I'd like to underscore is just the need for translating the message of safety and how to get it into the more remote areas of efforts that are occurring in northeastern Oregon and Idaho.

Comment ID: 510.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Training

Partners

Categorized comment or partial comment:

Long hours, personnel turnover, harsh work environments, and training opportunities that may or may not result in behavioral change, those appear to be issues on the minds of producers.

Comment ID: 510.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

An area in which I am more familiar in that I'm more of a laboratory-based scientist and I have not heard yet today, sort of two areas that are emerging as far as knowledge gaps, that I think need to be on the agenda. And that is the fetal basis of adult diseases, those exposures that occur in the workplace with regards to heavy metals and solvents and agrichemical exposures; and those exposures that pertain to or have the possibility of trans-generational effects, those heritable changes that occur during in-utero exposures that are -- not only affect the offspring but also have the potential for affecting future generations as well.

And there's increasing evidence that some of the environmental agents, especially those with hormone-like activities, may alter developmental programming. They do not result in overt malformations, rather they alter the developmental program and result in functional deficits. And the functional deficits are expressed later in life as an increase in susceptibility to disease and dysfunction. And the mechanism proposed for this phenomenon, i.e., the fetal basis of adult disease, is believed to be epigenetic alterations in the genetic -- in gene expression; that is, altered DNA methylation. And in some instances these exposures may result in transgenerational or heritable changes in the germ line.

So I think my point is, my suggestion is with regards to the agenda, the future agenda, is to look at those exposures, those low-dose, chronic exposures that don't result in an overt malformation but yet may lead to the risk of the interaction with those exposures and later susceptibility, or increased heightened susceptibility to cancer, to reproductive changes, fertility, decrements in fertility, and neurological health. So I think there's a lot -- just having my foot in the arena of toxicology and reproductive health and agricultural health, it's becoming very obvious -- this -- this is a hot topic. This is what is really on

the agenda of many upcoming meetings and is going to be building over the next few years. And I think that low-dose, chronic exposures really need to be kept at the forefront as far as disease susceptibility.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 511.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Infectious agents

Work organization/stress

Work-life issues

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Perhaps the most important change in U.S. agriculture during the past 30 years is the dramatic increase in the importance of labor-intensive agricultural production and the associated greater reliance on hired workers.

Three major factors account for this greater utilization of hired workers. First, there's been a steady increase in the proportion of U.S. crop farm cash receipts derived from the sale of fruits and nuts, vegetables, nursery and greenhouse products. In 1974 that total was about 17 percent of total crop farm sales. By 2002 that share had more than doubled, and is now 40 percent.

Second, increased farm size often requires supplementing farmer and family labor with hired workers. Among fruit and vegetable producers there has been a dramatic increase in size concentration in recent years, and correspondingly a greater reliance on hired labor.

Third, the labor supplied by hired workers on U.S. farms today probably now exceeds the labor input of farmers and unpaid family members. The 2000 U.S. Census of Population indicates that just 587,000 persons said their occupation was farmer or rancher, down from roughly 830,000 ten years earlier. In contrast, the number of persons reported in the census of agriculture working 150 days or more directly for farmers -- these are regular hired workers -- was reported to be 928,000 in 2002. That's up from about 700,000 25 years earlier. Of course the latter figure does not include the one million or more short-term or temporary hired farm workers who labor on U.S. farms.

What do we know about this population? First, most U.S. hired farm workers are characterized by low socioeconomic status, long associated with adverse health outcomes. The National Agricultural Workers Survey of the U.S. Department of Labor finds that the typical hired crop farm laborer today is a young, low-income, foreign-born, mostly Mexican male with low educational attainment and who has only recently migrated to the United States. In California the most significant development in the farm labor market is the sharply increased flow of indigenous migrants from the southern Mexican states of Chiapas, Oaxaca, Guerrero, Puebla and Veracruz. Approximately 20 percent of California farm workers today are believed to be indigenous migrants. Many speak only their indigenous language, not Spanish, not English, languages that very often doesn't even have a written form.

The seriousness of farm labor occupational hazards was underscored in California during the past summer when a statewide attention was directed to multiple deaths among workers who suffered heat illness while hurrying to pick crops in the San Joaquin Valley. My belief is, and this underscores something that Bill Krycia said earlier, that there is persuasive evidence that vigorous enforcement of occupational safety laws can reduce workplace injuries and illnesses throughout industry.

An economic -- an econometric multi-varied analysis of non-cumulative injury, Workers Compensation claim frequency for all industries in California conducted by the Workers Compensation Insurance Rating Bureau, showed that Cal-OSHA enforcement and education was the single largest factor contributing to reductions in paid claims. But unfortunately there's been relatively little progress in the recent past among hired farm workers. In particular, the number of fatalities on California farms among hired workers in the ten-year period 1988 to 1998 was 442, an average of 40 fatalities per year, and that rate has not decreased subsequently.

I believe that hired farmers are a special population based on the unique demographic features, the lack of access to care, the lack of health insurance, the high rate of occupational injury, and the poverty status. A major factor of course is the extent of poverty in this group. This has its impact in different ways, including lack of access to healthcare, limited nutritional choices, decrease in preventive health services, dental/vision care, vaccinations, and poor housing conditions.

If we're going to understand the pattern of disease and illness in this population, we can't only look just at the occupational exposure. So here's my recommendations.

One, I think we need to support prospective cohort studies of this population that includes workplace and living condition exposures, as well as acculturation and risk behaviors.

Second, I think we need to insist that future cross-sectional studies in this population should include comprehensive physical exams. We are seeing a pattern of infectious disease, tapeworm, tuberculosis, and other illnesses endemic in the sending countries now appearing in our state.

Third, NIOSH should add a periodic occupational health supplement to the National Agricultural Workers Survey, perhaps every three or four years, and take advantage of the wonderful work that that organization has done.

And fourth, and this I'll end on, NIOSH should immediately provide public access to raw data files already collected, such as the 1999 Occupational Health Supplement to the NAWS, subject of course to privacy protection, as is the standard practice in the Census Bureau's PUMS files and the NAWS has recently put on the web all of the raw to data files for the past ten years. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 512.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding

Training

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Good afternoon, everybody. My name is Dick Dressler, and I'm speaking to you on behalf of AEM, the Association of Equipment Manufacturers. We appreciate the opportunity to speak today on agriculture and forestry, and will briefly highlight some of the recommended -- recommendations we have for the agenda.

AEM is a nonprofit manufacturers trade association, headquarters in Milwaukee, Wisconsin. We also have offices in Washington, D.C.; Ottawa, Canada and Beijing, China. AEM serves the agricultural, forestry, construction, mining, and utility equipment sectors. We have over 700 corporate members with 375 original equipment manufacturers and the rest suppliers of goods and services for the industry.

Agriculture, as you've heard today, ranks among the most hazardous industries. In addition to adults, children and teenagers are regularly performing work on many family farms and are exposed to potential illnesses and injuries. NIOSH currently supports research and prevention programs, but more can be done.

The following topics are recommended for the NIOSH agenda. One, high productivity equipment. Ag equipment working and traveling at higher speeds requires special consideration for steering, braking, hitching, lighting, marking, and training the operator.

Two, global positioning and other automated systems. Automated functions allow machines to perform complicated tasks with minimal or no operator assistance. Unexpected movements or occurrences must be addressed in the operator's training and re-training.

PTL, drive lines and other hazards. Guarding and warning for preventions of entanglement, crushing, or cutting industries have improved dramatically over the last 20 years. They must continue to be evaluated and tested for safety, functionality, and comprehension.

And as we talked before, training. NIOSH needs to identify the most effective means for operator and technician training. Examples could be classroom, web-based, or interactive training. Consideration also needs to be made for the non-English-speaking individuals.

Operator visibility studies. NIOSH has supported visibility studies for the construction and mining equipment sectors. This should also be done for ag equipment.

Run-over, backing injuries and fatalities continue to plague the ag industry. Closed circuit monitoring is available. A human factor study needs to be done in an ag environment.

Public acceptance requiring cultural changes. The public must be educated to accept that ag equipment manufactured in recent years, probably since the mid-1980s, is inherently safe. It should be investigated whether further reduction of injuries and fatalities may require cultural changes in addition to improved standards.

NIOSH should also become an advocate encouraging OSHA to have -- to base their regulations on modern standards rather than developed in the '60s and '70s. An example is the reinstatement of the Roll-over Protective Structure Standard.

Comment ID: 512.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Approaches

Risk assessment methods

Partners

Categorized comment or partial comment:

Finally, research is suggested to study the benefits and risk of injecting manure into the soil to minimize run-off and contamination. This should be compared to the common practice today of spreading. The process may be regulated by the EPA, but we do not believe there is sufficient data available to make an informed regulatory decision.

Comment ID: 512.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Forestry is another hazardous -- hazardous industry and there`s clearly a need to prioritize efforts intended to make this occupation less dangerous. Forestry per man-hour worked in many states is the most hazardous industry.

The following two topics are recommended for the NIOSH agenda. One, fire prevention. The Society of Automotive Engineers is currently working with the insurance industry to prepare an informational report on fire prevention practices. Collaborative research with NIOSH in validating these practices would be a worthwhile effort. A specific area of study is the total loss of machines resulting from the misuse of forestry and construction equipment in firefighting applications.

Two, operator protection. Forestry equipment generally provides excellent protection, but some conditions are more challenging to the manufacturer than others. Topics for investigation could be (a) additional protection from falling objects; (b) durability of polycarbonate window material that may be bullet proof, but it may react differently to a heavier mass, lower speed object; (c) effectiveness of add-on roll-over protective structures on forestry conversions; and (d) safety research for ground personnel, such as fellers, choker setters, and even truck drivers.

There are other research topics but these are some of the higher priority issues we believe should be placed on the NIOSH agenda. Thank you for your time and the opportunity to speak.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 513.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: Thank you very much for the opportunity to make just a couple of comments on behalf of some of the folks that I work with. My name is Charlotte Halverson. I am from eastern Iowa. I am employed by Mercy Medical Center. We have a rural health service through that hospital. Half of my time is contracted to the National Safety Council where I work with the National Education Center for Agricultural Safety. My background is occupation health nursing, and I have done a focus study on agriculture, so sometimes I have to look at my name tag to tell you where I'm working today.

I really, really want to commend NIOSH and NORA and most of you here for your emphasis on the importance of collaborative efforts. None of us have a lot of time and a lot of money, and so all these things are precious to us. I think collaborative efforts are going to be especially effective in a lot of areas, and we need to be working very closely with researchers in university centers and NIOSH centers - the importance of having the media involved in a lot of what do. Looking at those collaborators that we don't oftentimes think about, such as the community -- community colleges, working with producer groups; involving rural practitioners in not only looking at what are the issues to be researched, but in getting the word out when we do have the materials.

I very much represent the P in the R2P. As an occupational health nurse, I spend a tremendous amount of time with farmers, with farm families, with very young workers, and very much the older working population.

There are some issues that I think that we have a particular interest in and see a need for research time and dollars, and we have hardly scratched the surface on some of the issues around respiratory -- chronic respiratory issues. I have, believe it or not, driven down the highway and seen farmers with their oxygen tanks driving the tractors -- you know where I'm coming from.

Comment ID: 513.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

Categorized comment or partial comment:

Hearing conservation -- hearing loss is being seen in our clinics at a younger and younger age.

Comment ID: 513.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Other

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Women in agriculture -- I think this is an important issue because more and more women are very directly involved with agriculture, and in the actual work, not just the book work.

Comment ID: 513.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Mental health and stress issues in agriculture -- this is just huge. And I want to reiterate what Chip Petrea talked about, particularly the physiological issues in the older adult population. We have older adults working longer and working harder.

Comment ID: 513.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Marketing/dissemination

Capacity building

Health service delivery

Partners

Categorized comment or partial comment:

Those of us that are nurses in agriculture -- and I am actually representing the Agrisafe Network. We are a group of occupational health nurses with a focus in agriculture, and that's where we are trying to devote most of our time. But we have really seen that there is a need for agricultural focus in the occupational health programs and in the community health portion of nursing and medical training.

Now that being said, I know that the schedules are extremely tight. There is no room for any additional information to be put into these programs. But the sad part of it is is the majority of nurses that are working in the agricultural community have less than a bachelor's degree, very oftentimes out of your two-year programs where there is no time to put any community health issues in. So I think we need a challenge for those of us that are in the arena is to look at how can we get information and training to people that are the healthcare providers.

I preceptor some of the master's degree students in the occupational health nursing program for the University of Iowa, and there is a direct -- a definite interest in the agriculture arena in these people. And they really have a passion and a caring and an interest in working in agricultural health and safety. But we all know that it is definitely not a revenue-producing area. It is very rarely third-party reimbursed, and we need to be looking at how can we integrate this practice into a model that will give us a paycheck.

Providing research information on the continuing education front. NIOSH alerts are a wonderful tool and we have really -- really used them and -- and look forward to them. But I think that these alerts not only alert those of us in the agricultural health and safety industry, but they also can be a way of getting to our colleagues who don't always interact on a day-to-day basis with agricultural workers. So any kind of information that can be disseminated that we can have available to physicians and nurses that don't

always see people in the agricultural arena. And my emphasis story on this is I worked with an occupational health physician. I put him into a training program at the University of Iowa that we took, and he came back and he said Charlotte I've been misdiagnosing. So that's where the value is in the NIOSH dollars that go into the research.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 514.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Mortality

Exposures

Infectious agents

Approaches

Training

Intervention effectiveness research

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

North Pacific Fishing Vessel Owners Association (NPFVOA) Vessel Safety Program

Categorized comment or partial comment:

Verbal Comment 2006/01/17: I want to thank NIOSH for the opportunity to participate in this forum. I -- I've learned a lot today, and I wish there was a little bit more time. But hopefully as a follow-up we can look together at some of the commonalities between the ag and the -- particularly processing industry for -- in our fishing sector.

I am Leslie Hughes. I'm the executive director of the North Pacific Fishing Vessel Owners Association better known as NPFVOA Vessel Safety Program, and this program was started 20 years ago. I've worked in the commercial fishing industry for 31 years, but with the safety program for 20. And it's been an amazing program where we've seen huge improvements, but some of the comments that have been made today about disconnects are a constant challenge with trying to get a culture to understand that they are at enormous risk. The fishing industry is regarded as typically the most dangerous occupation in the United States.

So I think we've been very effective as an organization because we're nonprofit, we're totally dedicated to safety education and training, but we have a membership base. We're not exclusive to our members, but it gives us a population that we continually communicate with and they communicate with us. And they will come to us, for instance, if they have say a pneumonia incident where their people are exposed. They'll come to us and say we've just discovered we need training. So I think we're in

excellent forum for collaborating with NIOSH, and we've appreciated the opportunities where we've been able to do that, because we have the trust of an industry over many, many years, and so we're just very unique. There's nothing like anywhere in the country, and there's actually nothing like us in the world. The International Labor Organization had me come up to Geneva because they couldn't figure out how fishermen would do anything on a voluntary basis.

So some of the things where I think NIOSH has -- could work further to have the kinds of positive impacts they've had already -- and for the shortness of time I'm not going to identify what some of those were but we would like to see them continued. And some new projects that you might consider would be having some assessment of some of the things that the Coast Guard, which is the agency that has the predominant authority over fishing industry, but to look to see where some of their interventions have been really effective. And recently the District 13 and District 17 -- which is Alaska, Washington, Oregon -- Coast Guard has had some real hands-on interventions. It would be interesting to look and see how that compares to dockside exams and some other things they've done.

Also we see that 30 percent of our fatalities are caused by man-overboard incidents. NIOSH in 1997 did some initial work in that, but I think we really need something much more in-depth and stronger, and we would very much like to participate with you in working on that.

We are seeing an increase of foreign population in the workers that we're hiring. Many are third world countries, and there's a lot of concern about how an epidemic that would break out on a boat in the kind of conditions Eric Blumhagen described to you, how you would deal with that. Would you quarantine the vessel? You would have very limited means of quarantining people as individuals. So I think that's something that there -- could be very, very helpful in the future.

And I would say that the comments that have been made about being able to communicate with an industry is totally critical and industry participation is critical. If you don't involve industry, I don't think you'll ever hit the mark. It's industry that knows where the problems are. If you can identify a risk, then they will work with you to try to mitigate it because no one in our industry wants to have people killed or maimed. And I think that's how you get the buy-in, and the work that you've done in the past has been very much appreciated because you've had the respect for the workers that you're addressing. And again, I thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 515.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/17: It won't take me long at all, but it's late in the afternoon and we all need to hear the wrap-up. It's been a very interesting session, so thank you very much for this opportunity.

My name is Deborah Reed. I'm from the University of Kentucky College of Nursing and the Southeast Center for Agricultural Health. Although I'm here as an occupational health researcher, I really come from a long line of farmers. My sisters, ages 73 and 71, are still full-time farmers in the fields every day. My brother, age 60, just retired from a career at Lexmark to take over the family farm. They're worried sick about their future. And as Forrest Gump would say, that's all I got to say about that. Except that I echo what Chip said earlier about issues of aging farmers.

And I would tell you, though, that young people on a farm are worried sick, too. A child psychiatrist told me at the University of Kentucky Children's Hospital -- seeing an increasing number of farm children. And one example the physician said the teenage girl felt that she would quit eating because she felt if her dad had one less mouth to feed perhaps he could hang onto the farm. In my own experience conducting research in high school agricultural classrooms, I've overheard countless stories by teenagers who use extremely, extremely risky behaviors to deal with their stress, particularly on weekends.

While all of the topics covered today are worthy and salient to the health and safety of agricultural workers, I feel there's a basic risk to health that has not been mentioned very much this afternoon. The person is really more than an entity that bleeds and breaks. The many cascading pressures faced by

farmers today -- competition in global markets, the disappearance of their family-based industry, rapidly advancing and expensive technology, and a marked shift in the labor force -- creates stress and psychological strain on farm families that is absolutely enormous. Research is needed to identify precipitating factors and the effects of this stress, not only in the workplace but within the families that work together. There is limited, albeit very limited, evidence that supports the negative health effects experienced by children in struggling farm households. There is documentation of the direct link between stress and injury. We need epidemiologic studies to examine this issue and to develop research-based strategies that can help children and families deal with the increasing stress in agriculture and related work.

We've had this in the past with adults. We've looked at it with the adults. But let's not forget that family farms are made up of children, too. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Seattle, WA, 2006/01/17.

Comment ID: 516.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Buenos dias.

(Whereupon, the speaker continued a greeting in Spanish, without an interpreter.)

And I am the same, Martha and Soledad, so the title of my presentation is Advancing an Occupational Health Agenda for Farm Workers. NIOSH is the only agency that can adequately address the occupational health and safety of migrant and seasonal farm workers in this country. If NIOSH places priority on applied research designed to yield practical results for this population, researchers will be responsive to that lead.

The National Agricultural Workers Survey is the only national information source addressing this population. It reported that 62 percent of the farm workers live in poverty and they represent almost half of the population employed in seasonal agricultural work. Spanish was reported as the native language for 81 percent of those farm workers, 41 percent they cannot speak English and 53 percent they could not read English at all. The average annual individual income for those farm workers was between \$10,000 and \$12,000, and the family incomes was averaged between \$15,000 and \$17,000 every year. Fifty-two percent of workers reported that they would not be covered by workers' compensation for a work-related illness or injury, and only 23 percent said that they were covered by health insurance.

Culturally appropriate interventions are needed for all Spanish-speaking farm workers. In my years working with migrant educators, the potential avenue for occupational health and safety curricula is an avenue to reach those young farm worker programs. This partnership approach is demonstrating the building capacity for promoting occupational health and safety education and to develop sustainable

programs that are workable and effective. In my experience, many agricultural employers welcome partnerships with researchers. They are willing to collaborate to find out what practices work better to prevent occupational diseases and injuries at their workplace. These types of collaborations are a genuine opportunity for researchers, for employers and for NIOSH, but they will be much more likely to occur if NIOSH specifies these types of projects in their call for research.

The National Occupational Research Agenda recognizes that no single organization has the resources necessary to conduct occupational safety and health research to adequately serve all the needs of this diverse work force in the U.S. Partnerships and coordinating addressing the scarcity of bilingual resources in occupational health and safety research are required to determine the efficacy of intervention techniques and strategies. The research initiatives set forth in NORA should be applauded, but they could be strengthened through integration of a specific call for applied collaborative research projects targeting Spanish-speaking farm workers

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 517.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Etiological research

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: My name is Eva Shipp and I`m a recent graduate in the occ-epi program here at the UT School of Public Health, and currently I`m working at the Texas A&M School for -- School for Rural Public Health. And today my comment is going to be on back pain in farm worker youth.

Many of the one to four million hired seasonal and migrant farm workers in the United States are children. Unfortunately, enumerating this population is difficult because of their mobile nature. In 1996 the USGAO estimated that there were 290,000 farm workers ages 15 to 17 alone. This population is largely foreign-born and unauthorized. Although they play an important role in our agricultural economy, many are impoverished, and few have employer-provided health insurance.

Despite the hazardous nature of agricultural work, very few studies focus on back pain in farm workers, and even fewer include adolescents. However, agricultural tasks may be particularly harmful to the musculoskeletal system of growing youth. Hazards include sustained bent, stooped and awkward postures; repeated bending and twisting; and heavy lifting. These are very common in tasks such as harvesting from the ground. An assessment of farm chores performed by youth indicated that the physical demands were comparable or even greater than those associated with high-risk industrial jobs that we have deemed inappropriate for adolescents.

While the consequences of back strain during adolescence are unknown, injury at such a young age is a concern because the musculoskeletal systems are not yet fully developed. Therefore these young

workers may be more vulnerable to injury, or more likely to sustain injuries with lasting effects, including back pain in adulthood.

I recently completed my dissertation here at UTSPH. Working with investigators at the Texas A&M School for Rural Public Health we began to address issue-- gaps in the literature. Using data from a project funded by the Southwest Center at Tyler, we estimated the prevalence of severe back symptoms among high school students from Starr County, a population that includes many migrant farm workers. During a nine-month period the prevalence of severe back symptoms among 345 farm workers was 15.7 percent, compared to 12.4 percent among 1,547 non-farm workers.

During this same period I was somewhat surprised to find that well over a third also held a non-farm job. A third of the farm workers. The prevalence of severe back symptoms on these workers increased to 19.1 percent. We also found that farm work exposures remained significant in a multiple logistic regression model that adjusted for the effect of non-work factors. Our results are similar to those reported by Park* and colleagues on a study of adult male farm workers. They also recommended further investigation of the relationship between back pain and working both farm and non-farm job simultaneously.

In 2002 NIOSH sponsored a conference that focused on the prevention of MSDs in children and adolescents working in agriculture. But many of the research gaps identified during this meeting remain and require our attention. Among others these include identification of the most pertinent risk factors for targeted interventions. Further research could also guide legislation that addresses the health of farm worker youth specifically. This includes legislation such as the Children`s Act for Responsible Employment that seeks to provide the same protections to youth agricultural workers, as well as young workers employed in other industries.

In summary, since the livelihood of many of these young workers depends on their ability to engage in physically demanding work, both now and in the future, more research is critical in this population of young disadvantaged workers.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

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Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Health service delivery

Partners

Health Resources and Services Administration (HRSA); Agency for Healthcare Research and Quality (ARQ); 150 grantees funded by HRSA to deliver services to farm workers

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Thank you very much, Dr. Felknor. I`d like to try and make ten points in five minutes. Who`s my timekeeper here? Can you give me a one-minute warning, and I may talk really fast in that last minute.

My name is Bobbi Ryder. I`m with the National Center for Farm worker Health, and I am going to try and give you my life`s work in five minutes. The first point about current demographics, we estimate that there are about three and a half to five million farm workers and their dependents in the United States currently performing either migratory or seasonal agricultural labor where they don`t move from one place to the other. We include in that group folks who are residents who`ve been farm workers for many generations, citizens, as well as immigrants, both documented and not documented. They`re doing work as defined by the Department of Health and Human Services as agriculture which, in a broad sweep, does not include animal husbandry nor packing nor slaughterhouses. Other than that, anything grown in and on the land is their definition of agriculture.

They are a hard to reach and hard to serve population. And as a result, they`re also hard to research. Their mobility, the inaccessibility of their living arrangements in rural, country labor housing and crowded into back lots in semi-urban areas makes them very hard to serve. And as a result, if we do manage to reach them for some basic research, very, very hard to go back to to follow up to see what the outcomes are. That was my second point.

Third, let`s make a leap here and instead of just looking at the occupational risks and illnesses, let`s look at the patient as a whole, because there`s a direct implication between access to care and their ability to

perform their jobs. I would like to suggest a partnership between NIOSH, the Health Resources and Services Administration, and the Agency for Healthcare Research and Quality, otherwise known as ARQ. There are 150 grantees funded by HRSA to deliver services to farm workers in approximately 500 service delivery sites around the country. They're currently serving approximately 700,000 patients -- user patients, unduplicated. So where do the rest of the three and a half to five million patients go? Well, they don't all go anywhere. Many of them use the emergency rooms. Many of them go across the border for their healthcare. But an even larger number simply have no access to healthcare at all.

My fifth point, we have a lost opportunity to create -- to have created greater access to care for farm workers in this Presidential administration. There was a Presidential initiative to increase access to care for all populations, including farm workers. And that Presidential initiative had the goal of increasing access by 100 percent. In order to do so and compete effectively to set up a new access point for delivery of services to migrant farm workers, we needed national data that's not available for the population. We've increased services to this small segment of the overall community health center user population by less than ten percent in those five years.

And how did that happen? It's because of what we don't know about the population. There's a deal breaker in the front part of the application process. It's called a need for assistance worksheet. You have to have national data. You can't use your own practice-based research data. It has to come from somebody else. And so where else do we turn? We've heard about the NAWS, thank you very much, Dr. Acosta. We didn't hear anything about health status in the NAWS. We heard pure demographics. The Bureau of Vital Statistics is no help because there's not one in the country that documents death or infant mortality by occupation. So we don't know.

The U.S. Census made a significant effort to reach out to include farm workers in the population in the last census, but they still didn't document occupational status in that census data.

There's several ways of collecting research. The one that I'm most fond of is practice-based research. And there is a national sampling that exists of existing records of registered patients that can give us a lot of data. That was conducted in 1989 and it was only a midwestern sampling. This is the model that we would like to see replicated on a national basis. I appreciate your point, Dr. Howard, that this is a national occupational research agenda.

Okay, I've made six of my ten points, I've got a one-minute sign here. I guess I'm going to blend the rest of them altogether and simply say that the fabric of our society is woven with an interesting tapestry of ethnicities from many waves of migration into the United States. Someone once asked me -- excuse me, someone once said to me that slavery was our most expensive mistake in this country. I prefer to think of it in human terms, but if you want to look at it in economical terms, education, lack of education and health disparities among African-Americans has been a significant problem in this country.

Likewise, we have imported workers from Mexico for many, many decades to do work in this country, and we have a significant health problem among this population, which is not documented.

My last comment, in presentation to the Surgeon General's Conference on Occupational Health in I believe 1989 or 1990 I talked about the significant health problems that we were seeing on the front line. And after that presentation an academician came up to me and kind of looked down his nose at me and said well, we're not seeing that in the literature. And I said you know what, you're not looking in the right place.

Please, let`s look in the right places together. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 519.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: My name is Ron Sokol. I'm executive director of the Contractors Safety Council in Texas City, Texas. And I'd ask our panel to kind of leave the farm and now come into the industrial environment. I'd like to talk to us specifically about the process safety management compliance for the petrochemical industry, including contractor operations during turnarounds and maintenance activities.

As many of us know, the Occupational Safety and Health Administration promulgated safety management standard in 1992 as a result of two catastrophic incidents that occurred here in the Houston Area, specifically the Phillips Chemical complex and the ARCO Refinery in Channelview. As a result of this -- these two incidents that caused over 40 lives to be lost, the process safety management outlined a systematic process for the industry to evaluate catastrophic events within their own industry.

Within the process safety management standard, 14 elements were identified. One of the principal concerns addressed in the standard was the use of contractors for maintenance and turnaround activities. As a result of this standard, many in the petrochemical industry have initiated programs to evaluate the safety performance of contractors used in both turnaround and general maintenance activities. The result of this is that many of the contractors working within the industry have achieved accident and illness rates that are far superior to the permanent plant workers. One of the areas that I would like to see NIOSH be involved with is to evaluate many of these best practices that have been developed within the industry, and there's a need to be able to review, communicate and share these best practices with the rest of the petrochemical industries for others can share in these results.

Consequently, though, the fatality rates of contractors within the petrochemical industry is higher than that of permanent plant workers. One of the initiatives that I would like to see evaluated is a -- not only

a compliance effort, but within our organization we have instituted a process within our petrochemical industry to assure that every contract worker is drug free, security background checked, safety trained and skill assessed. These four cornerstones of contractor compliance needs to be implemented throughout the whole industry. The events of September -- or the events of March 23rd on 2005 only involve contractors at the BP facility in one area, and that was in the area of fatalities. There was not one contractor man-hour that was spent in that unit that exploded. The only event was regarding contractors` locations within the facilities for facility siting and location of trailers. This also needs to be an area that needs to be investigated and researched within this initiative to ensure that we have safe distances, determine what those distances are to ensure that these people are not placed in harm`s way in the event of catastrophic explosion.

Secondly, the process hazard analysis requirement within the standard needs to be evaluated. Over ten years have passed since the initial PHAs had to be completed. It is imperative that we review the effectiveness of these PHAs to ensure that it is not just a checking the box once we completed the initial PHA in 1995. What effectiveness do we have to ensure that we`ve incorporated management of change activities into these PHAs? How are the information being communicated, not only to the operators, the maintenance personnel and the contractors, but the effectiveness of this communication is imperative.

The events of March 23rd, 2005 at the BP refinery in Texas City needs to be a catalyst to use the resources of NIOSH to be able to evaluate these issues and share the findings with the rest of the industry.

Lastly, other issues involve the effectiveness of the mechanical integrity processes for the petrochemical industry, and the need to conduct research on the best practices on mechanical integrity and share these throughout the industry and with other trade organizations such as API, NPRA, Texas Chemical Council, and other industry trade associations. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 520.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors
Radiation (ionizing and non-ionizing)

Approaches

Engineering and administrative control/banding
Authoritative recommendation

Partners

Categorized comment or partial comment:

I am a manager in an operating room and have three employees who are in their first trimester of pregnancy. They are concerned about exposure to radiation

(C-Arm X-Ray, fumes from methylmethacrylate--bone cement polymer, and gases from anesthesia sources). We (management and co-workers) have been trying to arrange scheduling to avoid exposing the pregnant staff to these cases which impacts the amount of people to take call in a smaller OR. When on call the possibility of doing one of these cases is quite high.

Are there any regulations to help guide us? Most of the other OR's that I have questioned do not provide any provisions for the pregnant worker. My theory is that a safe pregnancy ensures a happy employee but I want to do the correct thing for all of the staff.

I appreciate any assistance that you can provide.

Comment ID: 521.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Comments offered to NIOSH, as NORA is revised Carol Rice, Ph.D., CIH Professor University of Cincinnati

Under Section 21 of the Occupational Safety and Health Act, NIOSH shall

provide for the establishment and supervision of programs for the education and training of employers and employees in the recognition, avoidance and prevention of unsafe and unhealthful working conditions in employments covered by this Act.

These are very specific phrases in the Act--phrases that characterize the outcomes of training and education: recognition, avoidance and prevention. This comprehensive description given to NIOSH extends the responsibility well beyond the creation and dissemination of information. Information understood and retained is essential to any increase in knowledge--the foundation for activities that lead to recognition, avoidance and prevention. However, knowledge alone cannot provide the vital skills, abilities and attitudes to fully recognize hazards, or to design and successfully implement actions or programs to avoid and prevent unsafe and unhealthful conditions. Identifying meaningful outcomes and the success of the outcomes in the work setting requires research.

In the current climate of smaller regulation and even smaller enforcement, it is increasingly incumbent on employees to take improving their safety and health into their own hands. Increasingly, a union or active joint labor-management committee that might provide effective health and safety training resources are absent, especially at small companies. NIOSH can, and is in fact mandated, to address this

need. Certainly the crafters of Section 21 intended that the change to a more healthful and safer work environment would be successful—a result that can only emerge from continued research, and then research to practice.

Currently, the need is enormous.

In dimension it exceeds that of improving science literacy—which has been identified by President Bush as a national priority.

And the easy approach of providing information is a fundamentally flawed and failed system, as illustrated by a situation we have each been subjected to or witnessed:

The struggle with written directions to operate any one of the wide array of electronic devices now on the market.

(This has been reviewed recently in a strictly academic mode by Burke et al, AJP 96:315-324.)

While the task is large, it must also be recognized that the benefits are also large. Workers participating in training designed through research in one sector to increase knowledge, skills and abilities and to develop attitudes that support continued diligence and improvement are able to make changes that improve working conditions. Four anecdotal reports follow:

We now use cameras in confined spaces—camera goes in, people remain out.

We had not had an ammonia release in our facility for many years. Because of the skills my team members had, we were able to isolate and abate the ammonia leak efficiently and were able to keep anyone from getting hurt.

Training was helpful in siting and setting up a decon line for a spill of chlorosilanes caused by equipment failure. A portion of the hazardous material formed hydrochloric acid fumes when it mixed with moisture in the air. Even though it was a very hazardous situation, only one person received minor injuries and was treated and released.

Training changed our work behavior and made us think about working safe.

(See final report, Midwest Consortium for Hazardous Waste Worker Training to NIEHS, October 2005).

The economists can put dollar figures on these examples; they are essential to documenting value to employers and insurance companies. To the workers and families of the workers who benefit from the training, the dollar value is not relevant. They are guided by the expectation that each day their family member will return from work with no diminution in health.

Most importantly, the benefits of avoided exposures are meaningful on an individual level—and the individual is our foremost constituent in occupational health and safety.

The following are some steps to consider in addressing this mandate of quality training to achieve recognition, avoidance and prevention:

--. Update and supplement the NIOSH review by Cohen and Colligan, 1998 to identify models of worker training and education that have proven to accomplish the NIOSH mandate. This will be very useful in identifying gaps and sector differences.

--. Identify targets for improvement and design research to identify why current approaches have not met the need, such as:

a. training programs needed: industry sectors or cross-sector operations where increasing workforce skills, abilities and attitudes in “recognition, avoidance and prevention” would have substantial impact on health.

b. better use of existing media: For those who will be workers, NIOSH might conduct research to identify effective methods of implementing the NIOSH school checklists as part of the science literacy initiative in teaching programs.

--. Define knowledge, skill, ability and attitude goals resulting from the research

--. Conduct intervention research to evaluate the impact of training

Evaluation of the impact of each element will necessarily include feedback from participants after the return to work.

These ideas are not new to NIOSH leadership. They are articulated here because I believe Section 21 must be at the forefront of a comprehensive approach focused on research that will benefit workers during the next decade. In both large and small workplaces, the workers are central to the reduction of unsafe and unhealthful working conditions. They need this research, and it is the legal mandate of NIOSH to identify through research the determinants and elements of both educationally effective and cost effective programs to increase health and safety at work.

Comment ID: 522.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Support development of a computer program that will automatically code industry and occupation information. Industry and occupation information is captured by many public health records systems. These include death certificates, cancer registries, and birth defect registries. However, this information is rarely utilized to its full potential. Coded data is the most electronic-friendly form of industry and occupation information. NIOSH developed an automated coding system to assign 1990 Census codes to industry and occupation. However, the program was prone to coding errors and the codes it assigned are now outdated. A new automated coding program needs to be developed to improve and expand collection of useful industry and occupation information. Surveillance data that may be grouped by industry or occupation is critical for the growing number of hard-to-study occupations or industries that do not keep centralized personnel records. It is needed to improve the quality and quantity of injury, illness, and exposure data for prioritizing safety and health research for these industries. These data may be used to track progress and evaluate prevention efforts. Development of an automated computer program that will automatically code industry and occupation information is the next step in closing the gap between work and health.

Comment ID: 523.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Capacity building

Emergency preparedness and response

Partners

Categorized comment or partial comment:

I encourage NIOSH to consider broadening the scope of funding to Health and Safety Groups that work directly with workers, including vulnerable workers such as youth and immigrant workers. Groups such as COSH Groups [Committees on Occupational Safety and Health] have been working closely with these populations for many years. NIOSH needs to support an increase in the level of funding for these activities.

Comment ID: 523.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

NIOSH needs to research the successful outcomes of Joint Labor-Management Health and Safety Programs and Agreements that result in hazard reduction in workplaces.

Comment ID: 525.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Good morning, Director Howard, members of the NIOSH NORA team. Thank you for the opportunity to speak. I would also like to thank Dr. Sarah Felknor for bringing this town meeting to Houston. Thank you, Sarah. My name is Ben Amick and I'm associate profession of behavioral science and epidemiology, and a member of the Southwest Center for Occupational and Environmental Health.

First I would also like to take the opportunity to congratulate NIOSH on the success of NORA I, and your vision for NORA II as a sector-based approach. I would like to speak to you today about injury prevention and control in the healthcare sector. I will use broad brush strokes to paint the picture today, but will provide more well-documented written comments.

My comments are shaped by my own work experiences. I had the privilege of working for five years in the U.S. Congress as a policy analyst. I have collaborated with industry and labor on the first large-scale chair* intervention study and -- that demonstrated both health and productivity effects. And am now intervening in a variety of nursing homes, hospitals and social service organizations with a new program we've developed, the (unintelligible) vocation program, to change work. And finally, I am the co-developer of the most commonly-used presenteeism (sic) scale, the work limitations questionnaire, and

a new series of scales to assess organizational policies and practices in injury prevention, disability management and return to work.

My messages are simple. We must scale up our intervention efforts to create scientific knowledge that can provide the evidence base needed for scientifically credible recommendations. Pre post-only test interventions with no control groups are unacceptable. We can no longer continue to support interventions that have fatal flaws in them and therefore are subject to the criticisms, both by labor, employers and the scientific community with respect to the evidence.

Multi-site interventions are critical. We must no longer do single-site interventions, but multi-employer, multi-site interventions to demonstrate that interventions can be conducted and implemented at multiple sites and multiple companies and in both the public and private sector.

We must recognize that health promotion and health protection are integral in the successful implementation of interventions. They are synergistic. We often go into work sites assuming that everybody that's in the work site is willing and ready to change. This is wrong. Many people exist and live in our society and they are constantly told that they cannot engage in any successful change, and therefore we must engage in both health promotion programs to bring everybody up to the same place, and then the health protection programs. They act in synergy. These are critical to provide the types of information necessary for systematic reviews.

We must ensure our valuable research dollars are effectively used by developing consensus on the outcome measures. When each scientific group uses different measures, we are faced with difficult challenges in research synthesis. We have just finished a research synthesis of the office ergonomics intervention literature, and unfortunately we were unable to integrate the scientific -- the published information into a single set of effect measures because there is no consensus on the outcomes used. We must have consensus and part of NORA II has to be developing consensus panels on the measures to be used in large-scale intervention studies or we will not be able to leverage our science.

We must measure outcomes that are meaningful to all stakeholders, including measures of productivity and human burden of occupational injury. While there has been a clarion call for measures of objective productivity and measures of presenteeism, which I think are very important for many people, we must also remember many workers work with injuries and absorb a burden. So we must also capture the burden of those injuries on the individual worker, their family and the household. Those are a different set of measures. They need to be measured differently, but they're equally important.

We must transfer knowledge by conducting systematic literature reviews that meet acceptable scientific standards for research synthesis, but also answer questions that are relevant to all stakeholders. To produce a literature review which answers a question which a group of scientists find interesting but nobody else finds interesting is really not enough anymore. We must engage stakeholders in the questions that we answer in our literature reviews. We have just finished one on office ergonomics and are just starting one on nursing homes, and liter-- systematic reviews provide a public face to our science. And we must be engaging in them in a continuous process where they get re-reviewed every other year, and this is the type of knowledge that allows us to engage in work with workers.

Zero? Okay, let's see, one last comment. We must recognize that employers and labor are not passive receptors of scientific knowledge, but active agents of change that should be studied. We have left this organizational context out of most of our research, and I would just remind you all that if you go back to

Barbara Silverstein's original paper on force and repetition, the exposure effect was equally as large as the five plants that were implemented as indicator variables in the studies, so there's something going on at the plant level that matters. And we should be studying that context because how we -- understanding that will help us succeed in doing interventions. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 526.01

Categorized with the following terms:

Sectors

- Manufacturing
- Services

Population

Health outcomes; diseases/injuries

- Cancer
- Reproductive
- Neurological effect/mental health

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Etiological research
- Exposure assessment
- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Thank you, Dr. Felknor. Much of the -- I am an occupational medicine physician also. I work and teach at the University of Texas School of Public Health, Dallas Regional Campus. I want to talk to you about brominated flame retardants, worker safety and health.

Brominated flame retardants, especially polybrominated diphenyl ethers, are widely used in the United States to reduce fire injuries. They are found in television sets, computers, fax machines, in some textiles, styrofoam in chairs and mattresses and in carpet paddings. These brominated flame retardants are currently found in all people studied in the United States, whether blood, milk, fat tissue or fetal liver.

Levels of one of these types, the polybrominated diphenyl ethers, or PBDEs, are orders of magnitude higher in the US than found elsewhere worldwide. High levels have been reported in U.S. household vacuum sweepings and on office computer and computer monitor wipes.

There is both structural and toxicological similarity of PBDEs to PCBs. Animal studies with PBDEs show similar health outcomes, cancer, reproductive and developmental toxicity, endocrine disruption and central nervous system alterations. No human health studies have been published at this time.

The only occupational study worldwide is from Sweden. There are no U.S. studies on worker safeties. Worker studies in Swedish electrical recycling workers showed elevated PBDEs in the blood of workers.

After worker protective measures were instituted, levels decreased. The elevated PBDE levels reported in exposed Swedish workers, the exposed Swedish workers, were lower than the general population levels for the United States.

It is believed that some U.S. workers are at risk from PBDE and other brominated flame retardant exposure. Exposure and health studies are urgently needed to document exposure and possible adverse health consequences from such exposures, as well as to take preventive measures.

Workers at risk include those involved in manufacture of brominated flame retardants, including the one type that's still being manufactured in the United States; those involved in putting brominated flame retardants on or into electronic, textile, styrofoam; those involved in recycling such materials; first responders, such as firefighters, police and emergency medical specialists; as well as garbage disposal and incineration workers.

Since PBDE levels in humans have gone from not detectable in the 1970s in the USA to the highest in the world in the early 2000s, while at the same time dioxins, dibenzofurans* and PCBs have declined -- government regulations are working with respect to these persistent organic pollutants -- that it is of considerable urgency to determine which exposures (sic) are exposed, how such exposures can be decreased, and what the health consequences are of worker and general population exposure.

Hopefully NIOSH, the National Institute of Environmental Health Sciences and EPA, along with partners in university and industry can work together to decrease this potential human health hazard. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23. Expanded written comments were submitted as w4610.

Comment ID: 527.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Services
- Transportation, Warehousing and Utilities

Population

- Language/culture/ethnicity
- Other

Health outcomes; diseases/injuries

- Cancer
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Good morning. Thank you. Again, my name is Dave Coultas. I'm a pulmonary physician and chairman of medicine at the University of Texas Health Center at Tyler. As a pulmonary physician and epidemiological researcher I've had a longstanding interest in occupational and environmental lung diseases, health disparities and prevention of chronic lung diseases.

During my training as a pulmonary physician over 20 years ago, my perspective on occupational lung diseases was largely limited to the classical dust-induced diseases from inorganic dust, including asbestos, silicosis and coal workers' pneumoconiosis, and organic dust such as farmers' lung. Subsequently my knowledge about occupational lung diseases was greatly influenced by my clinical and research work with miners in New Mexico and Colorado. Over the past 20 years we have learned that many more workplace exposures are associated with a much wider range of acute and chronic lung diseases than these classic dust-induced diseases. Occupational exposures are associated with non-malignant diseases such as asthma, chronic obstructive pulmonary disease known as COPD, and idiopathic, quotes, interstitial pneumonias and malignant respiratory diseases.

First, chronic airflow obstruction from asthma and COPD has huge public health and economic impacts in the U.S., and a substantial proportion of morbidity from chronic airflow obstruction is attributed to

workplace exposures. Of the over 16 million adults with asthma in the U.S., up to 33 percent of over five million are estimated to have work-related asthma, either caused by or worsened by exposures at work. And of the 12 million persons -- estimated 12 million persons with COPD, growing evidence over the past ten years strongly suggests that up to a quarter, or about three million of COPD may be attributed to workplace exposures. In addition, of all the causes of death in the U.S. such as heart disease, stroke and cancer, COPD is the only one with rising rates of mortality in the U.S.

While these estimates for the number of persons affected by chronic airflow obstruction from workplace exposures are large, these numbers are probably underestimated because the true number of affected persons with asthma and COPD are frequently under-diagnosed. Furthermore, the proportion of persons with chronic airflow obstruction affected by workplace exposures varies between racial and ethnic groups, estimated at 22 percent among whites, 23 percent among African-Americans, and strikingly 50 percent among Mexican-Americans. A wide variety of workplaces have been associated with increased risk for chronic airflow obstruction including the armed forces, rubber, plastics and leather manufacturing, utilities, textile product manufacturing, construction, metal and automobile manufacturing, food product manufacturing, and agriculture.

Well, the -- now, switching gears from chronic airflow obstruction to the chronic fibrotic lung diseases, including asbestosis, silicosis and coal workers` pneumoconiosis are among the classic occupational lung diseases, there is growing evidence that other fibrotic lung diseases also may be associated with other occupational and environmental exposures. For example, the "idiopathic" interstitial pneumonias, chronic pneumonias with no known cause, may in fact result from a wide variety of occupational and environmental exposures including farming, metal and wood dust exposure, silica and cigarette smoking.

In a meta-analysis that I conducted recently of six case-control studies of idiopathic pulmonary fibrosis, also known as IPF, the population-attributable risk for cigarette smoking was estimated at 49 percent, and 20 percent for farming.

While the idiopathic interstitial pneumonias are not as common as asthma and COPD, there`s no effective therapy for IPF, and this evidence suggests that there may be an opportunity for prevention.

Similarly, effective treatment for lung cancer -- switching gears again -- is very limited and prevention offers the greatest hope. Nearly 60 agents found in a wide variety of workplaces are established or suspected human carcinogens, and it`s -- the estimated attributable risks range from five to 35 percent, and it is estimated that in the U.S. over 16,000 lung cancer deaths may result from occupational exposures.

So in summary, we have strong evidence that combined chronic respiratory diseases from workplace exposure in the U.S. result in a substantial public health burden. Moreover, workplace exposures that cause respiratory diseases disproportionately affect non-white and lower socioeconomic populations who have traditionally been overexposed in hazardous industries. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 528.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Good morning. My name is Michelle McHugh and I'm a doctoral student in Environmental and Occupational Health Sciences here at the University of Texas School of Public Health. I'd like to thank NIOSH for coming to Texas to gather our contributions for the second National Occupational Research Agenda. I'm pleased to say that this is my second time participating in NORA, having been on the other side of the microphone in 1995 when I helped organize the town hall meeting in Seattle, Washington with staffers from Dr. Rosenstock's office.

I would like to focus my comments on answering the question of how I can make a difference for workers. Without the graduate traineeship I receive in industrial hygiene through the NIOSH Educational Research Center we have here at the University of Texas School of Public Health, I'd have to say not as big as I would like. My comments today focus on the importance of continuing to fund the 16 NIOSH ERCs located throughout the United States. Funding for these centers to train occupational and environmental health specialists through graduate-level academic programs and continuing education courses is vital to conducting the research that will reduce work-related illnesses and injuries, as well as the promotion of safe and health workplaces. I need to caveat that and say the research and practices.

I've had the opportunity to directly benefit from two of the ERCs in the last 12 years. My first association was as the program coordinator for the University of Washington's occupational and environmental medicine residency program, and later as a continuing education coordinator in the Northwest Center for Occupational Safety and Health. Both programs are components of the University of Washington's ERC.

My time at the University of Washington introduced me to the field of occupational health and safety, and ignited my desire to work to protect the health, safety and well-being of those in the workplace and community. While at the University of Washington I truly worked with professionals dedicated to this mission, and their commitment to the field is what led me to pursue graduate-level training in occupational and environmental health.

My second association, with another ERC, is through my funding as a doctoral student in industrial hygiene at the University of Texas Southwest Center for Occupational and Environmental Health. My NIOSH-funded traineeship enables me to focus on a field that is truly my passion, and contribute to progresses in occupational safety and health. I am able to work and learn from another set of professionals equally as dedicated as those I worked with in Washington.

In closing, I sincerely hope NIOSH will continue to fund these centers, as the individuals trained in the graduate-level programs and continuing education courses are going to be the ones who can answer the questions posed here today: Who is at most risk? How serious is the issue? What research is needed? Who are the stakeholders and partners, and how we can make a difference. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 529.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Youth

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Surveillance

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Actually I`m -- I`m splitting; I have a split personality today, so if you could give me a zero after the first one, then a second one. I have two topics, actually. You can look on your list.

I`d like to thank Director Howard for the opportunity, sir, for putting this together, School of Public Health. I`m Lawrence Schulze. I`m from the University of Houston and the School of Public Health. I`m an adjunct professor here.

My first topic is regarding the petrochemical process workers on the heel of Ron Sokol. I`m not sure which sector this fits into. You may consider a ninth sector as the petrochemical industry.

The average age of a petrochemical process worker in the United States is about 55 years old, predominantly male, predominantly overweight or obese, and deconditioned. Injury distributions are about 50 percent back injuries, 20 percent shoulder, 20 percent wrist, and about ten percent head, face and neck injuries.

Where do these injuries come from? The most common factor is opening and closing manually-operated valves, either by hand or by using -- the most common is either a pipe wrench or the new aluminum valve wrench. When putting an aluminum valve wrench on steel, aluminum loses out, they tend to slip. And then there`s reaction forces that the worker has to deal with.

We conducted a pilot study funded by NIOSH -- thank you very much -- looking at rotational force capabilities of males and females between the ages of 35 and 55. We simulated the opening and closing of valves using actual valve hand wheels, heights taken from the workplace, using a rotational force transducer that allowed us to adjust height, pitch angles, et cetera. We also compared these results to standards that are published by the American Bureau of Shipping, published in books by Kodak, Van Cotton, Kincaid, which is typically the most referenced references that people use for designing workplaces, and compared the 35 to 55-year-old data to the data in these standards which was collected on 18 to 24-year-old military personnel straight out of boot camp.

What did we find? We found that every measurement that we took for pitch angle, height and distance was nowhere near the capabilities of these young workers that we have established as our standard.

What do we need? We need to collect data from workers, the deconditioned worker out in the workplace. We don't have any of this data. We need to do that, or we're designing systems for 18 to 24-year-olds that 55-year-olds are working. I don't know about you, I'm 48 and I know I can't do what I used to be able to do at 18.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 530.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Surveillance

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: So my next topic. This is healthcare related, and because I was told I couldn't do one in the morning and one in the afternoon, I'm doing this in the morning. This information is fundamentally related to many of the healthcare presentations that you're going to hear this afternoon.

New demographics addressing the nursing shortage in the United States is being affected by Filipino, Indonesian, Malaysian populations, as well as Latin American populations. These Latin American populations happen to be mostly from Costa Rica, Honduras and Nicaragua.

What does that mean? This is similar to what we saw in the early '90s, for those who have been in the healthcare industry around the Texas Medical Center back then when we had a nursing shortage crisis. We had an influx of nurses from other countries, which essentially brings down the average height of the workers.

What do we know also that's going to happen in the next ten years? About roughly 65 percent of the U.S. population is going to be 55 years or older. Here comes the baby boom population.

What do we also know? That for women the average dress size in 1989 was eight, and now it's 16 to 18. Which means that our populations are heavier -- that's from the textile industry, by the way. Our population is -- two-thirds of our population is overweight or obese.

What does that mean for someone who is five foot tall or five foot two trying to move a patient that's 165 pounds? You have the potential for musculoskeletal injuries that you're going to hear about, other

injuries, back injuries -- and we know the lifetime back injury rate for nurses is 80 percent. Some -- 80 percent of the nurses will suffer some type of back injury in their career. What does that mean for the shorter-statured worker?

We've also looked at the data that we've been using for years, the NASA 1024* standard, which by the way, the most popular standard that we use. And we've also looked at the CAESAR data, the Civilian Anthropometric and European Surface Anthropometric Resource, that was funded partially by the government and military, the car makers and the textile industry. CAESAR has 2,400 usable individual people in it. When you stratify (sic) that data by the socioeconomic level that they talk about, age and gender, you roughly get 15 people per cell.

So what did we decide to do? One of my students getting her master's degree is from Peru, so she decided to collect some data on Latin American nurses. She'd collect data for 30 nurses and compared it to that 15, and what did she find? She found that no anthropometric data point matched any of the CAESAR data. So we are using CAESAR data -- the car industry, the textile industry, the patient industry like the Hoyer lift, et cetera, for all equipment being used, and they're using the CAESAR database. Doesn't match what's out there. We've got a problem.

Also on top of that, the human factor's an ergonomic society and you hear the United States has endorsed the use of the ISO-7250 standard, which is the European standard for anthropometric measurement. By doing that it negates many of the data points that we're using in the CAESAR database or in the NASA 1024 database -- any database pre-2000 negates and makes them obsolete.

What do we need to do? We need to collect some real data on real people that are out there in the workforce. Not the people who volunteered, like myself, to go get measured for the CAESAR database. We need to measure nurses. We need to be designing the workplace to protect the nurses, using real nursing data from real nurses, not from the general U.S. population because that population does not appear to match the data that we're using to design.

I'd like to thank you for the opportunity for this short brief moment to present these two -- what I feel are very important issues with the petrochemical process industry, as you know, and also with healthcare topics that you'll be hearing more about this afternoon. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 531.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Good morning. My name's Larry Whitehead and I direct the industrial hygiene program here at the Texas ERC. I spend a lot of time in national academic activities, various committees and such, where the programs try to figure out what it is we're doing as we educate industrial hygienists, but the data also suggest that we still need industrial hygiene education and graduates, but should be broadening the scope of that education.

Graduates in environmental science in schools of public health dropped by 29 percent in the ten years 1994 to 2004, according to the Association of Schools of Public Health. Many industrial hygiene programs observed the same pattern. Other public health majors were steady or grew in number. So why is this? Well, no one in the various school programs is completely sure. Answers most likely include lack of awareness of graduate study in environmental and occupational health among the undergraduates who might be coming here; not realizing the jobs exist, although I tend to doubt that many undergraduates are aware of the IH job market directly; an increase -- and I think this is a big one -- in attractive jobs in other areas. For example, the growth of molecular biology has suddenly made biology majors look very seriously into that direction, and there is a lot of employment. And perhaps reduction in social focus on environmental issues.

To address these issues among undergraduates the American Industrial Hygiene Association recently published a video on the profession that's really very good, as well as a PowerPoint and a number of print materials, all of which they have available on-line and have distributed to the identifiable academic programs in the country for industrial hygiene. The schools are present on the internet, as they must be, but they need to be efficiently found by search engines. That's our problem to figure it out, but we're working on it. Our ERC and our Division of Environmental and Occupational Health Sciences, for example, have redesigned our web sites, and also this fall e-mailed information on our programs to just about all the science departments we could find and student clubs -- which is a useful means -- in biology, chemistry and pre-med at approximately 25 four-year colleges and universities within a

reasonable driving distance because we offered to speak at these and made about a half-dozen campus visits.

We're just getting started on figuring out how to recruit (unintelligible) graduates. You'd think -- been doing it for 20 years. No, we really didn't need to in industrial hygiene, and now we have to figure it out. We'll know very soon if the applicant pool was increased.

There are jobs in industrial hygiene, but the situation is complex. Many industries have mature occupational health programs but basically have only a replacement employment market that is not expanding or is shrinking somewhat. Consulting appears to also be at a replacement level.

Why do I mention that? Well, a third of hygienists are consultants. The IOM/NIOSH monograph, *Safe Work in the 21st Century*, discussed the need also for occupational health services in the service industries and in small and medium-sized businesses which is not being addressed. I don't think that's solved yet.

Data suggest the job demand is changing. A thesis here by Virginia Rodriguez examined trends in utilization of Certified Industrial Hygienists since 1990. The number of active CIHs is down about five percent from its peak just a few years ago. This may not yet be a trend, but it's the first substantial drop in almost 20 years. Consultants make up about a third of the profession, but that group has leveled off.

Industries that traditionally need many hygienists show little or no growth -- excuse me -- little or no growth in the numbers of hygienists, or are shrinking, and these include chemicals, refining, insurance and transportation equipment. For example, Ford this morning announced cutting 14 North American plants in the next few years, and 25,000 to 30,000 jobs over roughly the period 2007 to 2012. Only the industries of, quote/unquote, consulting and educating -- and educational services were both among the top ten in numbers of hygienists in 1990, and have grown at at least five percent per year on average since then. But consulting is now flat. It depends on everyone else needing industrial hygiene services, and that's gone down.

So where are we? Manufacturing demand is flat, averaged over the last 14 years. Some major industries are dropping. Industries that utilize consulting are not currently expanding that need. The service sector grows, but in most portions of this sector, one IH supports many more workers than in manufacturing. Possible exceptions to this include educational services and healthcare services.

Okay. In closing, industrial hygiene is changing. Our education includes more safety, environmental and management content. These are converging. Traditional industrial hygiene I think is shrinking if you define it the way it's been defined for 50 years. But as we redefine what it means to practice a broader field, I think industrial hygiene will not be shrinking, but it will be changing, and the academic programs need to figure this out. NIOSH training will continue to be vital to this future, as it has been for 30 years. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 532.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: I understand. I'll stay in the vicinity. All right?

How are our workers getting hurt in the construction industry? We looked at this problem within our company and did a little bit of research. We took three years where 100 injuries had occurred, and we analyzed how they got hurt. And I've also subsequently done this in several other construction companies or in conjunction with them, and I'll offer this graph in evidence that -- it's of -- where -- how injuries occur in the construction industry. What it says is 84 percent are primarily behavior. The employee knew better, but he chose to do something different. Another 12 percent of those involved a behavior and a condition that caused him to get hurt, and generally speaking that's where the most serious injuries occurred. And only four percent of our injuries were conditions or miscellaneous type injuries that we couldn't quite account for because of the data may be in improper reports. But I found this to be within five percent of all the five different -- four or five different times we've done this.

So this kind of tells me that maybe measuring -- and please, don't anybody take offense by this -- the amount of sand that we breathe every day is not where we need to spend out time, but maybe in how to get the worker to want to work the way we train him to work.

We analyzed our incidents and came up with a graph showing where people got hurt. The highest frequency came in eyes on their path, not looking where they were going, making a quick step first before they thought about it or planned it. Line of fire, getting between a fixed and a moveable object. And lifting and carrying was probably one that maybe needs a little more work, but the person knew how to lift; he just chose to bend his -- bend at the waist as opposed to bending the knees. He knew -- he knew how to lift. When you'd ask him, he'd say yes, but it didn't look that heavy so I just picked it up. Okay?

Does this work in the construction industry? I spoke of behavioral safety now back in October, and I knew I was going to get that question so I put together a few statistics. We invoked a behavioral safety system where we do have workers doing observations of one another and giving one another feedback and developing the communication at the job site level. And being (unintelligible) behavioral safety now, I thought I'd throw them a curve ball and I said Tom Krause doesn't know anything about workers getting hurt. And -- my God, I don't want to say this; I'm having one of those moments -- Scott Geller's a fool and the consultant that we used to develop our program, Terry McSween, doesn't know how to spell safety so he calls it value-based safety.

We did our first observation and feedback session on the 15th of July, 2003 and we had three pilot projects for the remainder of 2003 that were doing behavioral observations. We had 272 observations per month during that -- remainder of that year at only 37.6 percent participation, but they were 97.3 percent safe.

2004 we rolled it out across the whole company to see how it would work across a commercial construction company. Okay. We turn over employees about as fast as anybody -- let's just put it that way; I'll be polite with this crowd -- and in 2004 we jumped up to 784 observations per month at 58 percent participation across the whole company, and 97.5 percent safe.

2005 up through the beginning of the conference I ran it per month again and we jumped even farther to 876 observations per month with 73.1 percent participation, and a rate of 97.8 percent safe.

These numbers seem to indicate that the workers will do this, even in an environment where it had never been tested before, the commercial construction environment.

Is this important to us? Well, from my perspective, 18,179 times safety was talked about on a Linbeck project by peers. And to me, that's important.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 533.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Capacity building

Health service delivery

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: My name is Chip Carson. I`m a faculty member here at the UT School of Public Health in the Southwest Center for Occupational and Environmental Health. I`m also the director of the occupational and environmental residency program housed here at University of Texas in Houston. I`m the incoming director of the National Association of Occupational Medicine Residency Directors. And I am myself a recipient of a NIOSH traineeship during my doctoral training at another ERC in Cincinnati some years ago, and have benefited greatly from that.

What I`d like to talk to you a little bit about today is education of occupational health professionals and the needs we have for that -- a continuing need.

Recent reviews, analyses and published opinion papers have pointed out there is a dramatically-changing landscape in occupational health practice in this country. It`s very different from what it was back in 1970 at the passage of the Occupational Safety and Health Act and when the concepts of the roles of occupational health professionals became really fixed.

Injuries and illnesses in the American workplace are addressed by a number of systems. One of those notable of course is the workers compensation system. Well, who staffs the workers compensation system in terms of occupational health professionals? It`s primarily primary care professionals -- primary care physicians, nurses --with no occupational health training -- retired surgeons, various other professionals who get into this who have really no formal occupational health training.

So where are all our occupational health trainees going? They're being absorbed by the system to perform management, administrative, oversight functions for programs within industry or the healthcare industry, as well, or in academia -- which is a true need -- but they are not able to provide services. And this is because there are so few of them. There's been an identified shortage for many years of occupational health professionals, and this continues to exist. And very few of them are now getting directly into occupational health practice.

These trained people are now absorbed to do designing, monitoring and directing of the programs that are in existence, and to manage those programs that exist. This defines a true manpower shortage in occupational health professions. The shortfall comes in part from the limited funding for training that's provided in this country, most of which is provided by NIOSH and I think this agency deserves a great gratitude from us for being able to consistently provide such funding. But it's not enough, and it's not doing that job that we need to do and the job that we have consistently, in writing, identified as a big need for this country.

It is critical in our future to generate scientifically-valid needs analysis and productivity research to highlight not just the need for occupational health professional education, but also its value to our country as a whole, to its value to the productivity of business, and to its value for the maintenance of health of our human resources.

The American workforce is a prime laboratory for this kind of research. Practice-based research is an ideal mechanism for generating this kind of information, and there is also an opportunity for which we as occupational health professions are in a unique position to provide translational research for basic science research that is being generated in the academic setting, and put that into practice in the workplace in saving lives, preventing illness and injury.

I think we should take advantage of this to generate the necessary research that will provide a background to show this value, will leverage additional training elsewhere with currently existing funding in occupational health content, and establish liaisons of research agenda between not only NIOSH and practicing occupational health professionals, but also basic science research throughout the United States. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 534.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Etiological research

Partners

Categorized comment or partial comment:

More research is needed in the areas of low-level chronic exposures, exposure to multiple agents affecting the same target organ, and molecular epidemiology. Workplace exposure to some substances have decreased, however workers today continue to be exposed to unstudied combinations of hazards present at low levels. We are unaware of the adverse health outcomes of chronic low-level exposures to industrial materials, processes, and stressors.

Comment ID: 534.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

The demographics of workers in high risk industries is changing. There is need to strengthen the research among non-English speaking workers.

Comment ID: 534.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

agencies with surveillance data

Categorized comment or partial comment:

I agree in that the sector-based approach will allow NIOSH to address OHS problems in the industry effectively. However, I feel strongly that more emphasis needs to be placed on cross-sector issues. I strongly recommend that OHS surveillance needs to be strengthened. Data needs to reside in NIOSH, and more partnerships need to be formed to have access to data from other agencies. There should be a comprehensive national surveillance system. In-depth studies assessing particular issues should be carried out for factors identified by the comprehensive surveillance system.

Comment ID: 534.03

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Youth

Older

Other

Health outcomes; diseases/injuries

Infectious diseases

Traumatic injuries

Exposures

Approaches

Surveillance

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Healthcare workers (HCW) are at great risk of illness and injury. I urge that researches should integrate surveillance and prevention intervention in the healthcare setting.

I recommend that more emphasis needs to be placed on Hepatitis C Virus exposures, infections, and diseases. There is neither vaccination nor treatment for HCV disease. Surveillance of exposures, adverse outcomes, and prevention interventions need to be implemented.

I also recommend to focuss on the ageing working population, pregnant women at work, and children entering the workforce.

Comment ID: 536.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

We support the effort to integrate state government partners into NORA II and agree with the recommendations made by Dawn Castillo regarding state-based surveillance at the NORA Town Hall Meeting on March 21, 2006 in Morgantown. To further illustrate this, we would like to point out a fundamental difference between surveillance research and state government public health surveillance programs that makes this distinction critical. State agencies rely very heavily on federal funding for surveillance programs. However, these agencies are generally not in the business of conducting research, and do not have sufficient infrastructure to plan, design, and apply for new research grants. Most state governments are reluctant to devote or hire appropriate staff for this purpose without program funding in place.

We do not dispute the importance of improving and enhancing occupational surveillance research. However, state-based surveillance should be considered separately in the research agenda, specifically in terms of funding mechanisms for surveillance efforts. As stated in Dawn's comments, state agency-based surveillance can provide data unavailable to nongovernmental researchers that is critical to guiding the national research agenda.

Anne O'Keefe, MD, MPH, Nebraska Health and Human Services System

Bill Hetzler, Art Davis, Nebraska Department of Labor

Comment ID: 537.01

Categorized with the following terms:

Sectors

- Manufacturing
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Risk assessment methods
- Engineering and administrative control/banding
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Hi, thank you very much for folding me into the schedule. My name is Bronson Frick. I'm with the organization called Americans for Non-smokers` Rights. We're a national member-based organization headquartered in Berkeley, California. Our sister organization, the American Non-smokers` Rights Foundation, is our 501(c)(3) arm that does public education around a smoke-free workplace policy and the benefits of smoke-free air.

I'm here today to encourage NIOSH and NORA to conduct further research into occupational exposure to second-hand smoke. This research is incredibly important for helping point the way to solutions to that problem in a variety of workplace settings. Although many workers throughout the country are now protected from second-hand smoke, thanks to either corporate policies or the growing number of smoke-free workplace laws and ordinances, many other workers are left behind, particularly those in the manufacturing sector or in the hospitality sector, especially venues like casinos, restaurants, bars, bowling alleys, hotels and pool halls. Those workers are typically left behind, and they have one of the highest cancer rates of any occupational sector in America.

According to the Centers for Disease Control, at least 38,000 Americans still die every year due to exposure to second-hand smoke, and thousands more suffer disease. It remains a leading cause of preventable death -- leading cause of preventable death and disease in the United States, and it's all too preventable.

The new 2005 California EPA report now finds a causal link to breast cancer in pre-menopausal women from exposure to second-hand smoke. The California Air Resources Board will be voting in a couple of weeks to -- whether or not to make -- classify second-hand smoke as a toxic air contaminant, putting it in the same category as diesel fumes, so that relates to NIOSH's mission.

ASHRAE, the American Society of Heating, Refrigeration and Airconditioning Engineers, which is meeting right now in Chicago, they issued a board policy statement in 2005 reaffirming that ventilation systems are not a solution to second-hand smoke because there is no known safe level of exposure.

The U.S. Society of Actuaries issued a report in 2005 finding that second-hand smoke costs the U.S. economy about \$10 billion a year in lost productivity and higher healthcare costs, so it remains of vital interest to the economy for having a healthy workforce -- a healthy, productive workforce and a way to control spiraling healthcare costs.

NIOSH is prepared to do air quality and second-hand smoke-related studies in two casinos in Las Vegas this month -- I believe it's this -- actually this week -- based upon the complaints of two casino workers that were exposed to second-hand smoke and -- so we're grateful for NIOSH -- for responding to their complaints. Unfortunately the casino workers have been fired for having filed the complaint with NIOSH. After the original two filed their complaint, 200 other casino workers joined in the complaint and so the casinos obviously have acted against the original two as a way to scare off other workers.

Other workplaces -- like I said, factories, we still hear about like car manufacturing plants where people smoke on the line, and particularly other kinds of hospitality sectors. Our organization receives calls every week from casino workers, bar workers, they're hospitalized because of their exposure to second-hand smoke. But they're caught in this awkward place where if they quit their job then they're not able to feed their kids, or they might become homeless or unemployed.

Okay. So that's all I have. So thank you again to NIOSH for looking into the ongoing problem of occupational exposure to second-hand smoke. And we greatly value and appreciate your research that helps to quantify the health problem and point the way to solutions. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 538.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Hi, my name is Walt DeFoy. I'm a disability medical director for Aetna Insurance Company. I've come here through several channels, but the main reason I'm here is that I serve an advisory committee for Social Security through America's health insurance plans and I'm a member of the American psychiatric task force to develop guidelines for return to work assessment for behavioral health professionals.

We have reached a point in all of these areas where we don't know how to assess whether a person can return to work based on a behavioral health issue. That is, can they persist in a task; can they take supervision; can they supervise others; can they work collaboratively with coworkers. The need for the development of an assessment tool to evaluate these areas is extremely important, and I think it cuts across all the areas we've talked about today. But it's particularly important in returning to work and returning workers to work who have behavioral health issues.

That's important because now Social Security's behavioral health cases represent 50 percent of the new disability case log -- huge amount. In our organization behavioral health cases represent about 12 percent of all disability cases, but they take up to 40 percent of our resources. So this is a major area. I'm hoping that NIOSH might be able to impact or help with a research agenda in this area. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 539.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Yes, ma'am. I work for her. One of the things I'd like to address is I used to have an occupational safety engineering program grant and recently lost that due to our university not hiring another faculty member, which was one of the major comments, that I was a one-man show. However, I think NIOSH needs to reconsider this approach, simply because we can make up that difference -- if we cannot hire another faculty member -- through adjunct faculty members.

Mayor Consatti's* safety engineers` Gulf Coast chapter, which I`m the president of, we have 1,400 members in the Gulf Coast area, all within driving distance of our campus. There is a huge need for safety professionals with advance degrees. We cannot provide that in this area. The only place that they get to go is Texas Tech, and there`s no school around here that allows us to do that in the engineering area.

So I think, and I would like to encourage NIOSH to reconsider their position about funding one-man shows. We were doing a great job. We had a lot of students that were interested in that. We still have students who are asking where they can go to get an advanced degree in occupational safety engineering, and the only place we get to tell them is to go to Texas Tech. And I don`t know if you`ve ever been to Lubbock or not, but they`re -- the industry availability in Lubbock for getting students to see what`s happening in industry and actually putting to practice research and activities where they can actually do something and get their fingernails dirty and their hands dirty is not that available in Lubbock. It is in Houston. We have lots of industry, have a wide variety of industry. We have healthcare, we have petrochemical process, we have manufacturing, food processing industries here -- we have the gamut, and I`d like NIOSH to reconsider that position. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 540.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Thanks for your invitation to comment. I'm Barbara Smisko, director of national environmental health and safety for Kaiser Permanente. We are a healthcare services on an in-patient and out-patient basis to over 8.3 million members in nine states and the District of Columbia. Kaiser Permanente includes over 12,000 physicians and more than 148 (sic) non-physician employees. We operate 30 medical centers and more than 430 medical office buildings.

In 2004 hospitals reported more non-fatal injuries and illnesses than any other industry, and healthcare retained the fourth largest non-fatal incident rate compared to other industrial sectors. We have identified three issues -- cultural, ergonomic and hazardous exposures. These issues cut across all the aspects of healthcare systems that include hospitals, medical office buildings, laboratories, pharmacies and radiology.

First the cultural issues of healthcare. We have a good picture of what current injury risks are, although unique cultural challenges make reducing workplace injuries extremely challenging.

The biggest challenge is creating a culture of safety within the complex hierarchical structure.

Healthcare is predominantly practiced by individuals with a high degree of autonomy, and a willingness and openness to give and receive feedback needed in behavioral-based safety programs is not the norm.

Creating a culture of safety in healthcare is also challenging because of a rapid and constantly-changing environment, with new priorities arising that take the spotlight off workplace safety. New regulation is quite frequent and can consume an organization's efforts.

Recent revelations (sic) about prevalence of medical errors have shifted more focus on patient safety, which may directly compete with worker safety. The link between healthcare occupational safety and health and patient safety will be a critical component of moving the two fields forward together instead of in opposition.

The ability of an organization to maintain a productive and health workforce is becoming increasingly difficult in the United States. The aging workforce and the prevalence of chronic diseases resulting in lost productivity and higher costs to American workforce, including our own industry.

Comment ID: 540.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

The second issue is ergonomics. Ergonomic-related injuries are a primary contributor to the overall injury rate in healthcare. Sixty percent of Kaiser Permanente's workplace injuries are related to strains and sprains, and ten percent are attributed to work-related musculoskeletal disorders.

In addition to existing ergonomic risks, new medical technologies and electronic data systems are being introduced at a faster rate than ever before, creating new and more numerous exposures.

The changing demographics of the United States population introduce new ergonomic concerns as well. More chronically ill and obese patients who may not be able to assist themselves need assisted transfers in greater numbers than before.

Comment ID: 540.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Personal protective equipment

Partners

Categorized comment or partial comment:

The third issue is hazardous exposures and unknown hazards. Healthcare is unique in that not only are workers exposed to known hazards like chemical disinfectants and waste anesthetic gases, but there is also a possibility that exposure to an unknown biological respiratory hazard could occur at any time. Respiratory protection continues to be one of the most difficult safety programs to implement. Healthcare specific evidence-based science is needed.

There are challenges in evaluating exposures to known hazards as well. The research on exposure and health effects does not always move quickly, so in some cases we truly do not understand what the exposures actually mean to our employees.

There is substantial evidence that hazardous drug exposures during preparation and administration may be more prevalent than previously thought. However there are few established methodologies available to measure airborne or surface concentrations of hazardous drugs, and very little dose-response information available to evaluate exposure data.

High level disinfectants pose similar exposure concerns, with new products being frequently introduced with little or no exposure data or sampling methodologies available to assist in evaluating potential health risks to healthcare workers.

In conclusion, healthcare faces many challenges in maintaining a safe and health workplace. The biggest challenge is creating a safety culture that is adaptable to the complex hierarchical structure and multiple

priorities of healthcare. In addition, the industry needs to create new ways of reducing ergonomic risks and assessing hazardous biological and chemical exposures.

We appreciate the opportunity to comment on the National Occupational Research Agenda. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 541.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Exposure assessment

Risk assessment methods

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Thank you. Good afternoon. My name is Linda Lee and I'm the executive director and chief safety officer at M. D. Anderson Cancer Center. And I'm also in the interim acting associate vice president for patient care facilities for the institution.

M. D. Anderson has about 16,000 employees, faculty and staff, and about \$2.5 billion of operating funds, 9 million square feet under roof, as well as about 1,200 research labs. So we have a pretty large facility and we, as environmental health and safety professionals, have some concerns and I think that they've been voiced in some aspects.

We're certainly concerned about personal protective equipment in relation to pandemic flu and emergency preparedness and availability should we have a flu outbreak in this country.

We're also concerned and would like to see some research on patients with infectious diseases and their exhalation from patient ventilators. There are filtrations on some of them, but some of them do not.

We're also looking at assessing chemical and biological hazards from exposures to manifolded exhaust systems. In the old days you used to have a dedicated exhaust system. Your lab went out. Now because of money and concerns, we have venti-- we have ventilation systems that are manifolded together, except in the highest hazards of BL3* laboratories.

Comment ID: 541.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

- Infectious diseases

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Exposure assessment
- Risk assessment methods
- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

We`re looking at infectious disease risk assessments for construction workers. We`re continually under renovation. We`re continually under modification. In many of those things we`re looking at systems where employees are taking out old vacuum systems, old facilities that had one time been exposed to blood, body fluids, chemicals, et cetera.

Comment ID: 541.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance Services

Population

Health outcomes; diseases/injuries

- Infectious diseases

Exposures

Approaches

- Exposure assessment
- Risk assessment methods
- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

We're looking biological exposures to housekeepers, employees who go in for an isolation patient, looking at settling times. When should it be between the time a patient goes in, a patient comes out and housekeeping goes in? We look at 30-minute turnarounds on the rooms because we're at 100 percent capacity. What should those settling times be?

Comment ID: 541.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Personal protective equipment

Training

Partners

Categorized comment or partial comment:

We're also looking at education for healthcare workers to understand the subtle differences in personal protective equipment. What's the definition of a mask, what's the definition of a respirator? And many times those are being focused on by healthcare providers in infection control without a lot of degree of understanding between the differences of those PPE.

Comment ID: 541.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Exposure assessment

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

And then finally, one of the drugs we have major concerns of course is Ribavirin. There's a lot of information out there on Ribavirin, but we continue to struggle with protective equipment, protective environments for patients, particularly pediatric patients where the parents want to be in the room during the treatments or the patient can't stay in the room during the treatment, what -- how and how should we protect the parents of the children and what is appropriate? We focus mostly on occupational exposures, but what about the non-occupational exposures from the patients and the visitors and their family?

I'd like to thank you for this opportunity today to address you and hopefully these things will be considered in your future research. Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 542.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Work-life issues

Approaches

Training

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Thank you. My name`s Melissa McDiarmid. I`m with the University of Maryland School of Medicine`s occupational health program in Baltimore. And my topic concerns chemical hazards in healthcare. They`re high risk and high hazard, but generally poor recognition as such.

It`s counter-intuitive that the healthcare industry, whose mission is the care of the sick, is itself a high hazard industry for the workers it employs. This industry sector consistently demonstrates poor injury and illness statistics, among the highest in the U.S., while it employs about ten percent of the U.S. workforce. This suggests a large population at potential risk of health harm. It is therefore most appropriate that NIOSH has chosen this industry sector to be included in the next generation of NORA activity.

While possessing every hazard class, the biologic and musculoskeletal hazards are those typically considered in workplace safety programs. However, under-appreciated are the diverse and novel chemical hazards also present in the healthcare environment in the form of sterilants, germicidals, industrial cleaning agents and pharmaceuticals, including the highly toxic anti-cancer drugs. Many of these drugs are themselves genotoxic, carcinogenic and/or reproductive and developmental toxicants.

In recent years they have been the subject of environmental monitoring campaigns, which have demonstrated troubling results, with widespread work area contamination observed.

Responding to these observations, two NORA I teams, the control technologies and reproductive hazards research teams, joined efforts to sponsor an enormously successful working group of stakeholders affected by the use of hazardous anti-cancer drugs in healthcare. Working over four years, this group considered these new data, and proposed solutions and promoted them. In a splendid example of research to practice, this groups work resulted in the publication of the NIOSH alert on the safe handling of hazardous anti-cancer drugs in health care, with a national rollout in October of 2004. The work of the group, however, is unfinished and ongoing.

As NORA II receives the baton of responsibility for the research agenda in healthcare for the protection of present and future healthcare workers, it is important to build on the strengths of NORA I and capitalize on its legacy. The task will not be easy. Biases within the healthcare industry and the safety and health community collude to limit both the awareness of hazards which do exist, and the successful application of classical approaches used to assure safe jobs. The unique mission of healthcare also adds obstacles to our efforts in that self-preservation behaviors which normally may protect workers are suspended in a culture of selfless commitment to patient care. This erroneous either/or mentality must also be addressed by our safety and health community, and changed to a both/and outlook during worker training efforts.

While daunting in scope, it is critical that NORA II address the high hazard exposures of healthcare and specifically tackle this enlarging use of highly toxic pharmaceuticals. Already underway is an explosion of technology growth in pharmaceutical applications. Noteworthy here is that about half of the present nanotechnology applications are for pharmaceutical or other medical use. But again, due to this disconnect between the hazard recognition of drugs and the traditional lack of safety and health expertise in healthcare settings, the growth in high hazard chemical use has not been accompanied by stepped-up safety programs in hospitals.

Add to this the increasing frequency of complex care delivery moving outside of the hospitals to clinics and patients` homes. The migration of healthcare hazards enlarges the potentially affected population to those transporting these hazardous materials and to patients` family members as well. There are also patient safety issues suggested by gaps in safe handling practices of drugs and other therapeutic products.

The challenge for NORA II resides in continuing the vital safety and health advances of NORA I in this complex, highly technical work sector. A comprehensive culture of safety in healthcare must be crafted and promoted that allows the provision of life-saving therapies to patients while protecting and ensuring the health, lives and livelihood of the caregivers who treat them. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 543.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment
Engineering and administrative control/banding
Authoritative recommendation
Marketing/dissemination

Partners

major pharmaceutical companies

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Let me step this up a little bit. Hello. Did that wake everyone up? I'm a little less vertically-challenged than most, so I'll try to get this up to the right size.

My name is Hank Rahe, although it's one of the most mispronounced four-letter words in the language, and I'm technical director for Containment Technologies Group, which is a small company nobody's ever heard of. Historically I spent a short 30 years at Eli Lilly & Company. During the last eight years I had responsibility for developing and implementing containment technologies to deal with hazardous compounds. I was also part, and continue to want to be part of the hazardous drug group. And in those roles I wanted to share with you a little bit perhaps of experience through describing a journey.

A journey starts with a definition of a pharmaceutical. All pharmaceutical compounds are hazardous. The issue is how much and how often, because if they weren't hazardous or were not creating an effect, they would not have any benefit in society. So given the fact that they're all hazardous, what we need to look at is how much and how often, and how do we prevent that coming to -- inadvertently to people it's not intended to come to.

Looking down that journey it's also important to understand the delivery mechanisms for those compounds. Approximately 80 percent of the drugs that are delivered are delivered in what's called solid dosage form -- tablets, capsules, a little bit of powders. The others are delivered in what I refer to as parental or injectable drugs. And as Melissa indicated, there are a lot of new and innovative forms coming which have in themselves a high -- high level of hazard to them.

So to continue on the journey, let's take a brief look at drugs and how they're evolved or developed from discovery to delivery to a patient, and what happens along that way as they're developed.

I had the pleasure and pain of being involved with the committee at Lilly that established exposure limits for -- internally for workers and will share in the brief minutes I have a little bit of that. But one of the important things in developing a drug was to determine whether it was therapeutically effective or not, because if it wasn't there wasn't any point in evolving the compound to a pharmaceutical product.

Once it was determined to be effective, the next issue was what levels is it therapeutically effective at, and what levels, if possible, is there no effect level. The purpose of the committee that I sat on at Lilly -- which involved industrial hygiene people, development, engineering -- was to look at those drugs and provide a safe level internally for the development -- or for developing facilities and handling techniques for those compounds. And as you can imagine, in the world of pharmaceutico (sic) we weren't talking about a 250 milligram delivery, we were talking about kilogram, so facilities have been evolved to safely handle these drugs to exposure limits.

In the developing of those engineering controls three things are identified in OSHA and pretty well practiced are the means of control -- engineering controls, work practices and personal protective equipment. Also to go with that is monitoring, because if you don't know where your journey's going to, you don't know where you've been. So you need to monitor not only the workplace for safe exposure levels, but also the people that are involved in that workplace. So developing those strategies for engineering controls, personal protective equipment and work practices, and evolving the monitoring, are extremely crucial.

That has all occurred with the major development of compounds. The major disconnect, and I think what many of us are here to express our concern over, is the communication of that knowledge base to the delivery segment, the hospitals (unintelligible) practices, the clinics that -- and the healthcare givers that provide the delivery of those compounds to the end patient. And there is a major disconnect there, for a lot of reasons that you can't cover in five minutes total time. I'll skip over those but would be glad to discuss those later.

How do we overcome those major disconnects? I think that's one of the things that we're certainly here to look at. One is there is a knowledge base out there that needs to be tapped, and that's the major pharmaceutical companies, because they do provide facilities for deli-- for manufacturing these drugs and getting them into final dosage forms.

As part of the alert group, there were over -- I'm going to be wrong in my exact number, but approximately 15 major pharmaceutical companies involved with that. I think we need to re-energize that and see if we can take advantage of that knowledge base and transfer it on to the -- to the delivery section of healthcare.

One mechanism that's been discussed many times is banning/banding* exposure limits because, as you can imagine, with -- I think in terms of just simply cytotoxics there are well over 100 drugs out there so you don't really want 100 different exposure limits floating around. It just gets too confusing, so that's one potential and an objective I think that should be seriously considered.

The art of negotiation. The other major objective is self-help within understanding what goes on in the delivery process because there -- there have been many things completed, but there's no target. And as an engineer, for me to design an effective engineering control I need to understand what the exposure

limit I'm trying to deal with. The typical transfer in healthcare is taking a material from a vial, using a syringe to transfer it to the mechanism that delivers it to a patient. It's not a complicated operation, but we don't understand anything officially about the exposure limits that occurs during that. We've got gross data, but what does it mean? What level of the three forms of matter -- solid, liquid and gas -- do we produce when we simply do that transfer? There's an important piece of research, if done, can help greatly.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 544.01

Categorized with the following terms:

Sectors

- Construction
- Healthcare and Social Assistance
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors
- Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: My name is Shelby VanMeter and I`m a registered nurse. The reason I`m here today is because not only have I been affected by an exposure at work, I`m also a patient who has to deal with this. When I was asked -- 11 years ago when I was working as a nurse-practitioner -- to help expand and develop a new stabilization area for our newborn intensive care, I was ecstatic. I thought this is going to be, you know, the best thing. I can get everything I want in that facility and, you know, it`s the dream job. And I never expected that the construction from that development would not only end my career as a nurse-practitioner, but it would also affect my life, you know, from that day on.

I was exposed to chemicals while they were remodeling. I ended up -- instead of running to a delivery of a premature baby, I ended up going to the hospital myself, and that was the first of many events where I was hospitalized or had to go to the emergency room. This is something that`s impacted my life every day. Even to this point 11 years later, I`m still affected by that.

When I leave my home I carry a backpack that weighs almost 20 pounds, so that I have my nebulizer, my medications, everything that I could possibly need in case I`m exposed to a trigger going to work, at work, on my way home. I now work in an out-patient clinic, and I never thought that I would have to kind of dodge my everyday job because I have to avoid cleaners, dry erase markers, microwave ovens, anything that can put a trigger into the air.

I also have to avoid construction. Even though the facility that I work at does an outstanding job in keeping that construction out of our work area, there`s still vapors. There`s still dust. There`s still things that trigger that, and it`s just an everyday event.

I ended up leaving my job as a nurse-practitioner, which is something that I'd always dreamed about. I left nursing for four and a half years and finally, after finding an occupational environmental pulmonologist -- which was something that my workplace originally had never heard of. You know, I was fortunate to have a friend who went to the graduate school here and knew someone. But through my physician's care and new medications, I've been able to go back to work.

But I can't work in-patient because of the constant exposure of chemicals, cleaning, exhaust fumes from ambulances, things that are just common every day in our hospitals. But I've pretty much found a safe environment in an out-patient clinic working with children that have cancer. But still, just these simple things cause me to have issues every single day.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 545.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Violence

Work-life issues

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: I'm Ann Malecha and I'm the director of research at Texas Women's University College of Nursing here in Houston. We have three campuses, one in Denton, Dallas and here in Houston. And I'm talking on the interaction between personal stressors and workplace violence. And I will say it's from a nursing point of view, looking at nurses as -- coming from a nursing student. Just so you know, I'm representing -- we have over 50 full-time faculty here in Houston teaching undergrad, master's and the doctoral program in nursing. And it's been overwhelming, when we started to form a research team we put a call out to faculty, would you like to meet to investigate personal stressors and how it impacts -- we know nursing students 'cause we listen to nursing students, but also nurses. And we consistently have over 20 faculty that show up for each meeting. So we know, as faculty, our students come to us with great personal stressors, and they take those personal stressors to the workplace.

What I would like to say is there is a great deal -- lack of research on what do we mean by personal stressors. And if I look a little bit disorganized, it's 'cause I am in the process of trying to put together a literature review. There was a study that was recently put out in September, 2005 and they were just looking at how R.N.s view the work environment in terms -- just generally. And what they found is 31 percent do complain of back or musculoskeletal injury, and this was compared to 2002 data where it was 34 percent, so there was a slight decrease.

The second was episodes of violence in the workplace, and it was 28 percent in 2002 and it remains at 28 percent in 2004. And at the end of that survey the -- the conclusions were this is still a problem in the workplace in terms of high levels of violence.

It -- mostly when we talk to nurses and talk about workplace violence, if you look at workplace violence on a continuum from incivility all the way to homicide, most of the workplace violence they are talking about is verbal abuse, harassment and emotional abuse. And there has been a literature review conducted and, again, over and over the verbal abuse is what comes out as the work-- in terms of the workplace violence that I'm talking about.

In terms of personal stressors, again, there's been limited research done on it. There's been one researcher here in Texas, and she has looked at who experiences workplace violence in terms of nurses. And the two studies that she conducted -- I have my literature review -- she looked at workplace violence -- and over and over, this is another thing that comes out in the literature if you talk about stressors, is a history of child abuse. She found 58 percent of nurses have child abuse, primarily sexual abuse, 89 percent of those childhood abuse; 41 percent witnessed adult -- witness currently adult abuse. She did a study looking at Hispanic nurses and what she basically found is 94 percent suffer emotional verbal abuse at workplace violence.

Basically, to summarize, there's a definite -- she sees a history of abuse. Nurses that report workplace violence verbal abuse have a history of personal abuse. So that's -- in terms of defining one workplace stressor is child -- a history of child abuse, as well as a history of adult abuse and current abuse.

The only other personal stressor that has been studied is finances, and that has come out as a strong personal stressor is the worry about personal finances.

And then we recently just finished a pilot study here in Houston following 99 students one year after they graduated, and we found the same thing with personal finances being a strong personal stressor. But interestingly enough, we're seeing an increase -- instead of child care being a personal stressor, that more and more nurses are taking care of other family members other than children. We find about 18 percent out of the group of nurses were concerned about not having adequate care for someone at home other than a child, compared to only 15 percent for child care. So that's a growing concern.

But I guess to summarize, the research that's needed is what do we mean by personal stressors. There's a lack of data on that, but we do know it does impact how a nurse views workplace violence. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 546.01

Categorized with the following terms:

Sectors

- Services
- Unspecified

Population

- Older
- Language/culture/ethnicity
- Disability

Health outcomes; diseases/injuries

Exposures

Approaches

- Training
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: My name's Ilise Feitshans and I -- I teach in this field, but I also write a treatise called "Designing an Effective OSHA Compliance Program", so my comments are going to be very broad-brush comments pertaining to the history of occupational health and the future of NORA and NIOSH in light of that history and facing the challenges on the frontier of science.

When the U.S. Congress wrote the Occupational Safety and Health Act of 1970 it sought to cover a lot of ground in one bold stroke of the legislative pen. It sought to reduce injury and illness at work, to preserve our human resources by protecting the health of workers -- of every working man and woman in the nation, and to force development of new technologies through research and implementation strategies that would ameliorate working conditions throughout the land. Several fundamental flaws in OSH Act undermine its effectiveness. The many compromises required to pass this important legislation are reflected, one, in the lack of jurisdiction over very important sectors of the working population, such as public sector, some parts of mining, agriculture, things like that. And also the failure to provide private rights to action by citizens to enforce its tenets when the citizens themselves are not the workers who are harmed.

But overall, OSH Act has done pretty well for a relatively young statute. Congress, through the authority delegated to the Secretary of Labor and to NIOSH in Sections 21 and 22 of the statute, did force new technology in occupational health and occupational safety, just as the Congress intended. If you look in contrast to 1965, which was a time when there were only a few non-profit organizations and trade associations groomed professionals who would create programs for workplace health and safety

training, the statutory scheme has an amazing track record in promoting a wonderful state-of-the-art understanding for occupational safety and health.

Successes have been talked about by other people here. My point is to say that NIOSH has been the linchpin of these developments. NIOSH research goals provided the financial resources for thousands of investigative studies, and in turn generated the impetus for many research programs in academia that would never have existed but for the government interest in the subject of their work.

So this sounds really broad-brushed when you look back from 35 years toward a new century. But as my son would say, you know, that's about as long as it takes for God to grow a fingernail. It's not really much time in the history of the world. And when we're at the dawn of a new century we have the luxury, and maybe even the obligation, to think about that new century.

So there are three things that my remarks would like to underscore in the vital areas for the work in occupational health in the future. First, a renewed emphasis on safety now that we have better technologies thanks to NIOSH research and the new types of jobs that are out there such as genetic technicians, nanotechnology and such.

Two, outreach to all populations. We need a classless model that embraces service industries, professional workers such as doctors, architects, engineers, lawyers, leadership people in business and government. Outreach using health promotion that embraces the special needs of changing demographics of our populations to include working moms, older workers who will use their experience beyond the seventh or eighth decade of their life, minorities who are assimilating into our workforce and have special linguistic needs. And of course across all of these categories there are people with disabilities who, that's to the Americans With Disabilities Act, have now an equal opportunity to education and will enter our workforce, regardless of the causes of injury, having a life experience of disability. This is really very different than the model at the time that OSH Act was written. And they will take their rightful place as employers, employees and taxpayers, raising that ever-thorny question of how do you provide reasonable accommodations.

The third area is that OSH Act itself needs reform. Yes, the old statute has served us very well. And some people in Washington, D.C. do say if it ain't broke, why fix it. But in truth, 35 years, it's time for a little bit of a renewal job. Thirty-five years without modification for a statute is really an extremely long time. We need a provision in the new OSH Act statute that will provide for citizen suits and the right of individuals who are not under contract in the particular work site but may be present in that work site to complain about harms in the workplace that nonetheless have an impact on health for all.

So I speak of this from an academic perspective. I have never worked for either labor or management sides, always worked in academia. And one of the books that I've written for non-lawyers is available to the panel for your review if you need it for anything.

I really appreciate NIOSH's extremely pioneering work, but I think that the emphasis really has to be on looking very closely, first, at the old question of safety, which is very much a changing notion. When OSHA and NIOSH were born there were consensus standards, there were organizations that were sort of loosely defined -- created standards, but there wasn't a process for doing that. There wasn't a functional analysis of what goes into a standard. Our courts have taught us subsequently through the benzene decision and other cases what that's supposed to look like, and we need to use that in looking at safety with new eyes.

As I said about demographics, it`s not just that we have a different population, but we need to approach it in a way that`s classless and available to groups that we have really overlooked in the past.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 547.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Work-life issues

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Okay. All right. Hello, my name is Lisa Pompeii and I'm an assistant professor here at the University of Texas, and my background is in occupational epidemiology and occupational health nursing.

I signed up to talk today about return to work issues among healthcare workers, specifically nurses and nurses aides. However, in the interest of time I would like to focus specifically on return to work issues among nurses aides after sustaining a work-related musculoskeletal injury, or specifically a back injury.

I'm currently conducting a NIOSH-funded study called "Back Pain and Work Disability Among Healthcare Workers", and the setting for the study is a tertiary care medical center in central North Carolina. And the purpose of the study is to examine risk factors for back injuries among nurses and nurses aides and the impact of work disability resulting from those types of injuries.

While working on this study, differences in return to work issues between nurses and nurses aides started to become apparent. I'm reticent about not focusing on nurses right now because I don't want to in any way minimize the experiences that they have trying to return to work or the difficulties that they have. I just want to focus more on how these two groups are really different.

And when you dig through the literature, the occupational health literature, looking for information on nurses and nurses aides, typically these two work groups are analyzed together. They're combined. And what happens is I believe that they're portrayed as being similar, when in fact they're very different. As a result, aspects of nurses aides' jobs that may contribute to disparities in their health have not received adequate attention.

A handful of studies have reported what injury rates reflect, and that is that nurses aides lift more, they - they twist, they bend. Their jobs are more physically demanding compared to nurses. I have seven years of workers comp injury data, and the nurses aides have a rate of 8.4 injuries per 100 FTEs, that's occupational back pain injuries, compared to nurses that are at 4.0 -- they're still high, but nurses aides are twice that. They have higher rates of lost work day injuries, they have higher rates of restricted work day injuries.

Some fundamental differences between these two work groups, the first is latitude. When a nurses aide is not able to perform their job in the hospital setting, their ability to move to another job is very limited, compared to a registered nurse. Registered nurses have more years of education, formal education, and they may have more latitude. They can transfer within the hospital setting possibly to other jobs.

The hospital setting where I'm conducting my study, nurses aides can move to a housekeeper position, they can go to dietary, they can go to laundry or they can go to a secretarial position. One only out of those four is a -- is a desk job, and that's if they meet the educational requirements for that job.

There's the reporting structure within the nursing unit. Typically nurses aides have to manage their own work restrictions and they have to manage -- or negotiate with the nurse manager in order to do that and they may not feel comfortable. They may fear retribution or job loss if they refuse to perform work duties that are difficult, placing them at further risk for injury.

Disparities in health already exist among nurses aides with regard to significantly high rates of occupational back pain compared to the general work force. But they're at risk for further health disparities if they incur additional injuries and loss, or lose their job and the benefits of employment because of these injuries. Workers who sustain occupational back pain or have occupational work-related -- excuse me, work-related back injuries have been found to be less likely to return to work, or they have delayed return to work if they have to go back to a job that's physically demanding. We already know this.

And we also know that return to work strategies, including modified work and physical therapy, assist workers to getting back to work. But when we conducted focus groups with nurses compared to nurses aides, we found that nurses aides didn't have that ease of returning back to work. They had a harder time negotiating with their managers. They had a harder time negotiating work restrictions. They felt isolated.

They also felt like they couldn't go to their fellow nurses and ask them for work because they felt like their jobs are very different than the nurses' jobs. So on a typical nursing unit in a shift you've got two nurses aides. And so if one of those nurses aides doesn't show up, the other nurse aide has to pick up that slack. So I asked them a question. When you -- is there ever a time when you go to work and you have back pain and you feel like you can't work but you work anyway? All of the nurses said no, that they just take time off if they can't go. The nurses aides, all of them said yes, I still go. And they go because they feel obligated. They feel committed. It isn't just because they can't afford it, but they go because they feel like they need to be there.

I know I only have a few seconds left. I would just like to recommend that future research separate these two occupational groups so that we can find out more about how to return nurses aides to -- back to work post-back injury. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 548.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Work-life issues

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Good afternoon. I`m George Delclos. I`m on the faculty here at the University of Texas School of Public Health. I`m a professor and I direct the division of environmental and occupational health sciences. I`m also a practicing occupational and pulmonary physician, and I have submitted my detailed comments to -- to the group. Thank you for allowing me to speak today. Good afternoon.

There are approximately 16 million people in the United States with asthma, and the incidence and prevalence of asthma have been increasing in the general population, both worldwide and in the United States, for the past two and a half decade. Prevalence estimates vary widely, depending on race, ethnicity and geographic area, with some estimates as high as 19.6 percent having been reported.

Now the annual economic and social consequences of asthma are staggering, as evidence by more than 100 million days of restricted activity yearly, nearly 500,000 hospitalizations, over 5,000 deaths, and

more than \$27 billion in costs. Various factors have been implicated in explaining these worsening epidemiological trends, including contaminants present in workplaces.

In the United States it's estimated that there are over 20 million workers potentially exposed to occupational asthmagens, 9 million of whom are exposed to established asthma sensitizers and irritants. Work-related asthma is currently the most frequently reported diagnosis of work-related respiratory disease in developed nations, and the U.S. is no exception. In a study conducted by our group based on the adult population data from the NHANES III, we estimated that the prevalence of work-related asthma in the United States to be around 3.7 percent, and that of work-related wheezing, which is a cardinal symptom of asthma, to be about 11 and a half percent. Estimates of just how much asthma in adults is attributable to the work environment have varied widely, probably due to several reasons, including geographic area, lack of recognition, differential reporting, absence of statewide surveillance systems for asthma and variations in what we actually call occupational or work-related asthma. However, in the review and synthesis of 43 studies, Blanc and Toren found that the median attributable risk for asthma -- for workplace asthma to be about 15 percent among the best-designed studies.

Now certain groups of workers are well-known to be at particularly high risk of developing workplace asthma, including red cedar workers, isocyanate chemical workers, construction workers, and farmers. However, whereas the magnitude of the risk and etiologic agents are well characterized for many of these occupations, this is less well studied in the case of healthcare workers, where data are largely derived from case series and relatively few population surveys.

Healthcare workers comprise eight percent of the U.S. workforce, and are one of the fastest growing sectors of that workforce, projected to increase to more than 15 million by 2012. In other words, a 30 percent increase from about 2002. The greatest growth is occurring in out-patient settings, with average annual increases more than double those of the remainder of the U.S. economy. Healthcare-related occupations represent 50 percent of the top 30 fastest growing occupations in the U.S. And within the healthcare sectors the professions that are expected to grow by more than 20 percent include nurses, physicians, respiratory therapists, occupational and physical therapists, the dental professions and pharmacy professionals.

Following the passage of the 1992 OSHA Bloodborne Pathogens standard, which resulted in a significant increase in the use of latex-containing personal protective equipment, cases of latex-related asthma drew attention to healthcare workers. Potential asthmagens in healthcare settings, however, do go beyond latex, and include disinfectants, pharmaceuticals, sensitizing metals, methacrylates, aerosolized medications and cleaning products, among others. Furthermore, since there are potentially multiple sensitizers in healthcare environments, it is possible that interactions among these various compounds could affect sensitization thresholds. Previous studies in several countries have described an increased occurrence of asthma among specific groups of healthcare workers, including nurses, respiratory therapists and pharmaceutical workers.

In the U.S. the health services industry is second only to the transportation equipment manufacturing sector in total number of reported asthma cases. Five of the top 11 industries and nine of the 22 leading occupations associated with significant increased asthma mortality were related to healthcare services. And recent surveillance data from California, Massachusetts, Michigan and New Jersey found that work-related asthma among healthcare workers represented 16 percent of the total reported cases, exceeding the proportion of the workforce made up of healthcare workers. Agents most frequently

associated with these reported asthma cases include, still, latex -- although we`re doing a better job with that -- cleaning products, and poor indoor air quality.

Now in our own NIOSH-funded study of asthma prevalence and risk factors that we`ve been conducting in a large representative sample of over 5,600 Texas healthcare workers, analysis of which is still ongoing, the overall prevalence of a physician diagnosis of asthma was 14.7 percent, ranging from a high of 17 percent among respiratory therapists to a low of 12 percent among physicians. These asthma prevalence figures are substantially higher than those reported for the general Texas and U.S. populations. Furthermore, the prevalence of asthma with onset after entry into healthcare -- into the health professions, which could be used as a surrogate for work-related asthma, was likewise high. In addition to latex and based on self-reported exposures, the preliminary analyses showed elevated odds ratios for women, obesity, years as a health professional, exposure to aerosolized medications, and exposure to glutaraldehyde and cleaning products.

In summary, there`s evidence that workers in healthcare settings are at an increased risk of work-related asthma. However, important gaps exist in the healthcare worker literature with respect to risk characterization of healthcare worker subgroups, identification and assessment of specific exposures to asthmo-genic compounds, estimation of the impact of asthma on work patterns and productivity among healthcare workers, and implementation of proper preventive measures.

I urge NIOSH to support and expand continued research into this important topic, and I thank you for your time.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 549.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Good afternoon. I'm Paul Rountree. I'm on the faculty at University of Texas Health Center at Tyler. I think I can speak with some credibility about aging among healthcare workers.

You know, the day that we have awaited for has finally arrived. We've come to 2006 when the boomers begin to reach age 60. So the question is, what will be the effect of this boomer generation on healthcare?

Now we know that as you age you have certain physiologic changes that occur that we call normative aging. In addition to that, we also know that you have higher prevalence of chronic conditions like arthritis, heart disease, lung disease and the like as you mature. So I think that it's fair to assume that we're going to have a burgeoning increase in the demand for healthcare services in our country.

This comes at a time when we have currently a shortage of 126,000 registered nurses in the United States, and it's projected that this increase is going to continue faster than we can in fact replace them. And we also are dealing with an aging nurse population. The projection is that the average registered nurse in the United States by 2010 will be age 50.

So we basically have a changing workforce, and we have a workforce that's aging, and we have an increased demand. What does this mean for the registered nurse, then?

We know that registered nurses already are working more hours and have more mandatory overtime. And we know that studies have shown that mandatory overtime impacts on job-related stress, as well as patient safety. We know that registered nurses have increased rates of injury, as do all healthcare

workers, but particularly registered nurses and nursing care assistants, and earlier speakers have alluded to that.

It's clear that older workers also have delayed recovery, and there's much data from the Bureau of Labor Statistics that would attest to this fact. So I think it's reasonable to assume, among the registered nurse population that's injured, that we need to examine causes of delayed recovery.

I suggest to you that we need to look at the interactions between job-related stress, between co-morbid conditions that nurses may have, as well as behavioral characteristics in an attempt to explain issues about recovery from injury in this particularly important group of people.

I am currently working with the College of Nursing at the University of Texas at Tyler, and we are involved in a cross-sectional study that's unfunded looking at registered nurses in a large number of institutions in rural health communities in east Texas. It's really been remarkable that we've had support from a number of large hospitals -- from the chief nursing officers at a number of these large hospitals, who are actively supporting our research because of their issues and concerns about nurse retention as a result of the various influences that I've described. And I hope that NIOSH will take an interest in the -- in the synergism that exists between these varied influences, work-related injury and recovery. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 550.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Exposure assessment

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Well, thank you very much. I think, like everyone else, I appreciate the opportunity to provide input to NIOSH as they form their agenda for the coming decade.

Just by way of quick background, I'm a physician whose practice is devoted exclusively to occupational medicine. Within OcMed, most of my encounters involve healthcare sector workers. For example, I'm a medical director at Baylor College of Medicine. In all we have about 10,000 employees. I also serve as an out-source director, basically, for other healthcare entities. So most of my dealings are with health -- healthcare sector employees.

I have two primary themes to consider for developing a research agenda, the first of which entails new diagnoses and novel problems within healthcare. Medicine invariably is responding to new challenges all the time. Some of these things are conditions or problems that have never been described or discovered, whereas others may be known problems but are merely being approached in a new way. If you consider even recent events, physicians, nurses, paramedics, everyone within the healthcare sector has been called upon to respond to various things such as natural disasters. New conditions such as SARS, bird flu, which for all practical purposes really has not developed into a problem but might, and yet we're all expected to know how to respond, how to take care of others, while at the same time we incur risks.

And we incur health risks largely to the unknown, especially when you're dealing with a new condition, a new problem. It's hard to tell what long-term problems are going to arise from being exposed to it, or

working with patients who are exposed to it. So invariably there need to be mechanisms to help define what the problems are going to be and to properly define exposures in the present so that we can properly assess people in the future.

And this issue of new problems, new diagnoses, new conditions goes beyond even the clinical realm. It's as prevalent, if not more prevalent, within the setting of medical research. We like to think of medical research as always being on the cutting-edge, as developing new techniques, new strategies, dealing with new technologies. But again, we're also dealing with problems that have not been described before.

We have healthcare workers exposed to various things like oncogenes, adenovirus vectors, and yet we know very little about the long-term effects from exposure. We're not sure of morbidities that may arise. And yet there's very little in the way of appropriate guidance for what to do to protect people. There's certainly little that's known as far as any outcomes in working around these entities and what types of tasks pose the biggest problems. So I think definitely the new -- the new, emerging conditions that we're faced with in society are also some of the new, emerging conditions that we're faced with in research.

Comment ID: 550.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Other

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Surveillance

Health service delivery

Partners

Categorized comment or partial comment:

The second theme I just wanted to hit upon briefly as far as the research agenda is being sure to consider healthcare trainees within the scope of any sort of research project. We think of trainees traditionally as students. In many ways we're all students throughout our lives. But the trainees are often disenfranchised from the rest of the system. If you think about a typical employer/employee relationship that occurs, there's perhaps more accountability that goes on. Some of it is legally prescribed, some of it is -- just occurs through tradition. Yet healthcare trainees often don't share in the same protections that employees share in.

And there's some practical issues that arise in trying to account for trainees. This includes the fact that many of them are transient, for example, in institutions that they rotate in. Institutions may not be very well aware of their presence. They may know in general that they're there, and I think for a large part a lot of institutions try to incorporate them to the extent they can within safety programs. But the bottom line is that a lot of trainees don't have access to the same resources employees do -- things like training, PPE, certainly ongoing healthcare and surveillance. A lot of that, when it does occur, is pushed onto the employee, meaning they have to follow up through their own health plan or they have to buy their own equipment. This is something that's almost unheard of within the employment sector. Not to say that we need a workers comp system for students, but they definitely need to be considered within the context of any sort of medical surveillance.

Just as important as far as their vulnerability, if you will, is the fact that a lot of them are pursuing second careers, third careers. A lot of them have been engaged in healthcare for quite some time by the time they hit a -- quote, a career goal. So often we're picking up healthcare employees, we're roping them into some sort of surveillance program or workers comp or risk management program

because they just started employment with us. But by virtue of the fact of what they've been doing the last ten years, they've really been healthcare employees for ten years. So if you consider a nurse or a medical aide who has -- who is just starting work, this is a person who may have been working as a paramedic or an aide for several years before becoming a nurse. And yet on day one when they develop low back pain, we measure their exposure from the time of employment and we often overlook their, quote, pre-employment exposures. So the relevance of a person's student status as their career, if you will, just can't be downplayed enough.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 551.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Violence

Work-life issues

Approaches

Engineering and administrative control/banding

Economics

Authoritative recommendation

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Hello, my name is Stephanie Tabone. I`m a registered nurse and director of practice at Texas Nurses Association. As a representative of Texas Nurses Association I`d like to thank you for the opportunity to provide input into the future research agenda for occupational health and safety in the area of healthcare.

Registered nurses constitute the largest healthcare occupation group in the country. Then-NIOSH director Linda Rosenstock testified before Congress in 2000 that nursing personnel have one of the highest job-related injury rates of any occupation. And she related in that same testimony that the rate of injury specifically for R.N.s was greater than that of workers in construction and agriculture. In fact, construction and agriculture work is safer now than it was a decade ago. Not something that can be said for healthcare.

Moreover, characterization of the nursing profession by the Bureau of Labor Statistics lists hazards, including ergonomic injuries and acquisition of infectious disease, exposure to chemicals, shocks from electrical equipment, and hazards posed by compressed gases, not to mention emotional strain from

close contact with critically ill patients. The statistics and characterization of the work of nurses reinforce the perception that providing patient care is hazardous and that nursing is undesirable work.

Because R.N.s make up such a large component of healthcare delivery system, hazards to nurses in the workplace constitute a serious public health concern. This is true not only in terms of real injury, but in their potential to impact the capacity of the healthcare system to deliver essential services to those whose health is compromised. It is also the case that most hazards that accompany the delivery of patient care are preventable, or at least can be mitigated by improving safety processes.

Texas Nurses Association would like to commend NIOSH for its research in the area of healthcare and in particular in resulting guidance in the areas of violence prevention and recent guidelines for lifting in long-term care settings. This work has enabled Texas Nurses Association to advocate for and get enacted legislation that requires nurses and healthcare organizations to work together to produce increase -- policies and procedures that increase safety in these areas.

Safe patient-handling initiatives decrease injuries that cause harm to patients and result in increasing cost of care, while violence prevention has the compassionate outcome of helping to limit persons in moments of crisis from hurting themselves or others. So not only do these efforts protect nurses, they also have the added effect of helping patients.

Evidence-based guidance and best practices provide essential components when nurses seek to improve the delivery of care. The need for continuing research in healthcare in the area of workplace safety cannot be over-stated. As the population ages, the need for provision of care is projected to increase, while the number of persons available to deliver that care is projected to decrease.

It is essential for us to develop safety processes that increase the desirability of nursing as a profession by eliminating, to the extent possible, unsafe practices in all delivery settings, as well as identifying ways that an aging healthcare workforce can continue to deliver that care safely. To this end the American Nurses Association and Texas Nurses Association have brought talking points to this -- to this session, and they are listed in the written testimony.

As we review how each of the issues -- I'm going to go over the issues just briefly -- that impact the nursing profession, we must always remember that those things that are unsafe for nurses have equal, and sometimes more profound, effects on patients.

Safe patient handling itself, by looking at that as a patient safety issue, has allowed nursing to now start to get some very important things into the workplace to help with lifting. And another speaker I think will speak to that.

Others have talked about chemical exposures, so I won't go into that, either. I think the things that have been said are very good and important.

There's two things that I'd like to add. One is in the area of worker fatigue. There's a lot of work -- we know that worker fatigue has an impact on omission of care. What we do not know is how long it takes someone to recover after they have become fatigued. Neither do we know the additive effects -- just one second more -- the additive effects of things like emotional strain to that fatigue, so we don't have those add-on things.

And in the area of infectious exposure, what we don't look at often is how many opportunities there are to do something -- for example, hand-washing being a simple example. There may be many times or

many more opportunities in a -- in a time of care to do hand-washing than there are minutes in the day. So when we ask somebody to do something that's more safe, we sometimes do not look at how much time that takes in relationship to the actual process the person's involved in. And that's something I think really needs to be looked at when we ask people to do things that are safer. And I'll end my comments there. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 552.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

- Infectious diseases
- Musculoskeletal disorders

Exposures

- Chemicals/liquids/particles/vapors
- Radiation (ionizing and non-ionizing)

Approaches

- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Good afternoon. Thank you for the opportunity to present today and have input into the agenda. My name is Nancy Crider. I'm a master's-prepared nurse, currently full-time doctoral student here at the UT Health Science School of Public Health in management, policy and community health with a minor in occupational and health safety. I've been a registered nurse for over 25 years. My primary background is nursing administration and education. I've been a past president of the Houston Organization of Nurse Executives and on the board with the Texas Organization of Nurse Executives.

Much of what you heard today I want to repeat and emphasize with a couple of additional factors. As you know, it's well documented that the hospitals and healthcare organizations present a wide variety of biological, chemical, radiological and musculoskeletal hazards. Employee health and safety for those of us in administration are key issues in maintaining a viable workforce that's able to meet the healthcare needs of our populations, and also to be prepared on a whole-hazards approach for emergency preparedness that we're currently gearing -- been gearing up to, even more so since 2001.

Many safety initiatives have been initiated from the NORA I. Bloodborne pathogens is clearly -- are getting attention. They create new hazards as we do the personal protective with -- with gloves. Issues that are still out there as far as airborne exposures to both infectious disease, and particularly the occupational hazards as we do new construction and renovations in our hospitals. The air handling and exposure there are still issues that need to be addressed in practice.

Comment ID: 552.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

One issue that I have heard this morning, but not this afternoon as much, is the changing demographics of the workforce is creating new challenges. Many employees have -- both at the professional and the unlicensed level are not native-born and English is not their first language. We have a challenge here I think in the research to look at the cultural competency, a culturally-appropriate training strategy to look at where we have opportunities for safety. We have literacy issues. And even those who are fully literate in their own native language, when you get into the nuances of health and safety in the United States hospital and healthcare organization are not totally fluent, and that creates a great deal of misunderstanding. So I would adhere to this needs to be additional behavioral and social research as far as the culture of safety and training for both licensed and unlicensed personnel as to how to bridge the gap between knowledge of safety -- knowledge of safety practices and the behavior in the workplace.

Comment ID: 552.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Training

Partners

Categorized comment or partial comment:

Additional time I want to do is the workplace fatigue and safety. We know from aerospace and transportation that the effects of fatigue are similar to alcohol in the bloodstream. And not only do we have employees working long hours, again we have multiple -- the economic conditions are multiple jobs, and they come from work to the work site without adequate rest. So the timing of what it needs to recover becomes important, not just for scheduling in our own institution, but knowing whether you have contract workers in, knowing whether you have trainees in, people who are going to school full-time and working full-time. It's created a additional need for training there.

Comment ID: 552.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work-life issues

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Finally, ergonomic studies, as you develop -- the development and manufacture of assistive devices, I will reiterate -- looking at the workforce, who are the workers using it. We have an aging workforce, in many cases deconditioned and suffering from chronic illnesses themselves (sic) who are caring for obese patients. They are -- arthritis, the musculoskeletal risks, and we also have the foreign workforce who may be, as a speaker this morning said, a petite Filipino nurse who clearly cannot manage the same as a strapping 18-year-old, five ten, 180-pound male.

In summary, I'd like you to continue the NORA initiatives. Look at the multi-cultural, the training issues, the literacy issues and the gap -- bridging the gap between knowledge and practice of PPE. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 553.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Exposure assessment

Engineering and administrative control/banding

Work-site implementation/demonstration

Economics

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Hello, I'm Nancy Menzel from the University of Florida College of Nursing. I'm an occupational health nurse-researcher in musculoskeletal disorders in direct patient care providers. I also received a NIOSH traineeship 25 years ago to attend the Harvard School of Public Health, so thank you, NIOSH. And I also graduated from the University of South Florida College of Public Health Sunshine ERC with a Ph.D.

This morning Dr. Howard spoke about relevance of research, and I can't imagine anything much more relevant than the nursing shortage the previous speakers have spoken to. This is a problem where by 2015, in fewer than nine years, they predict a 20 percent shortage of nurses. And we really must do something to prevent their leaving the workforce.

The University of Florida graduates 180 new baccalaureate-prepared R.N.s every year, and within two or three years most of them have left the bedside. So the problem really isn't supply, it's keeping the workforce at the bedside.

Part of that is the healthy worker effect. They realize that they're going to get injured if they continue, because being a nurse is very hazardous to your health. The solution is not to go to developing nations and steal their supply of R.N.s with better wages and bring them to the United States and hurt them as

well. Nurses are not hatched like eggs. However, if they were and the farmer noticed that 75 percent of them were being broken during production, there would be something done about it. Instead we continue to injure our nurses.

I prepared a summary of gaps and needs for further research which I distributed earlier, and I'd just like to go over some of the main highlights from my vantage point. One of them is the pathogenesis of work-related musculoskeletal disorders in nurses. How early does this start? Does it start in nursing school? Where -- what are the exposures there? What are the biomarkers of musculoskeletal damage that's occurring to these nurses?

Exposure assessment, the methods that we use now are observation. I think NIOSH has used things where they put little clickers on machines to see if the lifting equipment is being used. But we must develop more sophisticated methods than that.

Under-reporting of work-related musculoskeletal disorders, we're using as a metric occupational injuries. That's rather like counting the number of planes that crash each year as our metric. I think we can do better than that.

Contributions of psychosocial factors to these disorders in nurses, what is the contribution of stress or organizational factors?

Patient handling technology, although we've seen research that demonstrates that injuries are lowered, with this technology many nurses continue to resist its use because it's awkward to use and it's inconvenient and it takes a long time. We still don't have any equipment that assists a nurse to turn a patient from side to side, and that's one of the biggest exposure points.

Adoption of technology, I've alluded to some of the reasons why nurses don't use the technology, but what is the reason that employers are not wholesale adopting this? They complain about the nursing shortage, and yet they fly recruiters to the Philippines to bring Philippine nurses back, but they don't invest in the technology. What can be done?

And the relationship of work-related musculoskeletal disorders to quality of care and patient safety. When I did my dissertation at an unnamed facility, I worked with nurses who were working 12 and 16-hour shifts, and I followed them around and wrote down what they did, and it was pretty exciting for me. But many of them stopped turning patients and ambulating them toward the end of their shift because they were physically exhausted. So I know that there's a relationship between patient safety and nurse safety.

These issues need to have further investigation and funding by NIOSH. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 554.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Disability

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Surveillance

Hazard identification

Etiological research

Risk assessment methods

Engineering and administrative control/banding

Intervention effectiveness research

Economics

Authoritative recommendation

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: I'm the executive chair of my organization's -- of continuing education for AOHP, and that organization is the Association of Occupational Health Professionals in Healthcare. On behalf of AOHP organization, I thank you for allowing our input at this public meeting of the second decade of NORA.

AOHP is the primary association for occupational nurses and other professionals providing occupational health services to workers in healthcare. The occupational health nurse, usually called employee health in a hospital setting, performs a multitude of services that evaluate, screen and monitor the environment and the worker in healthcare settings. Prevention of injury, illness and disability is the primary practice objective. Health promotion, wellness, is one method to those objectives. But realistically, the practice objectives become more challenging due to the everyday hectic pace in the healthcare facility. The patients are sicker, the healthcare worker works more hours with less support from their administration, and the outcomes can be seen in the loss run data. And we can see these in benefits, dollars being spent for more medical and mental health care.

This presentation is focused to the following broad issue that we feel NORA could include in the next decade:

Examining the research on health habits and attitudes, then apply and expound them specifically to the healthcare worker. Seek the answers to why so many healthcare workers are basically unhealthy, and what can be done to improve the mental and the physical human factors of the healthcare worker. For this healthcare worker, continued research is needed in behavior modification, mental health management, coping with work stressors, and how the practice of motivation factors can lead to optimal health maintenance. Examine the employer's medical benefits incurred costs. They have continued to climb year after year. Is that because the healthcare worker is inappropriately using their medical benefits? Is it because the worker is less healthy and requires more medical prescriptions and services under their employer's medical benefits? Is the solution better case management? Should the employer and/or the insurance company be held more accountable to provide strategies around prevention versus continually raising the premiums to the healthcare worker? More facilities can take what has been learned about managing injury under the workers compensation systems in all the various states and apply those learnings to case management of their employees' medical benefits.

Secondly, AOHP commends NIOSH and NORA for your research, and we want continuation of strategic research to gain an accurate picture of the environment inside healthcare setting -- its stressors, hazards, potential exposures -- mentioned by many of my colleagues this afternoon -- and inherent risk. Continue to advise on risk avoidance, disease detection and the disability limitations that can be integrated into work practices. Provide research to practice on the human factors of disease and disability. Thank you very much for this opportunity.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 555.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: Good afternoon. I'm Mary Willa Matz and I'm with the Veterans Health Administration. I am an industrial hygienist and an occupational safety and health researcher, so I'm not a clinician so I'm coming from a little bit of a different vantage point.

Representing the VHA is certainly something that I have also talked with some of our -- our -- excuse me, I'm getting off-track here. I should just read my notes here.

As the largest healthcare organization in the United States, VHA has a unique vantage point for identification of important occupational safety and health issues. On an annual basis the VHA records more than 25,000 injuries, which afford us a really vast database from which to determine issues in need of study and intervention.

The VHA injury data consistently finds the following types of injuries as top ones, and you should have a pie chart on that. But if you don't, I can read them to you. Slips, trips and falls are consistently the number one source of injuries in the VA for about the last four or five years, at around 20 percent of our injuries. Struck by/against, approximately 13 percent, as well as bloodborne pathogens and body fluid-related exposures, also 13 percent. We show approximately 12 percent from lifting and repositioning patients, 8 percent from manual materials handling, and 6 percent from assault/workplace violence.

Due to the limitations in time I'm going to briefly discuss some of the recommended research topics. Full descriptions and supporting data for our recommendations, as well as research and partnership suggestions, will be provided separately through the on-line submission process.

The VHA recommends and requests the continued focus on sharps injury prevention, especially use of technology in that prevention.

Comment ID: 555.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

And we request then increased attention on seven different items, obviously that I won't be able to get into -- in too detail, but I did want to speak on these somewhat.

The first is occupational burdens, including work organization, shift work, job assignments and others. And these have already been spoken on earlier.

Comment ID: 555.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Another topic which hasn't been addressed is the implementation of evidence-based and best practice programs. We have the information out there. We have the interventions. But quite often the nursing staff are not willing or not able, for whatever reasons, to actually put these into practice. That needs to be looked upon.

Comment ID: 555.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Traumatic injuries

Exposures

Violence

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Under-reporting of injuries, this is a huge issue. We don't really know what's going on out there. OSHA has estimated that for every musculoskeletal injury reported there's a similar one that's not reported. The 2001 VHA task force on workplace violence prevention showed that there's a factor of under-reporting of five. And similar under-reporting can be seen in blood and body fluid exposures, et cetera.

So each of these areas have unique considerations and conditions surrounding them, therefore unique issues may be related to their under-reporting. And in order to know the true state of injury incidents, under-reporting must be addressed.

Comment ID: 555.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Exposure assessment
Personal protective equipment
Intervention effectiveness research
Authoritative recommendation

Partners

CDC; NCID

Categorized comment or partial comment:

Continuing on to another topic, emerging pathogens protection. There`s concern that the respiratory protection standard as written in the pandemic flu plan may not adequately protect healthcare workers from transmission of disease. The plan recommends wearing, quote, a surgical mask or a procedure mask for close contact with infectious patients. N-95 respirators or surgical masks do not adequately defend against penetration, nor the airborne nature of viroparticles. Much higher levels of respiratory and other protection are needed until scientific evidence -- including volume and virus produced per cough, size of particles, aerodynamic properties, et cetera -- is generated that can be used to identify control measures such as respirators that will reliably protect healthcare workers from the organism in question. We recommend that NIOSH, OSHA and CDC and CID/NCID* collaborate to review and determine a scientifically-defensible posture regarding airborne pathogen transmission issues. We also suggest testing existing N-95 respirators and surgical masks for protective capacities, as well as developing new technology that will control transmission of known infectious diseases, and from this information develop criteria that can be extrapolated for new pathogens encountered.

Comment ID: 555.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Surveillance

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

CDC; NCID

Categorized comment or partial comment:

Next topic, slips, trips and fall incidents -- can I have another few minutes since I have so many more and I'm the last --

MS. PALERMO: (Off microphone) (Unintelligible) time, so --

MR. WEISSMAN: (Off microphone) Yeah, we have to (unintelligible).

MS. MATZ: Okay. Thank you. Slip, trip and fall incidents. Slips, trips and falls are the leading cause of occupational injuries among hospital workers. The national average for falls on the same level per 10,000 FTE in hospitals in 2003 was 31.6, as compared to 19.9 for general industry. BJC Healthcare, a large private healthcare organization, reports 26.3 falls on the same level in 2005, with over a million dollars in workers comp claims. Very significantly, as I reported earlier, the majority of the injuries for the Veterans Health Administration come from slips, trips and falls. And once again, these are reported injuries, though.

Small, sort-term intervention studies dealing with behavioral aspects of STF incident causation rather than large studies that have been difficult to manage and track are suggested. As well, cost effectiveness of existing and new strategies would be beneficial, as would continuation of descriptive studies.

Comment ID: 555.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Violence

Approaches

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

CDC; NCID

Categorized comment or partial comment:

Next topic, and the last one -- excuse me, it's the next to the last one -- is workplace violence. Violence in the workplace, both physical and psychological, is a major concern. Almost two-thirds of non-fatal assaults at works (sic) happen in hospitals, nursing homes and facilities that provide health or social services. Our VHA task force on violence prevention showed that nurses and nursing assistants were most likely to be victims of injurious violence, and incidents were most likely to occur in in-patient and nursing home settings. Among other topics of research, the effectiveness and cost benefit of existing strategies is important to determine. Organizational factors and unit organizational cultural influence on the risk of workplace violence may also shed light on this subject.

Comment ID: 555.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Partners

CDC; NCID

Categorized comment or partial comment:

And the next and last issue, and it's been addressed elsewhere, is patient handling. And I won't go into statistics on this, but I will say that continued innovations in technology are needed for control of risk. As well, program implementation facilitators and barriers need to be identified for improvement in safe patient handling compliance. As well, with the new -- new construction and renovations going on in the healthcare industry, it's critical to have acceptance and inclusion of ergonomic design by architects and engineers. But the science behind ergonomic recommendations for safe patient handling, especially for bariatric and total dependent care patients is lacking. So we see that science is needed to support ergonomic design criteria.

And I will say that we have also -- have a list of recommendations for these topics that I provided to you earlier, and we also will be addressing these -- these issues on-line -- through your on-line process. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 556.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Economics

Marketing/dissemination

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/01/23: I'm not really prepared to talk on this topic but I don't think it was mentioned this evening and I would just like to express this issue personally. I do feel a bit like we have a choir here and that we preached to the choir on occupational health issues. And I did want to say that since we're talking about the healthcare sector that at least in my mind there remains a relative lack of awareness or recognition among the healthcare community itself of the implications of work on health, whether that is from an economic perspective in terms of trying to maximize the number of patients that a nurse has to care for, how to manage a case of occupational illness and how to deal with the employment implications of that illness, how to search for an occupational pulmonary physician who might recognize that there is a relationship between an occupational exposure and a disease, so I think it would be prudent to at least raise the issue that we have to focus on what our role and responsibility should be to make sure that the healthcare community itself is more aware of occupationally-related issues.

Note: Verbal testimony provided to NORA Town Hall meeting in Houston, TX, 2006/01/23.

Comment ID: 557.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cardiovascular disease
Musculoskeletal disorders
Traumatic injuries

Exposures

Cardiovascular disease
Work organization/stress
Violence
Work-life issues

Approaches

Etiological research
Engineering and administrative control/banding
Intervention effectiveness research
Work-site implementation/demonstration
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Transportation - Urban Bus Drivers

Irwin Lum, President Transit Workers Union Local 250 - A

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In past studies conducted by noted researchers Drs. Fisher, Ragland, Krause and Greiner, they found that urban bus drivers experience poor health as a result of work. In San Francisco, they found that rates of hypertension among our drivers increased over age (30% hypertensive in the 20-29 age groups, to 98% in the 60-64 age groups). Musculoskeletal problems also increased and accounts for 25% of all workers' compensation claims and 33% of all costs associated with occupational injuries. Hazard exposures includes workload, work organization, poor ergonomics, violence, bus maintenance, increased traffic, lack of rest and recovery breaks, bad press.

Funding for public services, such as transit, is declining while the demand has increased (high gas prices, parking fees and traffic congestion). While studies show that our drivers are at high risk for illness and

injury, and that maintaining things as they are is not cost effective, effective prevention measures are scarce. We need research that helps us identify solutions that address the sources of transit hazards and eliminates or reduces these exposures. Options that only look at driver behavior and health practices are not adequate.

We recommend the following:

- Research issues of workload, violence, ergonomics, work organization, labor/management health and safety committees, public awareness.
- Identify and or develop intervention strategies that address sources of workplace hazards.
- Involve drivers, union and employer representatives in the development of intervention strategies.

Comment ID: 558.01

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Training

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. I am Brian Hennessy. I am an assistant area director in the Tampa OSHA office. The Tampa OSHA office encompasses 20 counties in central Florida. So we're really the central Florida area office.

We believe that there are two areas worthy of NIOSH research relating to workplace falls that result in fatalities.

The first area would be the feasibility and incomplete structures of the use of conventional fall protection. The second is more effective implementation of fall protection systems and plans. Falls continue to be a major cause of occupational fatalities in the nation and in Florida. According to the 2004 published BLS data, falls accounted for 14 percent of nationally reported occupational-related deaths and 17 percent of the deaths reported in Florida.

During 2004, BLS reported 422 occupational fatalities in Florida, 75 of which resulted from falls. If one bears in mind that the BLS data indicate that 256 of the fatalities were transportation-related or violence/assault-related, one gains a better perspective of the ranking of falls.

If one removes the transportation and violence/assault categories, falls account for 45 percent of the remaining 166 occupational fatalities.

Of the 75 fall-related fatalities in 2004, four were from scaffolding or five percent of the total, 18 were from ladders or 25 percent of the total, 26 were from roofs or 35 percent of the total with the remaining 27 being from other surfaces.

As this sophisticated group is well aware, OSHA mandates the use of conventional fall protection while working at elevations in excess of six feet in most construction activities and at four feet in general industry activities. Conventional fall protection is defined as one, standard guardrail at perimeters and floor openings or two, safety nets or three, personal fall arrest systems consisting of a sound anchorage, a lifeline connecting the anchorage to a person wearing a harness; all of which is joined by appropriate hardware.

A major challenge to the implementation of the use of conventional fall protection has been the issue of feasibility, especially in the construction of roofs and the framing of residences. It is very common for the residential constructor, especially in the framing phase, to assert that there is no structurally sound location that will safely support anchorages for personal fall arrest systems. Furthermore, the employer often asserts that the incomplete structure will not safely support nets or that surface areas are so incomplete that guardrails provide no meaningful fall protection.

Despite the introduction of new fall protection equipment and technologies, their use in residential construction activities has not gained not widespread utilization in Florida. Typically, the residential constructor is a small employer who lacks the engineering expertise or the resources to hire the services of an engineer who can determine when a partially-built structure can safely support fall protection systems.

Research is needed to establish proven data that addresses the application of fall arrest systems to specific materials at specific phases of the building process. Such data needs to be published and made widely available. Since so many of our structures in Florida are of masonry construction, specific data needs to be developed regarding masonry buildings.

When OSHA implemented its excavation and trenching standard in the early 1990's, the standard allowed for shoring systems to be designed using recognized tabulated data. Much like the trench shoring systems, fall protection systems can be developed from common and accepted engineering values. The values need to be determined and publicized so as to be far more user-friendly to the small employer.

Beyond the feasibility of fall protection issues is the challenge of assuring work crews properly utilize fall protection technologies and properly implement alternative fall protection programs in cases where conventional fall protection is genuinely not feasible. This challenge is enhanced by the fact that the workers performing such activities, both roofing and framing, are often Spanish speaking. Research needs to be conducted to determine an effective means of educating the Hispanic worker whose cultural background may differ from the traditional worker in the proper methodologies in using fall protection systems.

A better understanding of when conventional fall protection is feasible and conversely is not feasible needs to be established. More effective means of implementing fall protection systems and programs

need to be developed. Both topics are directly related to fatal workplace falls and are worthy of detailed research. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 559.01

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

- Small business

Health outcomes; diseases/injuries

- Hearing loss
- Musculoskeletal disorders

Exposures

Approaches

- Engineering and administrative control/banding
- Work-site implementation/demonstration
- Authoritative recommendation
- Marketing/dissemination
- Emergency preparedness and response

Partners

- industry groups; manufacturers; vendors; Home Depot

Categorized comment or partial comment:

Verbal Comment 2006/02/13: My name is Sherry Carberry with URS Corporation. In preparing for this statement, I have had conversations with John Henshaw, the former Director of OSHA and he is also representing the Florida section of the American Industrial Hygiene Association. Things that we would like to state today is that we know that a lot of the existing occupational health and safety regulations are not being followed and we would like to encourage NIOSH to consider other means of having people have safe workplaces other than having more regulations or trying to enforce the existing regulations.

Some means that we think that will help to accomplish this are to have partnerships with industry groups, if industry groups can participate and then see that there is an occupational hazard. That will lead to a solution that can be acceptable to all parties to make the workplace safer. We believe that industry groups would do it. We also would like NIOSH to consider partnering with manufacturers of equipment. If manufacturers are given some guidance on how to design equipment that would make it safer, we believe that they would follow those designs and there's many things that could be looked at. Noise, the ergonomics of it, can they add a safety feature that would not increase cost considerably, but increase the safe use of that equipment.

We also would like NIOSH to consider to look at vendors. We have a lot of different vendors out there selling equipment and products, but in general we have some big ones. For small businesses, Home Depot is a major provider of equipment, supplies, and so forth. If NIOSH could work with people such as Home Depot and say these products that you're selling create hazards in the workplace. Can you only sell these products here that are very similar, but have safety controls on them and will not create such hazards in the workplace? Or if you are going to sell a product that has a high risk to it, can you somehow educate your buyers that this product has high risks associated with it, so therefore they can take the steps to protect themselves?

So this is basically going to create a different way of NIOSH for doing their research. We're suggesting that they look at communication skills. How are they going to communicate these things to the public and to the workplace and to the owners of the businesses? Modifying behavior, getting the public and owners and workers to buy into safe behavior. That's basically it. We're just trying to look at different ways of achieving a safe workplace.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 560.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Emergency preparedness and response

Partners

The Wood Truss Council of America;

Truss Plate Institute; manufacturers; WBC Construction

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. My name is Luis Moreno. I'm the director of risk management for WBC Construction. We are shell contractors building for residential homebuilders throughout the State of Florida.

What a shell contractor is is a company that gets contracted by homebuilders and builds the shell of the structure, meaning from the slab to the sheeting of the roof. The reason I'm here today is to address and give testimony of the imperative need of research and the necessity to have clear and concise guidelines for roofers while setting trusses and during sheeting operations within the residential construction industry.

From data collected in 2005, the Bureau of Labor Statistics shows that falls to lower levels are the leading cause of construction-related fatalities and injuries requiring hospitalization. The study conducted by the University of Florida shows that roofing operations were found to be the most hazardous task performed in residential construction; with nearly 88 percent of the roofing accidents ending in a fatality or serious injury that required hospitalization.

In 2003, roofers suffered 21.1 fatalities for 100,000 full-time employees nationwide. This represents six times higher than the average rate of 3.6 for 100,000 full-time employees. These results are certainly unacceptable and need to be reduced.

Now, most of us know that the federal OSHA requirements for fall protection mandate that the employer provide fall protection to residential workers who are subject to falls of six feet or greater to a lower level. This condition exists to all workers installing trusses and sheeting roof systems.

In '96 the interim fall protection STD 3-0.1A was introduced to the residential construction industry. Until 2003, this interim fall protection was utilized here in Florida. Many have questioned its effectiveness in reducing falls from roofs, since the fatality and injury rate of roofers has been consistently in an increase or has stayed constant.

The interim fall protection may lead to improvements, but offers no recourse for a worker who loses his balance. In 2003 and 2004 the office of the director of construction of OSHA put forth some letters of interpretation disallowing the interim fall protection 3-0.1A to be used in dwelling structures that were constructed with masonry concrete walls. This means that here in Florida all workers on roofs needed to have conventional fall protection as prescribed in the OSHA standards 1926.

WTC, the Wood Truss Council of America, in the guidelines found in the BCSI 3-01, strictly prohibits the use of an anchorage system on a single-truss member. Therefore, an employer in residential construction in Florida must find other means to protecting workers while setting trusses and sheeting the roofs.

Because of eventually adopting the WTCA guidelines under NC/TPI 2002 and the employer's responsibility to adhere to governing guidelines in 1910.6 incorporated by reference, the employer must find other means to properly protect their workers.

Other systems include a scaffold system that is placed on the beam or a scaffolding system erected around the structure of the building, a net system or possibly a system with a cable running from one end of a roof to the other. Unfortunately, none of these resolve the issues. The scaffold system, although would relieve some of the exposure, exposes the worker while installation procedures and do not protect the roofer from falling within the structure. In some cases, it could be several floors.

A supportive tubular scaffold around the structure will be completely infeasible due to the time to erect and the time to dismantle the scaffold system around a multi-level structure. The net system cannot be used in all cases because a span between the window and/or door openings is too great that would not allow proper attachment of the net. Also, the workers are exposed to a fall on the outside of the structure.

The cable system cannot be used while setting trusses, therefore the workers are once again exposed to tremendous dangers. It is also questionable as to how many personnel could utilize the same cable without exceeding the 5000-pound threshold.

Currently, WTCA in unison with TPI, Truss Plate Institute, are reviewing the guidelines set forth in the BCS 3-01. This is an opportunity for NIOSH to partner with these two organizations as well as manufacturers and of course a private industry like WBC Construction, DMHC and so forth to be able to come up with some conclusive answers. I humbly suggest and request for you and others within NIOSH to seriously consider funding a project that will find concise solutions for employers of roofers within the residential industry. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 561.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment
Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Thank you. I'm Pat Stark, safety and health compliance specialist at the University of South Florida, the OSHA consultation program. Good morning. According to the data available from the OSHA Region Four office in Florida falls in construction were the highest accident type for fiscal year 2003, making up 36 percent of all fatalities in construction in Florida.

In Florida, in fiscal year 2004 falls in construction accounted for 47 percent of all construction fatalities. In Florida, in fiscal year 2005 31 percent of the fatalities were fall-related.

In each of these fiscal years the type of construction and industry work that appeared to make up the majority of these fatal falls was the roofing industry. Although it was a bit difficult to determine from available data, it appears that a considerable number of these fatal falls were residential-type construction. Presently in Florida, which is covered under the Federal OSHA Standards, the fall protection height for nonstick framing-type residential construction is six foot. Unless an employer can demonstrate that it is infeasible or creates a greater hazard -- at which time a fall protection plan -- basically passive fall protection, can be used.

It is interesting that CALOSHA's trigger height for fall protection is 15 foot and 20 foot depending on the type of construction. I'd request that NIOSH research this available accident fatality data -- these Florida fall-related construction fatalities, both commercial and residential.

This research would be to determine if existing Federal OSHA fall protection standards appear to be in line with the fall-related fatalities in the construction industry and possibly to determine if fall trigger heights for commercial and residential construction need to be increased, such as with CALOSHA, decreased, or if other non-passive active fall protection systems need to become part of an updated

OSHA construction standard; a standard that incorporates more detailed fall protection systems for residential construction and residential roofing. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 562.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Economics

Authoritative recommendation

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Thank you, Dr. McCluskey. My name is Jim McConnaughay and I am a workers' compensation attorney. You don't have many of these in safety and health meetings, I'm sure. I practice in private practice in Tallahassee. I'm also chairman of the Florida's Workers' Compensation Institute and the Florida Safety and Health Institute. Both Institutes being nonprofit associations devoted to trying to educate persons in regards to the general areas of workers' compensation and safety.

I take a little different slant on workers' compensation and a different slant on safety. I consider safety and health in workplace the same as workers' compensation. Each is dependent upon the success of the other as to the relevancy in workplace.

I primarily am concerned about the impact on employers versus a feel-good impact on trying to resolve accidents that occur in the workplace. In other words, I'm more interested in looking at the savings that result to industry with a competent safety and health program versus more of an esoteric look at a feel good presence and trying to reduce the number of accidents in the workplace.

Unfortunately or fortunately, industry's attention is frequently devoted to what kind of bottom-line savings are realized as to profitability of their business in regards to the attention they give to safety and health. Based upon my experience in the area of safety and health as it relates to workers' compensation, I can see that it is in fact the case, especially in the field of workers' compensation.

I've been practicing workers' compensation law representing insurance companies and employers for 30-plus years. If you look at the history of workers' compensation in Florida you see a cycle of problems that we've experienced that have resulted in systemic changes in our workers' compensation systems in an attempt to control cost.

Going back to 1973, originally there was a systemic change in our workers' compensation system. Again, you saw it in 1979, 1990, 1994, 2000, and 2003. It's not unlike every other state in the Union dealing with workers' compensation. Every five to ten years the legislature of a particular state looks at their workers' compensation law and addresses what they perceive to be the runaway costs that are associated with delivering benefits under the workers' compensation system.

The common theme that seemingly always occurs is trying to reduce costs by reducing benefits to injured workers. Unfortunately or fortunately, this is the only way seemingly that industry can estimate potential savings to the system.

In 1989, I was chairman of the Florida Governor's Commission on Workers' Compensation. I again served in 1990. In that particular taskforce we were looking at alternate ways of saving money in our workers' compensation system, not just reducing benefits to injured workers. At that time as chairman of the Governor's Council on Workers' Compensation, I quite frankly was sold that the emphasis on safety and health was the remedy to reducing costs in the workers' compensation system.

In 1990, indeed, we passed legislation creating the Division of Workers' Compensation in the State of Florida. Quite frankly, that turned out not to be the answer because approximately ten years later the Division of Safety in Florida was dissolved.

So we in Florida don't have a regulatory agency relating to safety. This is pretty consistent with what you see in the industry when there is a need to cut back the jobs in a particular industry; it's always safety that goes first.

What I would like to do and what I would like to see a study on in the timeframe that I have left is the answer to several questions in regards to the effects of safety and health on the workers' compensation industry. Obviously, the creation of a regulatory agency is not the answer. What I would like to see is the answer to basically five questions.

What impact, if any, does a strong safety and health program have on overall workers' compensation costs? Quite frankly, consistent with my thoughts back in 1989, I would hope that we could find some proof rather than anecdotal answers. How can we as an industry create a strong workers' compensation program through the use of increased safety and health emphasis to create the related savings? Finally, how can we convince the legislatures in this State that safety and health is indeed the answer to our problems in workers' compensation versus reduction of benefits to injured workers?

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 563.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Respiratory disease

Mortality

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: My name is Robert Pavlik. I'm the industrial hygiene supervisor for the OSHA Consultation Program, which has its headquarters here at the College of Public Health at the University of South Florida. Employee exposure monitoring conducted by state agencies in Michigan and Washington have shown that employees that perform spraying of truck bed liners are routinely exposed to airborne concentrations of methylene diphenyl isocyanate, or MDI, that exceed the OSHA permissible exposure limit. Cases of exposure-related asthma have been reported in the literature, as well as a fatality in Michigan in 2003.

In conjunction with Federal OSHA compliance, the OSHA Consultation Program here in Florida has initiated a special emphasis program to visit employers who spray truck bed liners to identify hazards and recommend corrective measures. Our employee exposure measurements so far have also shown that employees are routinely exposed to airborne levels of MDI that exceed the OSHA permissible exposure limit.

In cases reported in the literature, and in our survey results, employers rely almost entirely on respirators to protect their employees. Spray enclosures have very little ventilation or not at all.

At the present time, OSHA allows the use of air purifying cartridge respirators for protection against MDI as long as the elements of a respirator program are in place, including the implementation of a cartridge-change schedule. NIOSH recommends that only air-supplied respirators be used for protection against MDI. This lack of agreement between OSHA and NIOSH is confusing for employers, as well as safety and health professionals. I recommend that research be performed to determine definitively whether air purifying cartridge respirators can be used for protection against MDI.

Associated with this question is the uncertainty of calculating cartridge-change schedules. In both the OSHA and manufacturer's formulas for calculating cartridge-change schedules there are disclaimers that both high temperatures and high relative humidity can drastically reduce the time that cartridges can be safely used, but give no way to calculate how much the time is actually reduced except to say that employers should determine this by experimental methods. Research is needed to determine how to calculate cartridge-change schedules more accurately in areas of high temperatures and relative humidity as found in Florida and other areas of the southeast in the summer.

Approximately half of the spray-on truck bed liner employers that we have visited in Florida use air purifying cartridge respirators to protect their employees. These same employers are finding increased applications for the same polyurethane coating for garage floors, decks, boats, and other surfaces. In order to protect the employees for MDI, research is needed to determine if and under what conditions air purifying cartridge respirators can be used to protect employees from exposure to MDI. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 564.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: My name is Charles Lankford. I am an engineer and a certified safety professional. I work for a company that does primarily excavation work in construction in the Tampa area. I'm here to request from NIOSH to develop a recommended standard for excavation safety. The competent person that is required for by OSHA excavation standards is a person that needs to have the ability to recognize hazards in excavation and trenching, as well as have the authority to take corrective action; however, many demands are on this competent person. This person needs to be able to judge whether heavy equipment is too close to an excavation and trench to pose a hazard to employees in the trench. The person is supposed to make judgments whether the surface encumbrances, such as the sidewalks, utilities, foundations are too close or can pose a hazard to the employees in the excavation.

At the same time this person is also supposed to make judgments whether loads on the surface adjacent to the trench are excessive or pose a hazard to the employees. Such loads may be heavy equipment, may be vibration of heavy equipment, or may be just moving traffic on an adjacent roadway.

The problem is that a typical competent person is a person that may be a foreman with a couple of years of experience on the job and the class that is supposed to qualify this person as a competent person by the OSHA standard typically is a four-hour class. Now, we are to believe that this four-hour class will qualify this person and that OSHA does not require him to have any technical knowledge in soils, engineering, or any other calculations of safety factors to be able to make these judgments that can mean the difference between the life or death of employees that are in these trenches.

So typically this four-hour class is just barely enough to cover basically what the OSHA standards are and to give an idea what these hazards might be, but OSHA does not presently require that this person have

any training or experience in soil analysis or soil engineering. Basically, this person does not have the ability to make these kinds of judgments.

The typical competent person class has a basic review of soil analysis, which is required by the OSHA standard. The OSHA standard currently requires both a visual and a manual soil test. The brief four-hour class is not sufficient to equip this person with the knowledge required to properly classify soils in order to make a determination what protective system is necessary for an excavation or trench.

The OSHA standard makes a reference to the USDA classification system as well as the ASDM D-2488 standards to refer the person for a proper soil analysis technique. No class that I've ever seen to qualify a person as a competent person actually includes the text of these standards and covers all of these soil testing procedures. The soil analysis is key for the competent person to properly decide what kind of protective system needs to be installed for the protection of employees.

Thus a competent person typically employed by construction companies such as mine is not going to be able to make these types of technical judgments, even though we would be in compliance with the OSHA standard by sending a person to a basic four-hour class.

Now, even three-day classes that I have been to failed to address the detail needed to make these kinds of judgments that are basically engineering judgments. This in my view presents a problem for excavation safety. As we might know, there's about 50 fatalities a year in the United States and about 1,000 injuries each year as well from cave-ins and other excavation hazards. That's where I see a problem. We need a more detailed curriculum for these excavation courses that are supposed to be qualifying these people as competent persons in excavations. Yet OSHA does not require anything particularly special about these competent persons that they require of competent persons in other areas of the construction industry.

Therefore, I recommend that NIOSH take the decade -- hopefully, a little sooner than that -- to develop a recommended standard for excavation safety in which competent person qualifications may be spelled out or the class standards themselves might be approved.

Also, a log of inspections by the competent person, as well as what visual and manual tests have been done needs to be included as a requirement. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 565.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Training

Intervention effectiveness research

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: There are three major issues affecting farm safety, regulations, education, and engineering. My focus will be on education. Some needs that my colleagues and I see include a survey of workers separated by commodity and job categories that describe the level of knowledge workers currently have with respect to workplace safety. Such an effort could help document an overall need for safety programs and perhaps target where the priorities should be placed.

Since nearly 91 percent of the farm labor in the United States are of Hispanic origin, we should strive for research on how to improve Hispanic agricultural workers through education. Number one, a study of teaching methods to improve instructional effectiveness. A, how do farmer workers learn? B, are there differences in learning styles between Hispanic and Anglo workers? C, what are effective teaching methods for an adult audience with less than a fifth grade level of formal education?

In 2001, the University of Florida began a program addressing the needs of Hispanic workers and it was designed to provide education in farm and pesticide safety. Approximately 10,000 workers have been trained in south and central Florida. One big challenge is to measure the impact of this extension program and this may constitute an important area for research and extension.

Number two, how does safety training influence job performance and overall economic performance of an agricultural operation? A, how effective have educational programs been in reducing farm accidents

and injuries? B, which workers are more vulnerable to farm accidents? Is that related to education, age, or number of years in the country? C, what is the relationship of frequency of training and farm accidents? D, what education techniques are most effective to train agricultural workers? And finally, E, it would be necessary to improve farm equipment and manufacture training manuals in order to lessen this rate.

One possibility might be an analysis that would measure the impact of educational programs on farm safety and identify what we need to improve to be more effective in transferring agricultural farm equipment safety to workers.

Number one, a possible strategy would be to set up a cross-sectional study of agricultural operations. B, describe safety programs and training activities by company. C, construct an index of training intensity or create some other measure that could objectively rank companies by their training efforts. D, collect statistics, such as accident rates, worker sick rates, worker turnover rates, and worker productivity by task wherever available.

Finally, E, survey worker attitudes towards the company, looking for a connection between safety training efforts and worker morale.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 566.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. I'm Rosanna Barrett. I'm the coordinator of the pesticide exposure surveillance program at the Florida Department of Health. I'm here to speak on pesticide-related illness and injury. I'll first start with an overview of the program and then go into the problem and the solutions.

There's several occupational indicators that relate to different illnesses and injuries. Unfortunately, a lack of funding has restricted the Florida Department of Health's abilities to conduct surveillance on most occupational diseases and conditions.

Currently, the Department of Environmental Health Division focuses surveillance activity on adult lead poisoning and pesticide-related illness and injury. A pesticide exposure surveillance program was established in 1998 through the funding from the National Institute of Occupational Safety and Health, NIOSH. The funding source was discontinued in 2002. The program now operates solely on state funds, which supports one full-time position. DOA continues to contribute aggregate data to the NIOSH sentinel event notification system for occupational risk and supports prevention and intervention activities at both the state and federal levels.

For several years, data has been collected to determine the rates of work-related injury and illness in Florida. The 2000 census data estimates that 79 percent of civilians are in full-time employment in Florida. The BLS data indicates in 2004 that 70 percent of these workers were employed to occupations of high risk for occupation morbidity and 15.5 at high risk for occupational mortality.

In 2002, the Florida health status data indicates that the rate of work-related hospitalization with primary pay encoded as workers' compensation was 180 per 100,000. These rates, though significant, are based on estimates made from the occupational documented workers and for illness and injury that have been presented to healthcare facilities for treatment.

The situation, however, is more complex when looking at pesticide poisoning. The population at risk for pesticide poisoning are mainly comprised of farm workers who are migratory, usually undocumented, and generally are not recipients of workers' compensation. Most farm workers also do not seek medical care for pesticide poisoning.

In 2001, the test data, which is supplied by the Florida Poison Control Centers, reported an annual incident rate of two percent for acute work-related pesticide poisoning. This, however, is an underestimation of the problem since only a few cases are captured by the FPCC. More accurate figures can be obtained to act as surveillance and through investigations of incidents.

The pesticide program currently operates a passive surveillance system and relies mainly on evidence and personal testimonies to substantiate pesticide poisoning. For the period 1998 to 2004, the surveillance program received 1600 pesticide exposure incident reports with less than 40 percent being work-related. Only 55 percent of these reports resulted in classified cases as guided by NIOSH. Also, more than 80 percent of the cases are classified. These cases are classified mainly by evidence provided in the exposed person's testimony of the exposure and health effects.

Pesticide illness and injury is a reportable disease in Florida. Although the Florida statute 64-D3 stipulates that healthcare providers and laboratory personnel should report the existence or suspicion of the disease, less than five percent of all cases are reported by these two entities.

Underreporting is likely the result of the non-specific nature of symptoms of pesticide poisoning leading to difficulty in diagnosis. This is further compounded by the reluctance of physicians to report cases of poisoning without clear exposure history and conclusive laboratory findings.

In Florida, the absence of a state-wide monitoring system poses a challenge and a determination of pesticide poisoning cases. A monitoring system would provide consistent analytical data on the level of pesticide and other chemicals in the tissues and foods of persons suspected of being exposed to pesticides or chemicals. Such data would assist healthcare officials in the early detection of disease, support diagnosis, and allow for appropriate treatment and management of cases.

For cases where low-level exposures were not detected immediately, epidemiological studies should be done to provide more complete understanding of the health impact. Resources, financial or otherwise, are needed to support the operation of monitoring systems and to conduct active surveillance on epidemiological studies. Monitoring pesticide poison in workers should require the collaboration of stakeholders such growers, state agencies, universities, laboratories, healthcare facilities, and community organizations. It may also require statutes, as well as a working agreement between partners to ensure compliance. The combination of expertise from these areas and state or federal funding support should ensure the implementation and success of such a venture.

In summary, the DOS Pest and other state-operated surveillance programs require the financial support from both state and federal governments to ensure that these programs remain viable. There's also great need for bio-monitoring to test the level of pesticide in the bodies of persons exposed to pesticide and for the treatment of workers who have been overexposed to pesticide. Epidemiological studies

should be conducted to determine causal relationships between pesticide exposure and health problems. Thank you for your time.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 567.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Cancer

Cardiovascular disease

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Cardiovascular disease

Work-life issues

Approaches

Surveillance

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. I'm Lora Fleming. I'm an occupational medicine physician and epidemiologist at the University of Miami where I am a professor. First, I want to thank NIOSH for this opportunity and also for supplying me with much of my training and education. I am part of a research group and I'll be presenting some of our findings concerning health disparities and U.S. workers.

In the U.S., race and ethnic differences and socioeconomic differences have a substantial impact on many aspects of health status, especially in terms of prevention and intervention. The reduction of health disparities is a key objective of the U.S. Healthy People 2010 to quote, eliminate health disparities among segments of the population, including differences that occur by gender, race, ethnicity, geographic location, or sexual orientation.

However, you will note that occupation has not been identified as a significant factor in health disparities. With NIOSH funding, the University of Miami research group has been exploring the health

of all U.S. workers using the National Health Interview Survey or the NHIS. It's a household survey of the U.S. population conducted annually since 1975 by the National Center for Health Statistics.

The NHS has collected demographic health and employment data on over 600,000 workers age 18 years and older representing 130 million U.S. workers annually from a sample of the entire U.S. population. This is a unique resource. Thus this uniquely representative and large data base from 1986 to 2003 -- we are using it to evaluate the issue of health disparities among all U.S. workers, particularly among the poor and minority worker sub-populations.

In general, the results of our occupational health disparities research can be summarized as the following.

Poor, less educated workers, particularly workers in minority sub-populations are at a major disadvantage in terms of their health and resources in the U.S. For example, we have already shown that obesity rates have greatly increased over the past two decades among all employed workers irrespective of race and gender, but particularly among black women workers. Furthermore, average obesity prevalence rates and corresponding trends vary considerably across occupational worker groups, particularly among many blue-collar workers. Cigarette smoking, a preventable cause of cancer and heart disease -- morbidity, and mortality is very high in blue-collar workers. For example, 58 percent of roofers are current smokers and are not decreasing over time while white-collar workers report lower rates. For example, four percent of physicians are smokers who have correspondingly downward trends over time.

These same blue-collar workers are also less likely to have health insurance. In the NHIS study population between 1997 and 2003 representing 130 million U.S. workers annually, the annual prevalence of having medical and dental insurance among U.S. workers was about 83 percent. However, the majority of U.S. workers during that time period had downward trends of insurance prevalence particularly among blue-collar workers. So for example, construction and extractive workers went from 64 percent to 55 percent with health insurance during this only six-year period, and all of us bear the burden of those costs.

Furthermore, using this same database, morbidity and mortality rates tend to be higher and health interventions are lower among blue-collar workers and minority workers. Those minority sub-populations reporting the worse self-rated health are also in the most racially segregated and lowest paying professions, such as private household cleaners and servants, maids and housemen, laundry and dry cleaning machine operators, nursing aids, orderlies, and attendants. With respect to health interventions workers, for example, with high ultraviolet or UV exposure are less likely to receive skin examinations. For example, only six percent of farm workers report a skin examination from a physician in the past year, while 29 percent of health diagnosing professions report getting a skin examination. And even though 41 percent of construction workers report smoking, only 57 of them reported being told by their doctor to quit smoking.

Not only does our research illustrate the value of the surveillance of the health and resources of the U.S. workers, these negative trends and health indicators and health resources, particularly for certain sub-populations of the U.S. workforce are alarming. Specifically, I just wanted to add with regards to the new sector-based NORA recommendations that are being proposed, my fear as both a physician and epidemiologist is that cross-cutting health issues which cut across these sectors will not be studied in an effective and consensus collaborative way. Thank you very much for this opportunity.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 568.01

Categorized with the following terms:

Sectors

- Manufacturing
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Surveillance
- Etiological research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Thank you. I'm Stuart Brooks. I'm the director of the Sunshine Education Research Center at the University of South Florida. NORA involves a transition from NORA I, which consists of 21 priority areas of research emphasizing disease and health to a sector-based process.

As part of this process, NIOSH will recruit as many stakeholders as possible and establish numerous partnerships. By adopting the approach of multiple stakeholder inclusion and partnership development, NIOSH believes there will be better achievement of a consensus on important research initiatives.

I wish to offer caution that a process devoted mainly to building sector-based consensus by itself may not be successful. The EPA's bold experiment, the Common Sense Initiative of regulatory reinvention that was conducted from 1994 to 1998 relied on consensus building. However, it proved to be relatively ineffective in the final analysis and other approaches were found to be more important.

Purportedly, NIOSH's sector-based approach would permit the building of partnerships that lead to research to practice applications in the workplace. I wish to voice a concern that a consensus philosophy needs not be the major criteria in making the final NORA II decisions. I am concerned that the change to a sector-based research approach will often emphasize safety issues, workplace interventions, and less effectively foster basic biomedical research, including biochemical and toxicological studies, but also diagnostic, clinical, and epidemiological approaches to important occupational disorders.

I wish to illustrate my concerns by focusing on one of NIOSH's NORA priority diseases, that of occupational asthma, a condition that I have studied for more than 30 years.

Now, throughout the world and especially the United States, occupational asthma will continue to be the most important occupational lung disease during the 21st century. For about eight to twenty million workers in the United States there are workplace exposures to agents that cause occupational asthma.

Perhaps two-and-a-quarter million workers in the United States have or will develop workplace asthma. In fact, occupational asthma is the most frequent occupational respiratory disorder in westernized industrial populations. Unfortunately, effective surveillance systems and epidemiological studies for occupational asthma are limited in the United States. There's a scarcity of validated epidemiologic and surveillance research studies in the United States that examine incidences of occupational asthma in various industrial sectors and job categories.

Many informative epidemiological studies originate from outside the United States. While NIOSH has sponsored a variety surveillance programs including Sensor Programs, the number of states with this program is limited. In Florida, the fourth largest state, we don't really have a good surveillance program like Sensor looking at conditions such as occupational asthma. Thus, I urge NORA II to emphasize a need for surveillance for occupational asthma in order to provide the critical link to practicing physicians and professionals and to translate research findings into interventions that prevent occupational asthma in the workplace.

Now, there may be an advantage using a sector approach since certain industries report greater risk for occupational asthma. There are over 250 causes of occupational asthma. There are many different jobs associated with its development. I wish to emphasize four important industries or jobs that might need further study in the future.

An increase risk for asthma is found in the dental industry. It's found among household and industrial cleaners. It's found in spray-on truck bed lining. We talked about that earlier. It's also found among food processing and manufacturing.

I also want to in the time that I have just to mention some other areas. That would be the role of irritants in the workplace and how further research is needed in that, particularly with susceptibility. I want to talk about the issue dealing with the perception of chemicals and the risk for chemicals and odors in the workplace and how that affects individuals. I want to mention that there are no good diagnostic approaches for occupational asthma. That specific inhalation challenges are fought with legal and liability issues, and really there are no methods for providing that.

So I'd like to say that in conclusion that an expectation for NORA II brings about excitement for new advances and ideas, and with NORA II there will be an opportunity to open new research vistas and make significant inroads into important occupational disorders, such as occupational asthma and in accordance with advances in medical research for other specialty areas major breakthroughs have their origin from findings derived from basic research. And it's important that there be emphasis on basic research with the introduction of NORA II. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 569.01

Categorized with the following terms:

Sectors

- Construction
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Infectious agents
- Chemicals/liquids/particles/vapors
- Indoor environment

Approaches

- Exposure assessment
- Risk assessment methods
- Engineering and administrative control/banding
- Training
- Authoritative recommendation
- Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. I apologize for my laryngitis. I'm going to do the best I can to get through this quickly so you don't have to listen to the scratchy voice. I'm with Chastain-Skillman here in Tampa. We provide environmental occupational health services. My topic of concern is mold impacts and remediation services in Florida; a hot, humid, and hurricane impacted state.

As a result of hurricane-related impacts to both the Gulf Coast and across Florida, mold is a pretentious four-letter word for many of us. Such as, but not limited to, emergency first-responders, law enforcement, rescue teams, and primarily workers in the cleanup and remediation field, not to mention the homeowner, construction and renovation contractors, the insurers, industrial hygiene, public health and safety professionals, laboratories, physicians, and last, but not least, the attorneys.

There are a few federal and state and generally agreed upon peer-reviewed scientific-based guidelines for the evaluation of potentially hazardous mold conditions or exposures. Not to mention the lack of governmental regulations, health-based or otherwise, at any level stipulating how alleged mold impact and the result on exposure should be handled. Subsequently, from this cascade of conflicting mold

exposure and potential health-effect information -- or more times than not, misinformation -- an unregulated industry of mold assessment and remediation has been illegitimately spawned.

Consequently, the need for sound defensible scientific, academic, medical health risk-based information as it relates to exposure, assessment and remediation guidelines or regulations coupled with appropriate levels of professional training are paramount to protect our workers from potential mold exposure.

The time is now for NIOSH through the NORA program and process to take a page out of the lesson books and learn from the torrid history and early days of the knee-jerk reactions of the asbestos inspection and abatement industry to the current manageable and level of appropriate asbestos guidelines and regulations and management programs today. Such an effort is crucial to ultimately protect those who are most at risk and those typically taken advantage of way too often; the less informed labor work force worker as well as the general public and community.

In closing, again, now is the time for NIOSH to act through NORA and to act decisively with sponsorship of appropriate peer-reviewed scientific, academic, and medical research, professional certification, and training programs, governmental guidelines and regulations, and an adequate financial funding that will be successful in carrying through this effort to its complete and beneficial fruition for all parties involved. Thank you again for your time. I appreciate your consideration regarding this request.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 570.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: I'm Joan Watkins. I'm an occupational medicine physician based in a hospital. I trained at the Great Lakes ERC. My concern is we recently have diagnosed in a hospital worker a case of erythema nodosum majora. This is documented first by a private dermatologist with biopsy and then by the head of dermatology here at USF. I removed this person from the hospital. It's a reaction to Capozide.

My concern is we've already sent her to the FDA and I'll send it to NIOSH this afternoon or in the morning. Once hospitals decide to use an agent, it's everywhere. I just want to see if there's other people who've had exposure to that or have had any experience that's similar.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 571.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Mortality

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. My name is Dr. Prakash Patel. I'm with the Florida Department of Health in Tallahassee. I work with Rosanna Barrett. This morning on the slide show, the doctor from NIOSH -- he showed me the study and the information - as Dr. Brooks mentioned we don't have a central occupational program. Actually, this year we applied for occupational funding from NIOSH, but irregardless of whether we get the funding or not, we're going to start reviewing some of the data from workers' comp, hospitalization data, and mortality. We have some data regarding cancers caused by some of the chemicals and so we reviewed some of those data for applications.

Anyway, we will continue doing some of the basic things and in the future when we get more funding we will conduct more research within the programs. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 572.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

- Engineering and administrative control/banding
- Personal protective equipment
- Intervention effectiveness research
- Work-site implementation/demonstration
- Authoritative recommendation
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. I'm Bob Nesbit, the program manager for the OSHA Training Institute Education Center here at the University of South Florida. I'm going to keep my comments real brief because three or four speakers before me have already talked about this subject. It's to develop a fall protection best practices for use in the residential construction industry.

From my experiences as an authorized OSHA trainer and as a consultant in the Florida Consultation Program, I find that the general building contractors in the residential housing construction industry could use a best practices guide for fall protection in residential construction. We see lots of different fall protection systems in use by this industry, but nowhere can we find a guide that outlines the best practices for specific types of residential construction.

There are numerous vendors of fall protection equipment that will tell you that their system is the best; however, that's not always true. We need for NIOSH to add this topic to the NORA intervention effectiveness research agenda and perhaps do some job site intervention research. Let's look at what vendors offer for fall protection throughout the nation and determine the most effective -- determine what most residential building contractors use on their construction projects. We need to see what most residential building contractors are willing to use and finally, determine how effective the devices are at preventing falls and share that information with us. It would also be good to know how easy and how the most effective devices are setup to use and maintain.

Maybe, your research could be the basis for an industry best practices guide. Such a guide can be used as a tool to encourage residential building contractors to adopt procedures and equipment for preventing falls. A best practices guide for fall protection in residential construction could also be used as a classroom manual for teaching new general contractors, superintendents, project managers, safety directors, and supervisors and workers. Most often we hear builders tell us that there's no good way for them to provide fall protection for their trades, or that trades are responsible for providing their own fall protection equipment, or that they are exempt from providing fall protection for one reason or the other.

In any case, there were 1,224 fatal accidents in construction in 2004. Of these, 441 were in residential construction or remodeling. One hundred and ninety-seven of these fatal accidents were from falls. There were 84 fatal falls out of a total of 364 fatal accidents in residential construction in 2003. The numbers are similar for the past ten years.

So we hope with NIOSH's help and the NORA intervention survey that we can make some difference in the next ten years. I appreciate you giving us the opportunity to speak and thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 573.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Training

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. My name is Jessica Bohan. I'm from the University of South Florida OSHA Consultation Program. My proposal for NIOSH this morning is to study the impact of applicable and accessible training for those workers who work in the highway work zones.

I brought my safety vest today to ask you when you see this color, what do you think? I think construction's coming, I'm going to be late, I'm going to be delayed, and a lot of feelings of frustration come up. I bring this up because roadside construction is a way of life. Wherever we go or what state we're in, we could be on a federal road, a city or county road, it's a widespread industry.

I'm concerned about it today because the truth of the matter is 100 people a year and 20,000 people a year are injured -- I mean, 100 people die and 20,000 are injured. The emotional and economical impact of this industry is something I can't even fathom. You may wonder how are they dying? Is it the motoring public that are killing these workers? Well, that's half of it. The other half is the workers are dying in the work zone, not from the motoring public, but from work practices that they're facing every day.

Historically, we have approached roadside safety from the motoring public point of view. We've increased the efficiency of the personal protective equipment. We've looked at improving the barrels and engineers have worked to design the actual traffic flow better to reduce confusion. We've also included law enforcement here in Florida to help inspire people to slow down.

Even though these changes are very positive, we still have people dying each year. Heinrich's Law of Safety basically says that unsafe acts are the reasons we have injuries in near misses. So I ask you today if you don't know how to do something properly, then how can you do it right?

I was at a hockey game over the holidays. I love ice hockey, especially the fighting. The zamboni driver came out and he went around the ice and he cleaned it. I've been to hockey games all over the country and I thought how does the zamboni driver know always to clean the ice in that direction? Well, he or she obviously has been trained. So why aren't we training the workers inside the work zone?

The current regulations that we have on the Manual of Uniform Traffic Control Devices, otherwise known as the MUTCD, and the Occupational Safety and Health Administration OSHA standards. They really only apply to flagger training. There's really no guidelines or regulations for those workers inside the work zones.

Donald Trump once said I only work with the best people. What he meant was in his organization he's the general in command, similar to an army or the Marines. He knows that every decision he makes will affect the lives of those people working for him. Although Donald Trump is a financial and real estate man, I think it's applicable to the roadside work projects. The crew leaders typically are the Donald Trumps of the construction site. They make decisions every day that affect the lives and safety of their workers.

So my proposal for NIOSH is to look into why don't we have any specific guidelines for these workers. Workers on foot are the ones who are being killed. They're being run over. They're being rolled over. They're being crushed. All of these, I believe, are preventable through knowledge and education. Knowledge gives us tools, tools give us the ability to make good decisions and help those who can't. So let's give them the opportunity to also work with the best. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 574.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Surveillance

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. I'm Rosa Webster with Tampa Electric Company. I'm the coordinator of safety and health there. This morning I come to present to you one of the challenges that Tampa Electric Company is facing and that has to do with the aging workforce.

Within our work environment we have longevity. The average worker for Tampa Electric Company has been there 25 years. The average age of our employee is 47 years of age. As a result of that we would like for NIOSH to look at studies having to do with ergonomics and focusing on body mechanics as it's related to the aging workforce.

As a result of our workers' age and their decline in flexibility, there's difficulty as far as them being able to maneuver into some of the confined spaces that we have at our facilities. Also, the American worker no longer averages 170 pounds. It's well above that. So when you start looking at ladder safety, handrails that are rated at 200 pounds, it no longer meets the sufficiency of what our average American worker looks like.

So as employers we are faced with challenges of trying to provide a safe workforce within the guidelines that the federal regulatory agencies have given us; however, within the manufacturing sector, they may not be producing that equipment that is necessary in order to maintain that.

The individuals that we feel that should be involved as a part of this is not only the private sector, as well as the governmental sectors -- the engineers that are designing new equipment, new generators, new power lines throughout the industry. There needs to be an engineering design taking place as a part of this.

The best person that tells you how to do a job is the person that does it day in and day out. I think we need to look at the average worker. We need to reestablish what does the American worker look like in today's society and where is America going over the next 10 years, over the next 20 years, over the next 50 years. We need to provide safe workplaces for those individuals to be able to come in day in and day out and leave in the same state that they came to work in. Thank you for your consideration.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 575.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Violence

Approaches

Risk assessment methods

Work-site implementation/demonstration

Economics

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Thank you. Before I make my statement I'd like to say that my comments are going to address all sectors and I have a one-page written narrative in the back if anybody would like a copy of it. Conventional means of managing workplace aggression have failed us. To this end we hear comments or topics like conflict resolution and anger management. There are individuals who express their conflict with a demonstration of violence. So if we truly want to prevent violence we must also prevent conflict.

Conflict resolution and anger management are fatally flawed. You see, conflict resolution presupposes conflict. You're already reacting. You're past any chance to prevent it. If all you do is react to aggression, eventually you're going to come upon that individual who does not communicate verbally. This person communicates physically and they strike out. Worse yet, they could have a weapon.

Everybody says well, where did that come from? It came because no one was observing prior to conflict. I see a lot of nodding heads out here.

Anger management is equally as flawed because you and I can experience and express the same anger differently. Therefore, the great universal axiom is if you can't measure it, you can't manage it prevails.

Thirteen years ago, we discovered and developed the means to measure human aggression. Through our ability to measure aggression in others and in ourselves enables us to manage aggression in others

and in ourselves, but here's the key. It enables us to measure aggression even prior to conflict. Thereby enabling us to even prevent -- I repeat -- prevent the conflict in the first place.

When you look at the last four shootings that have occurred; the ConAgra shooting, the Jeep plant in Toledo, Ohio, the U.S. Postal Service experience, and of course, the Martin Marietta shooting, these were individuals who came into the workplace and expressed their conflict by shooting and killing people. If you're relying on conflict resolution, you're already way too late.

I particularly like the Martin Marietta circumstances because here's an individual who left his sensitivity training class, went out and got his weapons, came back in and shot and killed six people. This man had taken anger management only six months before. These programs are not working.

Have you ever wondered why when you have an incident and you've got people standing around and why these people never got involved. Oh, I knew that Bob was that way. I knew that Bob was eventually going to attack someone. Why didn't they get involved? Well, the answer is simple. They didn't perceive it as in their best interest to do so. Well, the ability to measure aggression enables us to foresee conflict coming. Because we can foresee conflict coming we can now see ourselves becoming a victim. Now there's the reason or impetus to get involved.

Over the last 13 years we've actually seen this paradigm shift occur. Why would an employer get involved when they know that there is a cost of time and talent, but also the cost of this kind of training? That's brought me to Aon Corporation in the first place. They conducted a survey in the United Kingdom of the Royal Mail where they identified the cost of employee friction. Now, we're not talking violence or human crisis here. We're talking about simple employee friction which was costing them 247 million pounds a year. What they identified and more importantly measured was when you have an aggressor in your organization nobody else wants to be there. People come in late. They go home early. They stay longer at lunch. There's even a new term called presenteeism. It means you've got someone present, but they're so distracted, in this case because of aggression, they're not productive.

So we're able to demonstrate a direct link between aggression in the workplace and productivity based upon tardiness, absenteeism, and then ultimately turnover. People would rather go somewhere else making less money so they can feel safe.

Over the last 13 years, we have been measuring aggression anecdotally. We would like very much to be able to measure it empirically, to set a standard that all can build from. So we are very interested in a grant research partner to start doing this measurement so we can put it out to all sectors of the industries. So that way we can start to prevent conflict, prevent violence, and ultimately increase productivity by the diminishing of that tardiness and absenteeism linked to this aggression. Thank you all very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 576.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Work-site implementation/demonstration
Economics
Emergency preparedness and response
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning and welcome to all of our visitors. I'm a native Tampa person here and so it's just really exciting to have you here with us in such a nice situation and where we can learn from everybody out here.

I'm Mary Matz. I'm with the Veterans' Health Administration. I am a patient care ergonomics consultant with them, as well as an occupational health science researcher and industrial hygienist. I will be speaking on behalf of the VHA, although I've already done this one other time in Houston. We have a lot of things that we want to get out on the table. So I'm fortunate enough to be here again.

As the largest healthcare organization in the United States, VHA has a unique vantage point for identification of important occupational safety and health issues. I'm going to briefly discuss three of them today. The other five I already discussed in Houston.

First topic, strategies for implementation of evidence-based programs and best practices. Change strategies are needed to facilitate management and employee acceptance of new research findings and best practices, not just in the healthcare, but other areas also. This lag in implementing evidence-based strategies has been noted across healthcare. In fact, it is estimated that it takes over 17 years for healthcare facilities to adopt new evidence, and it's been found that only a moderate proportion of nurses use research as a foundation for their nursing practice.

Studies that increase the understanding of management barriers and facilitators for adopting patient handling evidence-based practices would provide essential information for use in marketing efforts to overcome implementation obstacles. And because of the unique nature of clinical specialty areas, studies to determine barriers and drivers specific to each clinical specialty are needed.

Due to the significant costs associated with evidence-based controls, such as patient-handling equipment, cost benefit and return on investment studies would be helpful in persuading management to institute ergonomic programs. As well, research into patient handling productivity will assist in comprehensively defining cost benefits when justifying patient care ergonomic interventions and evaluating equipment for adoption by healthcare organizations.

Successful implementation of evidence-based programs in healthcare is also affected by the widely accepted belief by nurses that nursing safety should be sacrificed in favor of patient safety and quality of care. This belief diminishes nurses' acceptance of interventions and interferes with safe patient handling program intervention. Suggestions for research include determination of causes of the sacrificial mindset and the resulting non-acceptance and compliance with new safety strategies and best practices. Intervention studies using knowledge-transfer mechanisms that promote empowerment such as use of After Action Review are also suggestions.

Finally, implementation of evidence-based programs may be facilitated if data can positively relate patient handling to patient outcomes and quality of care, such as using falls, skin integrity, sprain strains, and others.

Comment ID: 576.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Violence

Work-life issues

Approaches

Etiological research

Partners

Categorized comment or partial comment:

My next topic is workplace violence in healthcare and I previously spoke on this in Houston, but we actually came up with some new data and some new findings so I wanted to address it again.

Violence in the workplace, both physical and psychological, is a major workplace health hazard in the United States. Almost two-thirds of non-fatal assaults at work happen in hospitals, nursing homes, and facilities that provide health or social sciences. A recent survey of nurses in a VA Medical Center found that the majority of both physical and verbal assaults were client-to-staff and that the safety climate may be an important element in the potential for assault and abuse. The study of organizational factors and unit organizational climate influence on the risk of workplace violence may shed light on this subject. What is the effect of the unit culture on reporting incidents as well as the opposite, the impact of zero tolerance on the culture of the unit, including perceived stress and job satisfaction? How does the accepted paradigm in healthcare that patient/staff abuse is part of the job affect risk and how does personal abuse outside of the work, including intimate-partner abuse affect care giving and tolerance for abuse at work?

Comment ID: 576.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Risk assessment methods

Health service delivery

Partners

Categorized comment or partial comment:

Patient handling musculoskeletal injury prevention. We are lacking in many of the indicators that we need for determining thresholds for cumulative injuries, as well as indicators for when patients and workers actually get to the point where they know that they need to report their injury. So this is another concern of ours and you will get it in written form.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 577.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Authoritative recommendation

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: I'm Richard Johnson and I do occupational health in the Tampa Bay area. You may think that this is actually a vest for highway construction, but it's actually a required deer hunting color vest from Wisconsin that you have to wear so that people don't shoot you. They only had 1800 people in Wisconsin shot during deer hunting season in 1910, and they thought that was a good year. I'm not here to talk about that.

Although, it somewhat relates in that what we struggle with every day in our practice is trying to identify what is degenerative versus what it's an injury. With the aging workforce and your aging nurses, and with the stock market up and down and everybody lost their retirement a few years ago, nobody is able to retire when they wanted to. We have older and older workers having more expensive injuries all the time, which most of the time, at least in my medical/scientific opinion, are degenerative conditions, not injuries.

In the area of lung disease, we have B readers who will tell us what certain lung conditions are according to X-rays because they have criteria. We now have CT, spiral CT, MRI, X-ray, all kinds of sophisticated ways to evaluate a knee joint, yet we can't determine if it's a knee strain that the employer should pay for that new knee versus a degeneration, which is actually the major contributing cause. It goes with shoulders, too. A great example is a guy laying down and tightening a bolt and he experiences a shoulder strain. The end of case is total disability and big settlement for the employer because he has Parkinson's disease. Clearly, the neurologist says it's not work-related, but the compensation judge says he was working, he got hurt, now he can't work and therefore it's comp. So the problem isn't just a medical definition of what's degenerative and what isn't, but it's in the court system as well. Without

the help of good scientific research to say no, based on this CT finding, this MRI finding your knee is degenerative and it's not work-related. You may have had a little strain on top of it, but then we get into the whole cost issue of who's going to buy his new knee when he isn't ready for Medicare yet and he doesn't have insurance because he works for one of those contractors who can't afford to buy it anymore. Those are all of the kinds of issues.

Cumulative trauma is another one. That, in my opinion, is often just degeneration again. The employer is buying the medical care, which otherwise couldn't be afforded. When you think of this, think of deer hunting. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 578.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Work organization/stress

Work-life issues

Approaches

Surveillance

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: I might use that if I go quail hunting. Good morning. I'm Joe Doyle. I'm the regional medical director with Aetna Disability Services here in Tampa. I'm going to make three major comments -- a lot of them actually related to some of the ones you've already heard. The first one is about workplace wellness programs. During the past decade, several health insurers, including my own, and our vendors have developed wellness programs and disease management programs. Many of our larger employers have onsite fitness facilities and occupational clinics and health clinics. Dr. Francois kind of alluded to Citigroup. This encourages people to tend to their health and wellness activities during the workday. However, with more of the economic growth in recent years occurring in small and medium-sized businesses, access to these wellness and disease management programs may be problematic for employees in these settings.

Additionally, workers are being exposed to more stress and physical activity due to longer commutes and engagement in sedentary knowledge-based occupations. Disability claims, we've noticed in our claims experience, are increasing for depression, stress anxiety, and obesity.

Research is needed to assess the scope of this issue, as well as creative suggestions for insurers and employers to increase worker participation in these programs and to reduce time lost from work for mental health and obesity problems.

Comment ID: 578.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Economics

Authoritative recommendation

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

My second comment involves disability leave and graduated return-to-work programs. For some workers returning to the workplace after a disability leave -- graduated return-to-work strategies such as midweek restart, part-time hours, and reduced physical demand, also known as light-duty, can be useful in affecting a successful return to work.

However, some employers are reluctant to make accommodations or to accept less than a full-duty medical release based upon a fear of a possible on-the-job injury and potential workers' compensation claim. Here we feel that research is needed to assess the validity of employer concerns about the potential workers' comp claims and to develop best-practice guidelines for graduated return to work.

Comment ID: 578.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Economics

Authoritative recommendation

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

My final comment deals with the aging workforce, lifelong learning, transferable skills, and productivity. Due to the natural aging process, some workers are unable to meet the physical demands of a medium and heavy occupation later in life prior to retirement, and may find themselves in a situation where it is unsafe for them to perform their own regular occupation. Often they are forced into disability retirement with the private sector, long-term disability, or Social Security disability, or as Dr. Johnson suggest even workers' comp.

Here we feel that research is needed to address the best manner of assisting the U.S. workforce in the acquisition of skills that would enable them to transfer into sedentary and light physical demand occupations, if and when their physical capability for their usual and customary occupation diminishes.

Some solutions may involve public policy initiatives, such employer and employee tax incentives, onsite education, and distance learning.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 579.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Respiratory disease

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Personal protective equipment

Authoritative recommendation

Partners

roofing manufacturers; local exhaust manufacturers

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Hello. My name is William Tomlin and I'm with the University of South Florida. I'm an industrial hygienist working with the 21(d) Program here. I'd like to suggest that NIOSH needs to look at exposure to silica at our construction sites, specifically looking at masonry tile workers and block masonry cutting workers over there.

Everybody understands the hazards associated with silica. It's one of the most studied toxic materials that NIOSH has looked at. We know that a restrictive and obstructive lung disease associated with that - and there's a 20-year latency period before the onset of some of the diseases.

As a personal note, my grandfather died of a restrictive lung disease associated with the construction industry. He was a cement worker. They called him the mud man. He mixed the cement there. Towards the end of his life he couldn't walk across the room. I'd tell training classes that he suffocated in a room full of oxygen based on his exposure to silica.

In the south Florida area, we're seeing a lot of masonry tile work going in with the explosion of the housing boom. A lot of the local communities and some of the builders are requiring that masonry tile be used. To install a masonry tile roof it has to be trimmed. Therefore the workers there are trimming the masonry tile while working in an elevated situation, exposing themselves to fall hazards, but more importantly exposing themselves to a significant amount of silica.

Our studies that we've done working with these workers show that every time we monitor those workers in that situation, they've been overexposed; both in masonry block cutting and in the masonry tile situation.

Currently, the only control method that they're using to reduce this exposure is personal protective equipment. We see that a lot. NIOSH has talked about different methods, but the only one we see out there are the filtering face pieces. With that filtering face piece, we're seeing a lot of misuse or not use of the material.

Therefore, I'd like NIOSH to get together with the roofing manufacturers and some of the local exhaust manufacturers and come up with an engineering control that they can use in that situation to reduce their exposures or at least come up with a best practices method. We feel like the use of personal protective equipment to reduce this exposure is not doing what it needs to do. Thank you for your time.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 580.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Violence

Approaches

Training

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good morning. My name is Linda Horner and I work for Safety Products, Incorporated as a field products specialist. I assist our customers with product information, training, and sales. Prior to my employment with Safety Products, I worked for the Florida Safety Council and the National Safety Council for about nine years. As manager of the central Florida Occupational Safety Division I was responsible there for membership services, program development, and class coordination.

It was during my time with the Safety Council that I became very aware and concerned about the volume of violent threats and incidents, which my members were experiencing.

Our members consisted of a broad spectrum of industries in the public and private sectors. We offered a safety management class at the time called Preventing Workplace Violence. I made it a practice to routinely ask our members about their workplace violence concerns. One hundred percent of employers asked responded that they had experienced either a violent incident or the threat of violence from an employee, from a coworker, or a coworker's acquaintance.

I'm still dismayed and surprised that I did not find a single person at that time who had not been affected by this area of concern. In 1993 I had my own experience with the threat of violence during my workplace at a medical bill review company. Unbeknownst to anyone at our company, one of my coworkers was a cocaine addict. When she didn't pay her drug dealer, he shot her. When she was released from the hospital she didn't return home, but she did return to my workplace. We ended up hiring an armed guard to sit outside our office door after the dealer made a threat to come to the office to finish the job and kill her and whomever happened to be nearby.

I tell this story not for drama, but to make a point. Statistics right now do not tell the full story, and many incidents are still not reported to public authorities. This incident wasn't reported to the Bureau of Labor. It wasn't reported to OSHA. It wasn't reported to any other agency. Yet it occurred and it was a very serious threat to the lives of an entire group of office workers.

According to a 1998 Reuters' article titled Homicides are now the second cause of U.S. jobs deaths it also reported that more than half of all workplace victimizations were not reported to the police or to any other authority. I believe that new training and best practices would make a difference. Statistically, workplace homicides and violent incidents have decreased since 1998. I would attribute that to greater awareness of suspicious or concerning behavior, as well as the development of training programs like the one offered by the Safety Council.

Numerous public agencies and large employers like DuPont and the Post Office are including workplace violence prevention in their internal safety programs. Also, post 9-11 more companies began evaluating their security risks and international threats beyond the threat of just a disgruntled employee or family member.

Proactive employers can now easily obtain similar programs and support through agencies like OSHA, Bureau of Labor, and numerous Internet sites and services. Without a doubt, these efforts have contributed toward a decrease in the number of workplace homicides. I would like to request that NIOSH take a look at doing some research into effective safety training programs and best practices that employers can implement to decrease the risk of their workers in the workplace. According to the 2004 Bureau of Labor report, homicides have moved from the number two cause of workplace fatalities to number three now; behind transportation incidents and contact with objects and equipment. This decrease is a great thing, but it's still a non-regulated hazard and it's still a contributing factor to a large number of workplace fatalities every year. As a non-regulated factor this means that unlike some other high fatality hazards, employers are protected and prevention measures are enacted only at the whim of their employer, even though workplace violence affects every industry and even though it is a major contributor to workplace fatalities and even though it's very cost-efficient for employers to take a proactive and preventative stance with training and supervisor awareness programs.

I want to make one final point on that. Workplace fatalities are often accidents. Most of the things that we're going to be hearing about today or talking about are considered accidents. Tragic accidents, no doubt when fatalities are involved. However, homicides are not an accident. They are deliberate and often premeditated. Homicide is still the third largest cause of on-the-job deaths. Its hand is now reaching into our schoolyards and our churches. Many times after a high-profile workplace shooting you hear on the news people acknowledging they'd noticed warning signs, but they ignored them or their upper management ignored them. Many employers will not take the initiative unless some sort of training regulation is implemented and enforced.

I believe that workplace violence prevention training should be as important for supervisory personnel as a respirator class is for fabricators or forklift class is for equipment operators. Without some sort of research and presentation, I don't believe a regulation will be enacted. Employers will still choose to ignore the risks and these horrible kinds of fatalities will continue.

So again, I would ask that NIOSH consider applying some research funds and some efforts into coming up with ways for the employers to reduce this risk in the workplace. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 581.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: I'd like to go ahead and jump ahead of the clock a moment or two and be the first to wish everybody a good afternoon. My stomach is starting to tell me it's about that time. My name is Keith Brown and I work with the OSHA 21(d) Consultation Program operated out of the College of Public Health here at the University of South Florida.

I am not a medical professional. I've never had any type of medical training outside of a very basic first aid course, usually at the spur of the moment to remedy a minor cut. However, in working with employers throughout the state and exchanging conversations with my colleagues, not only in the state, but also in other parts of the nation as well, we've identified what seems to be a disparity in the level of medical treatment provided for seemingly minor work-related injuries and similar type injuries sustained in an other than work-related environment.

This disparity places a burden on employers who participate and are required to maintain the Occupational Safety Health Administration's log of work-related injuries and illnesses. This disparity contributes a major burden on these employers, as well as OSHA to a degree in the fact that annually OSHA collects data and targets certain employers for enforcement inspections based on the data that they are reporting to OSHA. This disparity creates an undue burden on these employers and the federal government by targeting employers that perhaps should not be targeted for these enforcement inspections. This is an issue which frustrates employers and in some cases employees alike. No one wants to be second-guessing the medical professional in the type or level of treatment that they provide a minor injury, but at times it becomes somewhat curious as to why a cut that we might receive at home would only require a bandage, but a cut that we receive at work might require a couple of stitches as opposed to a butterfly bandage and subsequently, prescription-grade medications from antibiotics to painkillers. These are things which toss the employer into that position of having to report these issues to OSHA.

Unfortunately, I do not have any suggestions for resolving this type of an issue, but I sincerely hope and request that NIOSH and the medical industry work together to satisfactorily resolve this and remove this burden from the employers and employees alike. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 582.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Chemicals/liquids/particles/vapors

Approaches

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Thank you, Dr. McCluskey. I do want to thank you for being here this morning. My story really cannot be told unless you're out there in the field and you see it. I want to congratulate our department and the College of Nursing and our program in occupational health nursing, which has had the wisdom to suggest that in this coming semester all of our graduate students will go to the field.

The story I want to tell you about is a product called d-limonene. Now, d-limonene is a very fragrant and very pleasant odor that is found in the citrus manufacturing industry. In fact, it is manufactured in tons. The interesting thing about it, even though it does represent an inhalation problem, there is no OSHA PEL. There is no NIOSH REL. There is no ACGIH TLV. That is very interesting, isn't it? Especially in view of the fact that animal studies have shown that it can be a potential carcinogen. In fact, in one study that was species-specific for rats, that's exactly what has happened.

So my story is simply that if there is great potential for exposure to d-limonene in the workplace in citrus production then why don't we have the information to support and to document a safe exposure level? So therefore I would ask NIOSH to consider this and do whatever it can to provide such a level. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Editor's note: The erroneous "delimining" in the transcript has been replaced with "d-limonene" here.

Comment ID: 583.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Work organization/stress

Work-life issues

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good afternoon. My name is Roy Wood. I'm with the Division of Workers' Compensation for the State of Florida. We're part of the Department of Financial Services. Formerly, we were an entity in and of ourselves. We're renewing our interest or our thrust in this area of safety and look forward to working with USF in that area.

Dr. Brooks, I submit to you that another form of occupational asthma is speaking in public. That's probably something else to study in that area. The beauty of being last is I get to hear everybody else and get to rewrite my points several different times and find out that others have the same interest in mind that we at the Division do.

I have three basic topics to briefly discuss this morning.

One is the area of natural disasters. Around the southeast we are all very familiar with the hurricanes that have been taking place over the past five years. We're concerned about workers returning to a workplace where the infrastructure is down; where the employer may have damage to the workplace. They may be dealing with their products and services in a much different way. They may be thrust into a role that is much different than what they're used to. Overall, the environmental landscape has changed for these workers and their new work roles in many instances.

From our experience in Florida we believe there should be research into the ability to promote a safe workplace in an environment that is post-disaster; whether it's hurricanes or some other disaster. Research could be done on the safety issues concerning structural damage, enlightening workers

towards that area. What is the impact on medical resources in the area? What is the impact on the environment that people need to be made aware of? What can be done in these areas to prepare people for this obvious disaster that is to come? The impact of occupational hazards, the pollution in the water, the release of sewage, things of that nature are normal and should be expected, but to what extent can we prepare and be cognizant of those issues.

Finally, many workers are exposed to driving hazards that didn't exist before; the loss of power; the loss of traffic lights and just street lights of that nature. How to prepare workers for that. Which leads me also to my next topic, which is the extended driving periods that workers may have to go through because infrastructure has been damaged.

Comment ID: 583.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Work-life issues

Approaches

Surveillance

Etiological research

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

My next topic is transportation incidents. Historically, transportation incidents are the leading cause of workplace deaths. On average in Florida it varies from 40 to 47 percent of all fatalities in Florida are transportation-related. Ms. Bohan probably pointed out one of the most important areas that transportation-related incidents occur and that is in the work zones. But there are many other cases and to my knowledge there is no definitive research that has been done on what other factors may come into play on other types of transportation-related accidents. For instance, are there distractions that we don't know about or that we do know about that may help us prevent further accidents?

Just imagine for a moment if you will that if we were able to reduce transportation-related accidents just by ten percent. That would be a significant amount of savings, both emotionally and financially. Are there safety programs that employers aren't taking advantage of in the driving arena? What is the impact of fatigue, cell phone use, drugs and alcohol? If you look at the BLS data it tells you that there were that many fatalities, but what needs to happen is we need to drill down into that information and find out what is really causing the accidents that occur.

Comment ID: 583.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding
Authoritative recommendation

Partners

Categorized comment or partial comment:

Finally, I want to talk about the aging workforce. January 1 of this year was the first year of the baby boomers turning 60. It became a very hot topic in everybody's mind and in all the press. When I went out and started looking for data and information in this area, I found very little. There was a lot of anecdotal information, but not a lot of concrete information that exists concerning the aging baby boomers; me being one of them. I did find a study by the American Society of Safety Engineers that suggested ergonomic changes that need to be made or considered. All of these things seem very obvious, but I think that it is probably time to begin considering what changes need to be made in the workplace that can accommodate this large mass of workers that we have a fundamental shift from a younger age to an older age. One research topic I would think would be the study of how to adjust the safety standards recognizing the limitations that may exist because of that shift.

Thank you very much and I appreciate being here.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 584.01

Categorized with the following terms:

Sectors

Wholesale and Retail Trade
Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Violence

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Thank you. Once again, I'd like to point out that my comments are going to be directed to the retail and wholesale sector. I've got a one-page written narrative that's on the back table, if you'd like it.

Those in the retail and wholesale business often wonder why they miss the workplace predator all too late or until it's too late. We're talking about the individual who comes into the retail setting or the wholesale setting and shoots and kills people because they're either robbing from them or because they have some dispute with them.

This morning you heard me mention that how we had 13 years ago developed the means to measure human aggression. What was particularly interesting about this discovery was we realized that aggression wasn't just aggression, but that aggression was primal aggression and cognitive aggression.

Primal aggression is built off of the primal instincts of fight or flight. It is fueled by adrenaline. That is the connection between aggression, the production of adrenaline, the increase in the heart rate, and the resulting bodily language and behavior that we can identify and measure. This is what most people think is aggression.

However, what about conscience, deliberate aggression? Here, we've developed what we call cognitive aggression. This is built off of intent; malicious and hostile intent. In other words, what is your intent with this person? Is it in your interest and theirs, therefore a win/win as it ought to be or is it in your interest and their detriment? In other words, you're going to victimize this person. You're becoming a victimizer or at a slightly higher level of cognitive aggression, the predator. The person who doesn't care

who they're going to get, they just know they're going to get someone like in a robbery and often with criminal intent.

The highest level of cognitive aggression is the terrorist; someone who wishes to invoke terror into the hearts and minds of their victim. Now, we often think of a terrorist in Iraq, but the individual who comes into your workplace with the intent of killing people and who has no regard for their own lives meets the same body language and behavior that we use to identify the terrorist. The same body language and behavior are utilized.

To this end, an example is the best way to illustrate this. We were invited to the FBI and we met with the directors of behavior sciences for both the FBI and the TSA in Quantico. The Director of the FBI said that out of every 200 people that request a presentation in front of us we permit one. That says volumes about our interest in your subject matter. At the end they gave us a publication of all the devices and apparatuses that were being developed or had been developed to identify a terrorist in an airport. After reading it I explained to them that the problem you have is you're identifying a primal aggressor. You're identifying stress, anxiety, orbital flushing. In other words, you're reading emotions, which is what we all do when we try to find this kind of an aggressor. However, a terrorist is a cognitive aggressor. This is a person who not only disconnects from their victim, but this person disconnects from their own wellbeing to the point where they find a profound calm. Why a profound calm? Because they are completely and totally disconnected from their own wellbeing. Ladies and gentlemen, this is a completely different behavior than the primal aggressor. If you're looking for the primal aggressor then you're going to miss the individual who comes into the workplace. If you look at the last four shootings, these are people who came in and expressed their conflict by shooting and killing people. If you're not looking for the cognitive aggressor, you will miss this person all together.

If we are to identify any effective means of preventing the workplace shooter, whether the intent is to rob from you or to satisfy some kind of a dispute with you, we've got to understand cognitive aggression. How to measure it, how to engage, and how to prevent it. We've been measuring this over the last 13 years anecdotally. We have a strong interest in an ability to find a grant research partner that we can measure this empirically so that this can be the basis of preventing workplace shootings. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 585.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding
Training
Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good afternoon. I'm from northwest Florida and I'm Charlene Grafton. I've been a nurse for over 50 years. Since moving back to northwest Florida, I began to write about some of my experiences with computer-related injuries. That's what my presentation is today, computer-related injuries.

The major cause in my belief is the right-hand side of the workstation is an overloaded system. We're all righties (*). I first became aware of computer-related injuries while managing workers' comp claims while living in Nevada. I was managing workers' comp office claims for workers in California, Nevada, and Utah. Then when I moved to Atlanta I managed claims in Florida, Georgia, and Alabama. What I found by managing a large number of workers' comp claims of bank workers -- I managed all the claims for one national company for all of their banks in Georgia, and for another company all of their banks in Alabama. So I have a pretty good idea of what type of injuries that happen because of not only the computer keyboard, but also the keypad and the mouse.

With that in mind, I wrote and have a patent that is in a pending process, which is a training method to develop the left hand. By developing ambidexterity, we can prevent a lot of computer-related injuries. In the performance highlights of the NIOSH research findings -- it's in this book and if you don't have it and you work with people with hands, you really need to get this book. From this book of relevance to 40,000 employees of the IRS and millions of workers in similar work operations, they determined the use of a regimen of hourly brief rest breaks would reduce musculoskeletal disorders without loss of productivity. The study was done ten years ago, according to Dr. Naomi Swanson, who I did speak with and I am requesting follow-up studies with these same types of workers; as many changes have been made in keyboards, keypads, and peripherals by business and industry.

Directionality of the keypad with the left side of the numbers -- this is what is very interesting. When you change to the left-hand side of a keypad -- and you can buy them, but no one can tell why to buy one or the other. That's why I wrote the patent. Directionality between the hands is the issue. So there are certain small tests that you can do that really don't cost any money to be able to determine this.

Most of the research that's been done about work with the hands, though, is with CAT scans and MRIs and you just don't have that in the workplace. Products have been made and sold, but no explanation of what to buy. The computer keyboard with modem bought in a box is generic. So my method is based on the human factor of dominance. We all have our dominance, but what do you do with it to your advantage?

In 2003, it was estimated that 73 million computer users of which 80 percent were actively providing data entry services at work using the numerical keypads. With competitive motion injuries toping the charts in workers' comp claims it's reasonable to assume that NORA would be interested in new answers for computer-related injuries. I know that only employers can change occupational environments to decrease its incidence, but scientific investigations should be provided by NORA in the coming years.

Outsourcing of computer jobs to other countries makes this even more important for the United States because we primarily developed Silicon Valley and now so many of those jobs have gone overseas that so much of the computer business is not just our problem anymore. What I'm requesting NORA to do is to conduct research on the same types of workers, train for ambidexterity, develop work-hardening programs in our occupational centers, and also training programs to eliminate computer-related injuries. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 586.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: I appreciate the opportunity to speak to y'all today. I'm Gary Greenberg. I'm an occupational medicine doctor at the University of North Carolina, as well as at Duke University -- and yes, you can do that. I'm pleased to be able to come to Tampa and discuss how we might be able to modify or redirect some of NORA's future with this opportunity for a town meeting. I'm lucky that I flew in from the north and it wasn't that far north and my flight was not cancelled. This is a town that I know well. I actually practiced medicine down the street at University Community Hospital and had a faculty appointment at the school in the first months of its existence as a school of public health.

My point today is to try to gather some support from the audience and from NORA's planners to make sure that we include recognition of one of the more consequential and sometimes overlooked aspects of occupational health, which is disaster planning.

Disasters are a sadly recurring situation of massive public health consequence, and occupational health needs a seat at the table and a voice in the room when those issues are being discussed.

Disaster planning has been a problem within occupational medicine for decades; especially because many disasters originate with our own worksite. Where there is chemical, nuclear, or infectious hazards which are either stored or even produced we recognize that managing those situations are part of occupational health. Recently, disasters have occurred because the workplace is the target of the disaster. That's a different situation than that in which we were trained in the past. Terrorism has focused its assault in many occasions at specific workplaces. We should right now think about some of the past contemporary situations where disaster was appropriately used.

SARS is often used as a prototype. SARS was an occupational health crisis. We probably couldn't call it a disaster because so few cases occurred, but nonetheless this was clearly an occupational health event where workforces of healthcare workers were the most primary target of the disease and the greatest sufferers in the countries where that was manifest.

9-11, clearly the first domestic episode of major terrorism needs to be recognized that the target was a workplace. 9-11, Oklahoma City were both situations which were targeted because of their metaphorical importance, but the victims of that situation were people in their job. They had no reason to anticipate that their job was one where major consequences occurred.

Similarly, anthrax was a targeted terrorist event focused at workers, media, congress, and accidentally it was postal workers who suffered the greatest health consequences. Clearly, this is a situation of occupational consequence. We looked at the converse of this and we can talk about Katrina. Katrina was a situation where the consequences were generic. A civilization almost comprehensively was demolished. The shining light of the recovery and the response happened to be the worksite. The oil industry as the victim and retail as perhaps a rescue agent need to be recognized as a very consequential situation where disaster management was well-handled.

I was at a meeting last week where Wal-mart's director of crisis management described their war room of monitoring tools, full-time employees, disaster plans for every possible crisis from shootings to fires to earthquakes. And in this case it was a hurricane where they could plot the plans and bring their resources to bear in the perimeter, ready to work on the population as soon as it occurred. They had scramble plans and reassemble plans for their workers. It was quite impressive and better than anything our government was able to achieve.

If we stop thinking about the past disasters and think about what's the most likely threatening and impacting disaster of the future we really need to think about pandemic flu and how that affects workforce, in addition to the population as a whole. We have to recognize that the workforce is an opportunity to respond to pandemics. It's an organizing focus of society. We have to recognize that the workforce has to respond to the situation with plans of social distancing, institutional surge capacity, new arrangements for remote work, shifted assignments, and alternative work programs.

The main point of my remarks is to recognize that disaster management within occupational medicine is public health. The core discipline of what we all trained in. It's about planning for community-based response. It happens that the community is workers. It recognizes that we are a network of providers. We are a network of providers that mirrors and parallels what's going on in the other network of public health, the more classically considered county, state, and federal networks. We need to stimulate, initiate, and evaluate our response to disaster situations. There is a growing network now called the Occupational Health Disaster Expert Network. There is a handout in the back of the room and I have a few in my own hand. We're trying to stimulate a resource that will allow professionals in occupational settings to share plans and ideas with each other, recognizing that disaster response is a non-proprietary and non-competitive aspect of occupational health. I appreciate your listening and I'll be around for questions later.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

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Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good afternoon. My name is Rene' Salazar and I want to thank NIOSH for allowing me the opportunity to be here. I'm with a small firm in Tampa, Florida called Salazar Consulting Group. We are a small group of certified industrial hygienists. All of us trained with either master's or Ph.D. training. We do most of our work here in Florida. We provide consulting services in the field of environmental and occupational health. Although we're trained and certified the comprehensive practice of industrial hygiene, it appears that our practice causes us to be most involved in the issues of indoor environmental quality, particularly in non-industrial environments. Most of our clients that call into the office usually have that kind of work or service that they need. The client base is quite varied. We deal with building owners, building managers, lawyers, physicians; a variety of folks. They all have essentially the same interest. That is they're all connected by this issue of the workplace and so protecting the workers is a priority.

For the more traditional exposure characterization methods such as for noise or asbestos or for a variety of chemical agents, NIOSH provides us, the practicing industrial hygienist, with methods to do those assessments. We can go to the bookshelf and find NIOSH methodologies for the investigation of these kinds of issues and also sampling methodologies that might be available. Even for general IQ issues, which are really a subset of traditional industrial hygiene, NIOSH offers us some guidance. There is some information available for us to go out and get NIOSH documents to determine how to perform an investigation.

However, these days the unfortunate factor is that most of the general IQ requests that come through are no longer general in nature. They focus specifically on one agent and that is mold, and sometimes bacterial agents. With this, of course, you would imagine that it would present a problem. We don't have standardized methods of doing investigations for these mold elements. We don't have standardized methods of data collection, of data analysis, and of data interpretation. It makes our job quite a bit harder.

We find ourselves as formerly trained and knowledgeable individuals as others doing these kinds of exposure assessments having to argue issues with those who are less qualified, not properly trained, who basically have gained an understanding of some buzz words and phrases, which are thrown out there to the workplace or to the workers and to the general community at large. So we find ourselves having to debate these issues, which I would believe with good research and good opportunities to do assessment methods would not have to be discussed. This wastes time and money and also drags the individuals through this entire process. The workers usually have some validation of their complaints, sometimes there are legitimate complaints, many times there are not. They are just perceived hazards.

What we need from NIOSH and what we need from this NORA process is to aggressively research this issue of indoor environmental quality in non-industrial indoor environments. We as practicing hygienist or as practicing environmental professionals need to be able to assess standardized investigative methods, standardized methods of data collection, analysis, and interpretation. Ultimately, we would hope that we would have some sort of response data that can be generated so that we can see the development of threshold values developed at some point in the future. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 588.01

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Thank you. I'd to thank NIOSH for giving us the opportunity to let the community come together and to Stuart Brooks and USF for sponsoring it here at the University. Well, a little bit about me. I'm also with Aon, as Dr. Byrnes is. You're going say what is an Aon? Well, we're a large insurance brokerage world-wide and a large reinsurance company. That's what we are. It says that I'm with the Sunshine ERC, which I am as a member here with the community. Today, I just want to talk a little bit and I'm going to tell you a little story about one of the companies that we represent to get their insurance for and the problems that they have today competing in the global environment with the worker comp cost.

Before that, I've been with Aon for about five years and before that I was in the manufacturing, telecommunication, and public-service sector. I was actually a paramedic when I started. So that's how I started. I represent a number of clients in the retail and wholesale trade sector. They're always concerned about employee safety and health, and of course, what comes with that is the cost of worker compensation.

One company in particular has had a lot of rapid growth, as a lot of the ones in this trade sector have. With that, the additional worker comp claims come, sometimes yes, sometimes no. So they call somebody like me from the insurance broker to come help them. So we do an analysis of their accidents, find out what body part, what type of accidents, and those kind of things. We try to come up

with a game plan to come up with some job fixes, let's call it; either engineering or administrative controls. Of course, we follow NIOSH lifting guidelines, we go to the OSHA website, and we look at everything that's out there that we can use. We come up with a game plan. So we have these interventions, which may include controls that y'all have heard about; material handling equipment, raising and lowering work surfaces. I was involved with a big project with VDTs way back when and we were trying to tell a company that they needed 77 million dollars worth of equipment to raise and lower workstations for operator services for the telecommunication industry. That wasn't going to fly. We switched it to you picked out your own chair and you were happy, and that was the end of the game. All we did was buy chairs, but somebody else was trying to tell us that we had to do all this lifting and stuff, as you've seen. Modifying tools, some of that is pretty easy. Reducing weights, physical-demands testing, which unions get excited about. You get a post-offer, we send you to get a physical test and we find out your shoulders, and your knees, and your back can't do this particular job and we can't hire you. Then we implement all of these things and time goes by -- let's say a couple of years -- and they go Bob, this isn't quite working like we thought. Our costs aren't going down. Our musculoskeletal disorders aren't going down. What's the story? Well, I can always say well, you need to give it a little bit more time. It's not like that. For these companies, costs increase with this. We all know what's going on with manufacturing, it's not here very much and those kinds of things.

I've been following available research, as you heard from -- just before I came, I read the NORA MSD Team Agenda to find out what they were thinking about. At Aon, I also have an associate that works with me, Dr. Richard Roy, who's on the NAICS Committee. I've read where all the gaps are in the research from both those groups and came up with one that I think is going to work good for the trade sectors.

Similar to their findings, I have two interrelated issues that need additional research. One is the impact of these multi-factorial causes of MSDs, including psycho-social, which is really important. There's a lot of loose data out there. A lot of people are pointing fingers at things and nothing definitive. We have physical occupational and non-occupational factors and their interactions. With this, how these factors factor into the worker comp systems in all states. In fact, some states are different than others. I get this injury and am working in Alabama and they won't pay anything, but I go to Florida and this will be paid. So we need the factors in the worker comp system and the findings of causation, diagnosis, the duration of the disability, and other outcomes related to musculoskeletal disorders. Those things are tied together.

Research greatly assists the companies in this sector with managing their costs and sustaining growth. Thanks for the opportunity and if I had more coffee, I could have talked faster. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Note: Supplemental E-mail submitted 2006/02/14:

I presented at the Tampa Town Hall Meeting yesterday afternoon. I just wanted to restate the particular need for additional research -

More studies are needed addressing the multifactorial causes of MSDs (i.e., psychosocial, physical, occupational, and non-occupational factors) and their impact on factors within the Workers' Compensation systems on findings of causation, diagnosis, the duration of the disability, and other outcomes.

Thanks again for the opportunity.

Bob

(Member of the Sunshine ERC)

Robert C. Prior, MS, CSP, ARM

Relationship Manager/Sr. Risk Control Consultant Aon Risk Services Tampa, Florida

Comment ID: 589.01

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Training

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Thank you for the opportunity to be here again. My comments are going to follow what Mr. Prior just said there. Basically, what I'm going to do is talk to you a little bit about the need to develop better safety and training programs for people in the retail/wholesale industry.

It would be helpful if NIOSH could develop some guidelines as how to best approach the training needs for workers in this industry. We need to determine if there's a relationship between the accidents and the lack of safe work-practice training for retail and wholesale workers and the managers. We also need to look at hazards involved in the tasks retail and wholesale workers perform in order to determine if their safety and health training is adequate. There appears to be a need for developing task-specific minimum training requirements that include safe work practices.

As this industry has expanded to the use of new technology and automation over the past two decades, workplace safety and health programs and training in those programs seems to have been left behind or has not kept pace with the change in technologies. Numerous contract companies develop safety and health programs, emergency action plans, and training plans for the retail business owners. Some of these programs are canned so as to fit a number of different types of businesses with a little bit of modification. The problem is that a lot of business owners don't look at the information to see if it really fits their situation. When an accident occurs owners often find situations that contributed to the accident, but were not covered in their safety and health training program. The result is that the retail and wholesale safety and health programs need to be evaluated for effectiveness in terms of reduction of workplace injuries and lowering workers' comp cost.

NORA could use the information gathered doing intervention research to develop a promising practices document for the retail and wholesale trade industry. This document could then be used by the retail and wholesale industry for developing custom workplace safety and health programs, training programs, and emergency action plans. I recommend that NORA look at the possibility of developing course materials that could be used to target specific retail and wholesale management groups. We have found in our consultation work and in our classroom training sessions that there is a specific need to develop safety and health program management materials for managers who have little or no safety and health knowledge. There is a real need for developing training materials that can be used to explain the importance of good safety and health programs and demonstrate the need for effective emergency management plans. There is a need to determine adequacy of the emergency procedures and the knowledge of the managers and employees in implementing emergency action plans, as well as training programs. Again, I thank you for the time to give this presentation. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 590.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Economics

Authoritative recommendation

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good afternoon. My name is Rich Johnson and I work for Lowe's Companies and Lowe's Home Improvement. Great thing about working for an improvement company is we don't wear ties. Even our CFO and Chairman of the Board doesn't wear a tie to work, so that's pretty nice. A jacket is really dressed up for a hammer guy. I'm the director of safety for Lowe's. We're a Fortune 50 company. We have 1275 stores and building 150 more a year for the next five years. Our sales are going to exceed 42 billion in '05. We actually serve about a million customers a week. Our home is in Mooresville, North Carolina. That's where I came from today. We started as a little tiny hardware store 60 years ago in North Wilkesboro and it's grown to what it is today. We pride ourselves on actually developing our stores in a way that it attracts a customer that feels safe in our store. We have 175,000 employees that work at Lowe's. Of course, that number is growing at a pace of about 16 percent a year. So I'm not here to talk about a canned topic, I'm here to basically represent one of the biggest retailers in the United States and what our issues are.

The biggest thing for us is that we move about 70 percent of our products that you buy at Lowe's through our distribution network supply chain. That supply chain piece adds even more injury rates than the store does because everybody is driving forklifts and everybody is on power equipment when all the products get shipped. So you think about a 42 billion dollar company and 70 percent of our products coming through 11 distribution centers throughout the United States. It's quite a task. So that's what keeps me up at night, besides the fact that we have 5,000 deliver vehicles on the road. That really keeps me up at night.

The gentleman that talked about state-specific issues, we focus on California, Texas, Florida, New York, and New Jersey when it comes to work comp. Those are the states that cause us the most -- I don't want to say grief here in your hometown of Florida, but Florida is definitely one that is a real problem for us. So we focus on those states. We hold state-specific training every year for our HR and our loss-prevention teams and our store-management teams on how to deal with claims in those five states, and it's very effective for us.

I guess our biggest issue for us is really benchmarking. Our biggest issue with NIOSH and NORA is to set an agenda to benchmark with other retailers. Everybody kind of measures it all differently. There's a similar study that's done on our loss prevention side by Dr. Hullenger out of the University of Florida. He provides us a retail security study every year that measures shoplifting, internal theft, turnover, management training. He produces this and he's done it for probably the last seven or eight years. We need that same type of measurement tool for the safety side. What dollars are spent for safety, how much money is spent on safety, what other retailers are spending on safety? We're very fortunate at Lowe's to have a board of directors, and a CFO, and a CEO that believes in safety. So when those one million customers come in every week, they're going to leave the same way that they came. Our 175,000 employees are going to go home safe every night. They put forth a lot of money, effort, and time in those practices at Lowe's, and we're very proud of that. We truly believe that safety sets our company apart from our main competitor.

I think many of you, if you think back to your visits -- and this isn't going to be a soapbox about Lowe's. We have wider aisles. We have brighter aisles. Our customer is focused on the female. All of us guys that go in there to buy are being driven by the female in our lives that told us what we're going to buy. We recognize that at Lowe's. So we have a nice and safe setting for our customers to come in and shop. When you talk about all of those issues in safety, again, benchmarking is our biggest piece. We saw it on the slides earlier.

Comment ID: 590.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Back injury, ergonomic issues are a huge problem in retail, especially in big-box retail. It certainly drives our work comp. Our work comp and general liability combined is in the hundreds of millions a year. It's those customers and employees that get injured that concern us the most.

I appreciate the time. It's great to be here and to listen to everybody's comments and I appreciate it. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 591.01

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Youth

Older

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Violence

Work-life issues

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Thank you. I'm from your neighboring State of California. In fact, what brings me here is about three different projects that I'm involved with. One of things I'd like to share besides working in California for it seems all my life with occupational safety and health -- I started back in '76 with enforcement and now I'm responsible for the onsite consultative program. With respect to retail and wholesale, it's the programmatic effects. The changes that we have seen in California and the tools that we've developed is the focus that I'm bringing in today.

One is the displacement of manufacturing from service industries that have resulted in increases in retail and wholesale establishments. The focus here will be directed to the program and process element of preventing injury and illnesses in workplaces. Over a decade ago, California promulgated the injury and illness prevention program that's known as the IIP Program as a result of state legislation. Whether it's a private entity or a public agency that adopts the injury and illness prevention program or process, the question that I have here and hopefully that will stem some research would be that how can we effectively measure the programmatic or program process as far as its effectiveness in reducing preventable occupational safety injuries and illnesses?

What I am more interested in is something that's more specific and tied directly into the elements of an injury and illness prevention program or process. NIOSH and the CDC do have the publication, but again I would ask that we continue the research that would be a little bit more definitive.

I would like to request a study that will assess the injury and illness prevention program process through the systematic process of evaluation and developing evaluation tools and that will be specific to consistent factors, which I will go into detail about a little bit later.

Retail/wholesale establishments are experiencing major influxes that are progressive in time with the aging workers, young workers, Hispanic, non-English speaking, low literacy, and immigrant workers, and workers that have two jobs or workers from temp agencies. Increased workers in businesses lead to increased risks in exposures. From a proactive perspective, model programs have been developed and used throughout several states and include the injury and illness prevention for workplace security that was part of many years ago. Best practice applications on ergonomic principles -- and we even have an ergonomic program in California.

How do we know which program elements work best? How can these program elements be assessed in fostering our efforts? For example, in the injury and illness prevention program we want to know if the company has a formal safety policy. Do they encourage or discourage (*) non-performance? Do they promote safety in the workplace? What about the individual responsible? Are they being identified? Who are the competent individuals? Do they have the authority with respect to the assurance of compliance? Are there methods and means to follow through with this? Are employees encouraged to report through communication? In other words, are they given it in the language that's clearly understood by those that certainly would be affected the most?

So I think that it's having a systematic approach; one that is consistent and that can be used to cross state boundaries. The research data can be used during the self-evaluation during consultative interventions to demonstrate the elements that work best. In other words, we can go from one industry to another and say okay, these elements are working in the prevention of workplace violence. They're working in ergonomics. They're working in preventing slips and falls. At least we have a data system and a process that will evaluate the effectiveness of the injury and illness prevention program and process. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 592.01

Categorized with the following terms:

Sectors

- Construction
- Manufacturing
- Services
- Wholesale and Retail Trade

Population

- Older
- Language/culture/ethnicity
- Small business

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Traumatic injuries

Exposures

Approaches

- Engineering and administrative control/banding
- Personal protective equipment
- Training
- Economics
- Authoritative recommendation
- Marketing/dissemination
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: I'd like to thank you first for the opportunity and the invitation to come and speak with you folks today. My name is Chris Mariner and I've been a loss control consultant with the FCCI Insurance Group for 12 years. The FCCI Insurance Group is a multi-line regional commercial insurance carrier. We conduct business in 13 contiguous states, from Florida all the way up to Indiana.

In these states we write just over 43,000 policies. These policies include workers' compensation and general liability coverage among others.

Throughout the nation and the State of Florida, roughly 80 percent of the businesses are classified as small businesses. From an insurance perspective, the clients that we deal with are almost entirely classified as small businesses. Our insurers represent a very broad scope of occupations, including manufacturing, construction, restaurants, and general mercantile-type risks.

While the NIOSH website is an excellent resource for safety and loss prevention professionals, one of the shortcomings that we see is the complexity of some of the information that's on the website, and that's available there for small businesses. Given the size of these businesses, the technical level of expertise is typically low. The percentage that have personnel directed to safety and loss prevention is also very low. I hate to say it, but the overall ignorance level with regard to the required standards, training programs, and worksite safety tends to be fairly high.

We would like to see development of some sort of a small business compliance section. We feel that that would be very beneficial to our policy holders. In addition to some basic safe work practices, web-based written programs. For example, respiratory-protection programs; a sample template program that perhaps employers or policy holders could go into and make modifications. Lock out/tag out, blood-borne pathogens, hazard communications, and having them be in layman's terms, so that the basic shop with 15 or 30 employees can understand. Web-based training programs to assist employers in meeting the training criteria of these programs. Somebody mentioned ergonomics, we need some sort of an interactive ergonomics section where employers can look at what sort of ramifications ergonomics have. What type of work station setup may be best suited for their type of work? Anytime an OSHA standard is cited on the site, possibly having a hotlink to that standard, so it takes you directly to the OSHA website would also be very beneficial.

In addition to the aforementioned items, certain trades in Florida have seen a deterioration in their labor pool as a very serious challenge. Statewide unemployment is hovering near 3.3 percent as of the December numbers; with certain areas of the state well under that mark. Sociologists indicate that at any given point in time, 1.8 percent of the population is incapable of working. You can begin to see the dilemma that is presenting itself to employers in this state. Employers are settling for employees that they would not have hired in the past or turning a blind eye to immigration issue so that they can have enough bodies to get their work done. This combined with the looming retirement of the baby boomers and the aging workforce spell real trouble on the horizon for employers here in the state.

Simple and easy to understand programs and training materials in several of the predominant languages including Spanish would be very beneficial to many of the employers that I represent. Thank you very much and I appreciate the time.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 593.01

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Good afternoon. We got up at about 5:00 this morning and tried to get here as fast as we could. My name is Michael Wahl. I'm with the Wal-mart Stores, Incorporated in Bentonville, Arkansas. I've got a couple of my colleagues with me, Ryan Stanton and Joe Dial, who are two of our other directors. I manage the southeast area of the country. As you know, Wal-mart's growth is quite popular and it's gotten itself into quite a bit of areas within the country, and we continue to grow. I manage the southeast, which encompasses Louisiana all the way to Florida and then through to North Carolina.

I guess some of the things that we've been facing this year has to do with our propensity to grow. We have a lot of remodels, a lot of projects, a lot of expansions going on within our company. That in combination with turnover and the retail environment itself causes a lot of concerns for us and how can we maintain or sustain quality talent, new associates, associates that are willing to grow with the company, as well as keeping them safe from accidents.

We also in the retail sector have a concern for our customers as well. Cleanliness is going to be one of our mottos this year. How do we maintain cleanliness standards within our facilities to keep it a safe and healthful shopping experience for our customers? So that's some of the things that we're working on.

When you consider the retail sector, you also look at headline risk. As popular and as expansive as we are as a company, what is headline risk to us? You look at fires, catastrophic events -- we're constantly in the media. So there's always a lot of eyes watching us on a continual basis. We also have tire lube

express facilities, which is typically an oil-change facility, but we also change tires, and that can also lead to a certain catastrophic event.

We also have super centers that include grocery and the quality-assurance issues. With a lot of these undercover-type reporting that goes on we certainly want to maintain our integrity and not allow things to be placed at risk. We've got an aging workforce as many of all of us have. I think that's a concern for us as well. How do we sustain wellness programs? How do we maintain fit and healthy associates knowing that they're more susceptible to soft tissue-type injuries?

We're actually going to be attending a symposium over in the Orlando area in the next couple of days talking about off-the-job accidents. I think that's been somewhat of a concern or a possible issue with associate injuries within our facilities. How do we identify and understand the complexity of those types of accidents that are contributing to our bottom line? Within retail, I think some of the concerns that we have is how do you measure because you have that customer element. You've got associate man hours, but how do you come up with a simple measurement for the retail sector when customers are as important as our associates in providing a safe place for them to shop as well? So we're starting to look at some different ways of measurement and because we're kind of on a scale of our own in comparison to a lot of our competitors, we're actually looking at frequency of accidents per transaction, which we think will actually take into consideration the man hours worked as well as the customer exposure.

Probably the types of accidents in our stores are probably no different than anybody else. Some of the things that we're working to improve is our inventory flow process. There's a lot of technology that's used in the way we receive and freight merchandise through our stores and then out to the customer. So there's a lot of work and dedication involved in how we're going to ease that flow. Rather than bring merchandise on the sales floor and then expect it to go back into the back rooms, we're trying to figure out a way that we can just easily flow it through our counters or end-caps on a stack-basis, and then allowing the customers to check it out through the checkout and then exit the store. How you ease that process and reduce the amount of overstock is important to us. So those are just a couple of things that I've been thinking about as we flew in today. Thank you for your attention and if there's anything else we can do just let us know.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 594.01

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Training

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/13: Hi, I'm Cameron Brooks. I'm a senior at Plant High School. For the past few years I've been working as a summer intern as a contractor at the OSHA Training Institute Education Center at USF. During this time, I was involved in researching and developing training materials for teenage workers. I developed numerous safety and health topics in the OSHA general industry and construction industry regulations. I prepared Power Point presentations that were specifically aimed at the teenage audience. I also ran the USF OTI Education Center 10 and 30 hour OSHA card distribution office during the past summer.

What I'd like to see as my perspective as a teenager is I would like to see NIOSH develop a training intervention study to determine the effectiveness of teenage workers retail safety health. I feel that it doesn't target the teenage audience as much as it should. I found that there's a lack of adequate safety health and training materials designed for the teenage workers themselves.

My concern is that the currently available educational material may not adequately address all of the needs of this special and important risk population. Furthermore, teaching a teenager to be safe early in his career will carry over time and create good habits for when he's older.

A training intervention study could evaluate the type of training and information programs for injury prevention in a sample of retail injuries in Florida or another state. The results of the training intervention study could be used to estimate the effects that the various training programs have on reducing workers' compensation claims and on-the-job first aid injuries.

In addition, there can be publication of the best training practices of the retail safety and health training programs in peer-review literature to be made available by NIOSH for distribution throughout the rest of the nation. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Tampa, FL, 2006/02/13.

Comment ID: 595.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Thank you for the opportunity for comment. Rachel Kwapniewski, RN

Despite 20 years of data that characterize the hazards associated with patient handling, nurses and nursing personnel continue to have high injury incident rates: 7.6 cases per 100 full-time workers in hospital settings and 9.2 cases per 100 full-time workers in nursing and residential care facilities according to the 2004 Bureau of Labor Statistics (BLS) Report of Nonfatal Occupational Injuries and Illnesses (U.S. DOL BLS, 2004). Depending on their work setting, nurses and nursing personnel incur almost twice the risk of injury than the general working population that has an average incidence rate of 4.8 cases per 100 full-time workers (U.S. DOL BLS, 2004).

Nursing is a physically demanding job as one study illustrated that during an eight hour shift, the cumulative weight lifted by a nurse was equivalent to 1.8 tons (Nelson & Baptiste, 2004). The National Institute of Occupational Safety and Health (NIOSH) has determined 51 pounds the maximum recommended weight "under ideal conditions" for 99% of men and 75% of women (Waters et al., 1993). Nurses and nursing personnel are frequently required to work under less-than ideal conditions as a patient's status can be unpredictable, demanding workloads force nurses to rush through patient care, staffing shortages result in fewer personnel to assist with lifting tasks, and performing care in confined spaces such as small hospital rooms and bathrooms can be challenging.

In addition, the studies upon which a safe weight was determined were based mostly on men who were required to lift boxes from the floor in a vertical motion (Waters et al., 1993). This lifting scenario differs from nursing practice as in an adult setting, all patients weigh more than 51 pounds, the weight is unevenly distributed and patients are usually moved laterally and vertically simultaneously. In addition, females make up the majority of the nursing profession. For these reasons and more, manual lifting of patients has been widely cited as unsafe in the literature (Fragala & Bailey, 2003).

Musculoskeletal disorders (MSDs) involving days away from work among nurses and nursing personnel resulted in 49,500 cases for the year 2004 (U.S. DOL BLS, 2004). MSDs have enormous costs on the healthcare industry with direct and indirect costs approximated in the billions per year (Nelson, 2003). Long-term effects of back injuries include data showing that 12-18% of nurses plan to leave nursing due to back pain (Nelson & Baptiste, 2004). It has also been reported that 12% of nurses will change jobs to decrease risk of injury (Nelson & Baptiste, 2004). With the largest nursing shortage in history upon us, this can only accelerate the problem.

A change in legislation is critically needed for a profession whose numbers are dwindling and workers are sustaining injuries at unnecessarily high rates. Various hospitals and nursing/residential care facilities have responded by purchasing lifting equipment for their units, instituting "no-lift" policies, creating patient lift teams and performing patient care ergonomic assessments. However, the implementation of these interventions has been inconsistent and there is no national or mandatory approach to this problem in the United States.

The American Nurses Association (ANA) drafted a "Handle with Care" policy in 2004 which has recommendations for safe patient handling. The ANA is also currently working with NIOSH and the Department of Veteran Affairs Patient Safety Center to develop educational modules for nursing students (ANA, 2006). In 2002, OSHA drafted ergonomic guidelines for nursing homes (OSHA, 2006). However, these examples are all voluntary programs and wide discrepancies exist among lifting practices, equipment availability and training. To significantly reduce risk of injury and ensure a work environment free of recognized hazards for all health care personnel, a national comprehensive, mandatory policy is needed. For the next research agenda, NIOSH needs to investigate means for implementing safe patient handling practices on a national level.

Manual patient handling is a known hazard that continues to exist in hospitals and nursing/residential care facilities. From the literature, the hazards from specific lifting tasks have been well characterized. New equipment technologies have been developed to minimize the hazards but have not been employed uniformly throughout the U.S. At this time, research is required in the health services sector to integrate the existing knowledge about hazardous patient handling, effective policies, and available equipment into safe practice. Further work is indicated to formulate a national mandate to implement these safe policies in the most economic and efficient manner rather than relying on sporadic voluntary programs and educational programs in schools of nursing.

A national comprehensive mandated policy would require that hazards be minimized across all facilities in which patient care is provided by nurses and nursing personnel. Hospital units and nursing/residential care facilities would be required to allocate resources to complete a needs assessment for the type of patient handling program that is warranted. Based on the current literature and the needs of each entity, adjustments would be made to employ adequate staffing levels, purchase

lifting equipment, identify tools to assess patient handling needs, train staff on new policies and equipment, and evaluate their effectiveness.

Failing to implement a national, mandated patient handling program maintains work environments that are known to be unsafe to the worker as well as the patients. For instance, without a formal safe handling policy, patients are at risk for falls, joint dislocations and skin tears. We can not depend on voluntary programs as they currently have resulted in major discrepancies in work environments. In an ANA survey of 4,826 nurses, more than 50% reported that their facility did not offer devices to assist with patient handling (ANA, 2001).

Implementing a comprehensive patient handling program can decrease injuries dramatically (Fragala & Bailey, 2003). There are numerous studies in the literature showing reductions in injuries, lost work days, and workers' compensation costs among hospitals and nursing home/residential care facilities in which these programs have been implemented (Fragala & Bailey, 2003; Nelson, 2003; Nelson & Baptiste, 2004). NIOSH reports that an average claim for low back disorder is \$8,300 (NIOSH, 2006). Some hospitals, such as one in New York, have been able to cut their workers' compensation costs by 70% by implementing a comprehensive patient handling program (Fragala & Bailey, 2003). In addition, workers with back injuries/disorders will be able to return to work faster as this is a way to modify duty. Early return to work has been shown to further decrease workers' compensation costs and improve worker satisfaction.

With the threat of the worsening nursing shortage, sky rocketing health care costs and the aging population, it is imperative to improve the working conditions of nurses. Safe patient handling programs are one component of what is needed to improve these conditions.

Regrettably, this research will take time and thousands of nurses and nursing personnel will be injured in the meantime thus potentially contributing to the shortage of 1 million nurses predicted for 2012. However, to determine which programs are effective and merit modeling, the research is critical. The end result, a mandated, national comprehensive safe patient handling policy, will ensure a safe working environment for all healthcare personnel.

NIOSH needs to evaluate the safe patient handling programs that are currently in place to determine which ones are effective in decreasing injuries. The data from these studies can serve to identify models of safe patient handling programs which then can be applied to the variety of settings in which they are warranted. From this data, OSHA will have the foundation upon which to formulate a standard that specifically protects workers from hazards associated with patient handling and requires that all places of employment eliminate or minimize manual patient handling. From this mandate, nursing homes/residential care facilities and hospitals will be required to go beyond voluntary recommendations to implementing safe patient handling policies that protect all employees from the recognized hazards.

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Comment ID: 596.01

Categorized with the following terms:

Sectors

Unspecified

Population

Other

Health outcomes; diseases/injuries

Reproductive

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

I am concerned about the health effects of non-ionizing radiation at my workplace and the health effects on my unborn child.

Comment ID: 597.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I am very concerned about potential health risks associated with non-ionizing radiation. With the establishment of extensive cell phone towers and now the emersion of wi-fi, the public is being subjected to vaster amounts of this radiation, with little to no research/concern re: any possible harmful effects. I strongly urge that money be allocated to fund serious research into this technology.

Thank you.

Comment ID: 615.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance

Partners

Categorized comment or partial comment:

NIOSH conducted national hazard surveillance surveys in the past but it has been over 25 years since these surveys were conducted. Changes in the industrial and occupational mix in the American economy, the introduction of new processes and technologies, as well as changing occupational practices since these surveys were conducted have resulted in a need for more current occupational hazard and exposure information across all industry sectors. Hazard and exposure surveillance information, can be used to identify priority areas for further research and intervention, as well as to assess impact of these efforts.

Comment ID: 616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Exposures

Violence

Approaches

Intervention effectiveness research
Work-site implementation/demonstration
Authoritative recommendation
Emergency preparedness and response

Partners

Categorized comment or partial comment:

The New York State Public Employees Federation (PEF) represents over 53,000 professional, scientific, and technical employees who work for New York State agencies. Many of our members face significant health and safety hazards on a daily basis. Our members include 7,500 nurses who work in state institutions, more than 5,000 criminal justice workers, and thousands of social service workers. We provide the services and programs that are required to care for society's neediest and most dangerous citizens. There are four hazards that impact the greatest numbers of PEF members: 1) workplace violence from patients, clients, and inmates; 2) ergonomic hazards in offices or patient care settings; 3) contaminated or inadequate indoor air; and 4) infectious diseases such as TB, HIV, and HBV.

Workplace Violence

Workplace violence is the most important hazard for our members. The largest state agencies are those that provide direct care to the State's most dangerous criminals and citizens with serious mental illnesses and profound developmental disabilities.

Office of Mental Health-17,250 employees

Office of Mental Retardation and Developmental Disabilities-23,643 employees

Department of Correctional Services-32,386 employees

Each year, thousands of our members are assaulted, many with career-ending injuries. While OSHA has produced useful broad guidelines for Healthcare and Social Service workers and for the Late-night Retail

sector, there is still no enforceable standard. Again, workers are dependent upon the beneficence of their employers, with no recourse. With cuts in social services and state budgets, prevention efforts are sparse. NIOSH should continue funding research that evaluates the effectiveness of interventions, the OSHA guidelines, and identifies "best practices" in a variety of settings.

Comment ID: 616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Exposure assessment
Risk assessment methods
Engineering and administrative control/banding
Work-site implementation/demonstration
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Ergonomics

Ergonomics hazards are a second major area of concern. There are two main groups of our members at greatest risk. The first are nurses and others who provide direct patient care in nursing homes, psychiatric hospitals, and similar settings. It has been proven time and again that a comprehensive ergonomics program is cost effective in reducing back injuries due to patient transfers. Excellent mechanical lifting systems and other engineering controls exist, yet they are rarely provided in our workplaces. Even when new construction or major renovation occurs, the State is unwilling to install patient handling systems, as is currently the case in a Department of Health-run nursing home being constructed by the State.

The second group of PEF employees facing significant ergonomic risks is office workers, most commonly due to repetitive keyboarding jobs. Without federal standards, there is nothing to compel employers to address ergonomic hazards. Additional research is needed to document best practices and to improve techniques for measuring and evaluating ergonomic risk factors.

Comment ID: 616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Indoor environment

Approaches

Etiological research

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Air Quality

As many state workers spend much of their work time in offices, indoor air quality is often a significant concern. With budgetary constraints, cleaning and maintenance functions are often cut, with a resulting impact on the building environment. With spiraling energy costs, there are renewed incentives to reduce the amount of fresh outside air provided. As there are no federal indoor air quality standards, this is an area largely left to the discretion of the employer. Further research should focus on collaborative efforts to implement state-of-the-art Indoor Air Quality Management programs, measuring effectiveness, documenting "best practices" as well as examining the relationship between "sick building syndrome" and stress-related factors.

Comment ID: 616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Infectious Diseases

Thousands of our members work in healthcare or congregate settings. We are particularly at risk when outbreaks occur, whether of known or emerging pathogens. Hospitals typically employ infection control specialists, and hopefully have well-developed and implemented plans. Intervention research is particularly critical in non-hospital settings, where the expertise and resources for these programs may not exist. This becomes particularly critical with the potential emergence of a pandemic influenza. Underreporting of needle sticks and lack of access to training in newly available sharps technology continues to deter elimination of this potential for exposure to bloodborne pathogens.

Comment ID: 616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance Services

Population

Health outcomes; diseases/injuries

- Infectious diseases
- Musculoskeletal disorders

Exposures

- Work organization/stress
- Indoor environment
- Violence

Approaches

- Etiological research
- Exposure assessment
- Risk assessment methods
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Authoritative recommendation
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Research Methods

We are firm believers in Participatory Action Research. Nobody better understands hazards than workers who are exposed on a daily basis. Similarly, nobody can better identify and evaluate potential prevention measures than those workers. Workers should be involved in all phases of the research, from framing the research questions, to developing study methods, to ensuring that the results are promptly and effectively disseminated.

Comment ID: 625.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research
Engineering and administrative control/banding
Work-site implementation/demonstration
Authoritative recommendation
Emergency preparedness and response

Partners

The National Asphalt Pavement Association

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. My name is Gary Fore. I am vice president for environment, health and safety at the National Asphalt Pavement Association. Accompanying me and also representing NAPA is Don Elisburg, well known for his ability to facilitate government, industry, labor and academia partnership. NAPA is the exclusive national trade association representing the hot mix asphalt industry, with about 1,100 members and representing the majority of highway construction and street paving in the U.S. As such, we and our membership have invested heavily in health and safety of 300,000 or more workers. Don and I are here today to talk about the Asphalt Partnership, which is now in its eleventh year.

Why have we come to this town hall meeting? As participants in the Asphalt Partnership, we and our partners in the Laborers International Union of North America, the International Union of Operating Engineers, the Asphalt Institute, the Federal Highway Administration, and yes, NIOSH, were the recipients of the very first National Occupational Research Agenda Award for Partnering in the area of worker health and safety. This partnership has been successful, successful in bring research into practice in the workplace, and we believe it could serve as a problem-solving template for other worker health and safety opportunities. We want to share both our enthusiasm for the concept of partnerships and hopefully some insights relating to the partnership process, and in the end to bring some reality to this thing we call partnerships.

A brief history of the Asphalt Partnership. The foundation for the Asphalt Partnership was laid in 1995 with the initiative to develop and implement engineering controls for paving machines. Participating were NAPA, the Asphalt Institute, the Laborers Health and Safety Fund, the International Union of Operating Engineers, the Federal Highway Administration and, last but not least, NIOSH. The result of this effort was the publishing of engineering controls guidelines for hot mix asphalt pavers in January of '97, followed immediately with the signing of a voluntary agreement with OSHA to install engineering controls on all paving machines manufactured after July 1 of that year. The result? A significant reduction in fume concentrations surrounding paving operations. What otherwise would have required years to accomplish through regulatory channels was accomplished in 18 months.

Why did it work? Well, first off, all participants in the partnership shared a genuine concern about health of workers. All participants share concerns about the paving industry. All participants share a belief in the value of trust and cooperation. And in this case there was a need for cooperation. Specifically, the uncertainty at the time of asphalt fume and occupational safety and health surrounding paving operations.

What has happened since 1995, the beginning of the Asphalt Partnership? We have built on the Asphalt Partnership foundation through a continuation of the collaborative process and inclusion of other important occupational health and safety opportunities. In addition, we have added additional stakeholders who bring the core set of values as partners, including academia. While we will not be exhaustive this morning in delineating the substantial numbers of partnership activities over the past 11 years, we offer just a few examples of recent and current efforts -- again, to bring some reality.

Last year we completed a major test program working with NIOSH and the Center to Protect Worker Rights to evaluate and validate the effectiveness of engineering controls for reducing exposures to asphalt fumes surrounding paving operations. We assisted Harvard with efforts to secure a National Cancer Institute grant to conduct mechanistic research relating to asphalt fume and human exposures. We provided funding support to the Harvard School of Public Health and worked with them to investigate potential dermal exposures.

We have worked together for the past four years in an effort to reduce injuries and fatalities in highway work zones by developing and delivering safety training materials for the asphalt paving industry. Having securing funding via a Harwood Grant, we extended the Asphalt Partnership to form an OSHA Alliance for work zone safety including NIOSH, the FHWA, and the American Road and Transportation Builders Association in this important endeavor.

Currently we are working together to complete targeted scientific research to fill perceived gaps relating to the evaluation of asphalt paving fume as we prepare for an eventual IARC Monograph review of that subject.

I am happy to report this morning that we are currently engaged in a partnership with NIOSH, the Laborers Union, the Operating Engineers Union, the Associated Equipment Manufacturers and others to evaluate silica exposures surrounding asphalt milling machine operations and modeled after the highly successful paver engineering controls effort.

Where to from here? We have just formed a partnership effort with the FHWA, the American Association of State and Transportation Highway (sic) Officials, the State Departments of Transportation,

the State Asphalt Pavement Associations, the National Center for Asphalt Technology and the unions and others to research and implement warm mix technology in the U.S.

Why? Because we believe that asphalt fume and its composition is driven by temperature. Our vision: No fume equals no worker exposure. This is perhaps the largest single challenge this group has undertaken.

What insights do we offer for taking research to practice? It is possible. It is possible to bring research into practice through effective partnerships between government, labor, industry and academia. The power of the concept involves an unwavering commitment to a set of core principles and values.

Facilitation knowledge and skills are important. For that I would like to introduce Don Elisburg, a long-time friend and I would say the key to the success of these efforts. Thank you very much as you approach your agenda for the 21st century.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/032/13.

Comment ID: 626.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Thanks, Gary. I just wanted to add a couple of notes to the process, but the -- I must say that one of the things that -- having been engaged in this activity now for about -- since the 1970 Act through the spring of `70, I always think about how NIOSH came to be. And as I listened to Sid Soderholm`s description and the charts and the detail of how you`re going to the NORA process, I got to tell you that NIOSH was created in far less time than Sid took to explain the process. Believe me, and I was there when we wrote it. It was one afternoon at a very interesting lunch.

But having said that, the other point that I want to make from my -- actually from listening and my perception of the last NORA, and perhaps having Dr. Howard as a captive audience and perhaps take these as my remarks, not necessarily NAPA`s, but I think you have to look at what you`re trying to do here with this NORA and not have the process become so ponderous that you can`t get it done. I`m a firm believer in the KISS theory of making some of these things operate, which is, you know, Keep It Simple, Stupid. And I think that there is a value in this NORA program, but I think that also in the effort to include everybody in everything in every possible thing, you can sometimes get lost in the process. And I think it`s important to keep your eye on what it is to make it happen.

And that was really what we did in connection with this Asphalt Partnership that Gary`s been talking about, which is that we -- we had some views and there was some interest in getting some specific results. Some specific things to happen originally was to do with the engineering controls, and the focus was on what do we need to do to get these engineering controls in place now. Not in the process of a regulatory scheme in 15 years, what do we do now. And each of these items that we`ve been talking about -- and I think our colleague Travis from the Laborers will be talking about them, too -- when you begin to get to highway work zones, what could we do now. What is it that gives you a result that is not so far down the road that it becomes an abstract proposition. And I think that was the important part of what we learned in trying to put together the process.

Comment ID: 626.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Work-site implementation/demonstration
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

On the positive side for NIOSH, what we also found was that the NIOSH folks have been involved in this partnership with our people and various groups have been extraordinarily -- extraordinarily good in being willing to listen to what the -- what the industry, what the academic people, what the union folks, everybody had to say, because many of them came into this process with their little piece of the research that was assigned to their little unit, and they couldn't -- you know, and they had those blinders on and I think taking the blinders off has been very, very helpful both to us and to the partnership process. And I think it was the ability to have everyone together was -- was what made this thing an important success. As a matter of fact, Dr. Howard's predecessor, Dr. Linda Rosenstock, commented in the course of accepting one of the -- we were finalists I guess in the Innovations in Government awards one year for -- is it Ford Foundation, et cetera -- made the point that this was one of these cases where you had to make sure that you were -- you were dealing -- in the effort to get to perfect that you didn't keep the good from happening. And she thought this was one example of how you were able to get an important result in the process of understanding where you had to go with ultimately having something happen.

So with that, I will -- those were the only comments I wanted to make was that this was -- this was an example. We want to keep pointing out these partnerships and why this has been successful. As you saw, the whole range, from going from fumes to going from warm mix is an important part of what we see as the success of this research to practice notion of NORA.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Capacity building

Work-site occupational safety health system/record keeping

Partners

SH&E professional certification organizations like BCSP, ABIH and IHMN

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. My name is Michael Thompson. I'm a safety -- certified safety professional in comprehensive practice and I work for BP America as the health, safety, security, environment training advisor located in Houston, Texas. I am, however, here today in my capacity as the senior vice president for the American Society of Safety Engineers and a member of the Board of Directors representing ASSE's 30,000-member safety, health and environmental professionals.

I'd like to say to Dr. Howard and Max Lum and Sid Soderholm, thank you and commend you and NIOSH for your leadership and allowing this type of town hall to take place over the last three months, and I very much appreciate that on behalf of the 30,000 members of the American Society of Safety Engineers. Those involved in NORA for this proactive and unprecedented approach in advancing the safety and health research our members rely on every day to do their work is very much appreciated. We know that without an aggressive safety and health research agenda, designed for the future, our responsibility for managing workplace safety and health risks will become increasingly difficult.

Today is the third time that ASSE has testified at these town meetings, and we are hearing reports that members of ASSE have been sharing their ideas in each of the town meetings across the country, talking about how more research is needed to provide a better understanding of behavior-based safety, to the need for better anthropometric data for use in designing tools, equipment and workplaces, to the need for better stability calculations for small boats. The time and effort our members have given to this process comes as no surprise to me, given the commitment to safety and health and the expertise and experience in virtually every industry that I've long-ago learned was the hallmark of the SH&E profession.

Today I'd like to talk to you just briefly about several issues uniquely important to our members. First, professionalism in safety, health and environment profession and practice. One area of occupational safety and health research that ASSE believes has been wholly overlooked is the role the SH&E profession plays in advancing safety and health. However much NIOSH-led research may help in addressing specific risks, if employers do not have properly-trained and assigned SH&E professionals in the workplace, perhaps the most important component of achieving safe, healthier workplaces will have been missed.

The time has come to advance research that will give the safety and health community and employers a better understanding of the professional preparation and accreditation needed for an SH&E professional to function appropriately as managers of workplace risks. A key to this inquiry may be to help define SH&E practice at various levels. This could begin with job analysis research to help define functions, tasks, knowledge and skills of the SH&E professional by level of expertise and responsibility. Quality SH&E professional certification organizations like BCSP, ABIH and IHMN already undertake this kind of analysis in order to meet stringent accreditation requirements. ASSE urges NIOSH to work with these organizations to develop a comprehensive understanding of tasks and capabilities throughout the industries.

Such research then can provide a basis to help examine other professional issues such as appropriate levels of SH&E education and training, the extent to which SH&E professional segments have converged across traditional job roles, and the role of technology on SH&E practice.

Also, like many industries, SH&E is facing growing concern over the graying of practitioners and declining numbers in some segments of the profession. A better understanding of the availability and distribution of SH&E professionals will help industries better plan for future needs.

Most important is a need for better understanding of the impact that SH&E professionalism has on health and safety performance. Employers especially deserve better information to understand fully the impact of their decisions on who has responsibility for SH&E management in a workplace.

A related issue is the need to help future academic leadership in safety. Only one Ph.D. program in safety exists today. If the safety profession is to continue to advance and meet the challenges of the future, finding ways to encourage more individuals to achieve the highest level of safety education will be necessary. Research to help determine how to achieve that is needed.

Comment ID: 627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Marketing/dissemination

Partners

standards development community

Categorized comment or partial comment:

The second issue I'd like to speak about is involving the standards community. Following -- ASSE, following the lead of its ASSE Foundation's Research Committee, we urge NIOSH and NORA's agenda to better involve the standards development community in research efforts. Cooperation and involvement in the national consensus standards process will help ensure that NORA applied research findings become operational in the field. ASSE's more detailed comments which will be submitted for the record give specific -- a variety of ideas on how to achieve such an effort, including appointing standards committee officers to serve as co-chairs of the sector councils, and securing representation on the affected standards committees as active participants in liaison non-voting capacities. Voluntary consensus standards play an increasingly determinant role in company safety decisions, which safety and health research cannot overlook.

Comment ID: 627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

ASSE`s Research Foundation Committees

Categorized comment or partial comment:

Finally my third comment, safety and health management, ASSE and the ASSE Foundation Research Committee are concerned that not enough research is being conducted to examine the importance of broad safety and health management in the corporate and -- structures of organizations. Our members in many companies believe that effective safety and health management programs reduce injuries and illnesses and fatalities. Only NIOSH`s leadership can bring forth definitive data-driven studies.

In conclusion let me say that ASSE commends NIOSH and those who have made the NORA series of town hall meetings today. ASSE`s Research Foundation Committees and others look forward to working with NORA and NIOSH as they advance research to practice, and I very much appreciate the time and opportunities.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 628.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Surveillance

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: I see her. My name is Jenny Schumann and I represent the Coalition for Safe Community Needle Disposal. We're a non-profit organization dedicated to change the way people dispose of their used needles at home, so this is out of the traditional healthcare setting.

On the behalf of the Coalition, we are requesting that NORA consider conducting a study to determine the rate of needle sticks in the environmental services industry, which includes waste workers, professional housekeepers, janitors and sewage treatment center workers. This study could also include other non-health industries, as well. I know that partnership is a big part of NORA and NIOSH, and the Coalition is already a partnership. We were formed a few years ago -- two or three years ago by the CDC. It was the brain child of the CDC and we have worked with OSHA, EPA, we're currently working with CMS -- those are some of the government agencies. We also have representation from the healthcare associations like American Medical Association, American Diabetes Association -- I could go on and on with all of those -- and we're represented by the -- by the trash -- or the -- trash, the waste industry, and we're represented by the other government agencies like the U.S. Conference of Mayors and National Association of City and County Health Officials.

Anyway, current estimates show that between eight and million (sic) Americans are injecting in their home, generating between two and three billion needles annually. Two-thirds of these people are injecting for medicinal purposes, ranging from arthritis to HIV to hepatitis to diabetes. The remaining one-third we believe to be illicit drug users, so that's two-thirds of the population that we can actually get our hands around. The other third we're working now on those with syringe exchange programs.

Unfortunately, the most common method of disposal for the household needle is the trash, a place that is becoming increasingly dangerous to environmental services workers, as well as the general public. Due to the nature of collection, waste collection waste workers are at risk for abrasions, cuts, small

puncture wounds, wounds and industries on the -- or injuries on the job. Because of the speed and physical activity of their job, many waste workers don't even know if they've been stuck by a needle. Therefore, the number of needle sticks in the waste injury (sic) reports on the OSHA 300 log is potentially under-reported and an appropriate estimation would be difficult to make. And that's what we're often forced to is try to make an estimation of the number of needle sticks in the industry, and it's virtually impossible.

The hospitality industry, which includes professional housekeepers or janitors -- those that clean hotels and motels, businesses, casinos, arenas, airports, restaurants -- often run across loose needles thrown directly into the garbage. We are especially concerned about these fresher needles for this -- for this group, and the potential for infectious disease carried on the needles and the high risk of transmission for housekeepers if accidentally stuck. Some hotel chains are starting to offer discreetly sharps containers for their -- for their guests, but those are often not used, as well, so the whole idea is to get them out of the waste stream and allow them not to be thrown directly in the garbage.

And finally, the sewage treatment facilities are still seeing a fair amount of needles being flushed down the toilet. These needles, like the waste industry, have to be hand-picked out of the whole process.

The problem of needle sticks injuries in household trash will continue to increase as our healthcare system continues to push medical treatment out of the hospital and back into the home. Four self-injecting drugs were introduced in the past two years for relatively common illnesses such as osteoporosis, arthritis, psoriasis and HIV, so people are injecting for HIV -- and again, hepatitis B and C -- at home and throwing those needles in the garbage.

We're sending a very unsettling message to environmental services workers and others by not requiring safer disposal laws for home injectors. The nation attempts to protect our environment from dangerous chemicals, oils, paints, et cetera, that -- with the household hazards waste program, but does allow -- continue to allow needles directly in the garbage.

Government agencies are beginning to treat the -- see the threat of these in the trash. The EPA wrote its recom-- rewrote its recommendations on safe needle disposal in the home in December 2004, so it does no longer suggest throwing needles in the garbage. A bill is currently -- currently in the House to provide needle disposal coverage under Part D of Medicare. And again, like I said, the CDC was very instrumental in forming the Coalition. So -- and we're also starting to see states move in that direction, so we are seeing the move and shift to getting it out of the garbage, but what is -- what is missing in all the piece is a needle stick study.

And so the threat of needle sticks to our environment work -- service workers is real, and to get our hands around the issue we desperately need a study to determine at what rate these workers are being stuck. With the information that is collected from the study, we believe we are able to protect our workers and encourage changes in needle stick study. We believe a needle stick study is long overdue for waste industry and the environmental services industry.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 629.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Please research the health effects (including non-heating effects) of RF radiation, especially from mobile phones. Many companies require cell phones by employees.

Comment ID: 655.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Partners

Categorized comment or partial comment:

I am interested in vaccines for Lyme disease, EEE, and West Nile virus as these may affect many of the population I work with - maintenance, construction, athletics, summer camps, other outdoor events, etc. protection in these areas would solve some of the concerns these populations have.

Comment ID: 655.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

2 other areas of concern rest with various slips and falls, and controlling lifting injuries. Easy and effective training methods in these areas would help to increase the awareness of these high loss areas. Developing a "very basic" Ergonomic standard would help to place more focus on the lifting injuries.

Comment ID: 657.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Youth
- Older

Health outcomes; diseases/injuries

Exposures

- Radiation (ionizing and non-ionizing)

Approaches

- Etiological research
- Exposure assessment

Partners

Categorized comment or partial comment:

This comment for NIOSH-047, the docket for setting the NORA research agenda for the next decade, is submitted by The EMR Policy Institute, P.O. Box 117, Marshfield VT 05658 (www.emrpolicy.org). Links given in this statement refer to documents found on this web site.

Workplace exposures to electromagnetic fields (EMFs) from ELF (Extremely Low Frequency) up through the RF/MW (radiofrequency/microwave) radiation frequencies continue to increase and are becoming a ubiquitous environmental factor across all occupational sectors. Wireless internet networks in offices, schools, restaurants, and transportation terminals, i.e., airport terminal "hot spots", are commonplace and continue to expand. The job requirement that employees use cell phones, Palm Pilots, Blackberries and other wireless devices so that they can be in constant contact with their employers has become the norm. Many other jobs now require employees to operate electronic equipment and machinery that emit electromagnetic fields from the ELF range up through the RF/MW frequencies.

It is crucial that NIOSH include in the NORA funding agenda for the next decade research on occupational exposures to EMFs across all occupational sectors. No other federal agency is in a position to fund this important research.

US federal public health policy for long-term, low-intensity EMF exposure is inadequate. For example, the Federal Communications Commission (FCC), an engineering and licensing agency, is responsible for assuring the safety of the public's exposure to environmental levels of RF/MW radiation. A synopsis of the flaws in the FCC's safety policy for human exposure to RF/MW radiation has been outlined by science writer B. Blake Levitt in her book, *Electromagnetic Fields, A Consumer's Guide to the Issues and How to Protect Ourselves* (Harcourt Brace, 1995). This synopsis was updated by the author in 2005 and is used here with her permission:

The Federal Communications Commission (FCC) is a licensing and engineering agency that relies on other agencies to recommend and set safety standards for communications technology. It is not a health agency itself.

The FCC has traditionally adopted safety recommendations from the American National Standards Institute (ANSI). ANSI is an industry-based organization comprised of numerous committees representing diverse business interests, such as automobile manufacturers, chemical/pharmaceutical companies, the electrical industries, and many others. To create standards for radiofrequency/microwave radiation (RF/MW) used in telecommunications and other RF/MW-related activities, ANSI looks to a subcommittee of the Institute of Electrical and Electronics Engineers (IEEE) called C95.1 that is responsible for making recommendations for RF/MW exposures. The standards are referred to as ANSI-IEEE C95.1-1992; the date refers to the last year in which revisions were made to the original standard, which was put out in 1966. There is currently a subcommittee within C-95.1, called SC-4*, that is circulating a draft to relax the U.S. standards even further - at a time when the FCC is issuing more licenses for wireless technologies. This is a step in the wrong direction. The U.S. is already among the most lenient of the industrialized countries re: RF/MW exposures.

The National Council on Radiation Protection and Measurements (NCRP) also sets standards for diverse radiation-producing products, including RF/MW-emitting devices. The NCRP is the only agency mandated by Congress to set radiation standards. In 1986, it set a standard for RF/MW exposure levels for the general public that was five times more stringent than the ANSI/IEEE standard. Unfortunately, due to funding problems, the NCRP committee has not been able to review and update its current recommendation for RF/MW biological effects and it is doing no further standards work at this time.

The U.S. Environmental Protection Agency (EPA) is required by statute to provide guidance in formulation of all radiation standards to federal agencies regarding all matters directly or indirectly affecting health. In the 1996 Telecommunications Act, Congress - while preempting states' rights for environmental control over RF/MW health concerns - mandated that the FCC get its regulatory house in order. The FCC was widely expected to adopt the IEEE/ANSI standard again. Both industry and the U.S. military favored it and lobbied hard for that adoption. But for the first time, the EPA urged that the NCRP standard be adopted instead. What the FCC adopted was a two-tiered amalgamation of the two standards. Civilian exposures (called "uncontrolled environments") follow the NCRP standard while professional exposures (called "controlled environments") follow the ANSI-IEEE standard. The rationale for the higher professional limits is that professionals understand the risks.

While inclusion of the NCRP recommendation for civilian exposures was a step in the right direction, the standards are still seriously flawed.

The model used for both the IEEE and the NCRP standards is an adult male of average height and weight. Though safety margins are factored in, the standards do not take women, pregnant women, or children into consideration – all of whom absorb radiation differently than this “average” model. Nor does it consider the elderly or the infirm who are more susceptible to adverse exposures.

1. The model, and all of the research it is drawn from, is based solely on the thermal effects these frequencies can create. It has been known for decades that microwaves, at sufficient power output, can create heating. That’s what occurs in a microwave oven. The current FCC model presumes that nothing adverse other than heating occurs. Therefore, if heating does not occur, no other adverse biological effect does either. But a range of adverse non-thermal effects have been noted for decades as well – at levels significantly lower than the current FCC standard. This has been at the heart of the debate since the 1950’s.

2. The FCC standards do not take into account:

- Numerous research reports finding non-thermal effects.
- Long-term, low-level, continuous exposures such as would be found in schools, workplaces, and homes near RF/MW-emitting installations.
- The potential for RF/MW radiation to create standing RF/MW "hot-spots" near metal objects (water towers, other antenna towers, metal roofs, metal girders used in some architectural designs, elevator shafts, metal fences, metal in furniture, etc.)
- The distinction between digital (pulsed-wave) technology and the older analog (continuous-wave) technology. Pulsed RF has been found in several experiments to increase abnormal cell growth in tumorigenic cell cultures by up to 3000%. Digital technology exposures — such as the PCS frequencies used most widely today for mobile phones/towers — is the area where more lenient recommendations are expected to be made, despite research calling this into question.

3. The NCRP tier of the standards took no studies past 1985 into consideration; the ANSI-IEEE tier took no studies past 1986 into consideration. Therefore, although the FCC claims to keep track of the subject, the standards currently in place at the FCC are outdated by two decades of new research.

4. The FCC requires very little RF radiation monitoring from its licensees and does little of its own. As a result the aggregate of many co-located installations, and resulting RF accumulation, is poorly documented and remains unmonitored unless a community complains to the FCC about interference with other devices.

5. The IEEE is mainly comprised of engineers and physicists who deal with the non-living sciences. They have traditionally been charged with making these technologies work, not with understanding the health effects that are within the purview of the “living” sciences of biology and medicine. Yet appropriate funds for RF research in the living sciences have never been forthcoming. The FCC RF standards in place today are based on a faulty thermal model, designed by professionals from an inadequate range of scientific disciplines, and are drawn from research of an inappropriate kind (short-term, high-power designs models.) For many of the new personal wireless services, the FCC does not monitor any communications installations for RF compliance. They issue licenses for whole regions and

do not have a complete inventory list of actual installations and no idea where many are located. RF emissions levels are usually based solely on computer models done by the industry when applying for licenses, not on actual on-site measurements.

6. Meanwhile, the EPA has only been provided \$25,000 in the last 5 years for RF/MW radiation research. While the FCC sets the RF/MW radiation limits for wireless technologies, the FCC states officially that it is not a health agency and is not knowledgeable about human health.

*[IEEE's SC-4 has since been renamed the International Committee on Electromagnetic Safety (ICES).]

At the same time that the American workplace has become a place of ubiquitous EMF exposure, federal funding for research on potential adverse health effects from long-term continuous or repeated exposure to EMFs has dried up. Through the late 1980's the EPA had 30-35 full-time employees researching EMF environmental exposure. 1995 was the last year that the EPA budget included any EMF research funding. At present there is one EPA employee who devotes half of his time to tracking the EMF research. No other federal health agency has an EMF research program. Yet individuals in the federal health agencies recognize the inadequacy of the current federal regulations for EMF environmental exposures.

A prime example of initiatives undertaken by the federal health agency employees with expertise in EMF exposures is the June 17, 1999 letter written by the federal Radiofrequency Interagency Work Group (RFIAWG) to the IEEE's SC-4 committee delineating the inadequacies the work group finds in the IEEE's RF safety guidelines. (See: Exhibit A - Letter of June 17, 1999, from the U.S. federal Radiofrequency Interagency Work Group to Richard Tell, Chairman of IEEE's SCC28 Subcommittee 4 Risk Assessment Work Group, outlining RF guidelines issues.) The RFIAWG is made of RF experts from the EPA, the FCC, the Occupational Safety and Health Administration (OSHA), the National Institutes of Health (NIH), the National Institute of Occupational Safety and Health (NIOSH), the Food and Drug Administration (FDA), and the National Telecommunications Information Agency (NTIA). IEEE has yet to respond substantively to the issues raised in the 1999 RFIAWG letter.

Based on the issues in the 1999 RFIAWG letter, the EMR Policy Institute provided legal and financial resources to challenge at the commission level and subsequently in federal court the FCC's reliance on the IEEE's RF safety scheme. All of the filings in that legal process are found at:

http://www.emrpolicy.org/litigation/case_law/index.htm and Background on Citizens Brief Filed Against the FCC in D.C. Circuit Court of Appeals and NOI Background Page.

The FCC's reasoning in this case stated that because it is not a health agency, it does have a responsibility to address the issues laid out by the 1999 RFIAWWG letter:

If efforts to revise or update our RF safety limits based on research in the field or on other factors are appropriate, that determination should be made by these [EPA, FDA] or other federal agencies with primary expertise in and responsibility for ensuring public health and safety, and should not be made in the first instance by the FCC. Accordingly, any proceeding or inquiry should be initiated by and maintained under the auspices of such agency or agencies, and the determination of whether such an inquiry or proceeding is appropriate at this time should also be made by such agency or agencies. Accordingly, our dismissal of your petition should not be construed as a determination on the substantive merits of the matters it raises.

In its ruling on the EMR appeal, the United States Court of Appeals for the District of Columbia Circuit was satisfied with the FCC's posture of watchful waiting.

The EMR Policy Institute then provided legal and financial resources to appeal this ruling to the Supreme Court in May, 2005. The EMR Petition to the high court asked the high court to overturn the Court of Appeals decision concurring with the FCC order that refused to gather information and thoroughly investigate the consequences of 24/7 exposure to RF/MW radiation from antenna sites that power 180 million mobile phones across the country.

The problem is that no public agency really knows what the environmental impact of this blanket of RF radiation is on the people and animals in its path, especially the most vulnerable members of society – the elderly, infirm, small children, the unborn. The reason no one knows is that the one agency that has been given total pre-emptive control over this issue by the U.S. Congress is the FCC, which refuses to try to find out, as the FCC final Order in this case shows.

This is an “innocent bystander” case. EMR represents the interests of members of the general public who, as innocent bystanders, are continuously bombarded by ever-increasing amounts and higher and higher frequencies of wireless transmissions in workplaces, homes and schools, generating growing layers of RF radiation with the potential of long-term adverse human health effects that may not be discovered and diagnosed until long after it is too late to do anything to prevent them.

The Supreme Court denied hearing this argument in June, 2005.

Given this history of US federal policy on RF safety for the American public, it is crucial that NIOSH include funding for the next ten years of NORA for an RF/EMF research program studying exposures to American workers across all occupational sectors. There is no other federal program in place and no other agency with experienced staff who are showing any interest in investigating this ubiquitous environmental exposure. Research of occupational settings gives some ability to quantify the workers' exposures because of time sheets, employment records and job descriptions that may include information on what electronic devices were required in a particular occupational field. Research of exposures to the general public, especially in their homes, does not have this built-in head start on quantifying exposures.

Comment ID: 658.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: I work for the United Food and Commercial Workers Union. The UFCW represents retail grocery store workers, meat packing and poultry workers, and many other workers in both manufacturing and service.

I wanted to talk specifically today about meat packing and poultry, and three big issues in those industries.

But may I just put in a plug for the retail grocery store folks, musculoskeletal disorders remain the primary injury that is suffered by these workers, especially in grocery.

Comment ID: 658.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Services

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Hearing loss
- Musculoskeletal disorders
- Traumatic injuries

Exposures

- Chemicals/liquids/particles/vapors
- Work organization/stress

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

The three issues are safety, line speed and immigrant workers. Meat packing and poultry remain some of the most hazardous industries in the U.S. The injuries include amputations, strains and sprains, lacerations, hearing loss; slips, trips and falls; chemical exposures, and MSDs -- musculoskeletal disorders -- again remain the number one injury suffered in those industries.

A brief history, this industry was targeted by OSHA back in the mid-'80s right up into the early '90s. A tremendous amount has been done in the industry on this issue of MSDs -- new equipment, new design of the lines -- really revolutionary, some of the design -- replacing workers with equipment that's drastically helped this. However, again, they still remain number one and so the issue of line speed, which I'll talk about in a minute, we believe comes into that.

The injuries are caused by dangerous equipment. They're dealing with live animals, very sharp knives and machinery, slippery floors from fat, grease, water, and a numbing pace of work and line speed.

When I go out and talk to stewards, the folks in the workplace that are responsible for all sorts of things including maintenance of the contract, but also safety, they will tell me that the number one hazard in these plants today is line speed. There have been two report-- in 2005 there were two reports, one by the GAO and one by Human Rights Watch. Both of those, independently, came up with line speed as a huge issue that needed research, and they actually recommended that NIOSH do that research.

Another part of this industry are the cleaning crews that go in at night. These fall right through the cracks in terms of statistics because they're not working for a meat company; they're working for a cleaning company, and that's a really bad SIC industry code because it includes cleaning, you know, an office building. So try to compare cleaning with 180 degree water at a very fast pace because you've got to have that plant clean by morning to have the animals be coming in to be slaughtered. Many of these workers are immigrant workers. Most of them, as a matter of fact, we're finding out. They're not covered by unions. They're almost -- virtually impossible to organize.

The GAO report in addition found that there's a standard sitting at OSHA around payment for personal protective equipment that impacts these workers -- low-wage workers and immigrant workers -- disproportionately, that in more sophisticated injuries personal protective equipment is paid for, but you don't find that in these kind of -- well, not -- not as -- that meat packing is underground, but sort of the -- what is that called, the -- the sector that's sort of -- oh, shoot, what is that -- what is the word that I'm looking for?

UNIDENTIFIED: (Off microphone) (Unintelligible)

MS. NOWELL: Yeah, something like that -- informal, there it is -- informal sector. The third point being -- and they also found under-reporting of injuries.

My third point, immigrant workers, they are the majority in most of these plants, many of these plants, especially the large ones. Both of the reports found exploitation of these workers because of their lack of English, because of their lack of knowledge of U.S. laws, and because of their perhaps lack of legal documents. They found discrimination of these workers. So my -- our recommendations are that NIOSH do research on line speed. I know that they're looking into that now, and -- and the contribution that it's having to injuries, and that there be a special emphasis on immigrant workers.

In terms of partnership, you have to have a willing industry to partner with, so I give you my blessing for finding that. Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 659.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Services
- Wholesale and Retail Trade

Population

- Youth
- Small business

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

- Training
- Marketing/dissemination

Partners

- Association for Career and Technical Education

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Where do I look for the heavy? Good morning, I`m Seth Turner. I`m the senior director of public policy for the Association for Career and Technical Education. ACTE is the voice for roughly 30,000 CTE teachers, school administrators, guidance counselors and school principals across the country. ACTE and NIOSH have -- have a shared concern about young workers, and have participated in many ways for many years to improve occupational safety and health for young student workers. We look forward to our continued partnership for years to come.

The occupational industry`s problem for young student workers in the United States is a very serious problem. The 2003 NIOSH alert publication indicated that 70 to 80 percent of teens have worked during their high school years, and the Bureau of Labor Statistics reported in 2000 that 2.9 million students between the ages of 15 and 17 worked during the school year, and 4 million students in the same age bracket worked during the summer. U.S. students work at service jobs such as cashiers, gas station attendants, cosmetology assistants and entertainment and recreation industry, health services, in restaurants, in retail stores, grocery stores, manufacturing, agriculture and in construction. The

problems we face with young workers are lack of awareness, experience, training and risk-taking behavior which often results in industries -- I'm sorry, in injuries.

NIOSH estimates that each year in the U.S. 240,000 adolescent workers suffer work-related injuries; 77 require treatment in hospital emergency rooms, and unfortunately 70 student workers each year because of their work-related injuries. That's one occupational death every five days. In addition, an additional 100 teenagers die while working on farms every year. The direct and indirect costs of these injuries amounts to approximately \$5 billion annually.

To address these issues and reduce occupational injuries, NIOSH has been involved in occupational safety and health for years and has disseminated safety and health information to reduce the injuries of young workers.

I'd just like to summarize some ways that NIOSH and ACTE have collaborated over the years to address this problem. For years NIOSH and ACTE have worked to raise the awareness of occupational safety and health in schools, to promote a safe and healthy workplace, and to reduce injuries. NIOSH and ACTE cosponsored seven times in the last nine years the National Safety Competition and award for educators in career and technical schools. For safety -- the safety competition has been advertised in ACTE's technique magazine and on its web site, and NIOSH has promoted the competition on its web site over the last few years. Additionally, NIOSH has been presenting the safety award to the winning teacher at ACTE's national policy seminar's power breakfast in Washington, D.C. This year for the first time NIOSH also sponsored an exhibit booth at the national policy seminar. For the last ten years NIOSH has been invited to bring a NIOSH safety update during a one-hour session during ACTE's annual convention, and for several years NIOSH has participated at ACTE's annual convention with an exhibit booth -- with an exhibit booth that disseminated publications. ACTE has also helped during that event by selling NIOSH publications at its bookstore.

Some things that we can do to continue the partnership. ACTE has a trusted educational network of community-based training programs conducted and recognized educational institutions which place their students in predominantly local, small to medium-sized business enterprises. This trusted source of training and education is an ideal environment for better characterizing the need for safety training, and could serve as an important link in outreach to the small business community.

Young workers are at risk if not properly trained. ACTE could provide an important partner in developing realistic curricula and case studies and assisting and evaluating the effectiveness of outreach in training activities. It could serve as an important community-based resource.

Lastly ACTE hopes to work with NIOSH to rejuvenate and expand the teacher safety awards as a model for other educational organizations and institutions.

I'd like to take this final opportunity to thank NIOSH for inviting me to make these brief remarks today. Further, I'd like to commend it for its longstanding commitment to the health and safety of young student workers. ACTE appreciates your dedication and welcomes our continued partnerships for years to come. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 660.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. I`m Julia Storm. I`m a cooperative extension specialist at North Carolina State University, and I`m responsible for agricultural health and safety, education and outreach.

I`d like to make some recommendations for the agricultural sector.

First, I think we need to better characterize what health and safety practices are being practiced currently in agriculture. What are the barriers to those that are not being practiced, and what could be some economic or other incentives for adopting and sustaining good health and safety practices in agriculture.

Secondly -- and just for an example, we have some information coming out of the agricultural health study about this. We know that in North Carolina among farmer pesticide applicators the use of chemically-resistant gloves doubled in the ten years between the mid-1980s and the mid-1990s. So it would be good if we had those kinds of measures for all kinds of -- the whole -- the whole gamut of health and safety practices.

Comment ID: 660.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Partners

Agricultural Health Study (in Iowa and North Carolina)

Categorized comment or partial comment:

Secondly, I think that NIOSH should continue to capitalize and further capitalize on the opportunity to collaborate with the agricultural health study. This is a large ongoing comprehensive long-term health study of farmers and farm families in North Carolina and Iowa. I know there's currently some collaborative research going on there, but I think that's a great opportunity that should be followed up on, particularly with research that bridges toxicology and epidemiology to further characterize the chronic health issues that are associated with pesticide exposure. This would help in identifying susceptible populations and those gene/environment interactions that may be going on with chronic health issues associated with pesticide exposure.

Comment ID: 660.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Thirdly, I think that we need to better characterize and learn more about the actual pesticide exposure of farm workers in a variety of field situations. I know there's been some great work in the northwest in agriculture in identifying what is going on with pesticide exposure in field work, and also, along with that, identifying practical interventions that will reduce exposure where needed and protect workers.

Comment ID: 660.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Fourth, I think that there's some recent initiatives that have taken place to -- as consensus and stakeholder processes in the agricultural sector that should inform the NORA, and I've brought two of them here. They're published in 2003. One is the National Land Grant Research and Extension Agenda for Agricultural Safety and Health. That was prepared by a committee on agricultural safety and health research and extension. And also a very thorough consensus process also documented in 2003 by -- edited by Petrie using history and accomplishments to plan for the future, a summary of 15 years in agricultural safety and health and action steps for future directions. This is -- a tremendous amount of input went into this particular document and I think NORA could do well by -- by utilizing that information.

Comment ID: 660.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Finally, I think it would be really helpful for NORA to be in a format similar to the healthy -- or at least an aspect of NORA be in the format of the Healthy People 2010 goals and objectives for each industry sector. We need to establish targets that we like to meet, to measure our progress, and then ongoingly (sic) identify the research, intervention and outreach and education gaps.

Comment ID: 660.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

The other would be to do some more study in factors affecting the access to and benefits of preventive occupational health and safety services for agriculture, as well as emergency services for farmers and farm workers.

Thank you very much for the opportunity to comment.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 661.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning, and how is everybody out there this morning? My name is Travis Parsons. I represent the Laborers Health and Safety Fund. I am the senior safety and health specialist for the Fund. We represent Laborers International Union, over 800,000 workers all over North America. We do health and safety services for them. Everything -- we're predominantly construction workers, which is your heavy highway workers, your building construction, about 600,000 of our membership is construction work. We also represent public employees, which represents another 200,000 or so, and that is everything under the sun, so you know, again, through other construction workers to janitors to maintenance workers to everything. So that's what we represent.

At our annual conference we had about -- I guess it was about three weeks ago, we had a very similar thing to this -- this workshop right here. We actually had a round table discussion with NIOSH's assistance at the conference, and what I'm going to do today is just summarize the things that came out of that meeting, with a couple of other things, so -- try to be brief. I could go on forever, but...

One of the big -- two-est (sic) big things that came out that we think there needs to be research in is more research in demolition industry when it comes down from (unintelligible) -- there's not a whole lot of stuff out there when it comes to demolition and it's a very dangerous work, very dangerous work. There's going to be more of it in the metropolitan areas coming up.

Comment ID: 661.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Also night work on the highways (unintelligible). Night work is increasing, especially in the metropolitan areas, and we need more research in that. Is it more dangerous? Of course, we think it inherently is because it's at night and the drivers at night are sometimes more dangerous but really is it and why are we doing night work? What research needs to be done?

And that alludes to work zones in general. Our workers are always concerned about working on the work zones and a lot of our workers work on the work zones and that alludes to also, which was discussed earlier -- earlier by Don and Gary about the partnerships with NIOSH's assistance and OSHA's assistance. Partnerships are very, very important and we definitely need to continue those and build on the successes that we've had. They spoke very eloquently earlier about the highway work zone lines so I'm not going to talk about that. We don't need to reiterate what they said, but we just need to continue those efforts.

Comment ID: 661.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Services
- Unspecified

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

- Health service delivery

Partners

Categorized comment or partial comment:

Other areas of research that we see a need for is Hispanic and other non-English-speaking workers. It's increasing in our country, as we know, especially in the Hispanic population, especially in major cities. What differences do they have? Do they understand the rights? Do they have health and safety rights? Do they know that? What differences do they have in the workforce? Do -- are -- is that a concern to them? How do we get through to them? That's a big, big problem within our organization so it's -- Hispanic is the main one, and other non-English-speaking.

Comment ID: 661.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Training
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

Let`s talk a little bit about training -- training in general. Health and safe-- there`s a whole lot of health and safety training out there now as -- that exists. But what really works? How do we impact our workers and how do we impact our workforce? Does the existing training really work? So I think there needs to be some research on the evaluation of current training methods, especially for adult learning. You know, adult -- the attention span for an adult is about an hour, I think, so after -- you know, what training are we doing and does it currently work and what can we do as far as new training.

Comment ID: 661.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

And then there`s some oldies but goodies. Noise is always a concern, silica, musculoskeletal disorders, falls -- the number one killer out there on our buildings and in all this trenching excavation. I think every time I pick up the paper somebody`s died in a trench accidents, so that`s also another important area of research.

Comment ID: 661.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Economics
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

And then to -- I'm going to be quick so -- to finalize things, in the end, does safety pay? And in this room -- everybody in this room, we all believe safety pays. How can we prove to our contractors, how can we prove to our owners, how can we prove to our workers that safety pays? So research to prove how safety pays, how does it affect the bottom line? How does it decrease your worker comp fees? Is there incentives to having a safe workforce?

And I have one minute left, so I actually finished early, so thank you for your time and I will answer any questions afterwards.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 662.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment
Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. My name is Michael Rybolt. I'm the scientific and regulatory affairs manager for the National Turkey Federation. I'm here today representing the poultry industry Worker Safety and Health Committee, which is a joint committee between the National Chicken Council and the National Turkey Federation. The committee -- National Turkey Federation represents 99 percent of the turkey industry, and I believe the National Chicken Council represents about 96 percent of the broiler industry. Our joint Worker Safety and Health Committee includes representatives from each one of the companies. They're responsible for worker safety and health. Some are HR people, as well.

During our recent annual convention we had our joint meeting down in Orlando, and the joint committee decided to provide some research priorities to NORA. The poultry industry Worker Safety and Health Committee requests that NIOSH adopt the following three research-- or the following priorities for the national research agenda. I was asked to present only on one issue, which you see on your agenda is chloramines. This same presentation was given at the town hall meeting in Ohio recently. The committee asked me to discuss chloramines with you today.

During the annual convention back in February of this year approximately 50 percent of the companies attending reported that they had experienced a chloramine issue. Given the high percentage, it is likely that others in attendance have also experienced employee complaints about chloramine exposure, but have failed to segregate it -- the specifics of the exposure from the traditional chlorine usage.

Chloramines naturally result when chlorine -- chlorinated water, which is commonly used in the meat industry -- poultry industry, too -- to sanitize our products and equipments. The chlorine in the water becomes impregnated with ammonia. The source of ammonia can either be from the biological debris

that comes in on the products, or it can -- unfortunately, sometimes we have ammonia leaks that may drip into our chlorinated water supply, and then you have the chloramine formed. Ammonia has a great affinity for water and will therefore typically stay in solution. However, when it does combine, it -- when it is introduced into chlorinated water, they will combine and it will gas off.

The research priorities that were identified were that we do not currently have the physical means to measure chloramine levels in the air. When we suspect exposures of chloramine, expect exposures when employees report significant irritation, yet when we go out in the plant and monitor for our chlorine and our ammonia levels, our indicators are -- there's no issue or there's no significant levels. Permissible exposure levels, threshold limit values, et cetera, have not been defined so we don't know what, if any, level is injurious to the employees. And also that the degree of the problem within the industry is not understood.

And that's what the Committee -- our chairman asked me to come and present to you today. I would like to note that the -- the Joint Committee had recently, in January of '05, signed into a OSHA alliance, similar to some of the other industries out there. I did want to highlight that and to also mention the chlorine issue within the industry.

Told you I wouldn't take five minutes. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 663.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Personal protective equipment

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. My name is Shelly Heath-Watson and I work with ORC (unintelligible) International and I am representing the National Eye Institute this morning, and I have the pleasure of speaking with you about Healthy Vision Month in the partnership that we have with NIOSH for Healthy Vision Month. Healthy Vision Month occurs each May. This will be our fourth observance for the National Eye Institute and the national eye health education program. And what the -- what Healthy Vision Month tries to do is each -- each year it focuses on a different one of the ten vision objectives in Healthy People 2010, and tries to take what we know the research is telling us about the various eye conditions and eye disease and translate those into community outreach efforts, public health campaign messages and programs.

And this coming May, May 2006, our focus is on reducing occupational eye injury, and that's a completely new area for the National Eye Institute. NEI had not done any work in that area previously for its education programs, and so it reached out to NIOSH to partner and they jumped on board willingly and wholeheartedly. And because of NIOSH's participation and collaboration with us, we're very excited about the kinds of things that we've come up with for Healthy Vision Month 2006.

NIOSH came on as a cosponsor of the month. In so doing, it helped to form the direction of our campaign for this year, including the tag line in the slogan and the materials that were created and the content of those materials. So by virtue of this relationship, NIOSH has added credibility as far as being the expert in this area, and has extended the reach of Healthy Vision Month because not only do we have NEI's dissemination networks, we also have access to NIOSH's. And as far as making our voice louder, because we're saying the same thing and we're sharing the same messages, our tag line or our theme for this year -- as I said, for May -- is "Eye Safety at Work is Everyone's Business. Prevent Injury. Use Protective Eyewear."

About 2,000 workers are injured each year -- excuse me, each day. We see eye injuries that require some kind of medical treatment, and so we're trying to get this word out and we're trying to let employees and employers know what they can do to have a safer healthy work site and environment.

The kinds of materials and resources that we developed -- and I say we, NEI, NIOSH, the National Safety Council also came on as a cosponsor, the American Association of Occupational Health Nurses came on as collaborators, and so have all had a hand in the content and the direction for the Month.

The kinds of things we've come up with are promotional work site materials, posters, event posters. We've created a PowerPoint presentation for use of -- by employers or can be a self-guided work module for employees, just to give them ideas of what can -- they can do to make their work site safer, what they can do to protect their vision and that of their employees or their coworkers. We have magnets, we've got stickers, we will be sending out a monthly e-bulletin and in the e-bulletin it has links to more resources, either on the NEI site, the NIOSH site, the National Safety Council site. And so really looking to extend the reach of our collective voices, we're definitely making more of an impact working together than we could have done individually.

What else can I share with you -- the kinds of materials that we've produced and why they are for May, we've made them evergreen so that they can be used in the work sites year 'round. They're available to the public for no cost. If you come to the NEI web site you can order those materials. And so we're just encouraging people to try and help get the word out through their various -- their various sources.

And so special thanks to the NIOSH team that worked with us. It was Max Lum's office. We worked very closely with Fred Blosser and Christy Bowles. Dr. Larry Jackson was incredible; and from the National Safety Council with Elizabeth Wilson; and Bruce Lloyd from the American Association of Occupational Health Nurses. There's much, much more I can share with you about Healthy Vision Month. The site went live -- I want to say last week. I have sample materials with me. I can put them out in the front if you're interested in seeing them.

But I'd like to extend a thank you again for the invitation just to share with you briefly about Healthy Vision Month and all that NIOSH is doing and will continue to do to make eye health and safety a national priority. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 664.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Dermal disease

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. Before I get started, I'd like to apologize for a technical error here on the sheet. I will actually not be talking about OSHA this morning, but I will be talking about the occupational research health agenda for manufacturing for the next decade.

Again, my name is Sylvia Johnson and I'm working -- I represent the United Auto Workers, and we represent several entities within our organization. We do -- we represent workers who work in the manufacturing sector. We represent nurses, state employees, public employees, and so we don't just represent auto workers, but specifically today I will be talking about manufacturing and the occupational research needs for manufacturing.

Let me first say that on behalf of the UAW we thank you for the opportunity to voice our concerns and make recommendations on the future of occupational health and safety research over the next decade. The UAW has always supported NIOSH in its efforts to protect workers against hazards.

Having spent five of the last seven years of my career working as an occupational epidemiologist for the UAW, I've seen first-hand the devastation some occupational hazards have caused workers. On the other hand, I've also seen first-hand how concerted efforts between government, unions, academia and corporations benefit worker safety and health programs.

I want to speak about the priorities for occupational safety and health research in the manufacturing sector based on the experiences of the UAW at the national and local levels. Without a doubt, the UAW put our -- we've put our money where our mouth is in support of research. We negotiated jointly-

administered research funds from General Motors, Ford and Chrysler starting in 1984. Millions of dollars have been spent and around 100 publications have come out of this research. We also launched smaller efforts at International Truck, NUMMI and other locations.

In our view, the most important goal of research is identifying gaps in protections, meaning situations where workers are getting sick or injured under current conditions. This can be because an exposure permitted by standards is making people sick. As an epidemiologist who frequently made visits to the plant floor, I can't tell you how often workers complained of their eyes burning, headaches, skin irritations, and then the industrial hygienist would come and do an assessment and conclude that the exposures were within the OSHA standard. This clearly suggests that many of these standards need to be lowered.

Health effects research, including injuries, is the most important thing that NIOSH can do, and is something that only NIOSH will do. Industry only pays for health effects research after some other investigator has found a problem and industry is convinced it will make a cost go away.

Sometimes there is a gap in protections because the method of controlling exposures is not known, or a more efficient method of controlling exposure is needed. But this is much less a priority than showing an exposure is causing people to get sick or injured.

Comment ID: 664.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Cancer

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Partners

Categorized comment or partial comment:

First, we know that workers who work in machining plants, foundries and even in vehicle assembly plants are still dying early from cancer and respiratory diseases. We need to know more about whether there are risks from these chemicals at current exposure levels.

Comment ID: 664.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Partners

Categorized comment or partial comment:

Second, ergonomics still cause half of all injuries in our workplaces. We need to know how much exposure is too much exposure.

Comment ID: 664.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

Third, we've learned that severe and fatal injuries are concentrated among skilled workers doing maintenance and repair work. We need to understand better how to measure the exposure and job characteristics that cause these fatalities.

Comment ID: 664.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Fourth, we need to know more about the respiratory health effects of fine and ultra-fine particles.

Comment ID: 664.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Neurological effect/mental health

Musculoskeletal disorders

Traumatic injuries

Exposures

Cardiovascular disease

Work organization/stress

Approaches

Etiological research

Health service delivery

Partners

Categorized comment or partial comment:

And finally, we need to measure work-related stress, including the stress of working in pain from ergonomic injuries, which we believe causes high blood pressure and mental illness.

Again, thank you for the opportunity today. The UAW looks forward to continuing our working relationship with NIOSH in improving the lives of America`s workforce. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 665.01

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

- Traumatic injuries
- Mortality

Exposures

Approaches

- Engineering and administrative control/banding
- Personal protective equipment
- Training
- Authoritative recommendation

Partners

- Skyjack; aerial work platform industry

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Thank you. Good morning, ladies and gentlemen. I'm very pleased -- my name is Brad Boehler and I'm very pleased to be here -- invited this morning to speak to you a little bit about the need for further corroborative research between the aerial work platform industry and NIOSH. I'm the director for product safety for Skyjack, a producer of aerial work lifts, and probably the largest manufacturer of scissor lifts in the world today. As such I'm a member of various standards organizations such as the ANSI Committee A-92 for Aerial Platforms, the CSA B-354 Elevating Work Platform Technical Committee, and internationally the ISO Technical Committee 214 for Elevating Work Platforms. I'm also a contributing member of various industry organizations such as the International Powered Access Federation and the Aerial Work Platform Training Organization. And as a manufacturer, I guess I'm feeling a little lonely here so far today, but I thought I would come.

Studies of accident data, some of which were done by Michael McCann from the Center to Protect Workers Rights, indicate that aerial lifts are associated with nearly four percent of construction-related deaths in that time period, and many more injuries. Aerial work platforms are designed and produced as tools to put workers and their materials at elevation in order to perform tasks. Now placing people at elevation, regardless of the method, is an inherently dangerous task and ultimately a great responsibility. I believe today that any manufacturers of aerial work platforms are aware of this

responsibility to safeguard the user, and these producers are actually pursuing methods in order to ensure that the machinery they create is practical and safe for use.

However, although this is extremely important, the design and manufacture of the lifts is just the first step in protecting the worker using this equipment. For a worker about to be placed at elevation, many other factors are involved in the safe completion of their assigned tasks.

Their lifting equipment must be the proper type for job site conditions, and it must be able to travel and elevate on that particular job site terrain, and it also must be of sufficient elevating height and load-carrying capacity for the task. The equipment must be properly maintained and ready for safe use, as well. Unfortunately, regular maintenance is not always a priority on many job sites, and in fact in some cases safety devices are deliberately overridden as they are deemed to hinder productivity. A proper pre-use inspection could eliminate many poorly-maintained lifts from immediate service. And finally, the operator must be properly trained.

I can't emphasize enough the training requirement. A properly trained operator is able to ensure that the equipment that they are about to use is truly safe for use and in a safe state of repair, that it is the appropriate tool for the task that they have been assigned, and that the surrounding environment is indeed acceptable for safe use of that lift. With complete and competent training, I believe an operator will understand that staying within those accepted limits will help to ensure that they go home uninjured that evening.

Skyjack and I have entered into a collaborative effort with NIOSH previously. Dr. Christopher Penn [sic] and his team in Morgantown, West Virginia are working on a project entitled "Fall Prevention for Aerial Lifts in the Construction Industry" and have thus far completed physical testing of a scissor lift and found that for the most part -- or actually for all parts, that it does exceed the requirements as set out in the ANSI standards for stability. They've also done human factors subject testing to determine the forces that may be imparted by a human being on that platform, and as well that testing's preliminary data seems to indicate that that is close to the 100 pounds as set out in the ANSI standard as well.

This collaboration has been a great benefit to both these -- manufacturer, myself, the scientific community and the industry as a whole, and I will endorse and support the continuation of this initiative in any way I can.

How can NIOSH continue to help the aerial work platform industry create the safest at-height work environment for workers? Well, the current project needs to continue, and will be used to ensure that the virtual lift -- or I'm sorry -- they're going to create a computer simulation to ensure that the virtual lift matches their physical data that they have found. They will then test that virtual lift in many different scenarios to determine what the limits of use may be.

As well, just to talk a little bit about what Travis said with regards to operator training, I would like to see that NIOSH could possibly evaluate and -- the requirements and effectiveness of operator training in the future. As well there is fall protection questions based on some issues in the OSHA regulations that are not quite clear to all professionals in the industry, and there are varying -- varying opinions on what type of fall protection is required. So certainly that would be another research topic that could be undertaken.

In conclusion, my personal goal is to ensure the safe work of aerial work platforms. There are a variety of different approaches to pursue and achieve this, and I feel that one of the best is having the brightest

research investigators various methods of mitigating these hazards associated with elevating personnel. Skyjack and the aerial work platform industry will cooperate and collaborate with NIOSH whenever possible to pursue this goal. Ultimately I believe education and elevation will create a safer workplace for performing tasks at height using aerial work platforms. Thank you for your kind attention.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 666.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Noise/vibration

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: My name's Martin Cherniak. I'm a professor of medicine at the University of Connecticut Health Center and I'll be talking principally from the point of view of an academic investigator, which is mostly what I do.

You know, I started out at NIOSH 25 years ago. Marilyn remembers 'cause we were in the same EIS class in 1981. And it was simpler in those days. We had -- for a variety of reasons, the labor markets were stable, they were -- sponsorship was much more clear-cut, we had stable product categories and industries, and we had a couple of vehicles which were really gold standards. One of them was the Cohort Mortality Study, primarily geared towards cancer investigation, and the second was the Single Agent Classical Lab Toxicology Study, and nobody's talking about those today.

Now that gives me one lesson, that you have to be very wary when you're presenting an agenda and presenting a list. You know, political culture, research organizations, budgets, professional training priorities, they have a curious habit of upsetting lists and (unintelligible) disrespectful of tradition, so I'm not going to advise NIOSH on the ten things it should do because they won't have any meaning in five years.

But I do want to say -- talk about a couple of things which I think are important. One of them is that one of the strengths and the weaknesses of this field, and particularly one that NIOSH has encountered, is that in many ways we deal with -- in a multi-disciplinary field. It's evident in the study sections and our advisory panels. People come from a variety of different sectors with -- with cross-lapping concerns.

On the other hand, much of the research community is moving in a direction that's cross-disciplinary, which is to say that there's a great deal of detail and sophistication within subsets of fields which then integrate. This is a conceptual problem, and it's one that NIOSH is going to have to work through. And the reason that it's going to have to work through is that I really do believe that in this climate of very restrictive budgets and limiting resources, there nevertheless are many, many opportunities and it really has in a lot of ways to do with the -- what is a large breadth of investigative talent in this country and an

inadequacy of investigative funds. And that's a combination which, with the right expression and the right conceptual platform, can actually work well to the effect of the -- positive effect of the institution.

Now I want to give a couple of examples, particularly in terms of what I know are priorities here, which are research to practice and intervention. I basically direct something called the Ergonomics Technologies Center, which is largely a sound and vibration laboratory with biomechanics, and we deal primarily with physical hazards in this aspect of our work. There are other aspects of our work. If we look at the field of vibration, for example, hand/arm vibration -- which was an area NIOSH was involved in some years ago -- I can legitimately say that the physiologic and physical science understanding are sufficient that this is a historical problem we can well eliminate. We can eliminate it with engineering and we can eliminate principally with issues around design. But it's not happening here, and I think we have some lessons in terms of where it is happening.

And although it's not always popular, if we turn to our European colleagues we can see the way that they've dealt with this problem through the European community which is on a multi-national, multi-centric consortium basis with very clear goals, very clear directions, and a lot of attention to the organization of the process and its time scales. We've done it a bit here and NIOSH has with the musculoskeletal disease consortium, but that's only one start. And I think it requires, again, a different kind of platform than what we have.

This is also motivated by the issue of concrete problems that are large-scale problems that require cross-disciplinary work and -- and a concentration of resources which just can't be dispelled indifferently.

A second area I would raise is on physical acoustics. A number of people have talked in terms of sectors, particularly construction and mining, about problems of hearing loss. Many of you know there's been significant development in the field of physical acoustics and sound cancellation and moving away from bulky headsets to earpieces, and levels of integrating both the environment and personal protection, which are quite different from the way we've approached this in the past, and they can be effective while maintaining communications. Again, strong basis in physical sciences.

But occupational health is not the field that's making the contributions to these areas. We see it in other research areas, but it doesn't particularly cross over very well. We also see other institutions that are funding that research, and I have to say not always so effectively, largely in the military. But again, the platforms are there. They just -- doesn't necessarily spread in its current -- current milieu.

With that, I would say -- I know NIOSH has not used extensively and NORA has not used extensively the SBIR and STTR mechanism, but I'm not sure they are the best mechanism for much of this kind of work. This is a much longer discussion -- or maybe it's a shorter discussion than detailed about what might be the right mechanism, but I think if we look at the areas where they have not worked, what we can find is in fact a very different area.

Comment ID: 666.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

And finally -- I see the fist, so I want to talk about one area which I must do -- I'm sorry, but so many people have canceled you have to give me two more minutes and -- and that really is in an area that we don't do particularly well in this field and that is on healthcare and medical utilization. And there's been a number of discussions of the area but I want to mention just a few points that are important.

If we look at what's occurring within states in the insurance industry, we realize there's a merger going on, at least conceptually, of what would be called the workers compensation and the group health products. If you remove the term "products" what you can see is that there's a very different way of defining the field and a recognition that there is in fact a continuum, particularly with many degenerative diseases and the effects of disease on -- on performance, function and so forth.

Now one of the areas where I think we have failed badly is on the area of performance, and I would say medical performance within work sector. There's enough data to suggest that -- that treatments and the approaches that are taken towards the working population vary by sector and vary by region in ways that have nothing to do with disease, or if they do it's rather coincidental. Some of you are probably familiar with the work coming out of Dartmouth and Winbird's work on small -- local analysis and regional analysis. But if we're looking for huge effects in this society and huge risks which are addressed in rather erratic ways, healthcare utilization is one. And I'm not talking necessarily about coronary artery disease and processes, but I am talking about joints, musculoskeletal disease and many other areas where we see massive differences. And simply talking about practice guidelines or simply talking about a very high-risk sector is not adequate because in fact we see these massive differentials in the limited studies that have been done, and we don't have the information base. I think it's an important area which ARC and other agencies would be well interested in.

Comment ID: 666.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Noise/vibration

Approaches

Partners

Dental Institute

Categorized comment or partial comment:

And finally as I sit down I just want to comment about one area that's been particularly bugging us, we do work in high frequency vibration. We do a lot of work on dental tools, medical instruments and so forth. There's several groups around the world (unintelligible) some very important and potentially consequential and poten-- and certainly controllable effects from high frequency vibration. We've gone to the various institutes, like the Dental Institute, and the response we always get is that's what NIOSH does.

Now the medical institutes will deal with -- with their workforces. You know, they deal with the aging of the healthcare population. They'll deal with the replacement of healthcare population. They'll deal with the inability to attract people into the -- into programs and into jobs. But they don't deal with many of the health problems which are intrinsic in those occupations -- except perhaps for backs. And I want to say simply that I think there's openness to it, but they really -- it's just something they just haven't conceptualized. So that would be my other recommendation by sector, that there are other institutes that have their own germane workforces that NIOSH could approach.

And thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 667.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Neurological effect/mental health

Respiratory disease

Exposures

Work organization/stress

Motor vehicles

Work-life issues

Approaches

Surveillance

Etiological research

Training

Intervention effectiveness research

Marketing/dissemination

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. My name is Darryl Drobnich. I'm senior director of government affairs and programs for the National Sleep Foundation. Yes, there is such an entity in Washington, D.C. that's called -- called as the National Sleep Foundation. We're a non-profit organization. We're dedicated to raising awareness about sleep, sleep disorders and the consequences of fatigue. Most of the -- two of the most important of that being drowsy driving and workplace accidents. Eighty percent of what we do is public education. We also fund some post-doctoral research fellows and do advocacy around the issues of drowsy driving, school start times for adolescents and workplace education.

What I'd like to talk to you today about is I guess a cross-cutting issue. First of all I'd like to thank NORA for allowing us this opportunity to add some input. But we think sleep and fatigue is a cross-cutting issue and that a third of us -- we spend -- or all of us spend a third of our lives sleeping. And sleep and the loss of sleep has a tremendous impact on how we live, think and function during the other two-thirds of our day. Sleepiness affects vigilance, reaction times, learning abilities, alertness, mood, hand-

eye coordination and accuracy of short-term memory, all skills that we need on the job, obviously, as well as in other parts of our lives.

According to the National Commission on Sleep Disorders research, approximately 50 million Americans suffer from more than 80 different types of sleep disorders, and another 20 to 30 million suffer intermittent problems that are related to pain, stress, anxiety, depression and other ailments each year. Sleep-related disorders affect members of every race, socioeconomic class, and of all ages and genders, obviously.

Sleep is also related to other medical conditions. For example, problems like stroke and asthma attacks occur more frequently during the night and early morning. Lack of sleep appears to trigger seizures in people with some types of epilepsy. Sleep disorders occur in 75 to 98 percent of patients with Parkinson`s disease. Sleep problems such as insomnia have also been closely linked to depression and other psychiatric disorders. And a recent study found that 69 percent of primary care patients in physician waiting rooms complained of occasional or chronic insomnia. Overwhelmingly the majority of these people are not properly diagnosed or being treated because of a lack of awareness and education, not only amongst primary care doctors, but other health professionals as well as oc. med. doctors and the patients themselves. They simply don`t recognize the signs and symptoms of the major sleep disorders, that being insomnia, sleep apnea and restless leg syndrome.

Beyond that, America is chronically sleep-deprived because of lifestyle. Yeah, this 300 years of Puritan work ethic hitting now the 24/7 society and wreaking all kinds of havoc, not only in the workplace but also on the roads, or the medical wards of your local hospital. More than 63 million Americans suffer from minor to severe levels of sleepiness.

According to National Sleep Foundation`s "Sleep in America" surveys -- and these are nationally representative surveys we`ve been doing since 1998 -- the majority of Americans, almost 60 percent -- get less than seven hours of sleep per day. Research says that we need anywhere from seven to nine hours of sleep to actually maintain proper alertness throughout the day. The survey also showed that 32 percent of Americans sleep as little as six hours or less per night during the work week. In total, 64 percent of Americans get less than eight hours of sleep that experts say that is needed to maintain proper alertness and health.

Sleepiness as a result of untreated sleep disorders or sleep deprivation has been identified as a growing number -- as a cause of a growing number of on-the-job incidents. At least 15 million Americans have non-traditional work schedules that conflict with their biological clocks. According to the National Sleep Foundation`s 2000 national poll, 43 percent of adults believe that sleepiness negatively affects their performance at work.

While shift work has plateaued (sic) over the last decade, there is a rise in the number of people that work other alternative shifts outside of the usual 9:00 to 5:00, so you`ll see a lot of those people working in the service sector jobs, working 12:00 to 8:00 shifts, and different shifts that might interfere with their sleep. NIOSH has done research on the effects of shift work and long hours, and we encourage them to continue these programs.

The other issue of concern that -- to us is the issue of drowsy driving. Drowsy driving is a very insidious public health problem. The National Traffic -- National Highway Traffic Administration estimates about 100,000 police-reported crashes are the result of driver fatigue each year. In NSF polls that we`ve been

doing over the last eight years, 50 percent of Americans say that they've driven drowsy at least once, and one in five, or almost 20 percent, say that they've actually fallen asleep at the wheel. In the new poll that we will be issuing in two weeks focus in on adolescents. Twenty percent of 16 and 17-year-olds say that they've actually fallen asleep at the wheel in the past year, and a large percentage of -- a good percentage of them, about 11 percent, say they actually do so a few times a week.

Really what we need at this point is better data and surveillance systems to fully assess how sleep deprivation and disordered sleep are linked to morbidity and mortality and other public health concerns. At this time sleep is under-recognized in most federally-supported surveillance systems, thereby limiting the inclusion of sleep-related factors from documents such as Health People 2010 and NORA and other managed healthcare systems. Sleep needs to be addressed in a more substantial way to reflect the importance in human functioning in order to produce a comprehensive safety -- health and safety agenda for the new millennium. Baseline data is needed to identify clear objectives and goals for subsequent educational programs and intervention models related to promulgating the good sleep habits, the treatment of sleep disorders and conveying the consequences of sleep deprivation. With that, I thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

American Industrial Hygiene Association

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. I`m Mary Ann Latko and I`m the director of scientific and technical initiatives with the American Industrial Hygiene Association. On behalf of AIHA I`m pleased to appear here today in support of NIOSH and the National Occupational Research Agenda. I want to thank NIOSH for this opportunity, and to offer the views of AIHA on the important issue of occupational health and safety research.

As a leading association of occupational and environmental health and safety professionals, AIHA represents professionals who serve on the front line of worker health and safety. AIHA members and other professions -- professionals in the occupational health and safety rely on NIOSH to conduct research and make recommendations for the prevention of work-related illnesses and injuries. In 1996 AIHA was one of the earliest supporters of the development of NORA, and we remain a strong supporter to this day. AIHA has provided numerous liaisons to the different NORA sectors over the past ten years, and believes the research conducted by these sectors has worked to prevent serious disabling and sometimes fatal workplace illnesses and injuries. Now as NIOSH looks to renew the NORA project by announcing new research goals for workplace health and safety, AIHA again offers our support and assistance.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Cost benefit analysis of occupational hygiene programs, preventive measures, control strategies and other interventions, including the effectiveness of workplace interventions to prevent or correct ergonomic concerns.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Clandestine drug laboratory cleanup and the development of sampling and analytical methods and exposure assessment strategies related to the exposure of first responders and cleanup workers.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

- Dermal disease
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Hazard identification
- Etiological research
- Exposure assessment
- Engineering and administrative control/banding
- Personal protective equipment

Partners

Categorized comment or partial comment:

Toxicology of nanomaterials, sampling and analytical methods, and a means to monitor and protect workers from excessive or potentially harmful dermal and respiratory exposures.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Marketing/dissemination

International interaction

Partners

Categorized comment or partial comment:

Effective use and application of control banding as a control strategy and methodology that will aid in communicating the hazards of materials to workers in a uniform manner globally.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Personal protective equipment

International interaction

Partners

Categorized comment or partial comment:

Harmonization of international stands for respirators and other personal protective clothing and equipment.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment

Partners

Categorized comment or partial comment:

Response to and worker protection from pandemic flu and other illnesses.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

Developing exposure limits that consider synergistic effects and incorporate factors related to the reality of today's workplace, where workers may be changing not only jobs but careers and industries.

Working in non-traditional work environments, and schedules that include compressed work weeks and tele-commuting, and staying in the workforce longer.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Dermal disease

Exposures

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Exposure assessment strategies related to the dermal route of exposure.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Applied industrial hygiene research that is rapid turnaround for research to practice, or R2P, and development of interventions that focus on improving work conditions and reducing or eliminating worker health and safety concerns.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Personal protective equipment

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Long and short-term health effects that may be experienced by emergency preparedness and response personnel, and determining the proper procedures and interventions to eliminate or reduce those adverse health effects.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Noise/vibration

Approaches

Etiological research

Engineering and administrative control/banding

Personal protective equipment

Intervention effectiveness research

Partners

Categorized comment or partial comment:

And finally, noise control solutions, hearing protective -- hearing protector effectiveness, impact noise effects and the effectiveness of hearing conservation programs and how they can be made more effective.

Comment ID: 669.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

With the ongoing structure of NORA being focused on sector councils, each sector council should carefully consider if these topics are a concern for their sector. And if so, include the topic in their research agenda.

Again, AIHA appreciates the opportunity to provide our public support for NIOSH and the National Occupational Research Agenda. We offer our assistance in any way possible, and hope to continue to work closely with NIOSH and the many diverse individuals and organizations contributing to this important project. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 670.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Surveillance

Economics

Capacity building

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. My name is Manual Anton. I am a consultant at the PanAmerican Health Organization, which is the regional office for the Americas of the World Health Organization. On behalf of Dr. (unintelligible) who is the regional advisor on worker health at the PanAmerican Health Organization, I would like to speak briefly about one issue that PAHO has been addressing intensively in the last -- in the last six years.

Given the fact of the fastest-growing participation of Hispanics in the U.S. workforce, almost 11 percent, the occupational safety and health of this population has become one of the priorities of our workers health program. As a response to this challenge, in 2000 PAHO decided to join other organizations in order to forge a strategic alliance, the Hispanic Forum. This initiative is focused on serving the needs of environmental and occupational health that the Hispanic community in the U.S. is facing. It is sponsored by several organizations, some from the U.S. government such as EPA and OSHA; private and non-government organizations such as 3M, the National Safety Council and the National Alliance for Hispanic Health; and also by multilateral organizations like PanAmerican Health Organization and the Organization of American States.

Among its general objectives we can point out the following ones: To prevent, reduce and eliminate the environmental and occupational risks that threaten the Hispanic community in the U.S.; to improve -
- number two, to improve availability and quality of information related to the occupational and

environmental health of Hispanics; to reduce inequality in the access to healthcare services in order to improve the occupational and environmental health status of Hispanic workers and their families.

During this six years the Hispanic Forum has carried out four international events that have brought together different relevant actors from community-based organizations serving Hispanic population in the U.S. to ministers of health and labor from Latin American countries. The main objectives of the first two forums were to identify common challenges, forge new associations, develop strategies and plans of action, and finally strengthen the capacity of these community-based organizations so that they could develop and use better tools to serve in a timely and effective way the needs of this population.

The last two events were focused on high-level decision-makers. A hemispheric meeting on occupational safety and health leadership was held in 2004 in order to outline the main issues that were presented in the 17th World Congress on Safety and Health at Work in Orlando in 2005 under the team agenda of the Americas. The topics included, among others, occupational safety and health of vulnerable populations, implications of foreign trade agreements on workers health, and corporate health responsibility and occupational health.

Within immigrant workers, Hispanic workers have specific characteristics and needs. Language barriers, psychosocial factors linked to the legal status, poor reporting on working conditions and inequalities on health care access are among the issues that make this group vulnerable or at risk. Within the PAHO -- PAHO's activities, workers health problem will get the commitment of working on this issue within the Hispanic Forum.

Finally, as one of our collaborating centers, we would like to thank NIOSH for inviting us to this meeting and allow us being part of this remarkable effort. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 671.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors
Radiation (ionizing and non-ionizing)

Approaches

Marketing/dissemination
Capacity building
Health service delivery

Partners

Board-certified medical toxicologists; American College of Medical Toxicologists

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. My name is Michael Greenberg. I`m professor of emergency medicine and professor of public health at Drexel University College of Medicine in Philadelphia, and I`m here representing the American College of Medical Toxicology. I`m a practicing medical toxicologist and a member of that College.

The American College of Medical Toxicology is a professional, non-profit association of physicians with recognized expertise in medical toxicology. For those who don` t know, medical toxicology is a formal medical subspecialty focusing on the diagnosis, management and prevention of poisoning and other adverse effects due to medications, occupational and environmental toxicants, and biological agents. Medical toxicology is officially recognized as a medical subspecialty by the American Board of Medical Subspecialties.

There are currently only slightly more than 300 physician members of the American College of Medical Toxicology, all of whom are Board-certified in medical toxicology. There are approximately 40 medical toxicology fellowship physician trainees currently enrolled in approximately 20 post-graduate training programs nationwide. Physicians enter the two-year fellowship training after completion of a primary residency in emergency medicine, pediatrics, internal medicine or preventive medicine. Board certification requires successful completion of an accredited fellowship and a comprehensive written examination.

Some examples of problems addressed by medical toxicologists include hazardous exposure to chemicals such as pesticides, solvents, heavy metals, toxic gases, alcohols and other industrial materials; unintentional and intentional drug overdoses; drug abuse management, including inpatient care for acute withdrawal from addictive drugs, as well as outpatient medical review officer services for industry and organizations; envenomations; ingestion of foodborne toxins such as botulism and marine toxins; independent medical evaluations assessing injury for possible disability resulting from potentially dangerous exposures; chemical, biological and nuclear and radiological weapons that may be used by terrorists; and protection of workers from chemical hazards at work. Medical toxicologists provide these kinds of professional services in a variety of clinical, industrial, educational and public health settings including emergency departments, intensive care units, outpatient clinics, poison control centers, medical schools, universities, clinical training sites, industry and corporations, government agencies and clinical and forensic laboratories.

Since 1999 the College has had a cooperative agreement with ATSDR supporting expanded educational activities for medical toxicologists in environmental health and toxicology, and that cooperative agreement has supported various educational symposia, internet-based teaching resources, multiple teaching monographs, and a national network of public health consultation for incidents involving mass chemical exposures.

There`s a current memo of understanding on collaboration between NIOSH and the College. The purpose of that memo is to facilitate collaborative activities between NIOSH and of the ACMT, including communication and exchange of technical information, consultation, professional education, document generation and review, and research in a joint effort to promote health and safety in the workplace and to enhance the capacity of healthcare providers and public health professionals to address health risks posed by occupational exposure to toxic -- to potentially dangerous substances.

I`m here today to tell you quite simply that Board-certified medical toxicologists and the American College of Medical Toxicology represent a group that is ready, willing and able to help NIOSH with respect to toxicologic hazards that may exist in the workplace. Specifically, medical toxicologists can be helpful in planning and conducting research in concert with NORA. Medical toxicologists can also be helpful in identification and generation of important research agendas and the evaluation of research proposals by participating in research councils as the new NORA focus and priority-setting shifts to an industry sector approach.

Finally, I would like to thank NIOSH for allowing us to speak and I`d be happy to answer any questions about medical toxicology at the next break. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 672.01

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Other

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Surveillance

Economics

Work-site occupational safety health system/record keeping

Partners

National Institute on Aging

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning. My name is Jim Mitchell. I`m director of the Center on Aging at East Carolina University in Greenville, North Carolina and associate director of the UNC Institute on Aging in Chapel Hill. And I`m really not representing anyone in particular except myself, I guess, but I`d like to make some observations about potential for partnering with NIOSH and other federal organizations such as the National Institute on Aging concerned specifically with issues such as older workers and aging workers; and secondly, those in occupations who serve older people that require assistance; and thirdly, the impact of occupational transition and job loss on family care-givers and the capacity of families to provide care for older people.

I want to offer an example of how NIOSH might partner with other federal organizations in the way of -- to enable them to gather better data concerning the problems of older people, particularly in rural areas. And I want to mention an example that points out interplay between the role environment and job loss and our knowledge of those processes and the effects of job loss on the quality of life of older people.

We really know very little in the research community about the effects of rural economic and demographic transition and change on the quality of life of older people living in those areas, particularly people who are left behind. To better address this, we formed a consortium between investigators at ECU where I work, UNC Chapel Hill, University of Kentucky, West Virginia University, and Virginia Tech. And we looked specifically at the feasibility of a project looking at rural transition and

quality of life of older people. And I began this process by looking at 55 rural counties that are non-adjacent to any kind of urban area, particularly -- some are adjacent to micropolitan areas, but none adjacent to metropolitan areas.

What I found when I looked at census data over a 40-year period was that there is considerable variability among these rural counties, and variables including economic and demographic transition on one dimension, and job loss in the other dimension. But the significance of this -- for me, anyway -- is that it represents the idea that there's considerable variability among rural areas or areas that we define as rural. And more importantly, that that variability has significant implication for the quality of life of older people through variables such as job loss.

Now what can we do about this? Well, I think it's important that NIOSH and other organizations and agencies reach consensus on definitions of, for example, what is rural. To me, rural has to extend beyond non-metropolitan and it has to extend beyond non-urban in order for the concept of rural to make sense.

I would also urge NIOSH, as it considers its job sector categories that were recently announced this morning, to consider compatibility with other job sector categories to enhance research capacity in the future, especially as we get into a longitudinal and long-term data-gathering. I think it's also important for me to, again, emphasize the critical nature of encouraging people engaged in research dealing with older adults and job transition and job categories to continue to work together. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 673.01

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Musculoskeletal disorders

Exposures

Noise/vibration

Approaches

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good morning, ladies and gentlemen. My name is Mike Demchak. I'm with R. M. Wilson Company. My presentation this morning will be centered around ergonomically-correct seating on mobile equipment in underground mines. Seats in mobile equipment in underground mines is extremely uncomfortable. The road surfaces of most roadways in underground mines, especially near the face, are extremely rough and uneven. The shock and vibration that one's body receives or the operator receives are very intense. This abuse, along with constant attenuation of one's body, causes one to become weary, tired and fatigued. I experienced this first-hand while I was working in a mine.

At R. M. Wilson Company, upon my request, we decided to do something about this situation. We began by piecing together some different types of elastomeric foams which we acquired and piecing them together and -- and then we -- we were looking for somebody to manufacture these things, which was not an easy task. Then when we were into production, we started marketing them.

The mining division of NIOSH asked me if they could go underground to test our seat pads, as we were the only ones who were producing seat pads made out of elastomeric foams. We worked up an agreement with NIOSH whereby we would share ideas, they would introduce me to some new foams that they were using, and I would take them underground to test our seat pads. One pad that we made was -- proved to be 98 -- 95 percent effective in absorbing shock and vibration.

NIOSH is now working on several projects with which R. M. Wilson is involved. One is bulldozer seats on -- in surface mines. And they're checking on the breakdown of elastomeric foams in seating and they're

going to be -- be on -- they'll be working with new types of foams that'll be coming out, but this is in its infancy.

Upon request, R. M. Wilson Company produced and engineered -- engineered and produced what we call a throw seat. It is composed -- a throw pad, excuse me. It is composed of two seat pads approximately 15 by 15 which are sewn together. A person going underground, especially a mechanic, can take this seat pad with him. They can -- they can use it as a seat pad in any situation, even on a piece of mobile equipment. They can throw it on the ground. They can lay on it if they're working on something above, or they can kneel on it and they will feel -- feel comfortable when the work is done. Yes, it is ergonomically correct. And when they are finished, they just take the pad, pick it up by the handle that is con-- and carry it away -- carry it away like a -- like a suitcase.

These are some of the products which we're working with to -- to help to make the environment for miners healthier and -- and we're -- and I -- I wish to thank NORA for this invitation to come here to share these ideas with you, and I thank you for your attention.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 674.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Sure. Well, I want to thank you all for allowing me to speak today. My name is Andrew Langer. I'm manager of regulatory policy for the National Federation of Independent Business, and actually I have a soft spot in my heart for occupational safety and health issues. My father's an occupational safety and health scientist, and as I was growing up as a kid my dad spoke a great deal about the research he was doing with NIOSH. He's a mineralogist, my mother is an epidemiologist, so if you can imagine growing up in a household like that, it was kind of hard for me to avoid going into regulatory studies. I tried desperately to do it; didn't happen.

Anyway, NFIB is the national small business trade association. We have 600,000 members. Our average member size is five employees. And that's really what I wanted to talk briefly with you about today because our members, our small businesses represent, you know, 90 percent of the firms that are out there. Ninety percent of the first that are out there have fewer than 20 employees. And our members deal with the regulations that come out of the research that's done by NIOSH and interpreted later on by OSHA.

Our members deal with those regulations differently, and they have a much different impact, and I'll talk very briefly about why that is. We know what the cost is for our members. For firms with fewer than 20 employees, the cost of regulation is roughly \$7,600 per employee per year. So for our average member of five employees, that's roughly -- almost a \$40,000 regulatory cost for them.

For firms with larger than 20 employees, that cost drops, and this is where the big difference is and why that is. Well, for the economists in the audience, if there are any -- and I apologize if I start to butcher economics -- the fact is that the economies of the scale change for larger firms. They're better able to handle the regulatory costs. They're able to pass those on. And the fact is that once you get above 20

employees, firms start hiring the professionals needed to interpret and design the regulatory meaning for the regulations that are out there.

So our members -- invariably it's the small business owner or someone that they've designated, in addition to their normal duties, who have to figure out what NIOSH is saying, what OSHA is saying in the Code of Federal Regulations. And I spend a great deal of my time dealing with that as an issue for my members, trying to find ways to make it easier for them to figure out what they need to do to be in compliance, and to protect the health and safety and well-being of their -- of their employees, because invariably they want to do that. These small business owners, they live and work and play in their communities. They become almost like family with their employees, and they want to make sure that they're healthy. It's just a matter of figuring out how to go about doing it.

So in essence what I would ask, as NIOSH moves forward with their research agenda, that they start to examine ways of making those regulations simple and easy to understand. You know, you start to talk about MSDs, my members start to glaze over. They can understand sort of repetitive injuries and they can understand trying to find ways to mitigate those. But you know, for our members it has to be simple.

I'll give you a real quick example. Last year -- or a couple of years ago, OSHA put out a new hazardous communications guidance system, and the book that they put out was literally bigger than my little portfolio -- it was about this big. And we went into OSHA and we said, you know, my members aren't going to use this. They're going to take a look at this, they're going to glaze over, go a little pale, and it's more likely they're going to use it as a backstop for a door than anything else. And the fact is -- the bottom line is, a document that -- that isn't used is a useless document.

And we're all after the same thing here. I just testified up on the Hill last week about this. We want small businesses because they represent that large sector of the economy. We want them to be in compliance with the law. We want them to understand what their responsibilities are. So what I'm asking is that we all move forward to find ways to make it easy, especially in light of all the regulations that are on the books.

I know most of the folks in the crowd are interested in engaging in new research to sort of expand the horizons of what we're out there protecting, because as we move forward in science we understand that there are more things maybe that we need to protect. But I really think we need to make a conscientious and concerted effort to figure out how to make it easier for businesses to understand how to comply with what's already on the books, what's already out there. Because as you begin to pile on more regulation, more requirements for them, it's going to make it harder for them to figure out what they need to do to comply with what's already out there.

So I leave you all with that. Thank you very much, and thank you for the -- allowing me the opportunity to speak today.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 675.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Thank you. Good morning. My name is Marian Condon and I work at the American Nurses Association as a staff specialist in -- in the occupational environmental health center there. The ANA is a professional association that represents the country's 2.9 million nurses, and we have -- we have had members attend the town hall meetings across the country to present the occupational health agenda of nurses.

With the aging health needs -- with the health needs of an aging population and coupled with the aging nursing population and the continuing -- the continuing nursing shortage, all increase the urgency in addressing the occupational health needs of nurses.

Comment ID: 675.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding
Training
Intervention effectiveness research
Authoritative recommendation

Partners

Categorized comment or partial comment:

There are six topic areas that our priorities can be broken into, the first being the musculoskeletal disorders. According to the Bureau of Labor Statistics in 2004 nurses had 8,810 reported work-related MSDs which resulted in an average of seven days away from work. This of course is grossly under-reported. Research to prevent back and other MSDs needs to promote nursing education and training in the use of assistive equipment and patient-handling devices. Research needs to be done on reshaping federal and state ergonomic laws to highlight the ways that technology-oriented safe patient-handling techniques benefit patients and the nursing workforce.

Comment ID: 675.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

The next topic area is that of chemical exposures. RNs are routinely exposed to a variety of hazardous chemicals, including drugs, chemicals used in hospital labs, and chemicals used for hospital cleaning and sterilization purposes. And these have been associated with both chronic and acute health effects. Research needs include examination of health effects, employee surveillance and other efforts to protect nurses.

Comment ID: 675.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Infectious diseases

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Exposures

Work organization/stress

Motor vehicles

Work-life issues

Approaches

Etiological research

Intervention effectiveness research

Economics

Authoritative recommendation

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The next area of concern is worker fatigue. Available research shows that overtime and extended work shifts for nurses is associated with increased risk of smoking, alcohol use, risk for back, neck and shoulder disorders, vehicular accidents and increased exposure to biological hazards. It also affects safe patient-handling with slow -- by creating slowed reaction time, lapses of attention to detail, errors of omission, compromised problem-solving, reduced motivation and decreased energy for successful completion of required tasks.

Further research is needed to evaluate overtime and extended work shifts, and the relationship to productivity, quality of safety provided in hospitals, and the incidence of workplace accidents, injuries and stress-related illnesses among nurses. Research needs to be done on reshaping federal and state policy that will limit the ability of employers to mandate overtime.

Comment ID: 675.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Bloodborne pathogen exposure, a lot of progress has been made, but there's still room for improvement. Research is needed on the human factors and work practices of nurses related to safe patient-handling of sharp devices and compliance with other measures to protect them from these exposures. Further research is needed on facility-wide policies to promote worker compliance with safety practices, further research and development of safety-engineered devices is also needed.

Respiratory protection, research needs to be done on ensuring that federal and state pandemic planning policies include the use of N95 filtering disposable respirators to be annually fit-tested rather than the use of surgical masks, which are not protective of the nurse or the healthcare worker.

Comment ID: 675.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Violence

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

The last is -- topic is workplace violence. Among all American workers, healthcare and social service workers have the highest rates of non-fatal assault injuries in the workplace. Further research is needed on the development of preventive interventions of violence towards healthcare workers and intervention effectiveness.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 676.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Economics

Authoritative recommendation

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: My name is Ilise Feitshans and I'm a lawyer and a public health professional, and I've been writing about occupational health and lecturing on the subject for about 30 years. I write the treatise -- in case you've memorized it, I'm sure -- for WestLaw called "Designing an Effective OSHA Compliance Program", and in case you haven't memorized that, you might have memorized "Bringing Health to Work", I'm sure. But today I'm also a script writer for Digital 2000, who's going to do a 35-year retrospective on OSH Act and NIOSH, and I have been asked to submit a paper, which I did, for the Human Ecology Action League that's entitled "Nurses and Teachers, Worker Health, Worker Concerns".

I want to discuss very briefly something from the past that impacts workplaces today and in the future -- genetics. The (unintelligible) genetic propensities, even the very nature of the interaction between these genetic players and the work environment ultimately plays a role, if not controls, our individual ability to perform work today and tomorrow. My request is very narrow and specific. I perceive the role of genetic testing in the workplace as inevitable. And equally inevitable, a discourse that's fraught with painful questions -- painful social questions such as eugenics, social engineering, stigma, discrimination, liability and healthcare costs. And I request that NORA/NIOSH take the lead and research the role of genetics and genetic technologies at work.

Only NIOSH has the statutory permission to have a really open discussion about the hard choices that we will find in new genetic technologies. Genetics poses hard questions. Genetics is hard to

understand, but it's important. And perhaps the greatest challenge for NORA/NIOSH will be defining not the genetic materials of concern to workers and their employers, and not the criteria for the predictability and reliability of genetic testing and screening itself. The greatest challenge, and where I hope that my expertise might be of value to NORA/NIOSH, is the area of the definition of terms.

No one wants to make employers pay for problems that are inherited. And social policies such as the state-based funds for workers compensation when injury or occupational disease comes from a previous employer serves as a precedent that shows us this very point. But at the same time, we, society in general, and NORA/NIOSH especially, must reconcile this -- this fundamental notion that it might be unfair to make someone pay as a repository for third parties past with three very important factors that that must be weighed against.

First of all, employers remain responsible for providing employment and places of employment that are free from recognized hazards under Section 501 of OSH Act. And certainly genetic technologies will reveal the connections between workplace exposure and genetic transformations, and that would be studied by the scientific community. And this will inevitably broaden the scope of what we understand to be recognized hazards. NORA/NIOSH research must explore this new reality very keenly.

Second, ADA, the Americans with Disabilities Act, does apply to genetic conditions, so knowledge in the scientific community that can prevent harm from recognized hazards does not escape the requirement to provide reasonable accommodations at work to people who can perform the essential functions of their work despite these concerns about genetic factors in the workplace which were heretofore unknown or misunderstood.

Lastly, the convergence of new genetic technologies as applied through path-breaking research may redefine our collective societal notions of things like safety, health and disability. We must correct policies that incorporate the best genetic research without creating an underclass of people who lose their employability due to stigma, discrimination, insurance costs or potential liability.

This task is of millennial importance to every workplace and every worker in our society. That explains why genetics is hard, not easy. NORA/NIOSH must rise to meet this challenge to explore the best future path for applying genetic technologies and to make the best practices for work in the 21st century.

Thank you for your attention and time.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 677.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Marketing/dissemination
International interaction

Partners

World Bank; international development organizations

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Actually I used to be with NIOSH. I retired October 1st, but somebody kindly put that in. My heart is still with NIOSH.

I want to bring your attention to a priority of NIOSH that you might not think of as being connected with NORA, and that is global collaborations, that the N in NORA is not intended to be a limiting term, only national. It was intended to mean bigger than NIOSH; i.e., National. So it's a national agenda. It's everybody's agenda.

Global collaborations is one of the cross-cutting programs, like ergonomics, that we -- NIOSH, we at NORA, all of us who are NORA -- will bring to the sectors. And I want to give an example of new opportunities that will exist if we're very clever about how to make use of them.

There is a international initiative that has been underway for about ten years, reasonably successful, called the Global Road Safety Initiative -- began ten years ago after the World Health Organization did some injury calculations globally. Just in December 2005 the U.N. General Assembly passed a resolution on Global Road Safety to acknowledge its reasonable success and to give impetus to countries to do better.

The World Bank, the National Academy of Sciences, the CDC, the Department of Transportation and USAID in February held a meeting on the international Global Road Safety Initiative which I went to for NIOSH, and it turns out that the -- as excellent as it is, it has missed the point of workers on roads, and also missed the opportunity of using workplaces as a way to try to deal with the problems. Right now

the -- and for the ten years the -- the priorities have been helmets, seat belts, general population activities.

So I think that it's time to advance the recognition and attention to both the problems of workers and roads and also use workplaces for action globally. Multinationals want their people to be safe in developing countries. Multinational manufacturers use trucks on roads, so they are -- have an opportunity to contribute to safety and also to have their workers be safe.

Another function of global collaborations with the NORA sectors will be to share good practices that work elsewhere. Our little scan of the European agency site on occupational health information pulls -- for road safety pulls up 180 documents, many of which are practices which are working in their countries and which could benefit workers in the U.S., as well. So by -- by tackling sector-based problems, both -- both for the U.S. and elsewhere at the same time, and also sharing things that work from one country to another, we can probably do more help for workers than we might have been able to otherwise.

Additionally, with some of these initiatives there is money available so that partnerships could be undertaken of multinationals, international unions, with the people in the countries because the World Bank and the other international development organizations are in fact funding activities of this type, and workers could then benefit from funds that are provided.

Another aspect for workers of these global initiatives is that sometimes globally -- and also we heard this morning about needle sticks in national initiatives -- the workers who carry out the initiative are often forgotten. The healthcare workers have been forgotten in the polio vaccination and the AIDS activities, the training of healthcare workers didn't seem to be recognized in the initiatives.

The road safety initiative has a comparable problem. The -- those -- one of the approaches to better roads in developing nations is to build good roads, so you put the trucks on the good roads and the people can walk on the little roads. In India millions of miles of roads are being constructed and there is now an additional huge silicosis problem because there are many mom and pop operations crushing stones and the whole communities have this exposure. So the development activities also need to take into account the workers carrying out the initiatives. And those of us who are working in the different sectors and therefore can become -- are or could become part of international initiatives, we could ensure that the working people get their due attention. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 678.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

ORC Worldwide

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good afternoon. My name is Scott Madar and I'm a consultant with ORC Worldwide. ORC Worldwide welcomes this opportunity to provide input and suggestions for the next decade of NORA. ORC is an international management and human resources consulting firm whose Washington, D.C. office specializes in providing occupational safety and health consulting services to businesses. Currently over 130 of the world's leading companies in diverse industries are members of ORC's occupational safety and health groups. The focus of these groups is to promote effective occupational safety and health programs and practices in businesses.

ORC member companies represent a range -- a broad range of industries and services, including aerospace, electric power generation, automotive manufacturing, telecommunications, food and beverage, household and personal products, petroleum, chemicals, metals, paper and pharmaceuticals. To a lesser extent, ORC also has members who perform or are involved in construction or maritime activities. These comments are solely those of ORC and may differ from the views and comments of individual member companies.

For more than 30 years, almost as long as NIOSH and OSHA have been in existence, ORC has worked in the occupational safety and health arena. ORC was intimately involved in the establishment of NORA a decade ago, and has been a strong participant in and supporter of the NORA process. We welcome the opportunity to continue to work with NIOSH in the coming decade.

In addition, ORC agrees that a renewed NORA should focus on areas of research whose results can have direct, practical and lasting impacts on safety and health in the workplace. To that end, ORC respectfully suggests that NIOSH consider the following items when crafting the research agenda for the next decade.

Comment ID: 678.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Data issues. NIOSH should examine the various occupational safety and health injury, illness and fatality databases in existence among federal agencies. NIOSH should categorize the data being collected, identify any gaps in the data, and ultimately seek ways to fill those gaps. In particular we encourage NIOSH to focus on improving the data collection and analysis related to occupational illnesses, as this is a major weakness of existing data systems. It simply will not be possible to have a significant impact on the reduction of long-term latent occupational illnesses without a better set of data. Lastly with regard to data, businesses are relying on contractors to perform various critical job functions more often. Despite increased reliance on these workers, little work has been done to evaluate the data regarding fatalities and serious injuries among this group, and the impact of these relationships on worker safety. NIOSH should develop a means to collect and analyze this untapped dataset.

Comment ID: 678.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Economics

Authoritative recommendation

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Safety and health as a value to business. In order to justify non-regulatory reasons for increasing investments in occupational safety and health, NIOSH should examine management systems, metrics and risk reduction strategies in order to identify best practices among the various industrial sectors. This information, along with the analysis of safety culture, what makes a company successful, should also be the focus of future research.

Comment ID: 678.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Intervention effectiveness should also continue to be emphasized in NIOSH research. Specifically we encourage the development of additional tools that could help with the evaluation of interventions. Whether they are programs, policies or new control methods, these tools would be especially useful to the business community.

Comment ID: 678.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing
Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

EPA; ORC Worldwide

Categorized comment or partial comment:

Emerging issues -- emerging technology, excuse me. The impact of nanotechnology will soon be felt in nearly all industrial sectors. This cross-cutting topic must be a primary focus of NIOSH's in the coming decade. NIOSH must continue to take the lead in addressing occupational safety and health when working with nanoparticles. We suggest that NIOSH should also collaborate closely with the EPA and other government agencies, as well as with stakeholders. ORC is currently developing a matrix of business practices that address safety and health and nanotechnology, and would welcome NIOSH's involvement.

Comment ID: 678.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Continuing past research. ORC encourages NIOSH to continue the research started during the first decade of NORA. Specifically, additional work is warranted in the areas of musculoskeletal disorders, organization of work, and hearing loss.

In closing, ORC appreciates the opportunity to share our thoughts regarding NIOSH's research agenda for the coming decade, and would be willing to work with NIOSH in whatever capacity necessary to see that these and other important research items are addressed. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 679.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good afternoon. Hi, my name is Ingrid Denis and I`m with the Association of Occupational and Environmental Clinics. One of our main concerns is building a cadre of occupational health and safety professionals of tomorrow. Many people have expressed concern about attracting students to occupational safety and health. Certainly this is a challenge that we all recognize and which NIOSH has committed resources towards through its training opportunities in the ERCs, medical rotations and internship opportunities at other non-profit organizations.

However, there`s always room for improvement. In light of our changing workplace and societal landscape it`s important that we shift our own occupational safety and health compass, as well. In addition to the training opportunities currently offered through NIOSH, there`s a need to develop a more comprehensive approach to recruiting people to the field. There`s a need to go beyond the four core disciplines of medicine, nursing, industrial hygiene and safety, and to include such areas as health education, health economics, health policy, toxicology -- it goes on.

There`s also a need to develop an approach to reach out to undergrads. This will have two effects. One is to extreme -- expand the stream of people applying to graduate programs in occupational safety and health, and also will have the effect of attracting more students from diverse backgrounds. There`s also a need to have special outreach to minorities, immigrants and people from under-served communities. And finally, there`s a need to be willing to devote resources to mentorship.

An approach that we`ve found successful at AOEC is the Occupational Health Internship Program. While it`s still a very small program, it contains some useful lessons that could be used to expand the program, or establish similar programs, throughout the country, perhaps through the ERC or the TPG structures. OHIP has two primary goals that are different from those of your standard internship programs. First, we want students to have a learning experience that is based on understanding the world of work from the point of view of the worker. This often involves a participatory research approach. And second, we

want the students to give something back to the workers. We want them to share what they've learned so that the workers can use this information to improve our own work environments.

These two goals are complementary. In the process of learning about the work environment from workers, students begin to formulate a product that will be useful to those workers. Students are motivated to work to solve real problems. And in the long run, we think, it helps produce a highly qualified and motivated occupational health professional.

OHIP is also unique in who it recruits. We have purposely broadened our recruitment beyond the core disciplines to include undergraduates as a way to recruit more students from immigrant and minority communities. This also helps to better serve those worker communities during the summer projects by having students with unique cultural and language skills.

For example, we had a Mandarin-speaking intern who played a pivotal role in a project with Chinese workers -- Chinese restaurant workers. We've also had Spanish-speaking interns work with hotel room cleaners, day laborers and retail service workers.

OHIP students are already making a difference -- entering graduate programs in occupational health nursing, being hired by university labor education programs and healthcare unions. This is important. Many OHIP interns still in school are volunteering as translators and health workers in community-based clinics.

NIOSH needs to continue its current program that supports graduate students in the core disciplines, but it also needs to fund other programs such as OHIP and other training programs that seek to broaden the pool of students who are eligible and interested in occupational health and safety.

In closing I'd like to leave you with a quote from one of our interns from the west coast. I didn't come to public health school thinking this would be my focus. A lot more people would be interested in occupational health and safety if they knew more about what it is. We need to do more PR. Occupational health and safety is not on people's radars. They think of work site wellness programs and don't think about how work affects people's health. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 680.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Reproductive

Traumatic injuries

Exposures

Motor vehicles

Approaches

Surveillance

Etiological research

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Hello and good afternoon. To its credit, in the previous NORA research areas NIOSH highlighted the needs and goals to define and implement a broad national occupational reproductive research agenda. To achieve this NIOSH has been involved in identifying critical research needs in the areas of surveillance, field studies and toxicology. But left out of almost all of these efforts has been a focus on exposure during pregnancy to one of the most dangerous and ubiquitous environmental exposures to which almost all pregnant women are exposed to, namely the risks from automobile crashes and trauma.

Recent research has shown that about one in every 25 pregnancies is involved in a police-reported crash. What appears to be driving this disconcerting statistic is an almost perfect storm of women are working more, working later into their pregnancy, and driving more and more distances. The result is that women commuters and women employed in the transportation activities are increasingly at risk of adverse reproductive effects from crashes and other occupational trauma.

The population impact of this increased exposure to motor vehicle crashes during pregnancy can be seen in the table that I've left with the panel that compares the annual frequency of fetal versus infant crashes, injuries and deaths. You will note that because the fetus takes on the risks of the mother that it -- that they're more likely to be exposed and actually suffer five times as many deaths than infants do from crashes, even though fetuses are exposed over a much shorter period of time -- obviously, nine months.

But fetal death is not the only endpoint of concern. Over the last two decades the medical literature has increasingly documented in larger and larger studies the range of motor vehicle crash threats to the mother, fetus and the newborns. The more important among the documented adverse birth outcomes for the offspring include substantially increased fetal mortality, neonatal deaths, placental abruption, premature (unintelligible) low birth weight.

Direct and indirect damage to the fetus from maternal crashes also leads to an as yet unquantified number of children that have suffered injury or damage to the brain and other organs. This can lead to acquired birth defects and many types of developmental problems. These types of disabilities are well-documented in case reports throughout the literature, but not through large scale population-based studies. In any event, these events leave the families to cope with the grief of the fetal loss, or the burden for carrying these young survivors who may be permanently impaired.

The potential factors, mechanisms and impact on the developing fetus resulting from maternal crash involvement are usually multi-faceted but as yet rather incompletely understood. From a clinical perspective, many things can happen to the fetus during and after a crash to upset the mother, the fetus or the delicate balance between them. There may be direct harm to maternal, fetal or shared organs. There may be indirect harm to the fetus from maternal physiologic adaptations to trauma, fluid loss and shock. There may be effects from maternal stress, common in serious traumatic events, known by itself to impact on the fetus. There may be effects from diagnostic regimens, medical surgical procedures or the wide variety of prescription medicines and self-medications taken by the mother. How all of these interact under different scenarios for different levels of severity at different gestational ages is simply not well understood. This is mainly due to a lack of study.

Therefore it's highly recommended that NORA include within its new round of occupational research priorities and within a continued focus on occupational reproductive research a priority on trauma and pregnancy that will, in general, identify research needs, assist in the development of reproductive health research, expand existing surveillance systems to include accurate information on maternal crash and occupational factors to identify research needs, to create new partnerships that expand resources, to encourage research that would encourage the understanding of biological and biomechanical processes under (unintelligible) abnormal reproductive outcomes after trauma, and to encourage the dissemination of results to the public to increase awareness and to encourage safety assurance.

Some more specific examples of suggested elements related to this priority are attached at the end of my statement. Thank you very much for your kind consideration to this neglected but very important area of occupational reproductive health.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 681.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Marketing/dissemination

Partners

USDA/Cooperative State Research, Education and Extension Service

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Thank you. My name is Bradley Rein and I'm with the USDA/Cooperative State Research, Education and Extension Service. I've been working with NIOSH since I think 1991 in helping organize the first Surgeon General's Conference on Agriculture. I would -- am the USDA representative on NORA I and I applaud NIOSH for all of the things that they have done to help support research in the area of agriculture since the early '90s. Because of NIOSH we now have a lot better sense of what the issues and the injuries and illnesses and the occupational safety factors are in agriculture.

I applaud NIOSH for having the insight to include an agricultural sector in NORA II, and I think that's a move in the right direction and I look forward to working with NIOSH on that.

I would like to talk about -- a little bit about some of the ways we can work together. We've been doing a lot over the years. One of the things we do -- we're a very old agency. We have a very formalized structure in working with our land grant and university partners, and one of the things they have done is they have recently developed a national agenda for action on agricultural safety and health through the experiment station directors and the extension service directors. This agenda, I think, is a move in the right direction and I would like to have NORA con-- NIOSH consider that as they develop a structure for identifying their agricultural safety and health research and outreach efforts.

I applaud Dr. Howard for his initiative in research to practice. I think that's something that we can work together very effectively with. And with that, I think I'll leave it.

Some of the issues, again, we would like to see a little bit more engineering-related types of solutions to agriculture. Agriculture's changing tremendously in this country due to the influence of biotechnology,

the international competitiveness. There`s a lot of technology that I think can be transferred that helps agriculture compete, both internationally as well as produce a safer workplace. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 682.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Thank you very much. I'm with the safety and health department of the AFL-CIO, and first of all we'd like congratulate NIOSH on ten years of success with NORA I. We think that the initiation of NORA was important to focus what amounts to a limited amount of resources to address issues of safety and health and to address the most important research questions affecting workers.

Of course it's -- you know, it's important and critical to identify hazards and causes of injuries and illnesses among workers in this country. However, from our point of view, I think the most critical element ultimately is the bottom line for protecting workers is intervention. This is where you begin to intervene to reduce and eliminate exposure to those hazards and risks. It's where the impact of what we learn from research on hazards, causes and risks can be implemented to realize real benefits that benefit the employers and employees. Research -- NIOSH's research won't make a difference if we don't translate this into action in our workplaces, so from our perspective we think that intervention research is where the substantial emphasis in NORA II.

Comment ID: 682.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

We have several other suggestions I think that are deserving attention and consideration as NIOSH moves forward into its second decade in NORA II. Unlike NORA I where the -- where the -- the universe was -- was carved up by focusing on issues in safety and health, NORA II looks to address issue -- addressing sectors and -- and industries. And you know, logically, either one of those makes -- makes some sense and in round two the focus will be a -- a sectoral approach.

However, we do have some concern about losing some of the cross-cutting issues that cut across industries when you use a sectoral basis, and I know there's going to be a group that looks at these cross-cutting issues, but we really want to make sure and emphasize that we see this as really the central committee that's linking all of these sector-based researches together because we see that there's a number of issues that cut across that we don't want to see fall through the cracks when you organize in this fashion.

Issues of, for example, work organization and stress cut across a lot of industries. Minority and vulnerable populations, uses of PPE, ergonomics, nanotechnology -- these are all the kinds of issues that don't just lend themselves (sic) to using a sectoral approach, so we -- we -- I think we need to have some serious open dialogue and linkage among these industry groups to make sure that these cross-cutting issues don't -- don't fall through the cracks.

Two is we like to apply the lessons that we learned from NORA I and apply those to NORA II. What did we learn, what -- what worked and why, what didn't work and how to correct it, so that we don't reorganize ourselves and fall prey to making some mistakes that might have occurred as -- as NORA -- as NORA I was unfolded. So I think -- I think it would be important for NIOSH to summarize the overall experience of NORA I so that NORA II can -- can -- can benefit from that and move -- and move forward.

Comment ID: 682.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Data and data accuracy, we don't know what the scope of the -- of the -- of -- of workplace injuries and illnesses is in this country. We know that there's serious under-reporting, and I think that's a major failing of the research community in -- in the United States, and -- and I'd like to say that that's not a huge problem, but I think we need to engage in research to get a more comprehensive and fuller picture of -- of what we're facing with -- in terms of injury and illness in this country.

Comment ID: 682.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

organized labor

Categorized comment or partial comment:

We think that establishing effective lines of communication with organized labor and other stakeholders is critically important, and it needs to occur over the duration of -- of -- of NORA II, and we're talking about a number of years here.

Comment ID: 682.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Then lastly, funds for research -- they're dwindling. Let's -- let's be honest. The NIOSH budget has been flat or -- or less than flat and as the CDC tap and -- and -- and the quest for pro-- you know, providing wages and benefits for workers, the amount of money that's available to NIOSH to actually conduct research, both intramural and extramural, is dwindling. So we need, as a community of stakeholders -- if we're interested in this, we need to find ways to get real increases in -- in NIOSH research dollars so that we can move the issue forward.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 683.01

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Surveillance

Etiological research

Exposure assessment

Risk assessment methods

Economics

Authoritative recommendation

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

CDC National Center for Environmental Health; US Environmental Protection Agency; Department of Education; Healthy Schools Network, Inc.

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Thank you. Thank you very much for the opportunity to provide comments today towards setting the agenda for the next decade. My name is Claire Barnett and I'm executive director of Healthy Schools Network, Inc. We're a national environmental health not-for-profit organization that seeks to ensure that schools are environmentally responsible to children, to personnel and to their communities.

Since our founding in the mid-1990s we have secured new policies, regulations and funding for schools in New York state and in New York City -- the nation's largest school district -- and federally, and advised and insisted (sic) scores of local, state and national groups on establishing reform agendas on school buildings.

We have a clearinghouse, a Healthy Schools/Healthy Kids clearinghouse, both on-line and telephone assistance, which we developed ten years ago in concern with adult occupational health and safety

experts, with parents and others. In that time we've worked with individuals in every single state. The volume of visitors now on an annual basis is approximately that of the federally-funded national clearinghouse on educational facilities.

Regarding the need for research aiming at improving adult health and productivity through better guidelines and standards for occupational safety and health in our nation's 120,000 public and private schools, it is a very timely research opportunity that NIOSH must seize. EPA estimates that approximately half of the nation's 120,000 schools have polluted indoor air. Asthma's not only a leading occupational disease among teachers and custodians, but the single largest cause of student absenteeism due to chronic illness. There are 54 million children in 120,000 buildings.

Indoor air can be five to 100 times more polluted than outdoor air. Americans spend 80 to 90 percent of their time indoors. The American Society of Civil Engineers believes that schools are in worse shape than prisons. Children, who breathe more air per pound of body weight than adults and who are especially vulnerable to environmental health hazards in their developing years, may encounter in school or in day care exactly the same or very similar exposures as the adults, and they vastly outnumber adults in schools.

Our research recommendation is that NIOSH, in partnership with CDC's National Center for Environmental Health and ATSDR, which carry the agency's priorities on protecting children's environmental health, establish a partnership with the EPA, U.S. Environmental Protection Agency, on a national research project to evaluate school environmental health. Such a pilot can rely on existing EPA guidance and regulations on healthy school environments. In fact there is a dedicated web portal now shared between the EPA, CDC and Department of Education on that. It should be advised by pediatric environmental health experts and by experienced parents and personnel, and occupational safety and health people as well.

Outcomes could impact studies on indoor air and help determine if assessing children's environmental and occupational health is a valuable way to determine overall adult employee health hazards in day care centers and schools where the children outnumber the adults by a fair ratio. My organization and many others would be pleased to partner with you on such a project. Schools really are an ideal workplace to study indoor air and low level chemical exposures.

At this time I want to add to this and place on the record several documents. One is a peer-reviewed document or report called "Schools of Ground Zero, Early Lessons Learned in Children's Environmental Health". There were seven public schools in the impact zone around ground zero. One of them opened very early before the fires were still out. The report documents the evacuations and cleanups of 9/11 impact zone schools. An informal backpack survey done in cooperation with the local parent associations indicated continuing health effects on elementary-age children as late as spring of 2002. No agency has reported such data. It was done through an informal community survey.

We're also putting on the record a new report called "Who's in Charge of Protecting Children's Environmental Health at School", and a data report on New York State school facilities and student health, student achievement and student attendance. I -- based in New York State, and New York is data-happy. We have a lot of good record-keeping on health effects. We have a good -- lot of good data reporting on standardized testing, as well as a lot of data on school facilities that a lot of states don't have. We recently -- our office, working with some outside consultants, recently completed a report showing that poor facility conditions are associated with lower test scores, higher absenteeism and

higher suspension rates. We did not have the research capacity to look at employee health or productivity.

I encourage you to consider schools as part of your research agenda. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 684.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Heat/cold

Motor vehicles

Approaches

Surveillance

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

International interaction

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good afternoon, my name is Shelley Davis. I'm the deputy director of the Farmworker Justice Fund. In 2003 -- 2004 the Associated Press surprised the nation by saying that Mexican immigrant workers in the United States had the highest fatality rate of any occupational group. As was just mentioned, immigrant workers have particular occupational health and safety needs. They often work in the most hazardous jobs and due to language, culture and other barriers, receive inadequate training.

I want to focus my remarks on a particular segment of the immigrant workforce, which is the nation's 2.5 million migrant and seasonal farm workers. Agriculture consistently ranks as one of the three most hazardous occupations in the nation. (Unintelligible) for example the combined category of agriculture, forestry and fishing had a fatality rate of 31.2 per -- cases per 100,000 workers. And with regard to non-fatal on-the-job injuries, they had a rate of more than six per 100 workers, including 3.7 per 100 workers

of lost-time injuries. (Unintelligible) fatal injuries with (unintelligible) leading cause was agricultural vehicles, both tractors and, for hired farm workers, the vehicles used to transport them to and from the fields. Here's the non-fatal injuries. Because of the kinds of work they do -- harvesting, pruning, sorting, packing -- they suffer a host of sprain and strain, musculoskeletal injuries, eye injuries from debris, cuts and lacerations from machetes, contusions, amputations from farm equipment, chemical-related illnesses from pesticides.

This workforce is primarily an immigrant workforce. The National Agricultural Worker Survey estimates that 78 percent of farm workers come from Mexico and Latin America. And 81 percent speak Spanish as their native language, and then only 25 percent understand English well enough to obtain information in that language.

There are also particular structural reasons in agriculture which make it particularly hazardous. The industry has gone to a great dependence on labor intermediaries or crew leaders that recruit, hire and transport the workers. And these crew leaders oftentimes are former farm workers themselves, with only a battered school bus or van as their assets to transport the workers, and they frequently don't receive enough compensation from the growers to provide adequate workplace safety.

The second reason is that the National Agricultural Worker Survey (unintelligible) 52 percent of the farm workforce isn't documented. And these, you know, (unintelligible) workers are loathe to complain about unsafe workplace conditions, even to their employers, let alone to government investigators. Also language, culture, mobility, short tenure at any given workplace all combine to make the conditions hazardous so that workers are not adequately trained, are often unfamiliar with workplace conditions, and don't have trusted sources that they can turn to for assistance. In addition, agricultural workers lack union representation. Only two percent are union members. As a result, few gain protections from collective bargaining, and most federal and state labor laws, partial or whole, exclude agricultural workers. In OSHA, for example, there are only seven OSHA standards that apply in agriculture, even though many other standards cover conditions that are equally prevalent in agriculture. For example, fall protection, (unintelligible), electrocution, et cetera.

So in these context researchers could play a very important role in identifying the causes of injuries and developing low-cost interventions that could really improve occupational health and safety in agricultural workplace.

We at Farmworker Justice have been participating over the last 18 months in a NIOSH-funded community participatory research project working with indigenous workers in Oregon, and we've really seen first-hand the value of that, the key role played by the workers themselves in voicing their concerns and identifying the kinds of interventions they're looking for and what they would use.

We've also been working across the nation over the last year with researchers and advocates and funders to try to develop an agricultural research agenda. And we've found that oftentimes researchers and advocates live in two very different camps and don't communicate. And so the research that's done is not really addressing the key issues and is not being utilized.

So from these experiences we'd like to just cull out a few recommendations for the NIOSH NORA. First, we think it's extremely important that NIOSH fund community participatory research projects, that researchers involve the targeted workers and their representatives from the outset in designing the project, in developing interventions and testing them, in making sure that this is the kind of issue the

workers think of as important, and that the solutions are low-cost and easy to implement and things that are likely to continue after the research project is done. That they involve community-based organizations that know where these workers are and are trusted by these workers `cause otherwise you won't get community participation and buy-in, and that is really critical to the usefulness of the project.

There are also particular areas that are worth focusing on. First, because of the primacy of motor vehicle accidents in workplace fatalities, that should be an issue that's -- that's given attention, as is musculoskeletal disorders, eye injuries, traumatic injuries, heat-related illness and the other major causes of occupational injury and illness in the agricultural workplace.

There's also a real paucity of data and the National Agricultural Worker Survey is one good example, but it's very limited in the area of occupational health and safety, in part because funding for safety issues has only been sporadic. So joining forces to put some money into the NAWS as a continuing datastream would be very helpful, as would be long-term epidemiological research that focuses on agricultural workers, even when they return home to Mexico, because many workers, once they become ill or disabled, do return home. And so the adverse health effects they suffer is lost to researchers who only focus on active workers or workers in the United States.

Finally, I'd just like to say that we really encourage you to continue supporting the environmental justice grants and other similar funding streams that allow you to tap into researchers that are working with community-based organizations that have close connections to the targeted workforce that can really involve the workers themselves in the projects. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 685.01

Categorized with the following terms:

Sectors

- Manufacturing
- Mining

Population

- Older

Health outcomes; diseases/injuries

- Hearing loss
- Musculoskeletal disorders

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Engineering and administrative control/banding
- Personal protective equipment
- Intervention effectiveness research

Partners

- Industrial Minerals Association of North America

Categorized comment or partial comment:

Verbal Comment 2006/03/13: Good afternoon. My name's Mark Ellis and I'm president of the Industrial Minerals Association of North America, which is a trade organization that represents producers and processors of industrial minerals. We also represent the manufacturers of mining equipment, railroads and trucking companies that serve the industry, law firms, consulting firms, media companies, and all of it is geared towards producing minerals that are essential for our everyday life.

These are such basic things as glass, ceramics, paints and coatings. They're the ingredients that are used in fertilizers, so it's basic building-block material and we're that silent part of the mining industry that you don't hear about all the time. Clearly you're familiar with coal or your crushed stone, sand and gravel. But we're more the commodity that are used in manufacturing and agriculture.

The Association has strong commitment to occupational safety and health. We have a board established, a safety and health committee that reports to the board, and they're involved in a number of occupational safety and health issues. Typical kind of things are broken down into task forces. Some of the kinds of issues we deal with are dust control and ergonomics.

We participate in a number of partnerships with research agencies and enforcement agencies. We have an alliance with the Mine Safety and Health Administration and we're exploring a similar arrangement

with the Occupational Safety and Health Administration. And we are engaged in numerous partnerships with NIOSH, including diesel particulate matter, noise, emergency mine communications and the like.

I think that what I'd like to draw your attention to is our biggest safety and health challenges, and this is obviously where we need to make sure that these subjects are covered in the occupational research agenda. The task -- the town meetings that have been held around the country -- we were unsuccessful as of yet in getting one held for the mining industry, and I understand that NIOSH is working hard to try to make that happen, so we will be a participant in that and we will encourage others to be involved as well.

But the challenges that we face are not unfamiliar. They're well-recognized occupational safety and health challenges. They've been around for centuries -- over-exposure to dust, over-exposure to crystalline silica, noise-induced hearing loss. Probably the biggest one that we're facing now and it is partly a testament to how well we've done in keeping the workplace safe and healthy is an aging workforce, but that presents new issues for us.

I think that NIOSH has done a lot of progressive things under Dr. Howard, and I think that one of the things that we feel is important for the National Occupational Research Agenda is something that focuses on the research to practice initiative. It's very important to take research and to translate that into something that's useable out in industry, and I know that that's something that Dr. Howard has moved very aggressively on in his tenure at NIOSH, and we applaud him for that and we encourage the agenda, as it's developed, to stay in that same line.

I think that the biggest problems we have right now are intervention strategies. We know what our problems are, but how do we break them. And so I think that any research that can be done to determine what is an effective intervention strategy would be of great assistance to us.

Also control technologies. People have been knocking metal picks against hard rocks for centuries, and it makes a lot of noise, it makes dust, and we have yet to figure out a way to take the metal and coat it and make it so that when you bang it against the rock it doesn't make a noise or doesn't produce dust. But that's where the research is needed, trying to get things that either control the exposure or isolate the person who's conducting the work, better PPE -- you know, these are the kind of things that would be of benefit to our industry.

So I think I'll just close with that, and thank you for listening to us and we hope that you'll support our agenda.

Note: Verbal testimony provided to NORA Town Hall meeting in Washington, DC, 2006/03/13.

Comment ID: 686.01

Categorized with the following terms:

Sectors

- Construction
- Healthcare and Social Assistance
- Manufacturing
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

- Radiation (ionizing and non-ionizing)

Approaches

- Surveillance

Partners

Categorized comment or partial comment:

I had earlier submitted a statement on the importance of research on non-ionizing radiation to occupational health. To document the extent of those exposures, I have used data collected by the INTERPHONE study of cell phones and brain cancer conducted by the International Agency for Research on Cancer (IARC) and epidemiologists from 13 countries (not including the U.S.). This case-control study has interviewed over 15,000 subjects on their full range of exposures to electric and magnetic fields (EMF), including workplace exposures. When fully analyzed, these interviews will provide excellent data on the prevalence of occupational EMF exposure.

For NORA, I have conducted a preliminary analysis of the introductory questions that ask about work in sectors where EMF exposure is likely. A table with the complete results to the NORA symposium organizers for entry into the docket, but here are some summary results:

- * 28.8% of the workforce (36.9 million workers in the U.S.) are potentially exposed to power-frequency EMF.

- * 23.2% (29.7 million) are potentially exposed to radio-frequency / microwave fields.

The exposures are reported from the manufacturing, service, transportation, utilities, construction and health care sectors. In other words, non-ionizing radiation is clearly a cross-sector exposure.

Comment ID: 687.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I am concerned about the health effects of non-ionizing radiation in the workplace and its potential effect beyond the workplace and NORA.

Comment ID: 688.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Personal protective equipment

Training

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Health service delivery

Partners

Categorized comment or partial comment:

Research is needed on the relationship between pesticide exposure and birth defects, spontaneous abortion, and preterm labor. In February of this year, the News and Observer in Raleigh, North Carolina, chronicled the stories of three migrant farmworker women who reported repeated prenatal pesticide exposures while working in tomato fields in southeastern North Carolina. Subsequently, all three women gave birth to children with significant birth defects, one of whom died shortly after birth and one of whom has no arms or legs. Given that this is a routinely invisible population, it is unknown to what extent there have been other such cases, preterm births, or spontaneous abortion. Of interest is that although located in extremely rural areas of the state, health departments have no pesticide education protocols for any population. Even if these protocols were in place, a large number of the migrant farmworkers living in these areas do not speak or read Spanish but indigenous dialects that are not even written languages. The language barrier, along with access to health care issues, and fear of punishment if women are in the country illegally further complicates gaining information or providing health education to this population. Research is also needed into migrant farmworker women's knowledge about pesticides and beliefs about the use of personal protective equipment and pesticide precautions, particularly during periods of vulnerability such as early pregnancy. Your consideration in making this a priority for NORA's agenda for research to practice will help to ensure the well being of migrant farmworker women and children.

Comment ID: 689.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Health service delivery

Partners

Categorized comment or partial comment:

Wisconsin is currently the only state in the country with legislated medicaid reciprocity. When a migrant farmworker family enters the state and presents a valid medicaid card from another state, they are immediately given Wisconsin Medicaid until their current Medicaid eligibility expires at which time eligibility is updated. Lack of Medicaid reciprocity (or portability) for migrant farmworker families often results in families who are eligible going without medical coverage presenting a major barrier to health care access. Many barriers exist to reapplying in a new state including Medicaid eligibility office hours, transportation, language barriers, limited length of stay in a new area, and location of the eligibility office. Research to practice efforts are needed to examine the feasibility of Medicaid reciprocity or portability on a national level. In addition, feasibility of implementing a web based farmworker medical record that is accessible to the individual and to providers (with consent) such as the one being implemented in North Carolina are also needed.

Comment ID: 692.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities
Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Please consider noise in your review of occupational health hazards. Noise exposure in the electric utility is significant with little resources for engineering control measures. It is crucial that attention and funding for hearing loss prevention efforts be considered to protect the health and the hearing of 30 million working Americans.

Comment ID: 693.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction
Manufacturing
Mining
Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Noise exposures and hearing conservation issues have the potential to affect a large percentage of the work force across virtually all industries and places of employment. As one who suffers from tinnitus and a noise induced hearing loss, I can also state that it affected my family too!!

Comment ID: 694.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

Categorized comment or partial comment:

I fear that cross-sector issues, such as noise-induced hearing loss, may lose some ground in funding and attention. Noise is perhaps one of the most ubiquitous exposures for working Americans. The potential for loss of research funding may have a serious impact on tens of millions. For this reason, I have trepidation about the whole industry sector concept. At the very least, I would hope for some form of reassurance that cross-sector issues, noise in particular, would not suffer in the NORA change.

Comment ID: 698.01

Categorized with the following terms:

Sectors

- Services
- Wholesale and Retail Trade
- Unspecified

Population

Health outcomes; diseases/injuries

- Traumatic injuries
- Mortality

Exposures

- Violence

Approaches

- Surveillance
- Etiological research
- Engineering and administrative control/banding
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Authoritative recommendation
- Marketing/dissemination
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Workplace Violence Prevention Research

Since the inception of a comprehensive occupational fatality database more than two decades ago, workplace violence (WPV) has remained one of the leading causes of occupational mortality. On average, each year more than 800 American workers lose their lives to workplace violence while they are doing their jobs. Additionally, an annual average of 1.7 million workers are victims of workplace violence incidents. The NIOSH Workplace Violence Initiative has strong intramural and extramural components that have made great strides in the prevention of workplace violence. Still these statistics on the tragic deaths and injuries of America's workers are compelling enough to warrant expansion of the prevention efforts within NIOSH.

In November 2004 NIOSH held a conference entitled "Partnering in Workplace Violence Prevention: Translating Research to Practice". Recommendations for a national workplace violence initiative were

collected from partners and stakeholders during the conference, which focused on workplace violence prevention strategies and research needs. Some of the overarching recommendations from this conference were that NIOSH should 1) develop a clearinghouse of information on workplace violence, 2) evaluate and identify model programs, 3) develop data gathering standards for disparate data sources, 4) provide public education in WPV, 5) coordinate the national WPV prevention effort and lead partners in the development of a national WPV strategy, 6) forge a common definition of WPV, 6) gather data on the Federal workforce, 7) ensure and maintain up-to-date WPV statistics, 7) adopt a partnership model to develop regulations addressing workplace violence, and 8) implement WPV prevention programs in the workplace.

Research gaps need to be addressed with regard to WPV prevention programs for all types of workplace violence. With regard to Type I, i.e. stranger on worker violence, research gaps include a) determining the effectiveness of environmental designs, physical measures, and work practices on injury and homicide during a robbery situation in convenience stores, b) developing a complete inventory of all state and local regulations and polices regulating WPV prevention measures for the leading causes of Type I violence such as in convenience stores and taxicabs, c) estimating the percentage of workplaces in compliance with federal, state, and local regulations and identifying reasons for non-compliance which can then be incorporated into the partnership model for developing regulations addressing workplace violence, and d) determine reasons why WPV-related homicides are decreasing in convenience stores and taxicab industries. With regard to type II, i.e. client on worker, and type III, worker on worker violence, research is needed to a) define the continuum from bullying to assault to injury or homicide, b) determine risk factors for bullying, c) evaluate and promote model programs to modify behavior for prevention of bullying, and d) evaluate program and promote model programs for prevention and response to workplace assaults. Additionally, for all WPV categories, research should continue in surveillance of fatal and non-fatal WPV injuries and an analysis of trends for person, place and time risk factors should be conducted.

These statistics and the recommendations from NIOSH stakeholders and partners for future research form the basis for a compelling argument that workplace violence prevention research needs to be a cornerstone in the new National Occupational Research Agenda.

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Comment ID: 699.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Intervention effectiveness research

Partners

Categorized comment or partial comment:

Each NORA Sector Research Council should be aware of at least the following publications of the NORA Intervention Effectiveness Research Team, which can help guide future studies:

Goldenhar LM and Schulte PA. (1994). Intervention research in occupational health and safety. *Journal of Occupational Medicine*. 36;7. 763-775.

Baker R, Brockhaus A, Boucier D, Chapman L, Collins J, Goldenhar L, Heaney C, Katz, T, Landsbergis P, Martonik J, Most I, Schneider S, Scharf T, Sinclair R. (Letter to the Editor re: Intervention Research) May 2000 Supplement on Preventing Occupational Injuries. *American Journal of Preventive Medicine* 20(4), 308-309.

Goldenhar LM, LaMontange AD, Katz T, Heaney C, Landsbergis P. (2001) The Intervention Research Process in Occupational Safety and Health: An overview from the NORA Intervention Effectiveness Research Team. *J of Occ and Environ Med*. 43(7). 616-622.

Robson LS, Shannon HS, Goldenhar LM, Hale A. (April 2001) A guide to evaluating the effectiveness of strategies for preventing work injuries: How to show whether a safety intervention really works. NIOSH publication # 2001-119.

Comment ID: 700.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

No doubt there are sector issues that need addressing; however, physiology responds in limited ways. Silicosis is the same disease no matter what sector it occurred in. We do not adequately understand noise induced hearing loss. The sector is of no consequence in this way. Employees are people.

Comment ID: 701.01

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

I am associated with MORA of Maine and have been a NORA Team member. I recommend that NORA consider the approach of Matching Grants. I worked with NASA to arrange this and would be willing to work on this with NIOSH and NORA, too.

Comment ID: 702.01

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Work-life issues

Approaches

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. I just wanted to share with you a quick story before I get into some other points I want to make. About a year and a half ago -- it's been almost a year, about a year or so ago, we had city-wide hotel negotiations in Los Angeles. And we put many is-- several issues on the table, but we really wanted to narrow down to the most important. And without a doubt, the workload -- especially of housekeepers -- was put on the table as an issue that had to be addressed. And that is because immediately after September 11th, which we all understand why the hospitality industry really went way down as far as business, that what employers had done across the board, throughout North America, was to take full advantage of the fact that they had to cut staff because business had dropped so dramatically. But as business was picking back up, they were failing to, at the same time, bring the staffing levels back up to correspond with the increased business. And so what was happening throughout hotels, union and non-union, was enormous overload of the work on the housekeepers and other changes. And so we put that on the table for discussion and to make changes in the workload for the housekeepers.

And the spokesperson for the hotels made some remark in front of the housekeeping and the other hotel workers negotiating committee, something to the effect of, you know, work isn't that hard for those housekeepers because we have a green program. And because of the green program, you know, their -- their workload is very light, so we see no problem, period. We don't want to discuss it. That's the end of the conversation.

Well, you can imagine -- if you're a housekeeper -- what their reaction was. They wanted to jump across the table and strangle him. First, it was a "him", who had never made a bed in his life, probably, and had no idea of what he was talking about. So the next negotiations all of the housekeepers in that hotel, plus housekeepers from many other hotels, filled the room because some of them were going to address him. And when he started walking into the room with the rest of management representatives and they saw the room full of housekeepers, they closed the door, left, and they called us saying that they were not going to start negotiations until we emptied out the room of housekeepers.

You know, the -- their unwillingness to even discuss this issue was so offensive to the housekeepers that work so hard every single day that they just couldn't believe that their employers would not even hear them out, would not even listen to them.

That's what's being faced, and there'll be housekeepers here today who will talk to you more importantly, more directly about what they go through every single day. That's what has moved us, in addition to all of the other working and -- working conditions of housekeepers and other hotel workers in the hospitality industry.

A couple of days ago I found -- something was sent to me or distributed on the internet about an L.A. County Health Department report that had just come out in January. It was talking about how chronic diseases had increased and \$48 billion in healthcare costs related to chronic diseases, and one of the points that they're making was that the hardship -- that the greater the economic hardship in a community, the greater the likelihood of the chronic diseases. And it went on about, you know, measured in every -- oh, that was quick -- measured every community and found that, you know, they really needed to make some changes. But the changes that they talked about all had to do with how to live a better lifestyle -- like stop smoking, eat nutritious foods, get regular medical care -- you know, things to do in the community. But there was probably just one sentence that referred to the hardship. In other words, we ought to do something about the economic hardship of these communities.

Well -- so two sentences on that is not sufficient to address what is going on in our communities. And we have got to be more direct and we invite and join the health and medical professional communities to join with these housekeepers as not only do we address the issues of housekeepers and the workload and the changes in the industry and the hospitality industry with, quote/unquote, heavenly beds and amenities and more mattress -- heavier mattresses and sheets on the -- and the heavier carts, but that we also address the economic conditions of our communities and of those workers.

It's real simple to say we recommend get regular medical healthcare. It's another thing when those workers, low-wage, mostly immigrant workers in these industries, service sector jobs don't make enough even to live outside of poverty, much less buy the health insurance that they need to be able to take care of themselves and their families.

I want to end -- I've been told to stop, but I want to end by saying we have materials here about a national -- North America campaign called Hotel Workers Rising. It'll be in the back. Invite you to join us. Join those housekeepers. Join those women -- join those women of color 'cause that's who works in these hotels as housekeepers -- as they struggle and they join across North America to say to the hospitality industry employers, you want us to do a good job, then we have to take care of ourselves. We have to be healthy as we do this, not to be pushed out and -- and abandoned when our back hurts, when our shoulders, when our knees, when our elbows, when we can't move anymore, abandon us. So

we`re creat-- helping to build this movement across North America, not only for hotel workers but all service sector jobs.

Eighty percent of the new jobs in this country are service sector jobs. And housekeepers and hotel workers are going to fight like hell, like manufacturing workers did earlier in the century, to say we want good middle-class jobs with health insurance to raise our kids, be healthy and have healthy communities.

And I thank you very much for the work that you do. Join with us as we do whatever we have to do to make life and work safe for those housekeepers. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 703.01

Categorized with the following terms:

Sectors

- Construction
- Manufacturing
- Services
- Wholesale and Retail Trade

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors
- Work organization/stress

Approaches

- Surveillance
- Intervention effectiveness research
- Work-site implementation/demonstration
- Health service delivery
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hello, my name is Alejandra Domenzain. I'm associate director with Sweatshop Watch, which is the statewide coalition of organizations focused on the rights of low-wage immigrant workers, including garment workers.

So first I think it bears reminding ourselves why focus on immigrant workers. First, when we talk about the future of our workforce, we are talking about immigrant workers. New immigrants contributed at least 60 percent of the growth in the nation's labor force between 2000 and 2004. And in California we know that Latinos alone account for about a third of our workforce. Looking into the future, if we assume immigration levels remain constant, immigrants will account for half of the working-age population growth between 2006 and 2015. And then looking even further into the future, they'll account for all of the growth between 2016 and 2035. So the health of the immigrant workforce is inseparable from the health of our immigrant workers.

Secondly, occupational safety and health is particularly important for immigrant workers. As Maria mentioned, they're less likely to have health insurance, and less likely to earn a wage that's adequate to have access to medical care. On average, low-wage immigrant worker in the U.S. earns \$14,000 a year,

which is probably a high estimate. And immigrants are over-represented in industries where there are predatory employers that violate the basic health and safety norms with total impunity.

Lastly, we know immigrant workers are disproportionately injured and killed. The Bureau of Labor Statistics concluded that Latino deaths on the job have been 20 percent higher than for whites or African-Americans. However, in my remarks I want to focus briefly on statistics from community-based research, closer to the ground, which I think really shows us even more rich details about the situation.

So for example, there was a study from the Korean Immigrant Workers Advocates here in Los Angeles that found 40 percent of Korean workers in garment, restaurant, retail and janitorial jobs had suffered workplace injuries that required medical treatment or resulted in lost work days. Seventy-six percent of these had no health insurance, and up to 75 lacked workers compensation insurance. About 90 percent never received any kind of health and safety training at all.

A UCLA study found that the injury rate among L.A. day laborers involved in construction work was twice the rate for construction workers as a whole. And a recent national study on day laborers found 44 percent were denied food, water and breaks; 20 percent were injured on the job; and more than half did not receive the medical care they needed for an injury.

Lastly, to focus on the garment industry, the Asian Immigrant Worker Advocates in Oakland found that 94 percent of garment worker patients that came to their clinic were experiencing pain severe enough to interfere with their daily activities. And the Garment Worker Center here in Los Angeles has found 97 percent of garment workers were exposed to concentrated dust and cloth particles, over one-half had experienced needle sticks or worked with pests such as rats and cockroaches, and one-third worked in shops with non-functioning bathrooms.

So in conclusion, I think we need to support these kinds of field-based research projects which are often the only detailed source of information we have on health and safety for low-wage immigrant workers. We also need to evaluate and promote innovative and effective intervention models for dealing with this specific population.

To do this it is essential to involve the community-based organizations that have the trust of immigrant workers and the ability to reach them. To this end I urge NIOSH to explore research models that build on the expertise of worker advocates in the field, to allocate funding for pioneering community-based organizations to document what they are seeing and doing regarding immigrant worker health and safety, and to prioritize this topic in coming years. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 704.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Small business

Health outcomes; diseases/injuries

Exposures

Violence

Approaches

Training

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. Deanna Stover, and I represent the City of Los Angeles. With approximately 42,000 employees -- and actually it's growing I think day by day, our occupational health department's very busy -- we represent a very cross-section of employees, from recs and parks to firefighters, police officers, veterinary zoos and everything in between. I want to commend NIOSH and NORA for past practices, and I really encourage future endeavors in (unintelligible) research.

With our occupational health division we're very lucky that we have on-site psychologists, physicians and nurses to carry out the duties that we need to take care of our own employees.

A major issue of concern to us is workplace violence. We have experienced workplace violence incidence -- if you follow the news -- in the last couple of years. It very much concerns us. I know research has been done over the years on workplace violence, but we still find that it's very critical to look at prevention strategies and implementation plans, specifically to get to the small and large employers.

Very few of our employees that are actually out in the field have access to computers, so on-line training doesn't seem to be the way to go. They really have to have a handle on the warning signs and reporting mechanisms for workplace violence. Our employees are our number one asset, and we're very concerned about this area, so I would encourage that workplace violence remain at the top of the list for occupational safety and health initiatives and that research continues to grow in this area.

Comment ID: 704.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Work-life issues

Approaches

- Surveillance
- Work-site implementation/demonstration
- Health service delivery
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Another area that concerns us is with our commercial driver population, specifically with the area of sleep apnea. We have found just a paucity of research in the area of sleep apnea in applying it to the occupational health or employee population, what current modalities are out there for testing. There's several that we use, like the Inventory of Visual/Auditory Test. We call it the IVA. The TOVAA, which is the Test Of Visual and Auditory Alertness. What is the current mechanisms out there, the equipment out there to actually assess sleep apnea. How do you apply sleep apnea to your workforce that have commercial drivers. We have firefighters that have sleep apnea. They do 12-hour shifts, 24-hour shifts. Sleep apnea seems to be a field that appears to be, in our arena, under-researched and not funded to really look at the occupational side of the house, so I would like sleep apnea to be considered for the list, as well.

Comment ID: 704.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

The other issue that I think really, in our arena, the number one of our employees, the largest volume is our police force and our firefighter force. Public safety initiatives need to give their due and need to get attention, as well. We find that medical standards for police in California are very good. It's the Peace Officers Standards of Training, they're called P.O.S.T. We use the national guidelines for National Fire Protection Association, NFPA, for fire. But those standards need to be researched in accordance with state and federal laws, like ADA and the Fair Employment in Housing Act specifically in California to figure out when can best evidence -- medical best evidence in occupational safety and health preclude an individual from going back to work that may pose a risk to public safety.

We try to balance this every day with the City of Los Angeles, and it's very difficult. We have looked for research, and again there's a paucity of research in the area of balancing federal regulations and state regulations with medical standards for police and fire, specifically looking at major illnesses, major disorders, MSDs, musculoskeletal disorders like hip replacements, amputations and things along that nature.

Comment ID: 704.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Economics
Health service delivery
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

And in closing, the other area that I think needs current research and continues to be in the area of occupational health is what is the -- what is the research in the delivery of care systems using licensed vocational nurses, nursing attendants, registered nurses, physician assistants, nurse practitioners and physicians. What is the role -- the new role of a physician, given the other health care providers' level of expertise, certifications available, and training to enhance the field to make it cost effective and provide a high quality of care across the nation, specifically here in California.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 705.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Wholesale and Retail Trade
- Unspecified

Population

- Youth

Health outcomes; diseases/injuries

- Neurological effect/mental health
- Traumatic injuries

Exposures

- Violence

Approaches

- Surveillance
- Training
- Intervention effectiveness research
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name`s Diane Bush and I coordinate the young worker project at the Labor Occupational Health Program at U.C. Berkeley. And I`m also here on behalf of our national OSHA-funded young worker safety research center that brings together agency partners involved in protecting and educating young workers from 13 different states in the country.

I`d like to thank NIOSH for the opportunity to talk to you about the importance of maintaining a focus on young workers within NIOSH`s work within specific relevant industry sectors, but also as a critical cross-cutting issue. And I want to start by acknowledging how NIOSH has really played a leadership role in focusing on this issue. They focused on this issue and then they maintained that over the last ten or more years, and have contributed in a very significant way to what we know about young worker health and safety, both through their own primary research, but also through supporting research by others.

We constantly cite NIOSH`s emergency room data, for example, because our own state injury and illness data -- it really isn`t sufficient to describe what`s happening. And I don`t -- I don`t want NIOSH to stop playing that role. It`s really because we have this information that we`re able to convince people in our own communities, both at the very local level, the school level, the community level and also in the

state agencies that we've been working with around the country, about the need to address this really important and critical issue.

And also because of the research that NIOSH has supported, we have collectively been able to begin to identify patterns of injury and potential intervention strategies. For example, the NIOSH-funded sensor project in Massachusetts has really provided a lot of rich information that we've all been able to use because it was well-funded and they were able to really look deeply at specific injury events, but also look at patterns of injury.

So there's -- there's been a lot of good work that NIOSH has done by focusing on this as a cross-cutting issue. And I want to just express my concern about this sector approach and encourage both that within each sector people look -- look for this in -- within the sectors where there's significant numbers of young workers working, that they really think about what the agenda should be in that sector, but also that NIOSH figure out a way to continue to look at this as a cross-cutting issue.

In addition, I want to really commend the NIOSH initiative now to really take research and turn it into practice and advocate for strengthening that practice role. There is a lot that we already know would make a difference, but getting it out there, getting employers to actually put things in place -- there's a lot more work that needs to be done there.

So just to name some of the cross-cutting research that I think would be helpful in this area, one, having better, more specific injury and illness data at the state-specific level would strengthen our work that most of us tend to do within our states.

We also feel that NIOSH did a great job looking at the existing work that -- that youth are doing and making recommendations to update the child labor laws, but they didn't -- they weren't directed to look at 14 and 15-year-olds, so we think we should -- they should extend that work and review the hazards and exposure for those under the age of 16 and develop a new set of recommendations to bring those laws up to date.

I also think it's important for them to look at -- or to encourage research on the consequences of early work experience injuries. There's really very little information or data on this, on the psychological impact on the young people as well as the long-term effect on their -- either their own disability or the associated costs, their loss of earning power, et cetera.

I also think it's critical to have innovative intervention research. How do we actually get employers to provide safer workplaces, including better supervision and training if -- if -- is there a way to make sure that young people are prepared at -- to go into their jobs ahead -- that they're prepared ahead of time because they work in such high-turnover, low-pay jobs, it's hard to get the employer to do what they need to do. What can we do in advance -- so I'm getting my 30-second warning here.

Also I do think within specific sectors there are critical issues. Agriculture, again, NIOSH needs to look at what 16 and 17-year-olds are allowed to do and make recommendations to improve those child labor laws. Within construction NIOSH's current recommendations actually say that young people shouldn't be working in construction before the age of 18, but what is the role of quality voc. ed. or apprenticeship programs in reducing injury.

So there are a lot of things to look at. I wanted to echo Deanna's concerns about violence in retail and the service settings where a lot of young people work. And I've got to stop 'cause Laurie's telling me to. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 706.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research
Work-site implementation/demonstration
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name is Michael Marsh. I'm a staff attorney with California Rural Legal Assistance, Incorporated, and I'm also representing California Rural Legal Assistance Foundation in Sacramento. CRLA has 22 field offices throughout the state, and we provide -- we provide no-cost legal services to low income persons in 25 counties. We represent -- or provide services to approximately 40,000 Californians each year.

Obviously the majority of our clients are farm workers and their families, and we conduct a wide range of occupational safety and health activities to help those clients. We have -- we conduct impact litigation to correct workforce-wide problems. We provide legal services on a one-to-one basis for clients. We do a lot of work in the area of community education, trying to act proactively to make sure that accidents don't happen. And we work at times very closely with Cal-OSHA or with the California Department of Pesticide Regulation.

Before I make a couple of specific comments, I'd like to make one general comment which I think echoes one of the comments that were made -- that was made earlier, and that is the importance of involving farm workers in the planning of these studies, of whatever studies are done. Farm workers, as we know -- I'm just stating the obvious -- are largely immigrants. The farm workers are largely from Mexico. Others are from Central America. The primary and native language of almost all farm workers in the state of California is Spanish. Increasingly farm workers are coming from southern Mexico, from the state of Oaxaca, and some of those workers do not speak even Spanish comfortably. And we find that many of our clients have very limited education, in some cases in the fourth to sixth grade level. Additionally, obviously, these individuals are culturally distinct from the majority culture of the United States, so you really have to -- or NORA really has to take into consideration these factors when it plans

studies. A study that was developed for farmers is not going to be effective for farm workers. NORA really has to work with study programmers to plan approaches and questions that are culturally relevant, that the questions are understandable, and they're really culturally appropriate for -- for farm workers.

Comment ID: 706.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

One -- one area is there's a great need for additional study of the long-term impacts of MSDs. I think that there have been some studies, especially recently -- last few years -- that have shown farm workers suffer MSDs at very high levels. But there hasn't really been adequate research into the long-term impacts of those MSDs. Farm workers of course engage in a number of high-risk activities, from lifting and carrying heavy -- heavy loads to stoop labor, repeated bending, or to repetitive use of the hands such as pruning or picking or weeding. So we know that the problems are -- we know that the problems are there, but we need to look at the long-term impacts of that.

Comment ID: 706.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Work organization/stress
Heat/cold

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Economics
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Let me move on to the next one, heat stress. Last year there were five verified heat stress-related fatalities here in California, four in agriculture and one in construction. The numbers were probably higher. Reporting's always an issue. But we need to look at the issues such as the effect of piece rate or incentive pay work on heat stress. We need to look at frequency and the duration of rest periods and how that might help -- how that might help alleviate heat-related illness. We need to look at the use of portable shade structures during rest periods and meal periods.

Comment ID: 706.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

And finally, injury reporting. I think it's no surprise that there's a lot of injuries out there that occur in a lot of the different sectors that aren't reported. In farm work there's a lot of barriers to reporting, and a lot of the injuries that occur don't get reported either to employers or to worker comp carriers. And so we need to do more to look at what are the barriers to reporting, and how can we alleviate and eliminate those barriers.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 707.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name is Vicki Beck, and I'm director of Hollywood Health and Society, a project at the USC Anenberg's Norman Lear Center. And I'm delighted to cross town today and come back to the campus where I spent six years in health sciences communications working with people like Linda Delp and others at the School of Public Health, and to see my colleague, Max Lum, at CDC where I spent five years working in Atlanta and knew Max well.

The question I want to pose to NIOSH is how do we reach special audiences of workers and find new ways to reach them more effectively. And we know how to use news media. We know how to use brochures. We know how to use pamphlets. Workplace information, even clinical places have information that could be helpful to workers. But I would like to challenge us to look beyond that and look into entertainment media that is so popular among special audiences and among all mass audiences.

What we have done at Hollywood Health and Society is conduct outreach to entertainment media, specifically TV shows, to inform them about the public health issues that are really big problems in our society; to educate writers about topics like HIV/AIDS, diabetes, heart disease, much, much more.

And I think what we have right now is a situation where worker safety and injury issues are a little bit invisible in television. You may see a storyline from time to time, but there's so much more that we can do to promote health and safety and to prevent -- and to offer messages about disease and injury prevention.

Some of the storylines that we have worked on in the past deal with topics like cancer, sexual health aids, violence. And what we would like to encourage are more storylines and working more closely on topics like construction, demolition, HazMat, manufacturing, agricultural issues. We just heard about farm workers.

We heard this morning about hotel workers. Well, I think if you saw the Jennifer Lopez movie you would think hotel workers lead a very glamorous life. They party a lot and they meet wealthy politicians. There's another side to that story that hasn't been told.

But we need to understand also what the audience takes with them from the storyline. And we have started to look at knowledge, attitudes and practices along some of these storylines on the HIV/AIDS topics, syphilis, diabetes. And what we know from our research is that people do learn about the health issue. They do learn and they do discuss, and we have the data to show that.

We know that sometimes people have higher intentions of a prevention activity or a screening activity after they have seen this in a health storyline. One example I can give you is a syphilis storyline that was on ER, and it was a storyline about an alderman in Chicago who came in to be treated for syphilis. As a matter of fact, he was treated secretly because he didn't want anyone to know that he had syphilis, and in the following episodes his partner came in to be treated for syphilis. And we did a study -- we worked with CDC, we worked with partners on this study, and we found that among men having sex with men who had seen this storyline, 64 percent were likely to be tested for syphilis in the next six months, compared to 34 percent who did not see the storyline. So we had a doubling of effect on intention to be screened.

We're starting to work -- we're just starting to work and we're delighted about that -- on a tele-novella project that will address a construction worker topic, and we will be doing some evaluation on that. We just hope that we can gain more understanding and that we can start to utilize this extremely powerful form of media to reach workers and their families with more health promotion, safety promotion messages. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 708.01

Categorized with the following terms:

Sectors

- Services
- Wholesale and Retail Trade

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Dermal disease
- Musculoskeletal disorders
- Traumatic injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name is Jacinto Lopez. I`m an organizer with KIWA, Koreatown Immigrant Workers Alliance, and we`re a non-profit -- and we organize workers in Koreatown, the local workers, and I think it`s important to talk about health and safety conditions in Koreatown in restaurants and supermarkets. And -- well, the common injuries in these places are from cuts, burns, back problems and working -- working with chemicals that make you feel sick and hurt your hands and eyes. But many of the injuries and accidents happen because people don`t get any training, and also there is no equipment. What happen is that when workers get hurt, they don`t get the right medical treatment. They just get fired. Or many times these -- they just don`t know what to do or where to go, and many times the owners send the workers to their doctors, but they -- they just -- sorry, but they just get Tylenol and then sent back to work, so they have to work again even with -- if they`re hurt.

And I want to talk about how probably health and safety laws -- and unfortunately, in places like Koreatown, I feel like there`s inspectors, but they don`t really talk to the workers and they don`t really help the workers. And I think the system is not working because no one knows about Cal-OSHA and no one knows what phone number they can call when there`s a problem -- and I`m talking about the workers in Koreatown.

And with this, I just want to present my concerns about our systems of workplace health and safety enforcement, and I think the researchers really need to think about how to address these problems. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 709.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Training

Intervention effectiveness research

Work-site implementation/demonstration

Capacity building

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name's Aleyda Moran. I work with the UCLA Labor Occupational Safety and Health program, also known as UCLA LOSH. The issue that I will be talking to you about today is young worker health and safety.

Youth face hazards at their jobs, and are at a higher disadvantage to protect themselves compared to adults. Teens under the age of 18 have been found to -- being injured two times that of adults. From national studies, youth have been found to report higher injuries during the first six months of their workplace, and the majority of these injuries are minor, such as burns and cuts. But there are also other incidents that negatively impact the youth, such as bigger injuries like concussions and other fractures which could have long -- severe long-term consequences since they are very young, and that could impact them from the long time -- for a long time.

We know that youth are working. Eighty percent of young people will have worked by the time they graduate from high school. Children from low income families are working more hours and on the average -- than the average child, and are more likely to be legally employed. It is estimated that 231,000 teens under 18 will be injured on the job each year, and 70 teens will die from a workplace health and safety injury.

The sad thing is that these injuries are happening and most of these injuries are preventable. But there's a lack of awareness, education and training on workplace health and safety for youth.

As UCLA LOSH one of our missions is to become -- is the development of youth leaders who learn about workplace health and safety becoming peer educators, then going on and spreading their knowledge to other youth in their wider community. The peer education model became established after a 3-year intervention program at Manual Arts High School. One of our most recent projects is the young worker leadership academy, which was -- which is coordinated and developed and implemented with LOSH and our sister program at UC Berkeley, LOHP. This model brings youth together from various areas of California, and they are there for three -- a 3-day intensive training on workplace health and safety and project management. The youth then go back to their communities and carry out educational campaigns and projects with their input and their ideas of how to reach other youth, which is the most important thing and vital thing with this project.

This is an outstanding model which is aimed to benefit the youth and their community. However, we will love to have former participants come back and actually be involved in a participatory research project on the issues that impact the -- on the issues and what the academy impact was on their involvement.

The statistics that I provided to you earlier are national statistics on young worker health and safety injuries. But California and local statistics are missing, and that's where the problem can be seen. Why is California's workforce important? Well, it's one of the largest states with the largest number of workers. One of the largest populations of immigrant and undocumented workers is here, and California has often been the model for strong and progressive support for workers in health and safety.

Why is research on young worker health and safety important? It is crucial to have markers to define the current state on how this -- on how programs like ours impact, to know the current state and measure this impact. Research is a valuable tool for workers on health and safety committees, organization programs, the workplaces. It is important to have that research to present to these places to identify what is the need, where is the need, and what is the proper way to address this need.

To conclude, I want to reiterate again the need for local statistics. We need to implement effective education programs. And I also want to highlight the commendations (sic) presented by the UCLA -- by UCLA LOSH to NIOSH in their report "A School-based Intervention for Teaching Workplace Health and Safety". These are the following:

Demonstration projects in several school districts in distinct areas within the U.S.; demonstration projects to get young worker health and safety as a component in the curriculum for youth; create collaborations and partnerships between the NI-- Department of NIOSH, Department of Labor, Department of Education and other relevant entities; and develop a national workplace health and safety campaign. And I feel the most important thing is that whatever research we do, whatever evaluation we're doing about different educational programs, bring the youth voice into it because, again, who else knows about how are youth going to learn more if we don't bring youth in it, as well. They have many invaluable things to share and we should take in consideration what their strategies are, also -- the strategies they're also presenting.

Thank you so much, and I hope you take into consideration all these things.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 710.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Services
- Unspecified

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Traumatic injuries

Exposures

Approaches

- Surveillance
- Work-site implementation/demonstration
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name is Laura Podolsky and I'm a second-year student at the UCLA School of Public Health. I will be completing a master's degree this June. Also I have been working as a graduate student researcher at the UCLA Labor Occupational Safety and Health program since beginning my studies.

I am here today to speak about my experience last summer as a participant in the Occupational Health Internship Program, or OHIP. OHIP provides students across the county with hands-on opportunities to carry out occupational health and safety research. The program emphasizes direct collaboration with workers and worker organizations, focusing especially on low-wage immigrant workers.

Interns are encouraged to use community-based participatory research approaches. In addition to providing initial training in participatory research, OHIP supervisors and coordinators offer guidance and support to interns throughout the summer.

Of the four interns working in Los Angeles in the summer of 2005, three were from immigrant backgrounds, and three of us spoke fluent Spanish. All of us had prior experience working in immigrant rights, labor or health. And at the end of the summer all of us agreed that we had deepened our understanding of these issues, gained new skills, and strengthened our motivation to stay involved in worker health and safety.

Prior to beginning my OPIN internship I had learned about community-based participatory research in several public health courses. It seemed very much in vogue, something of a synonym for righteous research. The concept was frequently linked to other buzzwords -- empowerment, coalition building, collaboration, grassroots leadership. I was simultaneously inspired and wary.

Indeed, I had chosen to study public health because I believed in the potential for communities armed with solid information and skills to create positive social change. But I was also aware that facile slogans and jargon-laden idealism wouldn't get anyone anywhere. I wanted to know what did this community-based participatory research really look like. What could it actually accomplish. I was interested particularly in the role of such research in occupational health and safety. How, I wondered, might community-based participatory research contribute to efforts to improve worker health and safety.

OHIP gave me a chance to explore these questions. Along with my partner, Daniella Conde*, I spent ten weeks working with the labor union UNITE HERE Local 11 researching the occupational health and safety issues of hotel housekeepers. The housekeepers themselves were carrying out a survey on work-related pain and injuries among their coworkers, and participating in workshops to discuss the results. Daniella and I aimed to supplement this information through interviews and focus groups. Alongside the housekeepers, we wanted to identify the main types of injuries experienced, their possible causes and their consequences for workers. The union could then use this information to reduce hazards and improve conditions.

Over the course of the summer we faced both logistical and methodological challenges. We also enjoyed moments of real connection with workers. By the end of the internship we had carried out 19 interviews, attended five workshops and conducted several work site visits. We honed our interviewing and observation skills and discovered some of the challenges of survey research. Speaking with housekeepers in employee cafeterias and their homes, we learned about the benefits and difficulties of their work, and their ideas for making it safer. We explored different ways of returning this information to the workers, deciding in the end to create brochures to be used in union workshops.

Throughout we benefited from the support of our supervisor, Linda Delp, and OHIP coordinator Gail Bateson*. We also had the chance to collaborate with the other OHIP intern team in Los Angeles which was working with immigrant day laborers. Through discussions with them we gained a broader understanding of the range of health and safety issues facing low income immigrant workers in Los Angeles.

I still have questions about the connections between community-based participatory research and occupational health and safety. These are big topics, and an internship can serve only as an introduction.

That said, my experience with OHIP was an eye-opening, inspiring introduction. It has strengthened both my skills and my motivation to continue in the field of occupational health and safety. I know many students, both graduates and undergraduates, who are passionate about immigrant rights, labor issues, and reducing health disparities. But few of them even know what occupational health and safety is. I promise you, I'm the only student in the UCLA School of Public Health who focuses on occupational health and safety, and there's over 200 of us.

OHIP represents an opportunity -- an important opportunity -- to reach out to these students and train them to do good work. And as we all know, there`s certainly plenty of good work to be done. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 711.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Authoritative recommendation

International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. I'm Barbara Kanegsberg, President of BFK Solutions, and I also represent our non-profit Surface Quality Resource Center.

Well, I'm exclusive. I'm unlisted in the program. So if any of you would like copies of what I presented, please come see me, or would like information, we can exchange cards. This -- my -- my comments primarily impact the manufacturing sector, but I would say there's implications for all sectors. I have formal, written comments to present, as well, so I will summarize them here.

There is a regulatory witch hunt that occurs regularly in this country -- and throughout the world, I might add. I would like to propose some alternatives.

In my consultancy I help people who manufacture objects. I'm called the cleaning lady, and I help them with basically processes for everything from movie film to artificial hip implants to -- oh, I don't know, chunks of helicopters, the guts of this microphone, your camera, whatever. Everything that's manufactured requires chemicals, lots of them. And as we get into micro and nano, we're going to need even more chemicals.

Right now we regulate chemicals based on what I called the regulatory witch hunts. We manage individual chemicals or classes of chemicals. Let's suppose a chemical comes into widespread use, like for example the old freons, the ozone-depleting chemicals. Based on the use of freon trichloroethane, which is a chlorinated solvent, regulatory agencies got to know more about the safety and environmental impacts. They said bad, you can't use it anymore. Or sometimes they just put it on restricted lists, and it becomes more and more and more regulatory scrutiny.

So what does industry do in response? They say oh, we can't use hexamethyl death*; what should I do? Gee, there's tri-iotacatastrophe* over here, think I'll use that instead. Or hmm, let me look at this MSDS*, it says no hazardous ingredients. Hmm, must be chicken soup. The open the lid and -- pretty awful, but it says no hazardous ingredients; they use it. They also get very confused because they go through the lists and lists of lists, and I've got to tell you that private communities are confused, everyone is confused. Even the military, and the military are trying to talk with each other and actually systematize and good -- do good solvent substitution. They are very confused by all of the regulatory restrictions.

This approach is damaging to industry, to workers, to communities impacted by industry, and to the overall -- and it's also damaging to the overall environment. We need a paradigm shift. We need better approaches to managing the substances that we all work with. One thing would be process management, not more lists of chemicals that are politically incorrect, not more product bans.

We need simplification, nationalization, and globalization of standards and regulations. People in regulatory agencies down the hall from each other don't know what's going on.

I recently spoke -- was asked to address a group of inspectors for a local agency, and they were asking me to explain what was going on in regulations and restrictions at a nearby agency. I should know. They don't know themselves. If they don't understand it, how's industry supposed to get it? I did know a little about it, but we also need a holistic regulatory approach. And this is real revolutionary. I really think we need to consider both safety and environmental. Yes, they're separate -- they're separate issues, but they're related.

We also ask that industry have sustainable processes and sustainable products. I am here to ask for sustainable safety and environmental regulations, ones that we can all use, ones that we can all follow.

I have plenty of comments here designed to induce restful sleep if you read them in their entirety. I have more technical information for you. Please see me. Thank you.

Note: Verbal testimony provided to NORA Town Hall meet

Comment ID: 712.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Cancer

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hi, my name is Victor Esparza. I'm from International Union of (unintelligible) Engineers and I'm from Local 12, their safety rep. What I want -- would like to ask of NIO-- or of this NORA group is -- and I know our international has worked with NIOSH on -- just not -- on asphalt testing for air sampling, but I would like to see it on rubberized asphalt.

I also would like equipment for testing -- we crush and recycle old concrete. And pre-1980 concrete has asbestos in it. I'm not sure if all of it has, but a lot of it have it. And also when they crush and recycle material which -- if you guys know what the laborers -- a week ago or whenever, I think a lot of times in our industry we don't know that they're being re-exposed to, you know, airborne silica if they're around crushing operations or the construction part of it. I -- the reason I know is 'cause I have it in both my lungs and, you know, how short my life will be from it, I don't know. But these exposures are being set every day and -- you know, and I listen to and I can see where immigrants that -- on the low-wage scale are afraid to say anything, but also in the construction field that I work and the guys make great money are as scared of their jobs as the guy at the other end of it, and would kill himself instead of saying or doing anything about it. But I believe that if you guys could test it and make equipment that -- monitors that we could put on this equipment where they can come and face it and know that you are in -- exposed to either silica or asbestos at levels higher than what should be exposed to, then the guys could then change it by either adding more water spray or whatever. But they could see that they needed to change from either -- you know, even putting suits on or whatever. But without them knowing that it's out there, the guys are just going to keep on till they all die.

I know that I hit the perfect number about 25 years into the field. I got sick. I've just met two more men in the last two months that have now been diagnosed with a cancer of asbestos, and then other

gentlemen with the silica out of the Riverside San Bernardino area, and I came out of that San Diego, and only in two plants or two operations for 26 years.

So that's something that I would like to be able to be -- see 'cause like I said, the -- it's not only the risk to the guys running the equipment, but also the guys on the ground, which would be the laborers, and that could go all the way down to the low end of construction work.

I also know, or knew -- when I was first sick at home, I sent information to NIOSH. They did a study out of the Oakland area. It got big enough where they asked for more money. It got bigger, and then -- but I mean I was never -- and I tried to contact -- to the information that came out of there. I mean they gave me a little poster, but you know, there's got to be a way to relay to your doctors that hey, we're having exposures again to asbestos in California and silica because when I first came to this light about what I was sick, they were saying -- nobody knew. But I think it's my doctors misdiagnosing both from UCSD and Kaiser -- Kaiser, my primary people, and then when I was operated from UCSD. So you know, maybe NIOSH or NORA can relate hey, maybe we ought to start looking for these health problems out there 'cause to me it's an industry that we are at risk and will continue. Like I said, our international works with you guys all the time on -- you know, and maybe you guys can add to them and ask -- say hey, let's work with the rubberized asphalt and back at asbestos and silica because I know they'd spend the money to do it with you guys, so if you can address that with them. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 713.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Older

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name is David Simmons. I'm on USW Local executive board. I'm a union health and safety rep for ConocoPhillips and I'm on the board of Kaiser, at-large member.

I'm here today to talk to you -- to explain to you how safety committees that I'm associated with helped to establish a climate of safety at ConocoPhillips' Los Angeles refinery.

At the best of times union and management had a -- have an adversarial relationship. But through negotiations we have agreed to remove one subject from the political arena, and that is safety. We have agreed to make this a common ground of understanding between the two factions. If we can't agree on safety, what can we agree on?

This caused a shift in attitudes in upper management, and pressure on middle-line supervisors to change their way of communicating with employees. When the old line of blaming workers first behavior model went away, root cause analysis took its place. Changes had to be made in order to stop repeating some incidents that was caused by equipment ergonomics, improper operating procedures and institutional shortcuts.

Labor and management both had to take a hard line to impose the new climate of safety in the workplace based on joint safety committee participating and having full-time union health and safety reps who work under the guidance of the committee -- joint committee to help promote safety and be a focal point for workers to get information and voice their concerns on issues of safety in the workplace. We have changed the old trinket-ology (sic) models that are prevalent in other industries to a more open strategy of full disclosure of every incident, with weekly audits, near-miss reports, management reviews for all incidents, and labor participation in all investigations so all can benefit from lessons learned from every misstep.

Now safety is becoming a focus in all work order management by everyone because they're being held accountable for their part in the work. We have a distance to go to reach perfection. Old habits die hard. There is still pitfalls we have to clear to get there, but we have mechanisms to reach their goals.

I'd like to talk about minimum staffing in refineries. Minimum staffing requirements should be set to ensure that worker safety is not compromised. Many refineries are so understaffed that during maintenance shutdowns workers are forced to work mandatory overtime until the unit is restarted. Some work as long as 20 days without a day off. This is one of the contributing factors in the Texas City incident. Worker fatigue keeps operators from being as sharp as they need to be. Computer controls has enabled companies to minimize staffing and require operations employees to have responsibilities to know more than one process area. As a result we have fewer experts and more operators that are only proficient. The workforce of our industry is aging and shrinking. Without minimum staffing I fear that there will be an increase in tragic incidents in refineries.

We're working hard to change this. At my plant we just, in the last year, hired 44 people -- operations and management. I'd like you all to research the effects of working continuous hours on -- on the operations people and how it affects their mental well-being to do their jobs.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 714.01

Categorized with the following terms:

Sectors

- Construction
- Services

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Respiratory disease
- Traumatic injuries

Exposures

- Work organization/stress

Approaches

- Training

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name is Ignacio Garcia. I'm a leader organizer with an organization called IDEPSCA, which is -- stands for Institute of Popular Education. Our organization has a program that concentrates with the day laborers. A little history of day laborers is it's people that are looking for daily work, and we have different sites throughout the L.A. County. (Unintelligible) concentrate to organize workers so they can work -- wait for people that are looking for day -- one-day person work. Okay? So these people -- myself, originally I've been in a union shop, but since I started working with this organization I came aboard and that is that the lack of safety is very much. Safety -- it covers a lot of grounds, but based on a study by our -- with LOSH, there was an occupational health internship program that we had with UCLA LOSH. They found out that out of 117,000 day laborers nationally -- they found out different problems with this. Okay? We have what we call is blunt trauma, lower back pain, general (unintelligible) pain, eye and respiratory irritation and body lacerations. All of this things are -- may sound very fancy, but is based on what a lot of people don't get on this day laborers on a daily basis. They don't get trained. They're -- they're confronting every aspect of safety issues out there on the -- on the workplace. When I say workplace, it can be a homeowner's place. Sometimes the contractors will come and take them to their job sites. And most of these times they don't even let them know the basic procedures on safety, as if you want to lower -- bend your knees or use your legs instead of using your back. So we need to find out -- or do some kind of research so we can protect all these 117,000 workers out there. They're doing -- most of the times works without PPE.

Most of you don't know what PPE is, personal protection equipment. They just go out there and use their hands, their bodies, without any kind of protection.

I can go on with a lot of scenarios where people can get hurt here, but we're trying to ask you guys to do some kind of research and find out how can we train these people better or -- so they can protect themselves 'cause in many cases these homeowners don't have the -- the capabilities or equipment for them to protect the workers. So very basic -- we need to protect these workers. There's a lot of people out there that are not being trained properly in all aspects of safety. Thank you very much.

(Whereupon, the following presentation was made through the use of an interpreter. Where presenter and interpreter were speaking simultaneously, separation of the two was difficult. This transcription represents the best effort of the reporter.)

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 715.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning, everybody. Porfiria, I am Mexican. I work with IDEPSCA. I help housekeepers, baby sitters, and in addition to that make sure that they are protected and well-paid. I'm spokesperson for many of these women who come to this country. We are not conscious of our rights (unintelligible) of our (unintelligible). We work without fair pay. We go to work not knowing that we are not safe. We do not wear EPP (sic) because we are not provided with it. We are not provided with healthcare. We recognize many of our health problems, but we do not protect ourselves properly. Main accidents and diseases, product of our work, are burns, falls, back pain, arms, hips, eye irritation, respiratory problems, bone and muscle deformation, tendons and nerves, chemical exposure, asbestos and lead when we clean. We are not provided with proper training in health and safety in the workplace. Much less, we are trained in how to do properly our work. We housekeepers are practically (unintelligible) and ignored. And the worst is that there are not specific laws that protect us in the workplace. We are part of this society, and we believe we are indispensable. Without us doctors, lawyers, teachers, policemen, firefighters and many others could not function properly, much less be free in their -- during their break time because our work provides them with that leisure. Therefore I recommend that research is done to create laws of protection in the workplace that let us housekeepers and baby sitters to be visible people in this society and thus come out of the shadows. Thank you very much.

Note: [The preceding presentation was made through the use of an interpreter. Where presenter and interpreter were speaking simultaneously, separation of the two was difficult. This transcription represents the best effort of the reporter.] Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 716.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Authoritative recommendation

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hi, I'm Fran Schreiber and I'm with Work Safe. I'm also the executive director of the Cal-COSH legal services project and Cal-COSH is a project of -- of a non-profit agency and Work Safe is also one of those projects.

Work Safe began around 1980 as a coalition that built off of a number of the COSH groups around the state of California, Committees on Occupational Safety and Health. And in 1980 we came together as Work Safe and have been active in policy advocacy ever since.

I just want to -- it's not on my topic, but I just listened to the last two speakers and they were talking about how they're indispensable to this economy, and yet they are disposable as workers, and what the last speaker was just saying about the fact that there are no laws to protect them. I actually worked for Cal-OSHA for four years back in the early '80s, and she's absolutely right, there is no law that protects workers who work in people's homes. Cal-OSHA will not do inspections. They get no training. And then when they're injured on the job, they're completely disposable because the laws for workers comp don't cover temporary workers who work the few hours that these folks work in a particular setting. So they get screwed no matter which way they go, and I just thought I would point that out to you.

Comment ID: 716.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

I'm here today, though, to talk about something else. I'm talking about kind of a California-wide problem which I think we face in the construction industry, and is also built off of what two -- the other two speakers said earlier. We're about to embark upon a big public works project here in California. The Governor was talking about \$222 billion worth of possible work. And even if that number isn't what we get to, there's going to be a lot of money on the table for doing public works job and increasing the number of construction workers. We've got 18 million workers here in California; 938,000 by last count did construction. That number has been increasing and will continue to increase.

And one of the earlier speakers said that of that group -- well, before I get to that, the incidence rate in terms of injuries for this population here in California is 7.2, which is far better, by the way, than what the national incidence rate is for construction -- partly I think because of the permitting system that we have, which I think is something people need to get some more information about because it should be exported to other places outside California. But it's still the highest number, that 7.2 rate, among all of the sectors that are here in California. And in addition to that, as one of the speakers said earlier, double that rate for the immigrant workers. So you're talking about a significant problem. You're going to have a lot of immigrant workers coming in to do this new construction, and we've got a problem on our hands.

Comment ID: 716.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

I'm coming to this not as an academic. I am not out of that area. I come from a real life, real world perspective, and I think that NIOSH needs more of that perspective. People have talked about that earlier today. We need more research to practice work, projects that are going on.

And I'll also tell you that you have to change your criteria for evaluating these projects because the criteria you have is weighted in the academic arena, and you need to not do that. You need to have credits being given when there's community and worker involvement in these projects, otherwise the projects don't get funded and the research doesn't get done. I also would think that it might be nice to have some worker representatives in the team that evaluates these things, but I've been told that that's really stretching it a bit.

Comment ID: 716.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Training

Economics

Authoritative recommendation

Capacity building

International interaction

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

I come also from having seven years of working as in-house for the State Building and Construction Trades Council of California. Four years before that I did the criminal prosecutions of OSHA cases when I worked for Cal-OSHA between '80 and '84. I read every fatality in the state of California during a two-year period and I noticed something. In almost 99 percent of the cases somebody on that job knew ahead of time that that so-called accident was going to happen, and either they spoke up and were told to shut up, or they didn't speak up because they knew that was what was going to happen to them, and I prosecuted people criminally.

And it dawned on me as I started doing that that it would be better to prevent those injuries before they happened. And the way that you do that, I learned in the next job I had with the State Building Trades, which was with joint labor/management health and safety committees where we actually saved money and saved lives. And the gentleman here spoke before about the projects that they're doing with these committees, and I now want to just lay out very quickly -- I know my time is up -- a couple of research areas to focus on joint labor/management committees to determine, with research to practice proposals, how to maximize the effectiveness of joint labor/management committees to look at effective labor participation using training programs such as (unintelligible) which we have here in California, looking at what's happening with the Bay Bridge situation where you've got, quote, self-inspection by a company and you don't have enough Cal-OSHA inspectors to go after them and they

won't agree to have labor participation. And even if they did have labor participation, it wouldn't have trained labor participation.

We need information on cost savings offered by joint labor/management health and safety committees in order to encourage use of them. We need human costs and what kind of costs we can determine when a life is saved and how many lives and how many fewer injuries there are, and we also need information about construction savings for the construction owner and the contractors. We need to look at other worker participation models and promote them, as well, such as effective tailgate training meetings which are done with worker participation. We need to look at labor/management laws and regulations in other countries and in other settings where these are required by law to be done and to see what happens. We need to look at pre-qualifying contractors, both generals and subs, and requiring them to have labor/management committees in order to do -- do these big construction jobs. And we need workers comp discounts based on effective labor/management committees. We need to look at projects where those -- that kind of thing is happening, look at laws and regs where that's happening. And finally, look at contract language and determine what can be done via educating construction owners to include joint labor/management committees.

I know I've gone over my time, but we need some economics here to prove that these are the safe way of doing things and that they will prevent injuries before they happen. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 717.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Training

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Sorry, can you hear me now? (Unintelligible) Okay, I'll repeat again. My name is Jason Wang. I'm the research assistant from UCLA department of epidemiology. Today I represent our research team collaborate with UCSF (unintelligible) lab and also the California Department of Health Service. And we have conduct successful -- conduct (unintelligible) for garment worker so today the issue I want to speak is we will focus on the (unintelligible) musculoskeletal disorder for sewing machine operator.

Based on our finding, the -- most of the garment worker, they are immigrant woman and working for minimum wage, and also the most big finding we found is the -- about -- more than 80 percent of them don't even have health insurance. So musculoskeletal problem, based on our survey, we find out is the - really a big problem for them. Everyone -- all of the operator, even the shop owner, told us this is the - really serious problem for them and they want the help from us and they want immediately help -- to help them to solve this problem. And based on our finding about -- more than -- more than 60 percent of them are able -- have a musculoskeletal pain during at least a one day per week. And among them, about 30 percent of them have -- the pain is severe to -- moderate to severe pain. So we find all this -- this is really a serious problem in this under-served population. And during the year from 2003 to 2005 we actually received several phone calls from several garment shop that asked to help from us. They want us to help them to help their employee to -- how -- how can they do to help their employee to prevent the injury happen to minimum the musculoskeletal problem. So today we're here. We just want to help these garment shop to speak out and we want to help them to say this is a really a serious

problem. Musculoskeletal problem is a really serious problem for this occupation and we really need to spend more time and spend -- do more training and maybe (unintelligible) conduct more program to help this population -- to help them to prevent this injury happen. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 718.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Neurological effect/mental health

Exposures

Cardiovascular disease

Work organization/stress

Approaches

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name is Dr. Peter Schnall. I'd like to thank Cass Ben-Levi and Linda Delp for helping to organize this meeting. It's a pleasure to be here this morning. These are my personal views, but I should point out that I'm the recently-elected chair of the ICO scientific commission on cardiology and occupational health, and I'm hoping that the comments reflect the views of the people doing research in this field concerning psychosocial factors. I have six points I'd like to make this morning.

One, work is necessary, and yet can negatively impact on our health through the way that it is organized. Most people spend the majority of their waking hours commuting to and from work or at work. Work, so fundamental to a positive social identity, wealth and well-being, has its darker and more costly side. Work can negatively impact on our health, an impact that goes well beyond the usual counts of injuries and exposures to toxic chemicals that we think of when we think of occupational health. The way work is organized -- its pace and intensity, the space it allows or doesn't for realizing a sense of self-efficacy and self-esteem, the level of control over the work product or process, the sense of justice or injustice, and job security or growth -- the nature of social relations at work, it turns out, can be as benign or toxic to the health of workers as the chemicals one breathes in the air.

Scientists refer to some of these characteristics of work as hazards of the psychological and social work environment to which employees are exposed.

Point two, workers are experiencing significant stress at work. The problem is so pervasive that 60 percent of all workers at all levels and all sectors experience significant stress at work according to NIOSH's 2002 annual survey of the U.S. working population.

Point three, there are major categories of psychosocial stressors that cause physical and psychological illnesses. A number of work stressors, including objective features of the job such as long work hours and shift work, and psychosocial exposures such as job strain, effort reward and balance and threat avoidant vigilant work have been identified as playing a role in the development of psychological distress such as burnout and depression, the tip of the iceberg vis-a-vis the occupational illness, and contributing to chronic physiological arousal leading to hypertension and cardiovascular disease.

Existing research on occupations, including the service sector with its almost 65 million working people, have demonstrated the important role of work organization in the etiology of hypertension and cardiovascular disease. In the U.S. alone, cardiovascular disease is the cause of 41 percent of all deaths. An estimated 300,000 people die annually of heart disease in the U.S. By the age of 60, 60 percent of workers will have developed hypertension.

Based on available research in this field, job strain -- work characterized by high demands and low control -- would appear to account for 25 percent of all morbidity and mortality for heart disease among working people after controlling for individual risk factors. Some occupational risk studies say that the total burden of work on cardiovascular disease is over 50 percent.

Point four, we need to know a lot more. Still not enough is known of the exact mechanisms by which psychosocial stressors contribute to disease, and even less on how to prevent them. No major intervention study to reduce psychosocial stressors and to assess that impact on cardiovascular disease has yet to be conducted in the United States.

Point five, there is an imbalance in control between employer and employed. The scientific evidence suggests a connecting thread by which work organization and psychosocial stressors impact on health. That is through the mechanism of control. All of the fore-mentioned risk factors capture some dimension of the uncontrollability of the work environment or of the job. Ultimately work stressors reflect an imbalance of power between employer and employee, an imbalance which is growing under the pressures of globalization and economic competition, manifested by longer work days, decreasing vacation time, intensification of labor, et cetera. Overwhelming evidence documents that social inequality, characterized by the unequal distribution of wealth and opportunity, is increasing in the U.S. It is reasonable to conclude that one of the mechanisms by which social class contributes to ill health is through the exposure of large segments of the society to stressful working conditions. Powerlessness at work, at home and in the community is our society's greatest public health problem. Ultimately the rectification of this problem will require both a better understanding of the mechanisms linking the work environment to physiological risk factors as well as political action.

Finally, healthy work is a possibility. It is possible to design work that promotes health and well-being. It is not demanding work per se that's harmful, but work without control over how one meets the job demands or uses one's skills. Tomorrow's jobs will be deliberately crafted to allow the full development of human spirit through work which encourages, not discourages, human potential. This means creating a work environment that is conducive to human mental and physical health. And a key characteristic of a health-liberating work environment will be the full participation of all working people in the decision-making processes surrounding the organization of work. Thank you.

Sorry, that was a little rushed.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 719.01

Categorized with the following terms:

Sectors

- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer
- Cardiovascular disease
- Neurological effect/mental health
- Immune disease
- Musculoskeletal disorders
- Traumatic injuries
- Mortality

Exposures

- Cardiovascular disease
- Work organization/stress
- Violence
- Work-life issues

Approaches

- Economics
- Health service delivery
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning, everyone. My name is Mauritz Jauregui and I'm also with the UC Irvine Center for Occupational and Environmental Health.

In my presentation today I'd like to make three main points, the first of which is that work stress is important, but we should be focusing on sources of work stress that reflect the current nature of work in the U.S.

The second is -- excuse me, I'm -- can you all hear me in the back? Yes? Okay.

My second point is that work stressors do not exist in isolation, so we should be examining both the cumulative and interaction effects of multiple work stressors and their outcomes.

My third point is that we should be collecting data not on what it costs to make our employees well once they become ill, but on what it costs to keep them healthy in the first place.

Work-related stress costs the U.S. more than \$200 to \$300 billion a year, and is implicated in 60 to 90 percent of medical problems. Traditionally research in work-related stressors have focused on the concept of job strain mentioned by Dr. Schnall, which is the combination of high job demands and low control, and effort reward and balance, which is a mis-match between the amount of perceived effort put -- on the job and the perceived long-term rewards such as respect, income, promotional prospects and job security. Also examined have been design of tasks and organizational factors such as shift work and long working hours. And known traditional stressors such as work/family conflict and discrimination have been less prevalent in research. But given that the service industry now accounts for 80 percent of the U.S. economic activity, and that over 64 percent of dual-income wage earners have children under the age of 18 at home, it becomes even more important to examine non-traditional stressors such as those that stem from direct interaction with clients as part of one's job that could lead to harassment and emotional labor, which is the process of regulating your emotions in order to present a professional image, as well as stressors such as conflict between work and family roles.

In addition to the cardiovascular disease described by Dr. Schnall, work stressors have been associated with physical outcomes such as musculoskeletal symptoms, cancer, gastrointestinal problems and impaired immune function. They've also been associated with psychological outcomes such as burnout, anxiety, depression and PTSD. If you have any doubts, just ask any emergency rescue worker.

In addition to these are behavioral outcomes, the most commonly studied being excessive alcohol use, smoking and low leisure time activity. Less commonly examined are sleep disturbances such as the ones mentioned by Deanna Stover, accidents, and most disturbingly, violent behavior. In the U.S. almost 1,000 workers each year are murdered on the job.

All of these outcomes vary by socioeconomic status, gender, age, occupational resources and psychological and social resources, and all these outcomes can interact with the work environment and with each other, but we still don't know how.

Now if we include outcomes in a broader sense, such as the financial consequences of these stressors, we realize that these stressors are affecting not just individuals but the economy as a whole. Back in 1999 NIOSH estimated that these associated costs were over \$200 billion annually if one took into account only absenteeism, tardiness and employee turnover. Sickness absence alone costs companies approximately 2.8 million workdays each year, which works out to about \$790 per worker per year.

Presenteeism is also an issue. There's the assumption that an employee who's not absent is being productive. This is not necessarily true. Employees may experience below-normal work quality or quantity while at work. It's been estimated that presenteeism costs the U.S. companies \$250 billion per year, or approximately \$2,000 per worker per year.

Workers compensation claims also cost money. Here in California workers compensation costs in 1993 were \$9 billion a year. Ten years later in 2002 the costs had risen to \$32 billion.

In summary, industry already knows -- already makes a significant investment in human capital, most of these associated with health. A significant percentage of them, such as long-term disability, sick leave, safety initiatives and absenteeism, are well known to companies. They already know what it costs to make employees well once they've become ill. So we should be asking what does it cost not to keep

employees healthy. Adding up the costs of work stressors requires more than just integrating data and risk factors and medical claims and disability. It also means measuring things that haven't been measured in the past, such as non-traditional work stressors and lost productivity.

I just want to thank you all, and I'd like to introduce Dr. Dean Baker.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 720.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Small business

Health outcomes; diseases/injuries

Cancer

Reproductive

Cardiovascular disease

Neurological effect/mental health

Immune disease

Musculoskeletal disorders

Exposures

Cardiovascular disease

Work organization/stress

Work-life issues

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hi, I'm Dean Baker from UC Irvine. I'm going to focus my remarks on some of the specifics of research areas, but I do want to comment generally that -- I want to congratulate NIOSH for the initiatives and -- both around NORA psychosocial factors and the collaboration with APA NIOSH in raising awareness of this issue, but I also want to say I think it's a dangerous kind of collaboration because it tends to emphasize the psychosocial part of it. And as Dr. Schnall pointed out, we fundamentally see the etiology of these problems in the way work is organized in the workplace, and specifically the lack of empowerment and lack of control of workers in the workplace. This is fundamental to virtually this whole area of understanding work organization and psychosocial factors.

I wanted to emphasize some of the things that were mentioned earlier. There's a lot of research that's been done in this area that has validated the associations with cardiovascular disease and hypertension, musculoskeletal disorders and other disorders. But much more research is needed. We looked on the NIOSH web site. There's about eight projects right now that receive some funding in this area. Clearly there could be a lot more research.

We also understand that some of the trends in the workplace in terms of increasing work hours, lean production, less job security, are all issues related to work organization and psychosocial factors. And we also understand the enormous problems that have been talked about earlier today in terms of health disparities. Really there are different kind of emphases in terms of the target population that come from this.

First of all, research needs to focus on multiple sectors. This is clearly a multi-sector problem. In fact, the research is enhanced by looking at multiple sectors 'cause if you look at one workplace, or even just one job, you end up constraining the range of factors that you're studying in terms of work organization.

But also there's been relatively little research -- some recently, but relatively little research on disadvantaged minority and immigrant populations. Those special populations definitely need to be looked at in terms of these issues.

And then the other thing that hasn't been mentioned as much this morning is the focus on small businesses. Much of the research have taken place in large businesses, unionized businesses, large corporations. And clearly the vast bulk of workers in the United States are working in small businesses.

In terms of the research areas, I wanted to just briefly mention three types of research strategies. One is increased research around surveillance of these problems, and surveillance can be both surveillance of workplaces in terms of the characterization of the psychosocial and work organization stressors, as well as looking for outcomes. So for example, surveillance of hypertension in the workplace -- earlier work by Dr. Schnall and others in New York -- found substantial numbers of workers have increased ambulatory blood pressure while at work, even though in the doctor's office they may not have high blood pressure. But the high blood pressure at work was the most predictive of whether people developed subsequent heart disease and problems, and that's being missed by not doing surveillance in the workplace. But there are logistical and technical issues about how you can do that in a cost-effective manner. There are obviously issues related to how do you do surveillance in terms of assessing the workplaces in the workplace, as well.

In terms of etiologic research, although there's been a lot found, there's a lot more that need to be looked at. Many of these factors we're looking at combined exposures, host -- if you will -- risk factors the disadvantaged populations and work organization looking at a lot of outcomes. These are complex issues, which is why it's so challenging for people to sort of understand the complexity of the issues. We don't have any studies in the United States that would be like the Whitehall study in England that basically followed large populations over time so they can look at -- and they found, for example, that job strain and effort reward were independent predictor factors of heart disease and hypertension, so you need large cohort studies that can handle the complexity of this. You need to refine your models.

And you need to address the other outcomes. We've heard about musculoskeletal, but there's research about the association of work organization with burnout, with immune incompetence mostly focusing

(sic) so far at antibody changes that lead to increased infections but possibly to inflammatory cytokines and risk of cancer as well as reproductive hazards.

And then finally I want to emphasize, because this is complex and because people have trouble getting -- understanding all the mechanisms, is the important focus on intervention research. And specifically one of the things that NIOSH has supported is intervention research on integrated work site health promotion. But it's interesting, people are integrating traditional work site promotion programs and individual health promotion programs, but ignoring the fundamental synergism that the job strain literature has shown a major cause of heart disease is workplace exposures. And we also know a large focus of the health promotion independently has been on heart disease risk factors, but these have not been put together in terms of integrated programs that focus on heart disease prevention by looking at work organization.

And a key aspect of all of these things, going back to my initial point, is participatory action and research which fundamentally is an empowering form of research. So you're not both -- you're both impacting on the workplace, per se, but doing it in a way that's consistent with the paradigm that addresses the fundamental causation of -- of the work stressor problems. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 721.01

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Cardiovascular disease

Musculoskeletal disorders

Exposures

Cardiovascular disease

Work organization/stress

Work-life issues

Approaches

Etiological research

Exposure assessment

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Health service delivery

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hello, my name is Pam Tau Lee and I'm with the Labor Occupational Health Program at UC Berkeley, and I'm here to speak on future research needs to support a public health approach to workplace health and safety for service sector workers. I have over 20 years of work experience with hotel room attendants, and have recently assisted two recent landmark -- I consider landmark -- room attendant health studies in Las Vegas and San Francisco.

In the United States there are over a million -- a million employees employed in the hospitality industry, and the numbers are expected to increase as business will improve. And over the past two decades guest services in particular has increased. The twin beds -- some of you may not even know that there used to be twin beds -- in hotels have been now replaced by queen and luxury mattresses; simple bedding by triple sheeting, more pillows, duvets and heavy bedspreads; bathrooms and sleeping

quarters have more supplies, amenities and equipment. And in a nutshell, the workload for room attendants has increased.

But what has been the implications for room attendant health? On the two studies that I just talked about, conducted by UCSF researcher Dr. Nicholas Krause*, it was found that indeed the workload has increased. And because of that, 66 percent of the room attendants report that they are unable to take their needed rest and recovery breaks, that the health status for room attendants range from fair to poor, that 40 percent of room attendants have high blood pressure as compared to the national average of 25, that 78 percent experience work-related pain or discomfort, but only 20 percent of these room attendants filed formal reports. Only 46 of these room attendants took time off of work for injury and illness actually got well before returning to work. Eighty-three percent take pain medications within the last four weeks of this study, and vitality and energy was rated low at 36 points for Las Vegas room attendants compared to the national score of 61 out of a real nice score of 100.

Psychosocial indicators such as effort reward, job strain and job control may be significant indicators for injury. Dr. Lester Breslow* recently reported -- published an article titled "Health Measurement in the Third Era of Health", and in this article he makes the case that health be considered as a resource for everyday life. Given that 90 percent of Americans believe that their health is excellent or good, as opposed to fair or poor, it is reasonable that further research on workers focus on sectors such as room attendants, who currently do not enjoy good health, are working in pain, lack energy to perform everyday chores.

Our experience with room attendants is similar to many low-wage workers, such as janitors and health care workers. So future research focusing on identifying more workplace hazards and effective interventions can contribute greatly towards improving health for workers in the U.S., especially the most vulnerable such as immigrant workers. High injuries (sic) of injury and illness for those sectors have implications that go far beyond lost days and productivity. Workplace injury, illness and stress interfere with normal healthy family activity and community engagement.

In a developed country such as ours, we should have the resources to prevent these conditions from occurring. I have six recommendations for further future research.

The first is comprehensive ergonomic studies that utilize the best and the latest technology to measure ergonomic strain.

Number two, long-term studies that look at health indicators such as blood pressure, diabetes, musculoskeletal injuries and other conditions among service workers, and particularly room attendants.

Third, studies to measure psychosocial conditions, especially job strain, job control and effort reward, worker compensation and return to work. Vulnerable workers such as low-wage immigrant workers are less likely to file for workers compensation, and this is further complicated by the fact that there is no light duty available. And, as you've heard today, lack of access to health care.

Two more, intervention studies that measure the effectiveness of interventions, not only for traditional health and safety injuries and illness, but also workload, work organization and psychosocial health.

And finally, before my stop button, is community-based participatory research to incorporate those who are directly impacted in the research and in the activities, and research that focuses on findings that can contribute towards identification of effective interventions. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 722.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning, and thank you for the opportunity to address the community regarding the National Occupational Research Agenda. My name is Miguel Lopez and I'm a representative of the International Brotherhood of Teamsters' Port Division.

The IBT represents more than 1.4 million workers in the United States of America, Canada and Puerto Rico. Our Port Division is comprised of approximately 5,500 drivers, stevedores, tugboat crews, warehouse workers, ferry crews, employees of port authorities and workers involved with ship building and repair.

There are at least 100,000 port intermodal container drivers in the United States. A vast majority of port drivers are, quote/unquote, independent contractors and are non-union workers. Most are poorly-compensated immigrants who barely scrape together enough money to purchase a truck. Despite being relegated to the bottom of the freight-moving transportation industry, these workers play a vital role. The international supply chain and U.S. economy depends on container drivers' ability to move goods from our ports to warehouses and railheads.

Port truckers' pay is mostly based on the number of round trips they complete. Therefore traffic congestion and inefficient port operations have a significant impact on their ability to earn a living by restricting the number of trips a trucker can make in a single day. They don't get paid for waiting time. They don't get paid for any time other than delivering the container.

The Teamsters have recognized for a long time the need to research and drastically improve health and safety conditions for intermodal container drivers. Port drivers unnecessarily suffer from preventable

work-related illness, injury, disability, and even death. Today I would like to bring attention to some of the most egregious dangers faced by intermodal container drivers.

Absences of lane markings, organized traffic control plans, and segregated loading areas create unsafe and crowded conditions. Port authorities benefit from such arrangements because it allows them to have flexibility in their operations. However, driver safety should not be sacrificed for the convenience of flexibility. Furthermore, operational environments that increase the risk of truck crashes and result in more crashes than necessary hurt operational efficiency.

Comment ID: 722.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Neurological effect/mental health

Traumatic injuries

Mortality

Exposures

Work organization/stress

Motor vehicles

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Waiting in long lines presents numerous problems. Drivers are forced to wait without rest for hours before being released to transport a shipping container to a destination that may be several hundred miles away. As a result, hours of service rules are regularly violated. Also, truck lines often lack bathroom facilities and drinking water facilities.

Let me just add in the hours of service issue, particularly in the Los Angeles/Long Beach area since they've introduced a 24-hour clock, drivers are now exceeding those hours of service even more dangerously than before because they're only paid by the load. So therefore, in order to make more -- more work, they have to run longer hours. So let me forewarn all of you that drive any kind of vehicle on the highways of America, not only fatigue and sleeping disorders are a part of our problems now, but the hours of service that there's no enforcement on local drivers running in and out of the area are a great danger to the public, and the industry and the government are sitting on their hands in terms of this issue. This should be a very -- very important issue that's taken up by everybody, and I would just say to you all -- a little side note here -- stay away from any truck driver with a container that's driving on the highways. Put yourself one lane away from them, please. I have 35 years as a commercial driver, and I know what I'm talking about on that issue.

Comment ID: 722.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cancer

Respiratory disease

Mortality

Exposures

Chemicals/liquids/particles/vapors

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

The length of time trucks must wait to retrieve their loads leads to hundreds of idling diesel engines emitting major air pollutants like nitrous oxide and particulate matter. This affects not only truck drivers but also citizens of adjacent communities. The health impacts from these pollutants include increased risk of cancer, premature death, asthma attacks, and work loss days. A 2003 study published by the Natural Resources Defense Committee declared port-related diesel particulates as the key pollution offender in many port cities.

Comment ID: 722.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Work organization/stress

Motor vehicles

Approaches

Engineering and administrative control/banding

Training

Partners

Categorized comment or partial comment:

At many ports drivers must remain in their trucks among stacks of containers while overhead lift cranes remove or load containers. If a container drops while above a truck, or bumps another container that is stacked, the results can be serious injury or death. While drivers sit in their trucks they have no way of knowing what is happening above them. Furthermore, truck cabs will surely crumple and the driver likely killed if a free-falling container struck it. A staging area like the ones for taxis should solve this problem.

In the past, longshore pinlock men with proper training and personal protective equipment locked and unlocked pins that hold containers onto the chassis in the area of heavy lifting equipment. Today, without training or safety equipment, container drivers are doing this work. The risk is high for them to lose fingers and hand or limb while reaching to lock or unlock chassis pins.

Comment ID: 722.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Motor vehicles

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

As a usual practice, intermodal container truck drivers clean out empty containers that have transported hazardous materials or toxic substances. In too many cases hazardous material residue remains in empty containers. Containers have no records of cleaning, and may or may not display hazmat placards indicating hazardous material was previously present. Drivers who clean empty containers lack the training and proper protective clothing and equipment to perform this type of work. Companies that own and lease containers should be required to contract with trained professionals to clean empty boxes.

A little side note, hazardous material endorsements on a commercial driver`s license require an English test at the DMV, which most of the drivers who are Spanish-speakers do not understand those kind of tests, so most of the drivers do not have hazmat endorsements. Yet many companies run hazmat material without placards on containers.

Comment ID: 722.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors
Work organization/stress
Radiation (ionizing and non-ionizing)
Motor vehicles

Approaches

Engineering and administrative control/banding
Authoritative recommendation

Partners

Categorized comment or partial comment:

The responsibility of moving chassis and containers for repairs at maintenance facilities has recently been shifted to the container drivers.

I'm going to skip on because I want to stay within the time limits. I have the rest, prepared comments. It's involving security and explosives and weapons, X-rays or gamma rays through new port terminal screening that they have at the ports. Let's see, the lack of hazmat certification, new regulations for unsafe chassis, and of course our latest campaign on overweight containers.

For those of you that don't know, the L.A./Long Beach ports handle upwards of 40 percent of the imports to our country. If you add Oakland, which is close to 20 percent, 60 percent of all import containers come through those three California ports. None of those containers are weighed as they come out of the terminals and go onto the highway. And most people who run those do not have the ability to ensure that they could safely figure out if there's -- there's a scale or weight regulation is -- is being upheld. So again, stay away from those containers.

We have a national campaign going with the Stop Highway Slaughter of truckers that roll-over on overweight containers. I'm going to put this as part of our statement, and I'm sorry I couldn't finish this. It's much too long.

Thank you for your time.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 723.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Still good morning to you. My name is Norman Tuck -- not Tucker. I'm with the International Longshore and Warehouse Union, a 37-year member. Before that I worked in the shipyards in the Port of Los Angeles. It's nice to follow Miguel because Miguel and I go back some years in the same industry, in the ports, Teamsters, Longshoremen. Today we have an era where the truck drivers are not unionized. There is no ability just now to unionize them, and we all together do our best to help these workers when they're in the facilities.

I'll read a statement of the position of the ILWU, and before I do, I just spent -- with Miguel -- 13 months with past-Mayor Hahn*'s "No Net Increase" task force in the Ports of Los Angeles and Long Beach, trying to seek solutions to what we would do with ship movement, truck movement, and those pieces of equipment on the docks.

(Reading) These comments will reflect our historic and current position on this matter, as well as a synopsis on what we feel is -- needs to be done in the near, as well as the distant, future. We ask the National Institute of (sic) Occupational Safety and Health, NIOSH, give their full consideration when developing their National Occupational Research Agenda for the next ten years.

Historically longshore work on the docks consisted of many hazards, most of which have evolved over time. Years ago the work was so dangerous that it was not only common, but also an accepted fact, that longshore workers were either killed and/or maimed with alarming regularity. Work shifts that lasted 12 hours or more were common, adding to the already unsafe conditions that prevalent (sic). The work

was arduous, sweat-filled, backbreaking. There were very few safety provisions covering longshore workers. If someone was injured or even killed, they would simply be carted off and replaced with someone else to earn a day's wage, and these were the dark days.

And there used to be a time where it took -- when you had a ten-cent -- to get into a phone. That's what it took to replace a longshore worker. You're looking at someone here who, in my 37 years of working on the waterfront, I've had both my shoulders surgically repaired -- you know, the big scars -- my left -- right lower extremity crushed, five years away from the workforce, seven surgeries, plate, screws, pins. I have a plate in my hand and my finger, back injury, broken foot. I'm a mess. When I get up in the middle of the night to go to the restroom and/or when I get up in the morning to come -- place like this, I have a very difficult time moving. I worked till 3:00 o'clock this morning. I work the night shift. And we have been, for many, many years, a 24-hour port, both Long Beach and Los Angeles.

(Reading) With the advent of mechanization in the '60s it became readily apparent that the need existed for safety regulations to be instituted and implemented in the workplace and on the waterfront.

And I'll try to go on as quickly as I can and just pick up some of the highlights, and we'll submit this document.

(Reading) Over the next three decades the ILWU was successful in negotiating safety regulations with the PMA, the Pacific Maritime Association. These negotiations took place every three years.

And I'd like to point out that during contract negotiations in which I participated in 1996, in the other room we had a safety negotiation going on. There was a constant struggle and fight with the employer. Nothing has changed today that we did not see ten, 20, 30, 40, 50 years ago. It's the issue of labor/capital. Nothing much has changed. I am very pleased there are researchers today like yourselves and others who are trying to move forward in getting workers like myself and folks in the hotel industry a chance of beginning -- or be able to have a long life. I have four grandchildren and I'd like to, when I retire this August, like to have maybe 20 years to go fishing and enjoy things.

When we look at our biggest concern today, and I'll end by saying this, is the emissions from diesel ships, trucks and heavy equipment. Last night we're unloading steel. Around me is -- around me is forklift -- so you consider a small forklift. Our forklifts pick up anywhere from 15 to 30 tons at a lift. Okay? These things are spewing out diesel emissions. I'm from here to the wall from this truck, and this stuff is just falling on me. Nothing has changed, and it won't change until NIOSH and every other regulatory agency gets on the same bus and we make the federal government ante up and the state governments ante up and make it a point that we need to live longer and protect our interests.

Again, thank you very much for allowing me to come and speak. I could go on for ten or 20 minutes, but I won't. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 724.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Cancer

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hello, thanks for having me. My name is Angelo Logan. I'm with East Yard Communities for Environmental Justice. East Yard Communities for Environmental Justice is a community-based environmental justice organization which believes in and works toward all people having the right to a safe and healthy environment where we work, live, learn and play.

Over the last five years our community has been working to reverse the negative impacts of goods movement industry, otherwise known as port-related industries. Our community in the southeast Los Angeles area is primarily a working class community of color, with a large amount of people employed in the movement of goods industry -- truck drivers, railroad workers, warehouse workers and port workers.

The Los Angeles Port complex is the largest in the nation and the third largest in the world, and continues to grow. As a port and the industry grows, so do the concerns regarding the safety and health effects associated with movement of goods through the ports and goods-movement corridors. Evidence exists that air pollutants emitted from port-related activities adversely affect people's health and contribute significantly to regional air pollution problems. Pollution from ports and port-related industries cause an increase in regional smog, local toxic air contaminants, and the contamination of water sources. Together these increase cancer and other health risks for workers and other nearby community members.

To alleviate the severe impacts of air pollution it is important to invest in new technologies and make people aware of strategies to reduce or eliminate these pollutants -- our pollutant sources. It is crucial to promote studies on the -- on the occupational and environmental health effects of exposure to diesel and other air contaminants facing both workers and those who live in surrounding communities.

To do so, partnerships between researchers, community organizations and labor are critical. Partnerships with the affected groups will enhance the likelihood that research findings are reported back to the members of those affected groups, and will facilitate the participation of those groups in policy change to reduce air emissions.

We encourage the National Institute for Occupational Safety and Health to fund research that is developed and implemented by partnerships between researchers, community and labor organizations, to fund the dissemination of research findings to the people most affected, and to organizations representing them. In this way workplace, regulatory and legislative policy changes will occur, improving the health of workers and other community members. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 725.01

Categorized with the following terms:

Sectors

- Manufacturing
- Transportation, Warehousing and Utilities
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Work-life issues

Approaches

- Surveillance
- Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name is Jesse Marquez. I'm executive director of the Coalition for a Safe Environment. We are also an environmental justice community organization. We are headquartered and based in Wilmington. Wilmington is a community in the Port of Los Angeles, and we are the Los Angeles Harbor.

I live four blocks from the Port of L.A., about 15 blocks from the Port of Long Beach, about seven blocks from ConocoPhillips oil refinery, about ten blocks from Valero oil refinery, about 15 blocks from Shell oil refinery, about 12 blocks from the Alameda Corridor, about ten blocks from the Watson rail yard, and about 22 blocks from BP ARCO oil refinery.

The Port of L.A. is the number one stationary source of air pollution in southern California -- not the harbor, not L.A., not the south coast (unintelligible), but southern California. The Port of Long Beach is the second largest source of air pollution in southern California. And the oil refineries in my community are the third largest source of air pollution.

My point being is that not only are workers on the docks being impacted, but those workers' families and of those communities that border these industrial sites are also impacted by air pollution. We also have to recognize we're not talking about just air pollution. Air pollution pollutes water. It pollutes the oceans, our rivers, our lakes, our tidelands or wetlands. It falls on our houses and our cars and our yards, our parks and our schools. So it impacts all of us.

What I have learned over the past five years, so you know, is that five years ago I was not an environmental activist. My IQ in terms of all the environmental issues that I was facing was zero. But in four and a half years I can now read a 500, 600-page environmental impact report that was put out by a government agency who hired expert consultants, and I'll rip that document apart page by page, paragraph by paragraph, and line by line. I have read over 40 of these documents now, all by a government agency -- either a city, a port or whoever. And not a single one ever complied with the law. That's what I discovered. They are a lie. They misrepresent the facts. And they even leave out the facts. Not one have I ever read complied with CEQUA. Not one has ever complied with NEPA, the federal standard. That's what I have learned.

Right now there are no laws in the state of California that state that the port, or any refinery, must -- in five years, ten years, 15 years or 20 years -- reduce their pollution by 99 percent, 90 percent, 80 percent, 70 percent, 50 percent, 30 percent. There is no law today. There will be no law tomorrow. There will be no law five or ten years from now.

So what does that mean? Air pollution and environmental pollution will get worse. Workers will continue to get worse in their health. And all the neighboring communities will also face an increase in health problems. That's what we are facing.

How can NIOSH help us? We need you. But we need you to be doing the right things. We need you to be able to help us in the right ways. And here are some of those ways how you can help us.

First of all, we must be made aware of what dangers we are being exposed to. The south coast air quality (unintelligible) district released a study back in March of 2000 called the MATES II, which was their multiple toxins inventory. None of us in Wilmington, San Pedro or west Long Beach, or in the Harbor, were even aware of this study. And what did that study state? That Wilmington, San Pedro and west Long Beach were at the highest risk of cancer due to diesel fuel emissions. So that means all residents, all children, all senior citizens and all workers. We weren't even aware of the study. So it does no good for me and my community and to my three brothers that are longshoremen, to my niece and nephew that are longshoremen, to my cousin that's a longshoreman, and other union workers when we don't even know the information that's out there. So we need to know that information. We need to be partners in research studies.

I was called three weeks ago by an ARB worker at Sacramento saying they were going to do a little health study. We were told that we could possibly work together. I asked him to send me the survey that they were going to do. I got the survey e-mailed to me and the first thing I said was oh, my God, another amateur. This person had absolutely no survey background, no public health research background. And I e-mailed him back saying would you mind if I sent you some recommendations on your questions? And I literally re-wrote half of all the questions and gave him ten more questions to add to that survey to make it a worthwhile survey. And I volunteered to provide some of our people to help do the survey.

So there are community organizations like ours and others out there that'll work with you in defining what needs to be done and how to write and how to ask the right questions and how to make it a very successful survey and study so that that information will be useful for us, because we need that information and we need you to support us. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 726.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cancer
Cardiovascular disease
Respiratory disease
Mortality

Exposures

Chemicals/liquids/particles/vapors
Cardiovascular disease

Approaches

Etiological research
Intervention effectiveness research
Economics
Authoritative recommendation
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name`s Marianne Brown, and as a former director of the UCLA Labor Occupational Safety and Health, or LOSH, program, it`s really a pleasure to participate again in the NIOSH NORA priority-setting town hall meetings for -- as we go into the second decade of NORA`s existence.

In the time allotted this morning I will focus on the transportation and warehousing sector that is connected with the ports. This includes dock workers, railroad workers and truck drivers. Regionally this is a very important health and safety focus right now, as the previous speakers have attested to, because these two ports, the Los Angeles -- in Los Angeles County, the Los Angeles/San Pedro Port and the Long Beach Port, make up the largest seaport complex in the United States. Together now, depending on which resource you turn to, some call it the third largest port complex in the world, others say the fifth largest, but anyway, it`s extremely immense and it`s growing daily. The Los Angeles/San Pedro Port last year supported an estimated 259,000 jobs and \$8.4 billion in wages and taxes. Longshore workers at the ports, and other workers who transport cargo containers from the ports to their destinations, are exposed to air pollution in the form of particulates from diesel engines and other sources, which are associated with premature death, cancer, heart disease, asthma and other

respiratory illnesses. I have the references for those studies that are attached to my -- what I am submitting.

And now is a pivotal time for NIOSH to sponsor research which examines particularly two aspects of port and goods movement workers' health. One is health effects research and the other is intervention research.

With respect to health effects research, there's further need for studies on the health effects of air contaminants such as diesel fumes from ships and yard equipment on dock workers. There already is the research on railroad workers and truck workers.

With respect to intervention research, there is a need for a new kind, a new initiative for research in NIOSH, and that is on what types of policy changes are most effective in reaching and reducing worker exposures. As part of this there's a need for research on how research findings are used to effect policies aimed at reducing air contamination.

This is an important time for this research because these two Los Angeles County ports are the gateway for 40 percent of all goods imported into the United States today. That means that southern California workers are on the front line of exposures as they handle millions of cargo containers destined for other localities around the U.S. In fact, in today's Los Angeles Times, as many days in the last couple of months, there are articles related to the ports, and the title today is "Railroads Back on Track." After years of retrenchment, railroads across North America are reporting record profits and rolling forward with massive expansion projects of the kind that haven't been seen in decades. The change is most evident along the route from the Ports of Los Angeles and Long Beach to Chicago, the nation's busiest freight corridor for intermodal shipping traffic, the large steel cargo containers and truck trailers that can move by ship, rail or truck.

As the Mayor of Los Angeles said recently when describing this dilemma, we are at a very unique moment, a moment in which we can simultaneously deliver faster freight and cleaner air. It's a pivotal time because the ports and goods movement industry expand-- while they're expanding, there's a growing political will to set policy that will reduce the inevitable air pollution that will come with this expansion. The mayors in Los Angeles and Long Beach, and the Harbor Commissioners for both ports, are committed to greening the ports. In December both Commissions issued, for the first time in the history here, a joint memorandum of agreement to coordinate the greening effects. And just a few weeks ago the union which represents the west coast dock and warehouse workers, the International Longshore and Warehouse Union, AFL/CIO, a union with a strong history of safety advocacy, issued a call for stronger state, federal and international standards requiring cleaner technologies for polluting ships. And last year the California Air Resources Board approved regulations requiring ocean-going vessels and cargo-handling equipment to use cleaner-burning, low-sulfur fuels. At the beginning of this year the Governor of California proposed port and highway expansion projects which some public health advocates have criticized due to what they believe is a lack of appropriate protections in place to reduce air pollution from diesel-powered ships, trucks and trains.

Last year the California Air Resources Board concluded that air pollution generated by the state's cargo industry would result in 750 premature deaths in 2005, and generate tens of billions of dollars in related healthcare costs over the next 15 years.

In conclusion I would like to again stress the two areas that are in need of research are more health effects research, more research on the health effects of worker exposures to air contaminants in the port, trucking and rail material transport industries; and that these -- this kind of research should be conducted by university-based researchers in collaboration with labor groups, similar to the well established NIEHS-funded university/community research partnership grants program.

And with respect to intervention research, a new initiative by NIOSH could utilize public health professionals, economists -- as was mentioned earlier by Ms. Schreiber -- and other social scientists to study the impact of goods movement green policy changes on worker exposures to air contaminants. Let me emphasize again that as part of this initiative there's a need for studies on how research findings are used to effect policies aimed at reducing air contamination.

So I want to thank you for the opportunity to provide this testimony.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 727.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good morning. My name is Elisa Brown. I don't think I'm related to the previous speaker, but that would be okay.

I am an advanced practice nurse in mental health. I'm speaking on behalf of the American Nurses Association. I wish to thank NIOSH for the opportunity to give input into the research agenda, and also for the privilege of listening to the wisdom and recommendations made by the previous speakers today.

I'm going to cover six particular issues in relation to nursing and healthcare workers.

Safe patient handling, according to the Bureau of Labor Statistics, in a recent study nurses had over 8,000 reported work-related musculoskeletal disorders which resulted in an average of seven days away from work. This was the ninth-highest rated profession in this category of injuries. Research to prevent back and other musculoskeletal disorders needs to promote appropriate education and training in the use of assistive equipment and patient-handling devices, and in no-lift programs. Research needs to be done on reshaping federal and state ergonomic policies that would highlight ways to do safe patient handling, add techniques that would benefit patients and the nursing workforce, and in line with some of my previous speakers, to disseminate those results, not to keep it to themselves.

Comment ID: 727.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Neurological effect/mental health

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Chemical exposure, RNs are -- and other healthcare workers are routinely exposed to a variety of hazardous chemicals, including drugs, chemicals, cleaning solutions, all those things used in the work setting. Many of these have been associated with acute and long-term effects and -- such as reproductive problems, respiratory irritation and asthma, eye and skin irritation, nausea, headaches, difficulty in concentrating, and even in cancer. Research needs to examine these health effects, do surveillance -- as many of the speakers have talked about -- and implement other efforts to protect nurses and other healthcare workers.

Comment ID: 727.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Infectious diseases

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Economics

Authoritative recommendation

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Worker fatigue, research shows that overtime and extended work shifts for nurses is associated with increasing risk of smoking, alcohol use, risk for back and neck injuries, vehicular accidents, and increased exposure to biological hazards. A recent Institute of Medicine study states that effects of fatigue include slowed reaction time, lapses of attention to detail, errors of omission, problems with problem-solving, reduced motivation and decreased energy successful to complete their work. More research is needed to evaluate overtime and extended work shifts and their relationship to productivity, quality and safety provided in hospitals, and the incidence of workplace accidents, injuries and stress-related illnesses among nurses and healthcare workers, and to look at the impact on the general health status of healthcare workers. Research needs to be done on reshaping federal and state policy that will limit the ability of employers to mandate overtime.

Comment ID: 727.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Bloodborne pathogens, exposure to these -- there are still many needle-sticks and sharps injuries, many more than should be occurring in light of the fact that we now have safe devices. What I'm finding is that what many of the institutions do is keep their old ones until they run out, even though they have ordered the new ones in, and so we need to do more work in looking at that. Research is needed on the human factors and work practices of nurses related to safe handling of sharp devices and compliance with policies to protect them from exposure. Further research is also needed on facility-wide policies to promote worker compliance with practices. And research should develop safety-engineered devices that are improved as needed.

Comment ID: 727.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Approaches

Personal protective equipment

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Respiratory protection, research needs to be done on ensuring that federal and state pandemic planning policies include the use of N95 filtering, disposable respirators to be annually fit-tested rather than the use of surgical masks. What we want to do is not just protect the patient from the wearer, but the wearer, also.

Comment ID: 727.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Violence

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

And workplace violence, the Board of -- I'm sorry. There's a report that among persons working in healthcare and social assistance there were over 11,000 injuries and workplace assaults and 19 homicides on the job. Further research is needed in development of interventions to prevent violence toward healthcare workers and effectiveness.

Comment ID: 727.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

On a personal note, I would like to also say that I would like to look more at workplace stress and the need to look at, as previous speakers have talked about, really surveying healthcare problems of workers and what we can do to prevent these.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 728.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: I`m Cindy Burt. I work at UCLA and I have some areas that I wanted to mention that were a little different than this morning. One area that I have seen problems cropping up across all the sectors that were talked about is the impact of care provision for mothers working in a lot of different industries. We`ve done work in the past in looking at the lifting injuries, manual materials handling which -- with mothers, but we`ve not really looked very much at the impact of the stress levels of having child care responsibilities on mothers working in jobs that require a lot of repetitive activity, like data entry and those kinds of things. And I`m seeing enormous amount of injuries in that area, and that would be a good area for future research.

Comment ID: 728.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work-life issues

Approaches

Training

Partners

Categorized comment or partial comment:

To that same area -- I work with children as well, and I would really like to see is to do some studies to see how effective we'd be working with children at younger ages and teaching them basic ergonomic concepts so that they grow up knowing these things and not having to learn them when they enter the workforce.

Comment ID: 728.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding
Capacity building

Partners

Categorized comment or partial comment:

A lot of people talked about workers and workers needing more assistance, needing more training, needing better-designed facilities. We are trying to work here with our designers and our architects, and the people who develop the environments where people work need to have a lot more training. We need to do research in finding out whether they know what they're doing and whether they really incorporate ergonomics -- concepts into the work that they do.

Comment ID: 728.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Training

Health service delivery

Partners

Categorized comment or partial comment:

One last thing I'd like to mention is we -- we do a lot of training here at UCLA with our workers, and a lot of times it comes to nought because the supervisors are the missing link in terms of reinforcing concepts, understanding concepts, understanding how to manage people, how to deal with workers comp injury without making the worker feel like that he's a criminal. We have a real problem with people using our system, using it effectively and using it without fear.

Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 729.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Chemicals/liquids/particles/vapors
Motor vehicles

Approaches

Engineering and administrative control/banding
Personal protective equipment
Authoritative recommendation

Partners

California EMS Authority

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. Good afternoon, I`m Cesar Aristeiguieta. I`m the director of the California EMS Authority. For those of you who may not know the lingo, EMS stands for Emergency Medical Services, and that`s the area of healthcare that encompasses everything before you get to the hospital, so the paramedics, the EMTs, private ambulance companies, fire departments and the like.

I`m here speaking on behalf of the National Association of EMS Officials at the request of the President, Bob Bass. I was appointed to my position back in August by Governor Schwarzenegger, and since that time I`ve had a significant concern for both patient safety as well as worker safety in our field. The two items that I`m going to be speaking of that I believe that require a significant amount of research in this area is the area of worker safety in and about an ambulance, as well as the issue of -- of personal protective equipment for those workers. And let me run you through a couple of scenarios.

Riding in an ambulance can be a hazardous environment, both for the person being transported as well as for the workers that are in it. This applies to both helicopter or an aircraft type ambulance as well as to the ground ambulance, and we`ve seen countless headlines over the past five years or so indicating what a problem this can be. Let me give you some examples.

Within ambulances there's poor restraint mechanisms. As you know, a patient lies flat in -- in a cot in an ambulance, but the ambulance is traveling in the same direction as the patient is lying, which means that if you get into a wreck, a front-end collision on the ambulance, the patient's body will continue traveling forward. Although some restraint systems have been designed to try to restrain the patient in that position, they're not being utilized and many of these restraint systems have not been tested in real crash situations.

In addition to the patient safety, the worker in the back of the ambulance is also at high risk in many cases. You can imagine a paramedic doing CPR in the back of an ambulance, starting an IV, trying to intubate a patient -- meaning putting a tube down their throat so they can breathe for them. All of these are unrestrained conditions, all of them critical situations which also mean that that ambulance is traveling with red lights and siren at excessive rates of speed and usually through traffic lights and the like. These are very hazardous situations for that occupant in the back of the ambulance, and if an accident occurs they're going to be propelled into the forward compartment of the ambulance, causing severe injuries.

As some research that has been done in the area also demonstrates, the helmets that the firefighters wear that operate ambulances are not effective at protecting the head in a motor vehicle collision, so significant research has to go into this area.

Weather plays a very important role in traffic safety, as well as helicopter safety operations, and the role of weather and optimal flying and driving conditions needs to be researched further.

Mechanical failures, whether it's to an aircraft or to an ambulance traveling 60 miles an hour on the freeway that blows a tire can significantly affect the performance of the ambulance and put the occupants at risk.

The back of an ambulance, as you can imagine, has a certain amount of shelves and equipment that is prepared to deliver care to a patient. In the event of a motor vehicle accident, all that equipment becomes projectiles that are pushed forward into the occupants of that ambulance.

Finally, ambulance technicians or EMTs and paramedics are continually being exposed to hazardous environments around them. With the fear of terrorist attack, we worry about chemical, biological, radiological or nuclear type of weapons, as well as the typical spills that may happen on the I-5 freeway where a paraquat truck overturns and now the paramedics are exposed to the chemical which can have just as severe reactions as a terrorist attack, but obviously on a smaller scale.

With all this in mind, we'd certainly like to propose that more research be done into the construction, design, safety features of ambulances. This is a largely unregulated area at this time, and largely because there is no research that shows what the best practices might be and how to better protect the occupants of the vehicle.

In addition to that, California has been the first state in the union to develop some basic standards for personal protective equipment for paramedics and EMTs, and we would like to provide that information to NIOSH and assist them in developing nationwide standards that perhaps can influence where the -- this particular business is headed to.

The last thing I would like to say is that this is not just a firefighter type of hazard. In California 73 percent of the fleet of ambulances in the state are run by private ambulance companies. So just because firefighters have breathing apparatuses and helmets and turnout coats doesn't mean that the

vast majority of the personnel that are responding to emergencies are protected, and we certainly need to look in the private sector also. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 730.01

Categorized with the following terms:

Sectors

Services

Population

Other

Health outcomes; diseases/injuries

Musculoskeletal disorders

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Surveillance

Etiological research

Risk assessment methods

Engineering and administrative control/banding

Personal protective equipment

Economics

Authoritative recommendation

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hello, my name is Catherine Porter and I work for California Committee on Occupational Safety and Health, or Cal-COSH. Cal-COSH is a non-profit organization that advocates for safety and health within the low-wage worker community. We are a California State Bar-funded legal services support center, which means that we provide information, advocacy, technical assistance to legal aid organizations on occupational safety and health issues to those legal services programs in the state of California.

There are 77 legal services programs in California, and those programs represent, assist and advocate for low income and immigrant workers and non-workers. They provide assistance on a broad range of legal issues. Approximately 1.4 million Californians work at or near minimum wage, and the majority of those are full-time workers. In California the minimum wage is \$6.75, which over a year -- if you do the math, working 40 hours a week -- brings in a grand total of \$14,000.40. So you can see that there are a lot of workers that legal services programs assist. And unfortunately there are a lot of workers work at poverty or below level.

Legal services programs generally have financial eligibility requirements at one to two times the poverty level, and so again, this is what I was saying about their constituency is a very low income to poverty level clientele, including workers who are working full-time. The low-wage workers in California served at legal aid centers come from a wide range of industries including garment, janitorial, domestic, bakery, child care, restaurant, hotel, dry cleaning, construction and retail and carwash. And you heard some testimony or input about some of those industries including household domestic or hotel workers.

Wage and hour issues take predominance at legal services programs, such as unpaid wages, non-payment of overtime or minimum wage, mis-classification of employees as independent contractors, failure to provide meal or rest breaks -- and that's just to name a few. And these in turn can impact greatly worker health and safety.

Many low-wage workers are exposed to a range of safety and health hazards including chemical hazards, violence in the workplace and economics issues. And yet many of those occupations or subsets of occupations are either inadequately protected or not protected at all by occupational and safety health laws or by workers compensation in the state of California.

Today I'd like to focus on what I'm referring to as four cleaning occupations in the state of California, and they are, again, a predominantly low-wage workforce, and that includes janitors, maids -- either working at hotels or working at private homes, dry cleaning workers and carwash workers. And these workers, not even counting the carwash workers because I couldn't find any statistics in regard to them, number approximately 332,000 in California. And that's one-quarter of the low-wage workers in California. And whoever is from Los Angeles, you probably are aware that -- of how many car washes there are in Los Angeles, and similarly in the urban areas of the Bay area, probably down in San Diego. So that's a huge sector of population also.

Some of the work conditions that those sectors are exposed to include -- for instance, with janitors -- chemical exposures from cleaning and waxing products, from dust; ergonomic issues such as bending, stretching, stooping and kneeling; and they're often working at night and working alone.

Maids and housekeeping cleaners, including those at hospitals and lodgings and at private residences, similarly have chemical exposures, ergonomic issues, insufficient protective equipment. Their wages are usually from the mid-\$7.50 to \$10.50, averaging about \$9.47. And the wages of janitors are pretty comparable, maybe slightly higher, especially if they're part of a union.

Oh, 30 seconds -- carwash workers and dry cleaner workers are also exposed to a wide range of chemicals and ergonomic issues. So obviously I didn't time this before I came here today and I should have.

So the research areas that we are asking for are in areas to bolster policy -- policy goals, which include improving wage and hour laws to -- by there -- therefore improving health and safety on the job, and to also impact and improve policy around setting workplace chemical exposure levels.

So -- just 15 seconds more. So we'd like research to be done on the chemicals to which these workers are exposed, the health effects of those chemicals, the real costs of those exposures due to chronic illness including lost wages, education and rehabilitation, hospitalization and other medical costs. And also the same sort of research and compilation of information in regard to other health and safety hazards.

We`d also like information on how violation of workplace wage and hour laws impacts health and safety and -- well, thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, CA, 2006/02/21.

Comment ID: 731.01

Categorized with the following terms:

Sectors

Services

Population

Other

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Training

Intervention effectiveness research

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: My name is Denise Peters and I'm with Mr. Clean Maintenance Systems, and I didn't actually plan to speak today. But I would like to say that I agree with most of the things that you just said. Those are all issues that we have with our janitors, as well.

It is a tough situation to be in, employing janitors, because they are in a low-wage position and they are spread out. They don't usually all work together in one place -- at least not in our circumstance -- and it's very difficult many times to be able to communicate well with them on the issues of health and safety. So I think, as a corporation, while we're trying to really promote health and safety in our workplace, we are finding that there are issues that we're struggling with in workers taking personal responsibility for their own health and safety, and that is an area that we would certainly like to see some research done in.

Additional issues that we see that definitely affect health and safety in our workplace are the underground economy and the competition with that, how it limits our dollars to be able to help our employees or our workers. Because of the underground economy we have pressure with being able to compete and get enough dollars to include a healthcare package for our people, which is something that we'd like to be able to do. However, if that's something that we could look at as far as research, how can -- improving that situation, how that can improve workers' general healthcare and safety would be a real good thing for us. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 737.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Workers with solvents can get extremely ill, with a variety of complaints -- rhinosinusitis and asthma, headaches, neuropsychiatric disabilities, skin rashes, chemical intolerances, chronic fatigue, weight gain, and on and on. Once they became ill, treatment is very difficult and they seldom return to good health.

Comment ID: 738.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. I want to thank NIOSH for inviting me back. I was one of those 500 correspondents that they used in 1996, and I have four basic recommendations that I want to bring to NIOSH on the education sector. I am the director of health and safety for the American Federation of Teachers.

Before I make those four recommendations, I just want to preface my remarks with a few observations. Interestingly enough, NIOSH has been in more schools in this country than any other federal agency. They have responded to requests for HHEs and I'm very -- very, you know, heartened that NIOSH chose to go in and look at primarily indoor air quality issues in schools.

The second observation I want to make is that a school is children's workplace, and you know, believe it or not, children do not have any statutory right to a health and safety school given by anybody -- locally, federally or anything. And I would really like to see NIOSH be given a broadened mandate so that when they do go into schools they can look at the impact of conditions on children, as well.

And last but not least, I want to really say that schools are very complex industries. They're more than teachers. I really -- I think people generally just think that teachers are a synonym for schools, but there are all kinds of work -- workers there, all kinds of activities. And schools are becoming the most densely populated institution, aside from maybe prisons and jails, in our society. And in case you didn't know it, the schools are undergoing a historic growth that's not supposed to plateau until 2009, and maybe beyond. They're extremely crowded, and I don't know if any of you have kids -- anybody have kids in schools? You've been in the hallways when they're changing classes or in the cafeteria? The noise is incredible.

Anyway, here are my four recommendations.

First of all, I think that education needs to be considered its own sector. It's somewhat like how NIOSH and health and safety people looked at healthcare back in the '70s. They sort of made all these

assumptions about hospitals and healthcare facilities being safe. And lo and behold, they began to understand that`s not the case. We don`t really have any data or any surveillance that`s useful.

Comment ID: 738.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

BLS has very incomplete data on the education sector, so we need a way of doing surveillance for this sector that's meaningful. A lot of work-related conditions never get reported -- like voice disorders, bladder infections, asthma -- which is really on the rise among many workers.

Comment ID: 738.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Approaches

Etiological research

Exposure assessment

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Emergency preparedness and response

Partners

insurance companies; infectious disease people; American Federation of Teachers

Categorized comment or partial comment:

Number two -- maybe in -- by 2016 we'll have them as their own subsector. Anyway, we really need partnerships. NIOSH is such a tiny force for good in doing research in health and safety, but they aren't the big money-bags. And if we're looking at education, we need to really recruit a lot of partners, like insurance companies for instance, who are paying for the healthcare of these people for work-related illnesses. We need people like, for instance, infectious disease people to come and partner with NIOSH. NIOSH can really, for instance, characterize exposures better than any other agency, probably, in the -- in the federal government. And infectious disease people don't know this, but they really do need NIOSH to tell them about how these agents are transmitted in the workplace.

Number three, we need partnerships -- oh, excuse me, we need intervention and demonstration projects. And again I'll look at the whole communicable disease issue as an example. We know from some little titillating research that many pathogens like rhinoviruses can be found in ventilation systems. We don't have a clue what the ventilation rate should be in a very highly dense population like a school to really protect everybody, the students and the staff. So we need the building scientists working with NIOSH and everybody else and doing this.

And then fourth, I would say that we need to have some policy research that shows how effective regulatory and other policies are at really protecting people. It really surprises me that we have not looked at the hero* law and other laws to see if they have been effective at protecting workers -- also OSHA regulations.

One last thing is that I will be submitting a review article which will give me -- give NIOSH my entire laundry list of all the hazards found in the education sector, and I look forward to working with the agency. Our organization will be happy to cooperate in any way we can to help NIOSH pursue research in education.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 739.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Reproductive

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon, everybody. My name is Rosa Balan. I work at the Westin layers (sic). I've been working there for 30 years. I work at night. I am a housekeeper there. I also take care of other duties, as well. I pick up the linen. I pick up the trash of ten floors. Not only that, I clean meeting rooms, 31 of them. After that I go to the offices, pick up the trash there. Once I'm done, I clean the housekeeping department. But now I am disabled.

The work there is very hard. The beds and mattresses are very, very heavy. Mattresses are about 35 to 40 pounds in weight. I have to lift them with one hand at times.

Right now I'm in a very difficult situation. I'm waiting to be -- to have four surgeries. The money I'm being compensated with is not enough for anything. It's only enough for rent.

I got injured on June 17th trying to lift a 75 to 80-pound bag. On July 4th I had a miscarriage. That was a big hope of mine, to have my baby. I lost him. I lost my job. I am not working right now. I don't have money, I don't have anything to offer my children. It is very difficult as a parent when -- when your children come to you and ask you to take them somewhere, and not be able to provide them with that.

I'm on very heavy, strong medication. I'm on morphine, pain killers, very strong pain killers. We are not safe at work. Sometimes we don't have enough cleaning products. We use dishwashing products. Most of the female workers at my workplace are ill. They are injured or disabled, but they're unable to speak up because they are afraid to lose their jobs.

Thank you. We are here because we need your help, and we want your help. We need your support. Thank you very much.

Note: [The preceding presentation was made through the use of an interpreter. Where presenter and interpreter were speaking simultaneously, separation of the two was difficult. This transcription represents the best effort of the reporter.] Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 740.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. I'm Shane Que Hee, professor of environmental health sciences in the UCLA School of Public Health. I'm also a member of the UCLA Center for Occupational and Environmental Health. I'm also a member of the NIOSH Education and Research Center of Southern California. I also served a term on the NIOSH Board of Scientific Counselors from 2001 to 2004. On behalf of the Southern California ERC, we thank NIOSH for their past and present support in training industrial and environmental hygienists so as to achieve health and safety in the workplace.

We graduate about five to six masters -- professional masters -- professionals per year, plus a doctorate about every three years. We like to think of ourselves as a leader in the industrial and environmental hygiene profession nationwide, and also here in southern California, hence our contribution to the current NIOSH town hall.

Most of our students come from southern California, but we also do needs assessments so that we can know how to serve southern California better. Many of our graduates also stay in southern California. We want to be part of any solution to problems in our southern California community, and not be part of a problem. This is another reason for why we are here.

We know that NIOSH funding and support is an essential part to the existence of the ERC. We want the U.S. government to continue supporting NIOSH's efforts to produce leaders in the industrial and environmental hygiene community. I would like to see NIOSH's efforts to be expanded even more than current in southern California.

Why is such a NIOSH presence needed in southern California?

Well, there are over 15 million people here, with many diverse industries and workplaces, an ideal laboratory for research and training. There are many hazards -- chemical, physical, psychosocial, ergonomic and biological -- that need research and monitoring. There are many diverse communities

that require specialized help. There are many sweatshop conditions where health and safety are secondary, and even tertiary. We, as an ERC, have only scratched the surface of these problems.

In fact, NIOSH should really think of establishing a research center here to complement that in Spokane, which is the only NIOSH center west of the Mississippi. Such a center could then make more systematic investigations of health and safety in California than currently done by us, who are all dependent on research grants which are becoming increasingly hard to come by. Our ERC would benefit also by the proximity of such a center.

I welcome and encourage NIOSH to be less focused on locations east of the Mississippi for their specialist research centers, and to address community health and safety problems as a major focus in the National Occupational Research Agenda.

With regard to the latter, the 8-sector approach has one problem. There needs to be an integrated approach to all simultaneously rather than a piecemeal approach at the current NIOSH centers and ERCs. The best way to tackle these research sectors is to base centers and ERCs in areas where all sectors are present and where the interactions amongst the various sectors can be investigated since the whole is often greater than the parts.

Southern California has all of these sectors, and Los Angeles or its environs would make a wonderful base and center for a NORA multi- and inter-sector research center. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 742.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Cancer

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. My name is Bill Meyer. I've been in (unintelligible) Piping Trades, Plumbers and Steamfitters Local 393 for the last 25 years. Also I've served as a authorized OSHA instructor for Cal and Fed OSHA at our pipe trades training center in San Jose, and at this point I'm about closing out my first year in office as a business manager of the Plumbers and Steamfitters Local.

In the 25 years I've been in the trade I've been routinely subjected to unregulated exposures of regulated hazardous substances, items such as silica dust, which a fellow brother brought up earlier this morning, noting that when he went in after having lung damage, he was unaware -- at least the doctors told him they were unaware of the hazards of silica dust. Yet in my possession at home from 1935 I have a video done by the U.S. Department of Labor -- in fact, Ms. Perkins, who the Department of Labor building is named after, is in this videotape. And it was very profound, having worked in the field for 25 years and then all of a sudden becoming aware of these 71-year-old issues as we speak to date. And just myself out in the field working a year ago battling these issues, working at a brand new hospital facility in Santa Clara, California, we are breathing silica dust like a vacuum should be sucking it in. However, sadly it's our lungs instead of a HEPA filter.

Weld fumes, PVC glues and primers -- I'm up in silicon valley so we're dealing with intel, HPs, we're dealing all the semi-conductor facilities, on top of the hazards we encounter in that environment, as well as biotech facilities. But all it really takes is a concrete building to generate these hazards. And it was extremely profound when I realized that crystalline silica dust is listed as the same degree of hazard as asbestos (unintelligible) International Agency for Research on Cancer.

As a (unintelligible) instructor of both federal and Cal-OSHA training courses, I have become thoroughly aware of the laws and regulations governing workplace health hazard exposures, as well as the medical studies which reveal that we're losing an estimated 28 human lives each and every day in California just to totally preventable disease. We lose over 60,000 per year in the U.S. from occupational disease. And having become aware of California Labor Code, as well as Cal-OSHA regulations in my period of time teaching, as well as being subjected to them on a daily basis out in the field, I did move at one point to have Cal-OSHA enforce some laws for me, only to have received a very thoroughly unproductive response, including words such as "do nothing, blow the guy off." The reason I bring that up to you was not because I want any kind of profound response from that, but we are dealing with a systemic problem per my observations of being in the field for 25 years, also teaching on the subject matter.

On first, second and third blush, how do you do this job correctly? I mean how do you actually ask employers to do this job in a proper manner where it's going to cost dollars? And per NORA's own graph on the web site, you have the -- indicating the \$171 billion burden that's estimated to be on our society a year from injury and illness, and of course they compare that on this graph with the monetary burden of AIDS, Alzheimer's and circulatory disease whereby the graph equates to the cost of injury and illness on American workforce is five times greater than AIDS, more costly than heart disease and equal to the cost of all cancer on our society.

And with that, what I ask and what I would hope that we can do in the research mode is not only do the wonderful job we're doing to research the hazards, but to try to come up with the means and a mechanism that we can actually allow our enforcement communities to move forward and do this job where, per my observations, we're spending ten times more to do this job incorrectly rather than correctly. So what I do, once again -- in our -- in our environment in Santa Clara County we have adopted many ordinances dealing with biotech and semi-conductor, and one of them was how to pipe the arsine* and phosphine, all these hazardous gases that we used to just put together in the '80s with compression fittings, pretty much a mechanical fitting. We moved over to welded systems, double-contained systems. We've really raised the bar in that area. However, I can tell you the one spot that we need serious assistance with is how to enforce and how to implement the regulations and laws 'cause in my eight years of teaching I've learned most all the laws and regulations are already on the books. It's just we have this severe disconnect, especially when it comes down to the chronic, long-term disabling diseases. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 745.01

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding

Training

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hi, good afternoon. My name is Maribel Barrenechea. I'm going to try to speak in English. If I find I can't, I'm going to request the interpreter help.

I'm a housekeeper from the Westin Bonaventure in downtown Los Angeles. I'm a single mother. I have two daughters. And I was being worker for nine years in there and the thing I can tell you right now is about a problem we have is a national problem we have and this problem is through the union for hotel and restaurants or hotels, and this (unintelligible) it was already implemented in Las Vegas and in other cities and these programs are some -- they put -- they measured out their population of the housekeeper and they -- they know how this operation went there. They are working with (unintelligible) to be -- when they are resting, when they are working and how effect -- and their help and their -- with their family in general. And that program is to help us to how to avoid injuries in work, and these problems -- it was (unintelligible) I talk to you it's international -- it's national. It was in Toronto, Hawaii and Las Vegas and other cities, and we were working -- like we did our program where we put a big (unintelligible), and a lot of ladies, they -- they put a sticker where otherwise they hurt, and a lot of ladies -- we notice a lot of ladies that are already hurt and they don't report because they're afraid to -- to lost their job, and that's the (unintelligible). And we notice a lot of ladies, they don't take their breaks -- their breaks, even their lunch sometimes. They (unintelligible) go to clock in and clock out, but they don't take their lunch. We're trying to -- to tell them why it's so important to take their lunch and their breaks. And I know a lot of ladies, they are hurt and like they're still working, and they're afraid of how -- to tell the managers or supervisor they're already hurt because when I talked to

some of them they say, you know, because I don't have another income. If I (unintelligible) I don't have enough money to -- to pay my necessary -- something I need for my kids or myself.

I'm sorry, I'm a little bit nervous in here. And where I notice in -- for -- for these people or the owners of the hotel and restaurant like are really -- they don't -- they don't like to know when other people that are hurt, and they have a lot of pressure on -- the coworkers, they have a lot of pressure to do their job. Like example, we have eight hour to do our shift, you know, but we have our 30 minutes -- our lunch and like ten minutes in the morning for a break and ten minutes in the afternoon, and totally we have like seven hours to do our work. It's like 14 to 15 rooms. In total we have like 15 to 20 minutes to do a room. And like if you notice, everyone in here, we have our beds at home, you know, and how -- how long would take to do a bed, you know. And like we have to do -- like some of the ladies, they have to do more than 20 beds, like 30 beds, you know, and they have -- be rushed because 20 to 15 minutes to do a room is like it's not enough time. And we have -- like -- like they call to them -- checklist, and we have like 100 points in there, and like every point -- like if they found a hair in the bathtub, like they take away five points, so you know, it's a lot of pressure for that. And I know a lot of ladies like they can -- they can finish their work because really they have a lot of -- lot of pressure for other coworkers, and I don't think like that's fair to the other coworkers to be working like that when they're -- they're really hurt and -- sorry, I'm very nervous, but I hope they understand what I want to talk to you. Okay.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 746.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Cancer

Cardiovascular disease

Neurological effect/mental health

Musculoskeletal disorders

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Cardiovascular disease

Work organization/stress

Violence

Work-life issues

Approaches

Etiological research

Engineering and administrative control/banding

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hi, good afternoon. I'm Jessica Barcellona, health and safety project coordinator with SEIU, United Healthcare Workers West and the Joint Employer Education Fund. SEIU, United Healthcare Workers West, represents 135,000 healthcare workers throughout the state of California. We're part of the Service Employees International Union, which represents 1.8 million healthcare workers, building service workers and public sector workers nationally.

I'm grateful for the opportunity to speak today and thank NIOSH for planning these town hall meetings throughout the country. Overall, healthcare workers suffer a higher absolute number of injuries and illnesses than workers in any other industry sector. This sector has been growing larger every year, increasing the chances for more workers to be injured.

The rates for injuries in nursing homes are substantially higher than those in hospitals. Other healthcare workers, such as home care, social assistance and mental health, venture into the community to provide care, increasing their risk for injury and illness. Many workers in the healthcare industry are considered vulnerable workers as they are women, people of color, immigrants. They work in entry level positions, are non-English-speaking or suffer from illiteracy.

NIOSH must be commended for its work on recognizing and addressing hazards facing healthcare workers. More attention has been paid to health and safety issues such as latex allergies, needle stick injuries and hazardous drugs due to NIOSH's research and alerts. However, there are still many occupational health hazards facing healthcare workers which need more consideration from NIOSH. These hazards include controlling glutaraldehyde and other carcinogenic chemical exposures, reducing anesthetic gas exposures, implementing workplace violence controls in healthcare and mental health settings, repetitive strain injuries and musculoskeletal disorders, and the impact of short-staffing on healthcare workers.

Unfortunately I do not have the time to elaborate on all of these issues, so I'll focus on the last two I just mentioned.

Repetitive strain injuries are perhaps the biggest unaddressed hazard facing healthcare workers. Neck, back and shoulder injuries are among -- among healthcare workers are most commonly caused by the dangerous practice of manual patient lifting and transferring. On average, nurses are getting older, while patients are getting heavier, and this is a recipe for disaster.

About 12 percent of nurses who have left the profession report the main reason they've left being they have suffered one or more of these preventable repetitive stress injuries. While at least one NIOSH-funded study has focused on the use of mechanical lifting and transfer devices, the need for more research is clear.

In addition, a large number of healthcare workers who do not provide patient care also suffer from work-related musculoskeletal disorders. Hospital and nursing home employees in the dietary, housekeeping and clerical departments, or home care workers who cook and clean for their client in their homes, are required to push heavy carts, work in awkward positions, or sit for long periods of time. And workers who do patient care are also expected to complete other tasks such as maintain charts or distribute medication. The emergence of mobile work stations have created a new potential for ergonomic injuries in healthcare.

The other issue that is most important when we talk with our healthcare workers, members of our union, they identify short-staffing and stress as a high priority in health and safety. Short-staffing has become the norm within most healthcare institutions. Many healthcare workers are feeling the stress and strain that comes along with it. Due to short-staffing, stress and fatigue increase, therefore raising the potential for injury and illness for workers. Also the quality of patient care may suffer as a result of healthcare worker stress and strain.

Stress may manifest itself in psychological symptoms which can be hard to diagnose as work-related. Also many stress-related physical symptoms -- such as headaches, gastrointestinal problems, sore muscles, high blood pressure -- are often attributed to personal health problems as opposed to work-related stress.

We urge NIOSH to focus more research on short-staffing, stress and other related psychosocial issues, as well as ergonomic hazards in the healthcare industry. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 747.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Infectious diseases
Traumatic injuries

Exposures

Work organization/stress
Violence

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hello, my name is Richard Gorham. I used to be a state employee but I retired early to go to work for United Professionals. Some of our members include psychologists, social workers, dieticians, individual program coordinators, recreation therapists, physical and occupational therapists, audiologists, chaplains, rehab counselors, pharmacists and licensing program analysts.

The basic problem with the state of California is understaffing. All occupations are covering at least one-third of a vacant position. This adds stress to everyone. The psychiatric technicians, level of care, they're an endangered species. The state's way of addressing that is to hire a PT assistant. This is a certified nurses's assistant. It's like ten weeks of training. And they also have student assistants.

Who picks up the slack from all this work? The psychiatric technician. That's the person that actually delivers the level of care work.

Hiring process, if they are advertising, takes up to six months to hire someone. They have to do a background check which includes a credit report and a physical. And by the time they are called, they either starve to death or have found another job, and you're back to square one trying to hire them.

They had a program in the '90s, it was called Salary Savings. It was -- upper and middle-management were getting a salary bonus for every salary that they saved, every position that they kept open. I cannot find from anybody -- I don't get a straight answer when I ask is that in effect now. It has every earmark of that.

They also ha-- we also suffer from contracting out psychologists, social workers, pharmacists, rehab counselors. We've been in negotiations with the State of California and they've agreed to stop, but they don't seem to be complying.

We are underpaid. Our basic salary is augmented by a recruitment and retention bonus, which is not included in our peers' retirement. Psychiatric technicians that -- it's not even an A.S. degree -- make more than the individual program coordinators, dieticians and recreational therapists. They -- everyone in our union has at least one, if not multiple degrees.

Overtime, we're salary so we get no overtime. I worked ten hour days four days a week. Just because there was so much work, I was required to come in from one to four days every month just to try to keep up with the workload. My case load stayed the same, but the work just -- it's phenomenal. It costs me \$6 in gas just to go back and work -- forth to work, so -- and I'm not earning any money while I'm doing that.

We have some outside influences. The federal, state licensing, Department of Justice and the courts, they keep raising the bar. More rights for the clients, more activities, more services, even though they're aware that they cannot deliver these services. This creates a neglectful atmosphere.

Borderline hostile work environment, ever-increasing workload, pressure to keep up, unresponsive management and their inability to change direction. Injuries have skyrocketed, both for the clients and staff, both from workplace violence. We represent people that work in department of corrections, developmental centers and mental health facilities. Every single one of those is understaffed.

I've got a pharmacist at Etascadero. He just was involved in an altercation. He ended up with three broken ribs. But we also have communicable diseases, methicillin-resistant staphylococci and vancomycin-resistant enterococci. These are two very bad pathogens. The treatment for that is -- is treating them with two different top of the line antibiotics, and they're not always successful. We also have people that have hepatitis.

My recommendations, bring outside influences back into reality. Keep positions filled by speeding up hiring and provide incentives for hiring. And our highest priority for the upcoming negotiations would be increased pay, to that of the private sector, and include recruitment and retention in the base pay. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 748.01

Categorized with the following terms:

Sectors

Services

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Surveillance

Training

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. My name is Sheryl Moore and I represent the City of Los Angeles, as well as Cal-COSH. I am a -- on the advisory board. For the City of Los Angeles we're talking about over 5,000 clerical and support services members, which includes your 911 operators, a lot of your support staff when -- which you go to the counter and wish to get information from.

In the City of Los Angeles over a year ago we -- AFSCME Local 3090 put on the table for the City of Los Angeles to -- to sit down and look at injuries within our workers. Those injuries has skyrocketed as far as workers comp claims in the City of Los Angeles, so we took it upon ourselves to put some language down and then we started a program, with the assistance of UCLA, in order to look at injuries within the City of Los Angeles. Now what I found astonishing was the fact that we had surveys done -- each time we did a class or an awareness class, we had surveys done. Now I'm going to just throw these numbers out at you. Out of -- based of 741 surveys, because we have a female-dominated class, we had over 594 women who responded to the survey and only 146 males. What I thought was -- and then the average age is 43, so you're talking about an aging workforce in the City of Los Angeles.

We heard a lot about what's going on in the private sector. Well, there is just as many injuries going on in the public sector, if not more. And the thing about it is, these people are not reporting these injuries simply because they have a mechanism to do it but they won't do it. And you know why? There is a fear factor in the public sector, just like it is in the private sector.

Just to throw out a couple of numbers, 69 percent or 80 percent of the people that work in the City of Los Angeles uses -- uses a computer, and 80 percent of them are injured on the job. Yes, if you get

injured you're supposed to fill out a form. You have to wait 90 days in order for it to be approved. But people are working hurt in the City of Los Angeles.

One of the things that I also found astonishing was there's a lot of neck -- we asked them if -- if they're experiencing discomfort with their neck within the last 70 -- seven days; 63 percent out of the 741 said yes, they are experiencing the basic neck, shoulders, upper back pain. Large numbers of people are experiencing pain, but they are not reporting it. Not reporting it.

One of the things that I found just -- just -- just threw me off the loop through these -- the survey was 70 perc-- 70 peop-- 70 percent people answered "no" to missing works -- missing work at their job. They will come to work hurt. Only 22 percent said they missed working days and not come to work. Now that -- that's -- that's ridiculous. Why are people coming to work hurt?

Another thing is 73 percent said no, they don't file workers comp claims. Well, there's no incentive to file a workers comp claim. Why should you? Because if you do, it's not going to do any good, in the first place. You still have to work on that job and complete that task before anybody will even take a look at you, and that's including the City's doctor, as well as your own.

The other thing that I found quite astonishing was -- and you would think the City of Los Angeles with its bureaucracy would -- would promote good health and safety among its workers simply because they depend on workers in order to make a difference in the City of Los Angeles. Well, 74 percent said no, they don't receive any ergonomic training in the City. If UCLA, City of Los Angeles as well has asked me, didn't put on the table and say hey, you need to do something about the workers that's coming on in here, they wouldn't have done anything.

What I found that the research needs to be done, and I'm just asking, is education. There should not be any fear factor with anyone reporting their injuries. Also on-the-job training, ongoing training that includes peer health advisors, people within the establishment get additional training in order to help one another, because I'll go to a coworker before I'll go to management. The psychosocial behavior that's -- and that's reducing the fear of on-job -- reducing the fear of on-job injuries, so that way these injuries can be reported. And then also looking at follow-up. We need follow-up. You need management as well as City workers in order to look at the bigger picture. What is it going to take for us to reduce these injuries as a group, you see, and not just put it all on the workers. These are some of the areas that I feel that is -- that needs to be researched more often and in place. We are trying to do it, but it's going to take a lot more help and also cooperation on all ends. Thank you for your time.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 749.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Intervention effectiveness research

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: My name is Fred Drennan. I'm a safety consultant and I've consulted for large corporations such as Exxon, 3M and to small mom-and-pop organizations around the United States. And I've -- also have been the task force leader for the American Society of Safety Engineers for the last year and a half. We have 30,000 members across the United States and our initiative is to help NIOSH with the steps to a healthier U.S. workforce. And some of the issues that the previous speaker presented is that while these problems that we have is the health of the worker, the aging worker, and how are we going to be melding safety and health issues because they really are one and the same picture. And so that's been my -- my focus for the last year and a half, speaking with John Howard and Greg Wagner and also Paul Scholte* in New Orleans just before the hurricane hit. And so -- but my presentation today is to really to talk to you about my position as a safety consultant and the other speakers here that are responsible to implement safety programs and to promote safety within their organizations, and that's the perspective I want to give you today.

And the first one is is that NIOSH, from my perspective, has been focused on what I call the hard sciences -- respiratory protection, the chemical exposure, dermatitis, things like that. I want to -- I'd like to see NIOSH focus on what I call the soft sciences. And for the last 20 years in the field of safety one of the dominant management systems has been what we call behavior-based safety. And that philosophy says that 96 percent of all accidents in the workplace are caused by workers' unsafe acts. And so this -- this program is being promoted by other consultants such as myself and these programs cost millions of dollars and a lot of the major corporations across the United States have had less than stellar results from these. And so it's almost a consumer protection program is how do we -- companies -- individuals, the people like myself that are there to help small employers and large employers to implement and

promote safety for their help, for their workers, and also that behavior-based safety has taken a new twist and it's called people-based safety. And there's no real research to say are these really valid, and so the unsuspecting buyer out there is kind of in a vulnerable position.

The second one is this -- this is our trade journal for the American Society of Safety Engineers and the lead article here is the ANSI Z-10. It's a safety management assistant, so this is going to be the benchmark for the next several years, and ANSI is American National Standards Institute, and it was only done by a group of 80 individuals such as myself and they got together and they called best practices, so this is going to be the new standard. But there is no real research that says is the ANSI standard really the gold standard, if you want to perceive it that way.

And then the next issue that is gaining more popularity is organizational culture. What are the cultures that we have in these different organizations that promote safety or hinder safety and the City of Los Angeles obviously has got a dysfunctional safety culture there.

So it goes from there to my last statement that I would like to see and I think is the most profound that I would like to see NIOSH do research on is how do we sell safety to management. How do we sell safety to business owners. You know, in the 28 years I've been doing this, my first issue has always been an easy way to make a living is sell compliance. Well, once the compliance issues are taken care of and the management and business owners start focusing on other areas and they take their eye off the ball that safety and things start going back down again until they start accelerating and getting (unintelligible) back hey, we've got a compliance problem.

The second issue, especially in the last couple of years in California, is the workers comp cost, including the -- self-insured has been very, very expensive in California so that's been my second biggest sell. So what I would like to see NIOSH do is focus on how do we sell management safety that's beyond compliance and workers comp issue. We need to show business owners and business executives that it improves efficiency, improves productivity, it improves morale, it improves all of these other issues than making businesses better places to work for, and the only way that's going to be done is if NIOSH comes and looks at -- and does some really broad-stroke demographic research of executives to find out how can we do a better job so people like myself and the lady here speaking for the City of Los Angeles, we have some real concrete data that we can present these things -- and the union speaker here was talking about that. So I think that that's what I would like to see NIOSH focus on is the soft science, the sociology of safety, and that's my degree. I'm a sociologist and I hope that's the direction they take. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 750.01

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Economics

Marketing/dissemination

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Commission on Health and Safety and Workers Compensation of the State of California

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. My name is Irina Nemirovsky and I`m actually part of the Commission on Health and Safety and Workers Compensation of the State of California. My remarks are also on behalf of executive officer Christine Baker, who unfortunately apologizes and was not able to be here today.

First of all I would really like to thank NIOSH and UCLA for the opportunity really to be here today and to provide some of our key research issues for the workers compensation and occupational health and safety community in California. But before I begin, I`m not sure how many of you really know about the Commission or what its role is, and I`d like to just give you a brief introduction on what we do and what our mandate is in the state of California.

The Commission was created by the 1993 legislative reforms of the California workers compensation system. The eight members of the Commission are appointed by the Governor and the legislature to represent employers and labor. And the mission of the Commission is really far-reaching. It was formed to monitor the health and safety and workers comp programs in California, and the Commission is charged with recommending legislative and/or administrative modifications to improve system operations. It`s mandated to conduct a continuing examination of systems in California and to evaluate those programs in other states.

Many of the Commission's studies and research findings have been incorporated into the workers compensation recent reforms of A.B. 749, A.B. 227, S.B. 228 and more recently in S.B. 899, which was signed in 2004.

We believe that considerable progress has been made in improving workplace health and safety, as some of the recent injury and illness statistics demonstrate that there've been considerable declines in the past decades of injury and illness incidence rates and has -- there has been a huge decrease in incidence rates really for all industries.

But much of the progress that has been made improving workplace health and safety has largely been based on support and knowledge generated by occupational safety and health research. However, resources for occupational safety and health research are limited, and the toll on costs of injuries are still high. There's still about 700,000 non-fatal occupational injuries and illnesses in California annually, and an additional 416 deaths from injuries on the job. Thousands are permanently disabled as a result of workplace injuries. The workers comp costs, as some panelists have mentioned, for work-related injuries are really high. They're over \$20 billion annually in administrative expenses, medical and indemnity costs.

Our -- CHSWC's -- some of the CHSWC's key research priorities which we would like to address here today and really recommend for NIOSH to take a look at include -- we really feel that there's a need for ongoing monitoring and independent evaluation of the workers comp system. It's critical to assess system performance and determine whether the goals of the reforms are being realized. More research needs to be done in evaluating the medical outcomes, quality and access of the recent reforms. Yes, workers comp reforms have been put in place to control some of the above-mentioned costs and make improvements in the workers comp system, but their impact still needs to be evaluated, and the impact especially on the quality of care and access. That work still needs to be done.

We would like to recommend that more research be done on integrating -- on the integration of non-occupational and occupational healthcare and what the impact of that is on improving continuity of care, quality of care and reducing workers comp costs.

The implications of the aging workforce on occupational health and safety and workers compensation needs to be studied. Incorporation of health promotion into existing occupational health and safety programs, that's a priority. There needs to be more information about workers compensation system available in several languages in addition to English and Spanish -- other languages such as Chinese, Vietnamese, Tagalog, Cantonese and Korean. There needs to be actually more information disseminated into these languages as well.

Lastly, it would be great if we can determine the feasibility of establishing a northern and southern California resource centers for employers and injured workers that would maximize successful return to work after a workplace injury and reduce workers compensation costs.

I would lastly like to emphasize that all of the Commission studies have been done with input from stakeholders. We believe that strengthening and broadening partnerships with partners is of great value in leveraging limited resources, obtaining important feedback and helping to implement and evaluate programs. Partnership with stakeholders are key to improving the workers compensation and health and safety systems in California, and we look forward to partnering with NIOSH and other

organizations on helping to improve workers comp and health and safety systems in California. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 751.01

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Human Factors and Ergonomics Society

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. My name is Lynn Strother and I am the executive director of the Human Factors and Ergonomics Society. We're located in Santa Monica, California -- right here down the road -- and I represent about 4,500 scientists and practitioners internationally in the area of human factors and ergonomics. And our mission is to advance the science and practice of human factors and ergonomics, and today my remarks are focusing primarily on some concerns within the research community regarding NORA's sector-based approach.

NORA was originally established in 1996 to consider the occupational and safety and health needs of industry and how to define a research agenda that would be meaningful for society. The idea was to bring together researchers, practitioners, academics, industry representatives and so forth to determine where weaknesses were in the research agenda and where future research focus should be encouraged. We applaud this inter-disciplinary and multi-dimensional focus to addressing this important public health issue.

Given the production of NORA I, we think that the research agenda positively influenced the field of occupational health and served as a useful guide for policy makers and researchers to help focus their efforts.

The original NORA effort was effective and appeared to encourage research in needed directions. Research that would have had greatest impact across industry sectors was encouraged, and often focused upon fundamental illness and injury causality issues. This work reinforced traditional research values that encouraged the advancement of the science that would underpin the basic principles underlying health causality issues.

The new NORA effort appears to have significantly changed its approach from the focus on the injury/illness-based research to an industry sector approach that would encourage industry to identify the areas of research that are most -- of importance to them, to industry. Given the fact that the

occupational health recording system has changed dramatically over the years, our fear is that public funds will not be appropriately directed to the real occupational health issues facing society, but they will only be directed to the issues that are permitted by whatever the surveillance system is designed to identify.

An example of this concern can be found in musculoskeletal disorders. It is well known that musculoskeletal disorders represent the primary reason for missed work in industry overall. However, recent changes to the recording system have eliminated the MSD category from the surveillance forms. Thus this system would permit the country's most widespread health issue to be under-appreciated in this sector-based approach since it would most likely be buried in a generic accounting system.

Although musculoskeletal issues are to be addressed via the cross-cutting sector category in the new NORA plan, it is difficult to understand how addressing musculoskeletal disorders as a cross-cutting topic can facilitate a better understanding of the causal pathways that are needed in order to bring about truly effective solutions.

We live in a rapidly-changing world from an occupational perspective. The fundamental manner in which work is accomplished has changed, along with out-sourcing, in-sourcing, globalization and large corporations increasingly being responsible for worker health across a multitude of industrial sector definitions. The sector-based approach to occupational safety and health research represents an effort to encourage immediate applied research efforts and, we fear, to minimize basic research efforts. Although applied research can be useful and of immediate assistance, any effective research portfolio requires a balance between basic and applied research.

Applied research can be optimal and useful in the long term only if it builds upon a strong scientific foundation that has been well-reasoned and builds upon a systematic approach to understanding the causal relationships underlying an occupation-related injury or illness. Our concern is that research defined and based upon industry sector will not lead to meaningful research that is consistent with the long-established process of scientific inquiry. This sector-based approach will encourage superficial research that may not necessarily address the most important occupational health issues, and instead may result in industry control practices that address symptoms of occupational health problems instead of their root causes.

An additional concern involves the body of research that was initiated under Phase I of NORA. As stated earlier, scientific inquiry is a progressive process that often takes decades to come into fruition. Many of the efforts that were funded under the research topic-based NORA initiative over the past ten years will only lead to useful solutions if they are followed by research efforts that can build upon these initial steps.

I have a little bit more. I have been told to stop. I'll make sure that my comments get into the record, and I just want to offer the assistance and partnership of the Human Factors and Ergonomics Society, its members and technical groups in this effort. Thank you very much for your attention.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 752.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Services Employees International Union, Local 660

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. My name is Suzanne Porcenne. I'm with SEIU Local 660 that serves Employees International Union. And we represent L.A. County workers as well as workers in special districts totaling close to 50,000 workers in L.A. County.

Our workforce includes office workers, court reporters, workers in schools, healthcare workers such as nurses, LVNs, eligibility workers in social services, blue collar workers -- custodians, housekeepers, and anyone else who delivers services for L.A. County.

As an important stakeholder in the public sector, SEIU Local 660 very much wants to work with NIOSH and looks forward to a collaborative partnership through the NORA sector research councils and other avenues. We urge NIOSH to support and conduct research that can be used to effect real policy changes, such as better ergonomic standards and an increase in staffing levels across different departments within any public sector, including county, state and federal. And also to effect changes that will reduce psychosocial stresses on workers.

For over 20 years SEIU Local 660 has had a labor/management ergonomics committee. It is one of the few committees of this type that has an operating budget that we negotiated with L.A. County

management. Our clerical bargaining unit, composed of 16,000 members, fought hard to win the creation and funding for that committee, and maintained the funding levels through a political climate that was adversarial towards workers.

We are in a bargaining year this year with L.A. County. We want to continue to make gains for county workers by negotiating better ergonomic standards, more funding for safe equipment for other bargaining units, and higher staffing levels. In order to do this we need research that will bolster these efforts. Policy makers need to see research on the correlation between the use of ergonomically correct standards and equipment, adequate staffing levels, and the reduction in injuries and less time off the job by workers, and the cost savings to employers.

I'd really like to emphasize that economic reasons for health and safety for workers is a very, very important argument that policy makers listen to. We work very closely with legislators on the state and federal levels, as well as the county levels, in SEIU, and these are the sort of issues that policy makers grapple with constantly in making decisions on funding priorities.

As was stated in the morning session, research doesn't do us much good if it does not assist us in effecting policy changes. This kind of research will be key and extremely important in educating policy makers on the local, state and federal levels to support ergonomics, staffing increases and better health and safety standards and enforcement, and the creation and increase of funding for these programs through legislation and bargaining by unions.

We hope that NIOSH will work with the stakeholders, as they've stated, including union members and staff people, to identify the priorities that make sense for the workers, as well as winnable issues that can really impact the workers' lives. If we can assist in any way in terms of resources and actual staffing to make this happen, we would like to do that. But we want to really emphasize that it's the policy changes that are really going to affect the workers' lives, so we'd like -- we'd like this research to be really geared towards that and sort of stay away from academic theory that is very useful in its own right, but would not be as useful to the workers out in the field on the front lines. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 753.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Work-life issues

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. My name is Pamela Vossen, and I am the senior health and safety educational representative for the union UNITE HERE at the international headquarters. I have about 20 years experience in the field of health and safety, working for unions, academic institutions and community groups as a researcher and as an educator.

I'd like to thank Linda Delp, Terri Schnorr and Cass Ben-Levi for making our participation here today possible, and to my sisters at Local 11 for their strong presence here today. It is both a pleasure and an honor to be here today while NIOSH lays out its future research agenda, while at the same time hotel workers in Los Angeles and across the United States and Canada are demanding safer jobs.

The hotel housekeepers who spoke explained only too well the price that they pay with their health as professional housekeepers working under unreasonable workloads. They may not be on assembly line, but these women constantly face speed-up every single day.

Hotel housekeepers are women who are working in constant motion, every minute of every hour of every day of every week of every year. They have all the telltale ergonomic risk factors -- heavy lifting of mattresses, repetitive bending while making beds and twisting to do so because night tables are in the way. They reach high and low to clean showers and toilets. They experience forceful loads while pushing carts lade down with linens and amenities. And so it is no surprise that when we surveyed 600 hotel housekeepers that we found 91 percent said they suffered from workplace pain; 77 percent reported that it interfered with their activities outside of work -- meaning their time at home and with

their families; 67 percent visited a doctor because of the pain; and 66 percent took pain medication. So the next time when you go to a hotel, look around at the housekeepers and realize that two out of every three of them are on pain medications.

Something is seriously wrong with the workloads. When we review OSHA logs in different cities, we see that housekeepers make up a percentage of injured workers that is greater than the percentage they comprise of the hotel workforce. So for example, if housekeepers represent 23 percent of the workforce in a particular hotel, when we look at the logs they may actually represent about 26 percent or more of the injuries. We know that about 66 to 69 percent of housekeepers do not report that -- those injuries, and so we know what we are seeing is just an underestimation of the reality.

We must remember that work is organized, and it is organized by the employer, which means that it can be organized to be safer. Also employers have a legal responsibility to provide a workplace free of known and recognized hazards. With 80 percent of U.S. jobs being in the service sector, and with record-breaking hotel occupancy rates that equal huge profits, NIOSH has an opportunity -- but I would also say an obligation -- to study workplace conditions of hotel workers, and to identify interventions that can reduce these injuries and prevent workplace-related illnesses.

From my own professional experience, I know that NIOSH can make a difference. From 1989 to 1992 I was fortunate to be funded by a NIOSH cooperative agreement at the Laborers Health and Safety Fund of North America, where I was able to do ground-breaking research on construction laborers. This time period we were able to set the ball in motion for many subsequent studies and additional funding for more studies and interventions. I'm certain that in 2006 the hotel industry is where the construction industry was over 15 years ago -- many injured workers with few studies to prove to management that the conditions must change that can change. This is what the hotel industry in particular and the service sector needs today.

We strongly recommend participatory research so the workers in the community have a role. And I'd like to leave you with a research task of your own. Next time you go to a hotel, how many pillows are on your bed? How many sheets? How many mirrors? How big are they? And know that every item in your room is one item on a 100-point checklist that workers are graded on every -- for every room that they clean. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 754.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. My name is Sonia Moseley and I'm a registered nurse and executive vice president of United Nurses Associations of California, NUHHCE, AFSCME, our American Federation of State, County and Municipal Employees. Thank you for the opportunity to provide input into the National Occupational Research Agenda. Our national union has been active with NORA -- the NORA initiative from its inception.

I want to touch on both a general area of concern as well as a specific issue with respect to the research agenda.

First, as a member of AFSCME, I want to mention that occupational safety and health for my sisters and brothers in the public sector, particularly state and local government workers, continues to be a major area that does not receive the attention it needs and deserves. State and local governments employ nearly 20 million workers. That's roughly 15 percent of the non-farm civilian workforce in this country. According to the Bureau of Labor Statistics, there were 5,703 fatal workplace injuries in 2004; 527 of these -- or those, or nine percent, involved federal, state or local government workers. Thousands more die each year from occupational disease, and hundreds of thousands suffer injuries that result in time away from work, in all too many cases permanently.

Public employees are in many ways the forgotten workers, including among the occupational health and safety research community. Despite doing some of the most hazardous work in this society, public employees were excluded when the Occupational Safety and Health Act was passed over 35 years ago. We need to examine the hazards, health effects and consequences on public employees of working without health and safety laws and enforcement. Today only 24 states have federally-approved state

OSHA programs that cover state and local government workers. And we are indeed fortunate that California is one of those states.

Comment ID: 754.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Personal protective equipment

Authoritative recommendation

Partners

Categorized comment or partial comment:

I'd like to focus the remainder of my remarks on an important issue to nurses and other healthcare workers, respiratory protection against airborne pathogens. Concerns about appropriate equipment and resources have risen as the world and this nation are facing the possibility of an influenza pandemic. In the past week avian influenza was reported to have spread to more counties, including Italy, Germany and other parts of western Europe. And as of February 13th the World Health Organization has reported 169 confirmed cases of avian influenza in humans, with 91 deaths.

Last November the Department of Health and Human Services released its pandemic influenza plan and recommended a surgical mask for respiratory protection. Its recommendation is based on the assumption that transmission is primarily via large droplet nuclei. However, the plan admits it does not have definitive scientific evidence to support this claim. It does not address the issue of the evaporation and breakdown of droplets into respirable-sized particles within a matter of seconds, or even fractions of seconds, after they are expelled through sneezing, coughing or even talking.

Surgical masks are not respirators. They cannot filter out droplet nuclei. They cannot achieve a tight seal against the wearer's face. They are not certified as respirators by NIOSH. The recommendation for surgical masks contradicts guidance from the Centers for Disease Control and Prevention and OSHA regarding respiratory protection for avian flu. They recommend a minimum of N95 respirators and higher levels of protection for activities that may generate aerosols.

NIOSH and others have not adequately addressed the effectiveness of disposable respirators for use against airborne pathogens. There are many questions that remain today and are applicable to other airborne pathogens, particularly a pathogen as lethal as avian flu, should it develop the ability to be transmitted between humans. Research should focus on determining the minimum level of respiratory protection needed to protect wearers from exposure to airborne viruses like avian flu where infectious

doses may be approaching one particle. We also need the research to establish the appropriate criteria for certifying the fit of half-mask respirators as part of NIOSH's certification requirements.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 756.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: (Unintelligible) to everybody here. My name is Margarita Ramos, I work as housekeeper for 17 years at the Century Plaza. I have three beautiful sons who depend on me (unintelligible) for belonging to hotel where we have a union (unintelligible) so that the managers of this hotel do not abuse us.

How do they abuse us? They give us extra work. They do not respect us. We work very hard as housekeepers. We have to take care of about 20 to 25 beds daily. We list to 25 to 30 mattress units on a daily basis. Just (unintelligible) it's 40 to 45 pounds (unintelligible). Sometimes we feel very pressured and we only get injured. I have two torn ligaments in my knees. Many times it is very difficult to go through my assignment of 15 rooms. As housekeepers we need to have a lighter (unintelligible) working conditions. We need to go home and take care of our children, as well.

What we would like is to work harmoniously so that our guests come back to our hotel. I would like to take the opportunity to be part of this panel to make you aware that as female workers to be around our children and our children's education. Ten years ago my husband and I decided to purchase our home, to have a car, but this means that my husband and I have to hold two jobs, each one of us and to allow -- we are happy with our three children, but we've gone through many hardships, many illnesses, because at the end of the day I have back pain and my knees hurt, as well. My children take turns to give me a massage so that I'm able to go work the next day. And that is why that I would like to take this opportunity to ask for your help so that you can help us female workers to live a harmonious life. Thank you very much.

Note: [The preceding presentation was made through the use of an interpreter. Where presenter and interpreter were speaking simultaneously, separation of the two was difficult. This transcription

represents the best effort of the reporter.] Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 758.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon, I`m Mary Gene Ryan and I`m a health and safety consultant, and I work privately. But I also work with clients in the public sector and in the private sector in all the occupations that have been mentioned today. One of the things I want to concentrate on today -- or to touch base on is ergonomics, but I also wanted to touch base on a couple of other issues. As has been eloquently stated, we have laws on the books that aren`t really being followed. And our people, as has already been stated, are still getting hurt on the job. We really do need to have an action plan, and I believe NORA can -- can, as a research arm, begin to look at an over-arching action plan to address intervention and to do the research now, as you have on your initiative to actually demonstrate that interventions work.

Comment ID: 758.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Exposure assessment

Engineering and administrative control/banding

Training

Intervention effectiveness research

Marketing/dissemination

Partners

Categorized comment or partial comment:

To go back to ergonomics, as was stated earlier by several people, we need to start at a very young age. How many in here know what neutral back posture is, who could stand up and say I`m standing in a neutral posture? Who knows what neutral arm and hand postures are? And if I`m going to make a bed, as a housekeeper, am I doing it in the most neutral posture? We need to know what those postures are and our workforce needs to know what they are and we need to learn them at a very young age. Just like we learn to brush our teeth, we need to learn to stand in a neutral posture and we need to use our hands in neutral postures.

Our technology`s advancing so fast that our children now are becoming -- are being placed, as one of the educators had mentioned, in positions of non-neutral posture when they sit in school and work on our computer systems that we now have in school. We`re not in the most ergonomic setting for that student, nor for our employees. I still find employers that do not have chairs that fit their employees. And if we can`t even get a chair to fit an individual, then how do we expect them to stay in neutral postures and know what they are?

We also need to educate our force on what good work practices are. We`ve heard today from many of our service-connected employees that they work alone, and maybe the work practice should change to a buddy system so that I do have the availability of help to do work, or that I can share my workload. If I have 15 rooms I need to clean and another person has 15 rooms, maybe we can work together and get

them done differently in a better work practice. But again, it's getting to the -- changing our focus and having a wider vision.

What I would recommend is, from an ergonomic standpoint, that we look at the hazards that -- we already know what the hazards are. We know what the risks are. But we need to classify them for each particular job task, and we need to give that information to employers and to the employees so that they can use the tools that we already have available. And we need to measure what really works because we have some guidelines that are out there, and as an individual that does ergonomic evaluations, we're not positive that everything that we are recommending really is the answer. And it's not the answer if we can't get the employee to move. And in essence, our jobs need to include movement.

Comment ID: 758.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

Two other items I wanted to address are respiratory protection -- our EMS representative mentioned some issues with respiratory protection, but our firefighters here in this area, especially in Ventura County where I am from, we have a lot of wildland firefighting, and we still have not come up with -- I know Lawrence Livermore is looking at respiratory protection for wildland firefighting, but we do not have a solution yet for that problem.

Comment ID: 758.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Partners

Categorized comment or partial comment:

And we need to stay ahead of the potential threats for communicable disease, such as already was mentioned with the up and coming threat of avian flu and any of the new -- newer pandemic issues. As we urbanize our rural areas, we are now finding that we're bringing threats to the human side of the house that used to be in the animal side of the house.

Comment ID: 758.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Heat/cold

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

From a nanotechnology area, as we get into clean areas and we ask people to stay in a clean environment, we limit their ability to take breaks and to get hydrated, and we increase the heat stress that we can have.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 759.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding

Economics

Authoritative recommendation

Health service delivery

International interaction

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. My name is Aurelio Gomes, and for the past five years I have been an associate professor of clinical epidemiology in the Medical School of the Catholic University of Mozambique in East Africa and director of the HIV/AIDS Research Center.

My research focus is on AIDS, and with support from US-NIH I recently instituted the first rural HIV/AIDS clinic in Mozambique, in collaboration with UCLA and Pittsburgh. The clinic is located in Mangunde at a remote rural Catholic Mission. I have also worked in Beira City in Mozambique at an urban HIV/AIDS clinic developed by Sant`Egidio, a volunteer Italian lay organization which was the pioneer clinic to deliver antiretroviral drugs in central Mozambique.

Today a major topic is about scaling up HIV treatment in Africa. As this audience knows, the U.S. government allocated \$15 billion over five years to fight AIDS in developing countries under the program called PEPFAR, the President`s Emergency Plan for AIDS Relief. Such program will only be effective if health care workers -- if there are health care workers that can provide the treatment.

For those in the field, there is however a phenomenon that can jeopardize this effort, the increased care by health care workers of contracting HIV and hepatitis, as well as other infections to which they are exposed, such as tuberculosis.

The question still not answered is this: Is it ethical to ask a health worker to sacrifice his or her life to save other people's life? This is a question I got from one of the health workers in HIV clinic which was treating patients with outdated equipment, such as glass syringes.

With help from TDICT Project that you'll hear of later from Dr. Fisher, we introduced on a limited basis safer devices supplied by some manufacturers which were tested in our environment. Sadly, a lot of these devices were even known by health workers, and the few that they -- that were known certainly were not available for them. The health workers are enthusiastic and identified some issues that were culturally and environmentally relevant to them, based on their work experience and needs. This was particularly important for those working in home care. Just imagine having to provide care to someone laying on the dirty floor usually.

Policy makers often argue that cost is a limiting factor. However, anecdotal evidence shows that the costs of many of these outdated device are probably more expensive than those that are newer because they are considered custom-made. Yet they are still being ordered by government.

Today it has been recognized that providing manpower to staff these clinics has been severely hampered either by deaths due to HIV or by those deserting the health sector. To deliver proper care, and in particular antiretroviral drugs, it is critical that healthcare workers be provided with proper occupational health programs so they can remain in health sector.

We would -- I would encourage NIOSH, specifically when there is U.S. government funds available or involved, to be more intrusive and even take control of occupational health issues in international funding that targets activities that are risky to health workers in developing world through a systematic approach that includes an assessment of the actual condition and mandatory guidelines for such programs to effectively include higher health and occupational standards in their -- in their programs.

We would also encourage the medical device industry to bore attentive to the cultural values in developing countries where environmental factors can be an adverse impact on the use of devices tested only in U.S. or other developed countries. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 760.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services

Population

- Language/culture/ethnicity
- Small business
- Other

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

- Work organization/stress
- Work-life issues

Approaches

- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Marketing/dissemination
- Health service delivery
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. I`m -- I represent -- I`m Barbara Materna and I represent the occupational health branch in the California Department of Health Services. We`re a non-regulatory public health program that conducts research and provides services to prevent injury and illness among California workers. My written comments will provide a little more information about what our program has done, much of it with NIOSH support through the years. It also covers some of the characteristics of the California workforce that pose unique challenges to doing health and safety to serve the needs of all of our workers.

But in the interest of time, I`m going to jump right to my recommendations, which fall under two basic categories.

First, we recommend that NIOSH consider the following priorities for the next decade of NORA. First to place special attention on supporting research and other activities that will improve working conditions

for low-wage immigrant and under-served workers, which you've heard about for several hours already today, and I support all of my -- the speakers that have preceded me. These workers are found in large numbers in the services sector, as well as in other sectors that are high-hazard and significant in California, including agriculture and construction.

NIOSH should support and promote efforts that determine the most effective ways to provide health and safety information and training that is appropriate to the languages, cultures and literacy levels in our workforce in California.

NIOSH should also support efforts that develop effective interventions for preventing and reducing musculoskeletal disorders, which are a major contributor to workers comp costs and cause of lost work days and disabilities, which often in many cases go unreported and uncompensated.

NIOSH should support efforts to disseminate available information that can be used to improve working conditions such as hazard information, research findings and best practices, and particularly to reach the large numbers of small businesses and their diverse workers.

NIOSH should support efforts that involve partnerships between occupational health professionals and researchers in community-based and labor organizations that have special access to these workers and knowledge of their needs.

And finally, NIOSH should support efforts to determine how to best address health and safety within the context of other important problems and issues that these workers face. For example, language barriers, poverty, working long hours and multiple jobs, limited education, lack of access to healthcare and permanent employment, exploitation and all the other life stressors that you've heard many others speak eloquently about today.

Comment ID: 760.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance
- Intervention effectiveness research
- Work-site implementation/demonstration
- Authoritative recommendation
- Marketing/dissemination
- Emergency preparedness and response

Partners

- state public health departments

Categorized comment or partial comment:

And the other area of recommendations that we have for NIOSH are that NIOSH should enhance and expand partnerships between NIOSH and state public health departments for conducting occupational injury and illness surveillance and intervention activities, and to assist in translating materials and research findings into safer workplaces and work practices in our workplaces, in line with NIOSH's R2P, Research to Practice, initiative. Health departments are uniquely positioned to carry out these efforts. For example, we have legal right of access to workplaces to carry out public health investigations. We have statutory access to unique data sources that can be used for conducting epidemiologic analysis and case follow-up investigations. We're part of the state's public health infrastructure and have useful ties to colleagues in communicable and chronic disease control, environmental health, family health and health through services delivery. We have existing relationships with local partners, which include trade associations, unions, community-based organizations, health professional organizations and local health departments. And we have a long history of collaborating with other states and NIOSH to share information and experience and promote a growing network of state-based programs to prevent occupational injury and illness.

NIOSH support, collaboration and technical assistance has been critical to many of these state-based activities, and we have been successful in encouraging more states to expand their efforts in this important area of public health. So therefore we recommend that NIOSH increase the total amount of

funding for activities conducted by state public health departments, provide enhanced funding for projects that involve developing and implementing interventions, support proposed partnerships that allow states to work with stakeholder groups to address health and safety issues identified in participatory group processes such as the Build Safe California construction industry training effort that was funded through a NIOSH core surveillance agreement. And finally, to partner with states on efforts that involve widespread dissemination of research findings and adoption of the best health and safety practices into our state`s workplaces.

Thank you very much for the opportunity to provide input.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 761.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Engineering and administrative control/banding
- Training
- Work-site implementation/demonstration
- Authoritative recommendation
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: I am -- can you hear me? I am June Fisher, an occupational health physician and former lecturer in engineering. I'm also a member of the current NORA infectious disease group. I have been involved in participatory research for -- with healthcare workers and urban bus drivers for almost 30 years. Today I will talk briefly about a user-based design in occupational health and safety giving voice to worker expertise. And I think we've heard about the need for training workers and this -- what I'll talk about will be...

But we hear a lot about user-based design, and most common we hear about it in the development of software and that -- this is typical of -- way it's being used, at the very end you'll beta* test something. That's too late. Workers need to be involved in all aspects of design development. That is including need-finding, the whole process of prototyping and going through the design and giving input to the design of really what they need, and to evaluate and select devices. In order to do this, you need to have some skills and training on both sides, the people who are bringing the technical expertise of design and the people who are bring the expertise and knowledge about their own work.

I would like to briefly discuss a NIOSH-funded project that I have been involved with for the past 16 years, which may illustrate some of these aspects. The project is a user-based collaboration of frontline healthcare workers, industrial hygienists and product designers, mostly -- the later two are mostly graduate students 'cause we were not well-funded. The frontline healthcare workers are primarily from San Francisco General Hospital, but healthcare workers from many other regions in the U.S. and Africa have been involved with the project.

The project began before devices to protect healthcare workers from exposure to blood were available, and this was a demand that our union at our -- my hospital made when they did not exist. It was not the occupational health people or the physicians at the hospital. It was the line healthcare workers were saying why don't we have safer devices, and there was stimulus for this project. And its mission is to promote the development and use of appropriate, safer medical devices to prevent such exposures.

The initial emphasis of this user-based collaboration was the training of the industrial hygienists and product design engineers to understand in depth the complexities of providing healthcare. That's critical. If you're going to design, you'd better know what you're designing for, and that doesn't happen very often. This was accomplished by observational studies, focus groups, joint brainstorming and -- most important -- intense mentoring by the frontline healthcare providers. The industrial hygienists and engineers were really nurtured, but valued, by their healthcare mentors. Thus they gained a broad understanding of the work demands and the occupational hazards in healthcare.

In our third year, at the suggestion of the product designers, a course in product design and industrial hygiene for healthcare workers was developed. The intent of the course was not to create designers, but to give to healthcare workers a language and design vision so they could understand and be directly involved in all phases of the design process. The healthcare worker -- were -- participants were most enthusiastic about the course.

Many of the participants have gone on to be key figures in the struggle for the revised OSHA bloodborne pathogen standard which mandates the use of safer devices, as well as the historic requirement that line healthcare workers participate in evaluation and selection of such devices. Many of them are active in training other healthcare workers to evaluate and select devices. These device-savvy healthcare workers also provide critical links with the medical device industry. I have no doubt that the better devices that now exist owe a

Comment ID: 761.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Another thing I would recommend is a specific recommendation -- we need a study on how the OSHA requirement for worker line involvement is being implemented because it's my impression -- and I have a lot of -- wide impression that it's not being implemented. Showing a worker a device you've already chosen is not worker input. We have to have real worker input.

Comment ID: 761.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

And then totally off of the area of design, but I also think we need research on the inter-relationship of patient and healthcare worker. They are integrated, not the way it's viewed, that one has to be compromised for the other.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 762.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. I`m Charles (unintelligible) Bryce, president of National Postal Mailhandlers Local 303 and also the president of the COSH group, southern California COSH. I`m here -- we represent mailhandlers who work in mail processing plants from Bakersfield to San Diego and even Las Vegas, which is a total of about 14 processing plants here in southern California.

And I wanted to speak on some things about federal workers. As you all know, we got hit with the anthrax here and that was scary. That was real -- we wish NIOSH or the COSH and anybody else could help us with that. That was a real scary moment for public workers. You know, Postal Service, we -- we can`t look in your package to see what`s in there. It`s against the law. If we do it, we lose our jobs. We would like help in that area.

Comment ID: 762.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding

Partners

National Postal Mailhandlers Local 303

Categorized comment or partial comment:

But what I'm here today asking help for in the area of research is forklifts and operating mules within the Postal Service. As we drove up here today -- many of us drove up here today -- we saw the highways, we saw the streets, we -- we saw where pedestrians walk and we saw where cars go and buses go. In the Postal Service what they do, they got a mixture of all that into one, and there's a high rate of accidents. And we feel that if working with -- with you and with anybody that can research that and find out -- just basically if you'll put a plan together what's in those processing plants where workers can work, equipment operators can operate and so forth and so on, we're willing to work with you on that.

And we appreciate, you know, you coming in and thanks for hearing me.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 763.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Intervention effectiveness research
Work-site implementation/demonstration
Authoritative recommendation
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Good afternoon. I guess somebody has to go last. Right? My name is Al Perez. I'm an environmental safety and health professional. I've been in the profession for 25 years. This is my chosen profession. I started off as an industrial hygienist. I'm a graduate of a NIOSH-funded industrial hygiene program. And over the years, you know, I've had progressive responsibilities, expanding into safety engineering and environmental health and, you know, progressing up as a -- into a management position.

Most of my career has been with private industry, and I currently work for the largest commercial laundry -- or one of the largest commercial laundries in the country, and we have about 13,000 employees. Most of our employees are unionized. A lot of our employees in the production area are UNITE HERE-represented, and a lot of our drivers -- or most of our drivers are Teamsters.

I'm going to touch on a subject that's very similar to what the consultant talked about just a little earlier about those soft areas, not the technical areas but more softer areas that I feel NIOSH should -- should be focusing on.

Again, my primary job is to develop and implement injury prevention programs. And one question that kind of -- has come up over the years as a health and safety professional when I talk to my peers is -- especially those of us who work in private industry -- is we ask each other, you know, what kind of safety culture do you have at your company, and vice versa. It's just something that always comes up. And early in my career I just kind of took that for granted. If you work in a company where you have a strong safety culture, it's there. You work with it. It makes your job easier.

However, not all companies are the same. And earlier the gentleman from NIOSH showed a chart up on the wall that showed that the average injury rate in industry right now I think is five or so recordable injuries for every 100 full-time employees. Well, why is it that some companies have injury rates of one or less than one, and why is it that companies have injury rates of ten or greater than ten? I mean -- you know, the five is just the average. And if you look at it on an industry-by-industry basis, I would argue that the reason why you have companies with extremely low injury rates is because they have a strong safety culture.

And you know, what do I mean by that? There are different models with respect to safety cultures, what we call safety management systems. And there's the -- OSHA has a VPP model, and if you look at companies that are members of this prestigious VPP program, it's like -- you know, it's like getting the Nobel Prize for safety. OSHA actually recognizes companies that have stellar safety programs, and they're part of this VPP program.

And the difference is that these companies that do well have safety management programs in place. And that's an area that I'd like to recommend that OSHA really take a hard look at, and in particular I think there are three areas that I think are extremely important.

One of them is management commitment and accountability. The second is employee involvement, and the third is safety leadership.

Again, there are a lot of models out there, but what I find difficult is that you can go to reference books and you can find a lot of theoretical information about safety management systems. What I'd like to request that NIOSH do is just develop some practical solutions to improving safety management systems 'cause you can develop all of the -- the nicest-looking, well-written safety programs in the world, and if you don't have safety management systems in place at your company, they're not going to go anywhere. Without those systems in place, basically your safety program is not going to move forward. So I'd like to recommend that NIOSH come up with research and actually come up with some practical solutions and methods for developing effective management commitment programs, employee involvement programs -- 'cause you won't find -- or you rarely find a strong safety culture that doesn't involve their employees in the safety process. It just doesn't happen.

And then lastly with safety leadership, without the leadership throughout the organization, obviously I think there needs to be a focus on senior management, but everybody needs to be a safety leader in a strong safety culture. So with these three areas, how do you define these three areas, what is -- what is -- what is safety management commitment, what is employee involvement, what is safety leadership? What are the best practices, how do you achieve it? And then again, what are practical solutions to developing this strong safety culture? Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 764.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Training

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/21: Hi, I'm Linda Delp. I'm the director of the UCLA Labor Occupational Safety and Health program. We -- UCLA LOSH develops programs for a variety of workers from the public and private sectors, from the informal and the formal economy. Our goal is to improve workplace health and safety through participatory education, collaborative research and through promoting policy change.

We heard a lot today about often low-wage invisible workers in southern California. We've heard about immigrant workers, garment, restaurant, hotel, janitorial, construction industry, workers that are largely invisible to society. I want to highlight one other sector of the often invisible workforce, and that is the growing number of home care workers who provide critical personal care services to the elderly and disabled.

In L.A. County alone there are over 100,000 in-home supportive services workers, and they are predominantly middle-aged women. They're an ethnically diverse group, and about half of them are immigrant workers. And they have a really non-traditional workplace, which is the home. I'm currently

analyzing data from over 1,600 questionnaires and from six focus group discussions conducted with home care workers, a research project that we undertook with the union that represents home care workers, SEIU 434-B, to identify job stressors that are important to home care workers and what kind of support is available to them.

From the research findings so far, it's really clear that job-related stressors related to both direct care work, emotional and physical demands and to inadequate home care policies are significantly associated with workers' health and with job satisfaction. What's not completely clear are like what are all the mechanisms through which these different factors operate.

What -- I did -- I have learned quite a bit in doing this research, and I want to just highlight a few issues that have emerged based on this experience that I think are important for research. Number one is what should be the research focus, and I do believe that the occupational health needs of this workforce do warrant concerted and systematic research efforts. It's a growing workforce to serve a growing elderly population in our society. The research needs that have been highlighted in the past are lifting, back injuries, bloodborne pathogens -- though we've heard today that those still need some more research. But even more important are the job stressors associated with both direct care work and with the way the work is organized, the schedule, demands, the lack of back-up support and respite care for workers.

Secondly is the research approach, which I would say must fundamentally change, as we've heard actually throughout the day. If one of the research goals is to collect valid data that can be used as a foundation for making policy changes, which I believe it should be, then we can't use the traditional research approach -- in particular with the populations of workers that we've been talking about today, with immigrant workers, with workers that work in non-traditional workplaces.

What I believe is the only way to actually do valid research is through collaborative partnerships, so -- with -- with the groups that actually represent the workers that are most affected so that research questions can be identified, that all are appropriate to that workforce, so that the questions can be asked in a way that people understand, and so that there's a relationship of trust that's developed so that workers will respond and provide research data that -- that is accurate. This has been referred to a couple of times today as either community-based participatory research or participatory action research.

Just one quick example of how that's worked in the research that I've been doing, we actually trained a team of home care workers to interview the other home care workers in, geez, about four different languages. And I would assert that with training and adequate supervision, workers can be as good or better researchers than traditional researchers. They know how to talk to other workers. They have an element of trust with other workers that a lot of researchers don't. And they're passionately involved in wanting to conduct these projects. And a specific example is one of the Chinese worker-interviewers who was having a lot of trouble during our regular hours of making phone calls reaching other Chinese workers. And she's like the only way we can reach these workers is if we call them after they get home from their other jobs. They don't make enough money in home care. They're working in restaurants as well. They don't get home till after 11:30 at night. She said you aren't going to reach them. So we're like okay, you've had enough experience now. Take the surveys home and you can call them at 11:30 at night. She -- she came back with the highest response rate of everyone because she knew when and how to reach workers and how to talk to them. And she was very, very interested in making sure that

we got the information that -- that would -- from home care workers that would actually result in changes to improve their working conditions.

Third is that the research methods need to be diverse, and I would say that we need both quantitative and qualitative methods. You can't really understand what's going on just with survey numbers. They are important, though, to be able to document how many people are affected. But unless you have in-depth interviews or focus groups, you really can't interpret what those results are.

And then lastly, worker education has to be a critical component of research. Unless the results of the research are disseminated to the people most affected and they understand what they mean, the research is not going to result in really fundamental change to change workplace health and safety conditions, which I believe ultimately is the goal of our research. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Los Angeles, 2006/02/21.

Comment ID: 766.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Other

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles

Work-life issues

Approaches

Surveillance

Training

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Thank you, Tom. I'm Wayne Dellinger. Currently a Program Coordinator from Ohio State University Extensions Agricultural Safety Office. Just a little bit on my background. I've worked four years on a university research farm, three managing dairy operations, three years working as a field research technician for an OSU extension specialist and more recently, eight years employed in agricultural safety, while remaining a part-time employee on a large cash grain operation.

I chose special operations for special populations to address in this NORA town hall meeting because agriculture consists of many groups that could be considered in this category. These populations also typically operate the more dangerous equipment. Amish, youth, and what I'll call hobby farmers are three I wish to focus on for consideration in continued or future funding.

In 2004, Ohio had an estimated Amish population of over 52,000. While many of these Amish are turning to alternative employment, there is still a large number involved in agriculture. These Amish are difficult to reach and tend to use older horse drawn equipment, as well as younger and older workers than what we normally consider a typical agriculture operation. These factors create more risk for incidents, more difficulty in injury surveillance, and greater challenges in educational research and programming.

Youth involved in agriculture has been a tradition for family operations for years. In Ohio, if youth are working on their parent's farm, equipment operation may start at any age. In modern day, this is of greater concern for multiple reasons. Youth may only be permitted to operate the older equipment that may not meet current safety standards. However, if the youth are allowed to operate the newer equipment, this also creates certain risks. Today's equipment includes tractors and implements that are much larger than in the past. Some of today's tractors are also designed to operate at speeds of up to 45 miles per hour or faster. In Ohio, this creates the potential for a ten year old or younger child to operate a tractor on the road at 45 miles per hour if working for their parent.

Hobby farmers present a unique challenge. These are farmers with just a few acres or just a few animals to manage outside of an off-farm full-time job. They typically use older equipment bought at farm sales possibly without safety features or an owner's manual. Or, they may borrow a neighbor's equipment without proper training. These factors, along with an audience that is not reachable in the channels traditionally used for agricultural safety demonstrate the need for more focus, better injury surveillance, and additional educational programming.

With all of these groups and agriculture in general, roadway safety is a growing concern. Urban sprawl into rural areas, along with larger equipment sharing the same narrow roadways creates a scenario for more incidents. Even though there are fewer farmers, they are typically working on larger farms, traveling greater distances on the roads. The recent adoption of the Agricultural Safety -- American Society of Agricultural and Biological Engineer Standard 5-84, the Speed Identification Symbol, and revisions to Standards 2-79-13, Lighting and Marking of Ag. Equipment on Highways, and 2-76.6, the Slow Moving Vehicle Identification Emblem, resulted in recommended lighting and marking for high-speed tractors.

Educational programming and research should be a priority aimed at state legislators as well as producers to form laws that allow these tractors to safely operate on public roads. Continued or increased funding for all of these special populations in agriculture will assist Ohio and all states in meeting the changing needs of an ever-changing clientele. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 768.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Other

Health outcomes; diseases/injuries

Cardiovascular disease

Neurological effect/mental health

Hearing loss

Dermal disease

Infectious diseases

Respiratory disease

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Cardiovascular disease

Work organization/stress

Work-life issues

Approaches

Surveillance

Training

Work-site implementation/demonstration

Economics

Marketing/dissemination

Capacity building

Health service delivery

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good morning. My name is Mary Fleming. Grady Memorial Hospital has paid me to serve as the agricultural health nurse there since July of 1991. Many years ago Daniel Webster recognized the critical nature of agriculture as a basic industry for a society. However, in

America today we see thousands who suffer disabling injuries on a daily basis; hundreds annually are killed on American farms. In addition, a myriad of diseases such as ODS, hypersensitivity pneumonitis, asthma, skin cancer, hearing loss, mental health issues and many more affect this hard working population. Dr. Kelly Dunham, Iowa State University, recognized the need for 8,000 nurses who understand the needs of agricultural health and safety, while we currently have about 200 in America today.

The Ag. Health and Safety Program at Grady has demonstrated the value of an ag. health nurse who understands both agriculture and health care. As a farmer, I've experienced the risk and learned to walk again after a fractured hip as a child. As a nurse, I have cared for thousands of farmers.

Using a case-based surveillance system, we start with identifying the cases, then carry out with investigation, individual interventions, community interventions, prevention programs and research projects. The ag. health model derives principles from public health, community health, occupational health, agriculture and research. The intersect of these circles captures the essence of an agriculture health model.

Our past success have occurred because the agricultural opinion leaders were actively engaged in setting direction as members of the Regional Ag. Safety and Health Advisory Council. They worked to create a comprehensive approaches to the problems so a new culture of safety could emerge. A singular program or research focus is not going to yield the essential changes in behavior to build this new culture.

The multi-media, multi-disciplinary tetanus campaign we conducted resulted in a 51 percent increase of adults receiving tetanus vaccinations in the first 12 months of our campaign. We also designed first-aid kits for on-farm use. In a follow-up survey, 56 percent of the responders identified this was the first time they had first-aid supplies in the most dangerous work site.

In a feasibility study funded by the Great Lakes Center, our preliminary data suggests that farmers are poised for a dramatic turnaround in their risk of cardiac disease. Perhaps the substantial shifts in mechanization, specialization, and regionalization are contributing factors. But we must remember the stress levels are climbing with the globalization of the marketplace, shifting federal policy, erratic weather patterns, land pressure from developments, and the lack of opportunity for youngsters who are interested in agriculture.

Agriculture also faces risks not seen in other occupations in the same degree, such as zoonotic diseases, lyme disease, brucellosis, and the Avian influenza that we're all concerned about will probably affect our agriculture producers first. The overlap of the home site with the worksite increases the risk not only to children, but spouses, extended family, friends, and even visitors, like the one year old who nearly drowned in a manure pit on a family farm here in Ohio.

Funding needs to cover direct reimbursement for nursing care, a balanced approach to support beginning researchers, technical experts, and experienced individuals. Funding also needs to deal with the reality of traumatic injury and death, which is our number one problem. There needs to be continued efforts to disseminate the North American guidelines for children's agriculture work. Our children continue to learn some good work ethics and responsibility on the family farms. We can provide more safety through appropriate training and experience for the family in decision making.

New collaborations are required as farmers continue to be businessman or businesswoman first, while adapting to significant changes that occur on shorter and shorter time lines. Partnerships with healthcare providers, schools of medicine and nursing, financial institutions, public agencies, like the cancer society, need to be built where they do not exist in world communities, and strengthened where they do. Rural access to broadband technology is essential for maximum productivity of the farmers and our rural healthcare providers. Geometric improvements are possible with the right combination of funding and collaborative practices where our producers help drive the programming.

Rural practitioners and care givers who treat the agricultural populations need to understand that ODS, hypersensitivity pneumonitis, viral bronchitis and occupational asthma do not require antibiotics, but the essential first step is to recognize these are agricultural exposures and make the proper diagnosis. This requires taking a complete patient history, including the list of occupations. In Ohio, 61 percent of our farmers depend on off-farm income to support their family. The interactions from multiple risks, from second occupations, combinations of chemical exposures must also be understood. Physicians and nurses in rural communities become occupational providers by default, so they must be trained.

We need a new culture of safety where Craig, a young farmer from Delaware, Ohio, will not be afraid to be pictured wearing his personal protective equipment when he's doing his daily job. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 769.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Unspecified

Population

- Older
- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Traumatic injuries

Exposures

Approaches

- Etiological research
- Engineering and administrative control/banding
- Intervention effectiveness research
- Economics
- Work-site occupational safety health system/record keeping

Partners

- Ohio Bureau of Workers' Compensation Division of Safety and Hygiene

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good morning. My name is Mike Ely. I'm the safety tech for the Ohio Bureau of Workers' Compensation Division of Safety and Hygiene. I'm a certified safety professional. I'm also going to be presenting the comments of Mr. Chris Hamrick, (ph) who could not be here today. He's our ergonomic technical advisor and certified professional ergonomist.

These folks have already talked about at-risk populations, and there are two of them that I wanted to touch on briefly. And that is the aging work force. On my way here this morning there was a doctor talking on the radio that estimated in 20 years the average life expectancy in the United States will exceed 100 years of age. People are going to continuing working much longer into their life than they currently are. And statistics are showing us that the severity of injuries to the aging population is creeping up higher and higher. We need to take a look at this population before this problem gets out of hand completely.

Our interests, obviously, at the Bureau of Workers' Compensation is due to the cost of these injuries, but that doesn't exclude the human suffering that goes into it.

Another population that's at risk is our immigrant population. These are the people that are coming into our country both legally and illegally working at high-risk jobs particularly in agriculture and construction. And we're seeing an excessive number of injuries involving those people. Many of them can not speak English, can not read English, yet their supervisors often are not bilingual and able to communicate effectively with them, with their rights, the knowledge they need to do their job safely, and their ability to protect themselves. We need to take a very much closer look at what we're doing with that.

Some of my comments tie in with Mr. Hammer's here, so I'm going to be going with his. Back injuries account for 40 percent of our cost. Back injuries drive workers' compensation here in Ohio, and they're driving it across the country. Research directed toward the reduction of back injuries would be extremely useful. Many of the ergonomic interventions currently eliminate or reduce lifting, but they transform the task into one that requires pushing and pulling. However, pushing and pulling creates sheer forces in the spine. Little is known about how these forces affect back injury rates. Further more, very few guidelines exist for pushing and pulling capabilities. The only guidelines out there currently are Liberty Mutual tables, which are based on 12 subjects, and are psycho-physical, not bio-mechanical. Particularly as our workforce ages this becomes more and more of an issue. Ergonomics is how were going to be protecting a lot of these workers that are put into positions where they may not be able to physically handle the job they're being assigned.

Research on the effectiveness of safety, ergonomic, and industrial hygiene interventions would also be very useful. Given the complexity, scope, and expense of such research, NIOSH is uniquely qualified to conduct these projects. The economic impact, or return on investment or cost benefit analysis of safety, ergonomic, and industrial hygiene intervention and programs will allow health and safety professionals, as well as those who direct public policy, to promote and implement sound, cost-effective safety programs and policies.

Every day we talk to employers across the state who question us about the same thing that she was bringing up earlier, what's in it for me, I'm going to spend this money, where am I going to see the return on my investment. And this is a common question that we all as safety health professionals have to answer is, how do we prove a negative, how do we prove that our efforts actually prevented something from happening? And manufacturers have this question across the board, you want me to spend money, how are you intending on me to see a return on that investment? We need to have better data out there. Not only for safety and health professionals to use, but being taught in our business schools and our management schools and in all of our business associations across the country.

The Bureau of Workers' Compensation Division of Safety and Hygiene has cooperated for years with NIOSH and we will continue to cooperate with NIOSH providing data, research, and information as much as we can to support their activities. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 770.01

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

- Older

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Traumatic injuries

Exposures

- Work-life issues

Approaches

- Etiological research
- Engineering and administrative control/banding
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Hi, my name is Kermit Davis. I'm from the University of Cincinnati. I'm an assistant professor there. And what I'm going to talk about is the impact of musculoskeletal disorders in the industry and two special populations.

Musculoskeletal disorders are the leading cause of lost days and disability in many industries, particularly in manufacturing. Department of Labor Statistics reports more than 500,000 individuals suffer from musculoskeletal disorders each year. Manufacturing represents about 30 percent of these. Conservative estimates for musculoskeletal disorders are estimated to be around 50 billion per year, 50 billion dollars per year. And I think there are two issues that are facing these industries that will increase these prevalence rates in the near future and these costs.

First, industry workers are becoming overweight and obese. Recent studies have indicated that more than 65 percent of the United States population has excessive weight, with about 44 million being overweight at any given time. We have recently done studies that have indicated this prevalence of overweight individuals in manufacturing facilities are actually higher, approaching 80 percent. The problem with excessive weight is that it adds additional stress on the body. Individuals not only have to perform the task, you also have to move the excessive weight, and thus increasing the stress on the bones and the body and joints.

We need to research into several aspects of overweight and obesity in the industry relating to musculoskeletal disorders. First, we need to better understand how excessive weight relates to musculoskeletal injuries. At this point we don't know clearly what that link is. Second, we need to know how to design the workplace for individuals with excessive weight, how do we compensate for these individuals in the work place. Third, we need to know how to successfully reduce the prevalence of obesity in the workplace and how that links to the other health and safety initiatives. Fourth, we need to develop intervention strategies to integrate weight loss into safety and health industries that are already occurring.

The second major issue that relates to increased musculoskeletal disorder rates in the future is the aging workforce; touched on by the previous speaker. With the shift in demographics that is expected to happen in the next decade or two, the workforce will have an increasing number of individuals that are above 55 years old. Some facilities are already seeing the average age of above 55 years old.

Since many capacities decrease with age, an older workforce may be susceptible to additional stress and ultimately musculoskeletal disorders, which leads to higher rates of lost days in this population. Some of the capacities that are known to be impacted are muscle strength and stamina, posture-balance (ph), cognitive processing, joint and tissue mobility to recovery from injury. All of these deficits can lead to longer, more serious, and more debilitating type of injuries with this population.

Thus, there are several needs for research and initiatives relating to the aging workforce. First, we need to understand the adaptations that occur for these older workers in the workplace. Given that they are exposed to the same type of stresses and strains as the younger workforce, we need to understand how we can adapt as older workers age and work longer.

Second, we need to understand the role of cumulative trauma and developing of debilitating disorders. We need to know how the previous exposures impact their longevity in the workplace.

Third, we need to understand the impact of physical workplace stresses on the older worker and how these age-related changes impact responses to these demands.

In conclusion, I think we need to make sure that the industrial sectors and what they concentrate on are focused on not only musculoskeletal disorders, but specifically how these special populations, the overweight and obese individuals, as well as the older worker, need to adapt to. That concludes my remarks. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 771.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Unspecified

Population

Youth
Older

Health outcomes; diseases/injuries

Musculoskeletal disorders
Traumatic injuries

Exposures

Work-life issues

Approaches

Training
Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: I'm Ray Jones. I'm probably the least educated in the bunch here. I'm an old retired factory worker. But I'd like to talk about my wife, and the injury that she suffered to her back, which deals with musculoskeletal problems and such. And in this case I'm calling it, falling through the cracks.

She had a soft-tissue injury to her back, which does not show up on a CT or an X-ray, and so on and so forth. The original diagnosis was a sprain to her lower lumbar, and that diagnosis stuck. It went through a legal process and lawyers flipped through all their papers and say it's a sprain.

So in the following weeks she went through six to eight weeks of rehab, she did not heal from this, but she went back to work under severe restrictions. And being a nurse, she was told to take care of 30 or 40 patients, some of them weighing 200, 250 pounds, and she's only 100 pounds. And the supervisor decided that she wasn't performing her work as she should, so they wrote her up with intentions of dismissing her at some future date, is what we would assume.

In the next year or so she made 24 visits to the emergency room for pain medication, and this to relieve the soreness in her back so she could move. Then after this period of time then the doctors decided that she was becoming a pain addict, if she wants medication then she's becoming addicted to the pain medication, so now they cut her off from that.

But this is a workers' comp process where now the workers' comp people decide that they don't have to pay any longer. So now she is basically without assistance in paying the medical bill. Senior health insurance doesn't pay for accidents, and this was signed in as workers comp and it was an accident. So your health insurance no longer applies to you. And you try to pay a doctor cash to get some treatment and he doesn't want to do anything about it because it's workers comp, and he doesn't want to get into the mix of the workers comp.

Well, she goes to additional doctors for diagnosis as to what her problem is to submit papers into workers comp for additional evaluation. Well, some of the doctors don't speak English very well. So they transcribe their material onto a tape and they send it off to get transcribed again. Well, you can't tell the difference between should and shouldn't, or would and wouldn't, and could and couldn't; so some of the doctor's transcriptions come back with serious errors in them. They say she didn't walk with a cane, well, she did. And some of the evaluations that were done were done with her clothes on. They never put her in a gown. In fact, the doctor's office was a hole in the wall and was not an actual what you would call a practicing doctor. He had a cot in one of the rooms and he brought in a little bag of protractors to check her movement. In 15 minutes he's got a diagnosis that he sends off to the lawyer. And, again, this sticks.

So now we have gone nearly -- well, this was an accident in 1999. And our lawyer has asked the workers' comp rep for a settlement. Well, they just simply don't call back. And this has been three years. And her overall medical expenses now have come to the point that they exceed what she ever earned in her life. And she is now on Social Security Disability. Well, she has other factors too, like migraines and asthma, which helped her get the Social Security Disability. But when he represents 56 percent of the people as being at weight or below weight, and younger people -- younger people need the conditioning to handle their job. And if you're under weight you're just as bad as if you're overweight. And I thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 772.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

- Hearing loss

Exposures

Approaches

- Etiological research
- Engineering and administrative control/banding
- Personal protective equipment
- Work-site implementation/demonstration
- Authoritative recommendation
- Marketing/dissemination
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: I deeply appreciate your consideration here. My name is Lee Hager. I am employed by a company called Sonomax Hearing Healthcare, Incorporated. I am also here with multiple hats today to share some time with Tim Rink to discuss the National Hearing Conservation Association. People who are focused on one of the exposures issues that is critical to us.

Just a little bit of information on NHCA, just for your information, it's the only group that focuses on hazards of noise and the effects of noise on hearing on a cross-functional basis; engineers, audiologists, industrial hygienists, safety professionals, the whole nine yards. And Tim will give you more information about that.

Thirty-five years into federal regulation on noise in the workplace and what do we know? We know that about one in five people in the U.S. goes to work every day and noise levels pose a risk to their hearing. We know that about -- excuse me, I added a digit, about 25 to 28,000 people in the U.S. suffered recordable hearing loss in the year 2004. We know that work-related noise-induced hearing loss is implicit in about a third of the total hearing loss cases in the State of Michigan.

Noise continues to be a hazard, a hazard that may be well understood, but not well controlled. To give you a sense of the scope of this, about ten percent of the total illness cases reported by the Bureau of

Labor Statistics for the year 2004 were hearing loss, about ten percent for a hazard that we know, that we understand, that we know what do to about.

The reason that we're here today is that because of that group of hearing loss cases, about 85 percent were recorded from manufacturing sector. So noise continues to be a significant issue.

A couple of reasons for this, number one, we rely on personal protective equipment nearly exclusively as defense against noise in the workplace. In many cases, the first, last, and only line of defense against noise in the workplace is the hearing protector. But hearing protectors are not easily quantified as to performance. We don't know how well they work. Laboratory evaluations, even the best laboratory evaluations, do not give us a reliable estimate of how well people are protected from noise in the workplace. As a result, we wind up with poor-usage rates. People don't like to use hearing protectors in the workplace. They're communication barriers, they're comfort barriers. Significant barriers to use of this PPE that we know can be effective, but that is still resulting in significant hearing loss of the noise that's in the workforce.

There are a couple of areas of research where we would like to kind of direct the NORA efforts down stream here on a cross-sectional basis, if possible. Individual fit testing hearing protectors, much like we test respirators today, would be appropriate. There are things that we can do, and new technologies that are emerging that would permit us to determine how well individual pieces of protective equipment are working for individual people. We need to prove analysis of why people resist the use of hearing protectors. We need to find a way to quantify the comfort issues that are involved in the use of hearing protectors, so that we can get effective personal protective equipment into people's ears and prevent hearing loss.

We'd also like to talk a little bit about exposure criteria. NIOSH clearly identified and communicated to OSHA in 1998 in the criteria document that the current OSHA noise exposure criteria is insufficiently protective. NIOSH drew a line that is significantly more protective than the current law that's in place. What we need to do is find a way on a research basis to move this finding, to move this research finding into practical application. Find a way for industry to accept a more protective exposure limit than is currently in the law under OSHA. Does that mean changing the OSHA regulation? I don't know. But at some poi

Comment ID: 772.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer
- Cardiovascular disease
- Traumatic injuries

Exposures

- Cardiovascular disease
- Noise/vibration

Approaches

- Etiological research
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

More research into the indirect effects of noise, the association of hypertension with noise exposure, the relatively new association of -- potential association of acoustic neuroma with noise exposure, strong correlation between workplace noise and industrial accidents. There are many, many things that we can look at that would let us fine tune our efforts in noise to be more effective.

Comment ID: 772.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing
Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors
Noise/vibration

Approaches

Etiological research
Intervention effectiveness research

Partners

Categorized comment or partial comment:

In addition, the combined effects of noise. The combination of noise to toxic chemical exposure. New indications that may indicate that whole-body or hand/arm vibration may sensitize an individual to hearing loss. So noise is still on the agenda, and we think it's important that NIOSH and their new NORA considerations take this into account. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 773.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good afternoon, ladies and gentlemen. Thank you very much for your interest in safety. My name is Darrell Rubel, and I work for the Ohio Farm Bureau where I wear two hats. I'm Director of Safety Activities and also Youth Activities. I want to tell you a little bit about Ohio Farm Bureau. We're a grass-roots organization, which means that all of our ideas come from our members and from those folks who grow our food and fiber. So I have some ideas from those folks about the types of safety concerns that they have that I wanted to share with you today.

The first topic is farm rescue. What do you do when something goes wrong on the farm? One type of accidental death that we have seen happen on farms in Ohio is grain bin suffocation. Folks get caught in the grain, they get sucked down, they can't breathe. Several different things. We would be interested in having research done on the types of things that can be done to prevent such suffocation from occurring. I know that Mary Fleming back there has been working with some folks on grain safety rescue tubes that could be used. How can we get those types of tools into the hands of emergency responders, also for fire departments?

Another concern we have is providing additional training for those folks who are emergency responders when they get out to the farm. These folks are very smart and they know how to deal with medical situations. One thing that does occur though on a lot of farm accidents is there may be farm machinery involved.

Sometimes folks may not be aware with what the type of machinery that it may be, or with the different models, whether it's a different model of hay bailer, or combiner, or whatever, how to get people extracted quickly and safely from those types of things. Research about how we can spread the word

and get information out to the emergency responders on how to get folks safely extracted would be very helpful.

Comment ID: 773.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Also research concerning tractor maintenance versus tractor accidents. What types of maintenance do farmers need to make on their equipment and on their tractors that can help prevent accidents down the future?

Comment ID: 773.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Etiological research

Engineering and administrative control/banding

Marketing/dissemination

Partners

Categorized comment or partial comment:

The second thing that I would like to mention is road safety, or as Kentucky Farm Bureau coined it, please be patient and kind, stay behind. We all have to share our roadways in the country, and our farmers need our roadways in order to get their farming done, especially during the busy times, planting season and harvest season. One of the challenges that we have as farmers in sharing the road is people that want to go around the tractors and the equipment when we're out there. Either that means crossing double-yellow lines, crossing on hills or blind curves. It leads to accidents. Also some people want to hurry around farmers. They may be trying to make a left-hand turn into a driveway, they're signaling, but people think that they're moving over a little bit to the right and allowing them to pass. That's not the case. They need the extra room to make that wide-hand turn. They'll try to go around that farmer and end up causing a collision. So research on those types of things could help.

Also as Wayne Dellinger mentioned this morning, safety concerns with tractors that can now exceed 25 miles an hour. How does that affect our folks and our fellow motorists with safety on the road?

Comment ID: 773.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Services

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Approaches

Training
Marketing/dissemination

Partners

Categorized comment or partial comment:

Another program that I would like to briefly bring up to you is featuring our most valuable resources, and that is our youth. What extra kinds of safety training can we do and provide to keep our youngest workers safe, especially as they're entering those crucial first years in training and joining our workforce? I'm very pleased to announce that we have seen some wonderful cooperation from the folks at OSU Extension and from our friends at the Bureau of Workers' Compensation. This year we're having our very first Ohio Youth Safety Conference where we're bringing youth from around the state to be trained about farm safety and in the fast-food industry, the two industries that have the highest rates of incidents.

We're doing that, and I'm very proud and happy that we're doing that, but we need more. Are there additional ways that we can go out there and reach those young folks in those first crucial years? They are our most valuable resource. They're our next generation. And how can we present that safety is not just what you do, but it's who you are?

Ladies and gentlemen thank you for your time, and I appreciate it.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 774.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Hearing loss
- Traumatic injuries

Exposures

- Work-life issues

Approaches

- Etiological research
- Engineering and administrative control/banding
- Personal protective equipment
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Authoritative recommendation
- Marketing/dissemination
- Health service delivery
- Emergency preparedness and response

Partners

- National Hearing Conservation Association

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good morning. My name is Dr. Tim Rink. I am CEO of HTI, Incorporated at Worthington, Ohio, a company I founded 30 years ago to provide audiometric testing, record keeping, and recording services to clients throughout North America. Today I am representing the National Hearing Conservation Association, the NHCA. One of our prior speakers, Lee Hager, in fact, was president of the organization just a few years ago.

On behalf of the NHCA, thank you for the opportunity to comment on the Institute of Medicine Committee's review of the NIOSH Hearing Loss Research Program. In preparing these comments, it became evident that the mission of the NHCA is very much inline with the NIOSH HLR agenda. As a testimony to how important the NIOSH HLR program is to hearing loss professionals, such as NHCA, our comments are structured around the NHCA goals. Clearly the NIOSH HLR supports our mission to reduce noise and reduce hearing loss in all sectors of society.

It is a NHCA goal to provide professional development by improving the skills, practices, and services of members of the association. NIOSH has advanced in this goal by developing a research agenda which addresses questions encountered by members during their daily hearing loss prevention practices. Research findings are directly applicable and can be implemented into hearing loss prevention efforts. Some examples of the practical tools used by our members are the interactive noise, sound level meter, hearing loss simulators, frequently asked questions, and the hearing protection device contending. Publication, such as the noise and hearing loss fact sheets and hearing protection device education, free of commercial endorsements, are used in training courses with employees and employers, and they provide NHCA members with tools to facilitate the prevention of hearing loss above mere OSHA compliance.

Presentations in journal publications by NIOSH investigators continue to push our understanding of what it takes to prevent noise-induced hearing loss and provide significant content in NHCA national conferences. Conferences from 2003 through 2005 also included NIOSH presentations on impulsive noise, hearing conservation in the construction industry, hearing conservation for small businesses, hearing impaired employees, evaluation of level-dependant hearing protectors, chemical exposures, and noise-induced hearing loss, the evaluation of hearing conservation program effectiveness, and early indicators of noise-induced hearing loss. NIOSH has been strongly represented in poster presentations and a NIOSH poster earned the outstanding poster awards in both 2004 and 2005.

NIOSH employs leaders in hearing loss prevention who willingly share their knowledge and encourage professional growth and development. In 2003, Dr. John Franks was awarded the NHCA Prestigious Award, the outstanding hearing conservationist, given to an individual whose work is exemplary in the field of hearing loss prevention. In 2006, our meeting just this February of this year, we proudly honored Randy Tubbs with the Michael Beall ThreadGill Award, presented to the individual who has significantly contributed his time and effort to NHCA. In 2004, Dr. Mark Stevenson was awarded the NHCA Media Award for drawing public attention to the cause and prevention of noise-induced hearing loss.

The NHCA is greatly anticipating the formal signing to expand our alliance with OSHA to include NIOSH. The OSHA, NIOSH, NHCA alliance will be a strong foundation for us to continue our partnerships and develop tools and services. It is an NHCA goal to provide education and encourage research in noise and hearing conservation. NIOSH best practice workshops and seminars are cutting edge research, and cutting edge research is a vital part of our continuing education as we work to prevent noise-induced hearing loss.

As highlighted above, NIOSH researchers are always an integral part of our annual conference sharing their latest information and highlighting progress in the on-going efforts that we share. The upcoming conference, noise-induced hearing loss in children at work in play, which is co-sponsored by NHCA, NIOSH, and other organizations will explore and discuss the most recent theoretical and experimental

work to expand the knowledge of preventing hearing loss in children and adolescence. This innovated conference will bring together a diverse group of basic and applied researchers with expertise and hearing loss prevention.

It is a NHCA goal to stimulate the exchange of information among those involved with hearing conversation, disseminate information to professionals and others, and to provide a resource center for those inquiring about the prevention of hearing loss due to noise and other environmental concerns.

As we try to provide information and serve as a resource center regarding prevention of hearing loss, NIOSH researchers provide much of the content that is of critical value to everyone involved in hearing conservation. The NIOSH hearing protector compendium puts up-to-date information at the fingertips of researchers, product developers, hearing conservation program managers, professionals, purchasers and users. NIOSH best practice workshops focus multi-disciplinary groups toward consensus-based science and data.

Journal publications and conference presentations not only provide an insight into the excellent work of NIOSH researchers, but stimulate exchange of information among our members and beyond. The alliance is another way we can continue to exchange information and share it with those who need it to help prevent noise-induced hearing loss. The NIOSH website is an important accessible tool which has dramatically improved the dissemination of information and ability to put excellent knowledge into the hands of employers, employees and hearing loss prevention professionals; again, with a focus on practical hands-on tools. NIOSH research has helped us develop language appropriate literature, all of which helps us achieve our tangible outcomes.

It is a NHCA goal to promote the development of improved and more effective occupational hearing conservation programs. One of NIOSH's research topics is studying the effectiveness of hearing conservation programs. This topic alone has the potential to change hearing loss prevention programs by recognizing where efforts toward hearing loss prevention should be focused, addressing practical questions, like how to recognize a noise notch, assessing which test frequency should be monitored in audiometric testing programs, defining when a decrease in hearing should trigger follow up, and how best to conduct training programs are all valuable in improving hearing loss prevention efforts.

It is a NHCA goal to develop guidelines and monitor and participate in standards, regulatory and legislative activities. The NIOSH criteria document is the seminal document reflecting the best available science, and should be viewed as the blueprint for future regulatory and legislative activity. Research gives science credibility to the recommendations. Current OSHA regulations based on the best data available when the current regulation was promulgated in the late 1970's. But on-going NIOSH research in support of the 2000 MSHA regulation and other activity allow new regulation to incorporate new understandings resulting in more protective hearing conservation programs. NIOSH research points the way to better hearing loss prevention practices. I'm presenting the papers as they were given to me. I'll wrap by this, future research areas that the NHCA is hopefully going to see come under development include mechanisms of hair cell death, evaluating the most appropriate audiometric test frequencies for monitoring noise-induced hearing loss, evidence-based input for regulatory requirements, relationship between hearing protective devices, hearing loss and occupational injuries, effective applications of augmented hearing protective devices, testing needs for electronic hearing protective devices, effective methods of motivating workers to wear hearing protection, best practices in hearing prevention training, noise-induced hearing loss in musicians, effects of personal-listening devices on hearing,

hearing loss acceptability in children and methods for separating age and other contributing factors to hearing loss. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 775.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Engineering and administrative control/banding

Training

Health service delivery

International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Thank you very much. My name is Custodio Muianga, assistant research at Eduardo Mondlane University, Maputo, Mozambique. And I'm a graduate student at University of Cincinnati, Department of Environmental Health. My contribution to NORA is based on my involvement in occupational environment health in southern Africa, particularly in Mozambique.

And I would focus on three main ideas. First, the use of comprehensive and holistic approach on the practice of occupational health and safety. Second, the experience to gain from big corporations versus small companies, or small businesses. Third is, there is such training problems existing on training programs.

Because of the difficulties and high burden of other problems like healthcare associated with HIV and other things. In developing countries you can't do occupational hygiene just because of occupational hygiene. So you need to focus on a qualitative and semi-qualitative approaches. These started from elsewhere in developing countries also have shown very good successes. I think that the United States also has small or very small business, which most of the time they're not covered and they would have very good input using this kind of approach. Now it's called risk management toolboxes, which will develop into the qualitative risk management.

The bigger corporations, they also work in U.S. and outside of U.S., and they interact with small companies, which are the companies that existed in developing countries. So if NORA can explore their experience starting from here and there. There is such training programs consisting on training programs between academic institutions and research institutions also who will give a double win to

NIOSH or to NORA. Because these researchers, they will be involved it, and they will see problems which they're similar. If we see the occupational health and safety problems, they are all the same, wherever you are. The only difference is the dimension of the problem and the other factors.

So what I'm saying is NORA should also focus on the use of holistic and comprehensive approach and the practice of occupational health and safety. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 776.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Capacity building

International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Thank you. I'm Scott Clark, University of Cincinnati. NIOSH has a strategic plan for the year 2004-2009. It contains three goals, and my comments will address the goal three, which is to enhance global workplace safety and health for international collaborations, and follows up the previous one, and there's three parts to that one.

The third part is to build global professional capacity to address workplace hazards through training, information sharing, and research experience. I will provide some comments which hopefully will augment the previous speakers so that the NORA 2 can include some efforts in international collaboration of meeting these goals that NIOSH has.

And we will -- I'll give an example of what our university has done in this area with the country of India. I'll do this just as an example as a possible model for other ones, there are many other ones around, but this is one that we have been involved with. And you know India is a pretty large country. It may be the largest on the earth. India and China are debating that, population-wise, and certainly the largest democracy and are very important to the U.S. in many ways.

I'll first talk about how we got involved with this. A little over ten years ago one of our alumni, Maharshi Mata (*), some of you may know, was a graduate in the early 80's. He came to one of our faculty hygiene meetings and said he was moving back to India in a few months and wanted to start the master's program there in industrial hygiene. We said well, fine, probably there are 30 other ones there, ten other ones. There are no other ones. There was no safety program, mostly shorter term, a few months. And the Factories Act recognized safety engineers, social workers actually too, occupational social workers, and physicians and nurses, but nothing in the hygiene area. So he pieced together many different groups that could help, a medical school, they have toxicology and physiology. At the university they would have the epidemiology and bio-staff and regulatory group in the nuclear

area. And also they have a NIOH, it's National Institute of Occupational Health, and their main branch is located about an hour-and-a-half from this campus.

So here just to help, we thought he would maybe get a long-term plan, first maybe have one course as an elective and then in five years admit their first student. No, he was going to begin that next year. So he stopped by with an MOU joint university in May of 1997, and these papers, you know, are kind of all good intentions, but it depends on who's behind them. But this one, I'd say, has had a lot of impact. It's been viable for ten years.

And we began by soliciting reference books and journals. For many people, probably some people in the audience were contacted. NIOSH was, ACGH, some of the military services. We have a retired department director. And Jim Ferguson, some of you know, was retiring from his practice and he gave us his core reference section. So we got those shipped over there for the first class. And we've gone -- Dr. Carol Rice and I have gone pushing every year since that time for periods up to two months. Dr. Glenn Talaska (*) went this fall also. So a lot of interaction with it. And there's a picture out in the hall showing the students getting their first certificate. They get their degree from India, but we give them a certificate of congratulations basically. And our role is to help them with it.

So this is an example. We've done similar things in Poland. It's been a benefit to them obviously, but also our students. We've had two doctoral students went there for a period of time and did some training and helped them tremendously. And they're both now university teachers in occupational health. Another student went there for a pilot project. They got best poster award in two divisions, epidemiology, another one, and it helped her get a very prestigious EIS officer position for two years and recent publications.

It's estimated that India needs 5,000 master's-level hygienists. They probably had five when we started, and one was the person who started the program. Now we've graduated about 50 people, and they're in the process of becoming certified. But obviously one program isn't enough, but it's a lot more than zero. And hopefully there will be some way to support these sorts of activities. There's also INDO U.S. working agreement that facilitates NIOSH and other groups getting involved with India signed by HHS director and CDC as the coordinator here. We've had one private on silica dust control that involved some NIOSH investigators. So that's been a positive thing.

Under the ERCs there is an item called the NORA research support, which is a pretty big item on the ERC budget now, the same size as an economic program. And this is one possible mechanism to get the nod that it could use the limited number of funds there for that. There are other countries; obviously, this was just an example from India. Thank you. We could have some extra time in this session, and one gentleman has already offered to speak. His name is down there.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 777.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Training

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: My name is Carol Rice. I'm on the staff at the University of Cincinnati. And I want to talk with you, now having heard the morning presentations I know that I'm know that I'm preaching to the choir about worker training.

Under sections 21 of the Occupational Safety and Health Act it states that NIOSH shall provide for the establishment and supervision of programs for the education and training of employers and employees in the recognition, avoidance, and prevention of unsafe and unhealthful working conditions.

These are very specific phrases in the matter. Phrases that characterize outcome of training and education, recognition, avoidance and prevention. This comprehensive description to NIOSH extends the responsibility well beyond the creation and dissemination of information. Information understood and retained is essential to any increase in knowledge. And that is the foundation for activities that leads to recognition, avoidance, and prevention.

However, knowledge alone can not provide the vital skills, ability, and attitudes to fully recognize the hazards or to design and implement successfully actions and programs to avoid and prevent unsafe and unhealthful conditions. In the current climate of smaller regulations and even smaller enforcement it's increasingly incumbent on employees to take improvement of safety and health into their own hands. Increasingly, a union or active joint labor management committee that might provide effective health and safety training resources are absent, and they've never been there in small business. NIOSH can, and is, in fact, mandated to address this need. Certainly the crafters of section 21 intended that the change would be successful, a result that can only emerge from research and then research to practice.

Currently the need is enormous. In dimensions, personally, I believe that it exceeds that of improving science literacy, which the President has addressed as a national priority. And the easy approach of providing information is fundamentally a failed system, as illustrated by the situation, at least those of us with gray hair, approach routinely of the struggle when given written information on directions to operate a wide variety of electronic devices, and you need somebody who is about ten who can help you get through the system.

While the task is light, it has to be recognized that the benefits are also huge. Workers participating in training design through research in one sector and targeted to increase knowledge, skills, and abilities and to develop attitudes to support continued diligence and improvement have been documented to be able to make substantial changes. For example, antidotes of, we now use cameras in confined spaces. Cameras go in, people remain out. We have not had an ammonia release in our facility for many years. Because of the skills my team members had, we were able to isolate and abate the ammonia leak efficiently and effectively, and were able to keep anyone from getting hurt. That's the true measure of effective public safety training.

We also have reports that training has changed our work behavior. Training has been extended to recognizing hazards outside of work. The true transfer of knowledge and information to recognizing the effect, the potential for hazards in the home.

Economists can and truly must, as many have said here today, put dollar figures on these examples in order to sell them to the constituency. They're essential to documenting value to both employers and insurance companies. But to the workers and the families of workers that benefit from this research to application, the training dollar is really not relevant. They're much more guided by the expectation that each day their family members will return home from work with no diminution of health. Most importantly, these benefits of avoided exposure are meaningful on an individual level, and that is clearly the foremost priority, the individual level, for occupational safety and health.

So I would suggest that NIOSH begin in developing a research agenda for effective worker health and safety training by updating and supplementing the NIOSH review by Cohen and Colligan (*), identify targets for improvement, such as design and the design of research to identify why and where current approaches have failed, to conduct research and to identify effective methods. I believe NIOSH has a unique opportunity with a redevelopment of NIOSH to put workers at the forefront. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 778.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Exposure assessment

Engineering and administrative control/banding

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good morning. I would like to thank the academy for bestowing this honor upon me today. Moving on, my name is Chris Speelman. I happen to be a certified hazardous material manager employed by Sheakley UniService, Inc. in its Cincinnati office. For those of you who aren't familiar with Sheakley, it is a provider -- basically a provider of workers' compensation services to public and private employers in the State of Ohio.

In my position as a safety control I'm expected to work with employers in all types of industries in an effort to help them reduce the injuries and illnesses experienced by their employees. Even though I do work with a range of industries, there is one constant that I typically encounter, nearly all the companies I work with are small businesses; companies that employ 100 people or less. It is these small businesses that I am here to speak with you today.

NIOSH appears to recognize the importance of small businesses to the national economy. In researching my comments for today, I performed a quick search at the NIOSH website by entering the word small business into the search line. This search pulled up the Small Business Assistance and Outreach page, one lonely paragraph of text. This text told me that 98 percent of all businesses in the United States employ less than 100 people, and 87 percent of all those businesses employ fewer than 20 people.

In the publication identifying high-risk small business industries, I am told that more than half of the U.S. workforce is employed by these same small businesses. This document also suggests that, at least in some industries, the occupational injury and illness rates are typically much higher in small businesses,

especially when compared to the larger businesses. In some cases it can be up to ten times the fatality rate in small businesses compared to the larger businesses.

More over, this same search also revealed that there are only two NIOSH publications that deal specifically with health and safety in small business establishments. For specific health and safety implementation assistance I was routed to the OSHA small business website.

Just to pose a quick question. If these small businesses are so important to America and they typically have much higher injury and fatality rates, then why have we only two small business-specific documents on NIOSH's website? Now, granted, I realize that NIOSH is a research-based organization. Its purpose is not to help with small business compliance. However, the beneficial research conducted by NIOSH effects all businesses across all industries.

Unfortunately, based on my personal experiences with small employers here in Ohio, it seems that small business, especially small manufacturers, are unable to obtain the same benefit as larger employers from these technological advances. This is due to several reasons. Perhaps most noticeably, the lack of financial resources available for health and safety technologies. Again, -- excuse me, additionally, the men and women who run these businesses are often ignorant as to what health and safety information and assistance may be available to them. I am here today to urge NORA to address these last two points.

First, NORA should examine ways to disseminate information to those people who run America's small businesses in order to close this information gap. If these people understand what resources are available to them, then they are more likely to take the steps necessary to protect those whom they employ.

Secondly, while the advancement of worker protection is dependant upon the discovery of cutting-edge evaluation and control technologies, the price of these technologies is generally cost prohibitive for small employers. As a result, more than half of America's workers are often protected, if they're protected at all, by sub-standard technologies. I encourage NIOSH, through NORA, to conduct research towards making both new and existing technologies affordable for implementation by small business.

In closing, it's been my experience that most small business owners have the desire to do the right thing when it comes to protecting the workers. However, they are often limited by not knowing what resources are available to them, or they are unable to afford the technologies that are available. I encourage NIOSH to address these two issues in an effort to fully protect all employees, not just those fortunate enough to work for large corporations. Thank you for your time.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 779.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Engineering and administrative control/banding

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Well, I am Susan Kotowski. I'm a PhD candidate in Occupational Ergonomics and Safety in the Department of Environmental Health at the University of Cincinnati. I wanted to talk about the economics of injury, which has only been briefly touched on today, although it's been acknowledged a number of times as an important subject.

Of the research that has been done, they're really now just starting to understand the impact of injuries and musculoskeletal disorders on the companies' bottom line. For example, we know that the annual cost of musculoskeletal disorders exceed those of cancer and only trail those of cardiovascular disease and acute injuries. Current estimates for the direct costs only of musculoskeletal disorders are about 50 billion dollars yearly. However, these are only real crude estimates.

To date, most of the costs have tended to focus on only the direct costs associated with the injuries. Direct costs consist of medical treatment, workers' compensation, and rehabilitation. However, estimates of indirect costs are much more difficult, and often more times controversial to obtain, although they comprise a large portion of the cost associated with the injury. Indirect costs include costs associated with an injury, such as lost productivity, overtime, hiring and training of assistant workers, absenteeism, presenteeism, accident investigation, any product damage, and possibly increased insurance premiums. It is estimated that for every dollar of direct cost there are typically two to five dollars in indirect costs. However, so little is known about indirect costs and this might be a drastic underestimation of these costs.

Recent trends have indicated that there's a yearly significant increase in the direct and indirect costs associated with injuries, and this cost is growing every year. For example, in 1985 the total cost associated with injuries was 158 billion dollars. In 1988 the cost increased to 180 billion dollars, or a 14 percent increase. In 2002 the cost increased to 240 billion, or a 33 percent increase.

Another wellness issue to consider, although not an injury, is obesity. Obese and overweight individuals now comprise 65 percent of the population, or nearly 45 million people. Obesity attributed medical expenditures in the U.S. were estimated to be 75 billion dollars in 2003, over half of the cost financed by Medicare or Medicaid. Others have estimated these costs associated with excessive weight to be between two and eight percent of total health care expenditures in the U.S.

We are really just beginning to scratch the surface of understanding the costs of injuries, musculoskeletal disorders, and obesity. A major research void exists in the thorough documentation of costs associated, or including both direct and indirect cost for the duration of the injury.

There's also a need to document the interaction between one injury and a secondary injury and the costs associated with the co-morbidity. It's also crucial to distinguish between what fraction of the cost is associated with the initial injury and a subsequent injury.

There's also a need to document how other health issues, such as obesity, affect the risk of developing an injury or musculoskeletal disorder. This is very much lacking, although very critical.

In addition, there's a need to document the costs associated with other factors, such as impact of quality of life, impact on family life, the impact of pain, as well as functional abilities.

Finally, more research is also needed in the area of cost reduction and the benefits of intervention to reduce injuries. Understanding the impact of wellness programs, weight-loss programs, ergonomic interventions, and other safety and health-related programs on the cost of injuries and the companies' bottom line is critical. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 780.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Small business

Health outcomes; diseases/injuries

Exposures

Approaches

- Training
- Intervention effectiveness research
- Marketing/dissemination

Partners

- National Federation of Independent Businesses, Ohio

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Morning. My name is Jim Wirth, and I'm the Safety Manger for GatesMcDonald in Columbus, Ohio. Although we're competitive of Chris, we're going to talk on some similar ideas this morning. I'm here to speak on behalf of NFIB Ohio, National Federation of Independent Business. NFIB Ohio is the state's largest small business advocacy organization with 600,000 members nationally, 36,000 members in Ohio, dedicated exclusively to representing the interests of independent business owners.

Our membership spans the spectrum of the business community ranging from sole proprietorships to substantial independently held enterprises. The typical NFIB member employs fewer than ten workers and grosses less than \$450,000 in annual sales. In aggregate, our organization's members employ near 440,000 Ohio workers. I and my team work closely with NFIB members across the state to assist them in providing a safe and productive work place. NFIB members are owners of businesses in all the sectors that you saw shown on the screen this morning. If you look in the Yellow Pages, they do it.

We're currently involved in a study with NIOSH encompassing nearly 300 NFIB Ohio members to develop more effective safety training materials for small business. It's been quite a journey. I looked at some of my earlier e-mails and it's been about five years. But you know how it goes with getting the funding and getting all the people together. But it's been a real pleasure. These participants received these materials consisting of sample safety training modules, and are using them to keep their employees safe.

We went to a whole process of working with the NIOSH folks, people coming out and attending our seminars and being focused with us. NIOSH will collect information on what worked, what didn't, and what business owners would like to see.

Additionally, the Ohio Bureau of Workers' Compensation Division of Safety and Hygiene is a partner in this study as well. And they'll be able to take the information collected and developed by NIOSH in this study and create training materials and classes to educate all of our employers. We're also currently participating in a national alliance with OSHA, and we have a state alliance as well.

I'm here today to comment on the opportunity of continuing this research, albeit on a slightly different tact. Many small independent business owners involved in the day-to-day operations of the business find it difficult to fully understand safety requirements and how they pertain to their operations.

We believe that by breaking down the requirements and highlighting the points of the program of process, along with examples of good practices, they will then be able to understand how it relates to what they do and why they must implement these safe-work practices in order to provide a safe workplace.

Since we are involved in the current study to find the best ways to educate employees, we feel as equally important to develop the method or methods of providing small business owners the safety or other regulatory information in a form they can easily understand and that is directly related to the rules and safe-work practices that they're required to implement.

Too often I meet employers who truly want to provide a safe workplace, but they're not able to understand the highly technical nature of the safety regulations. We feel it would be very helpful to provide some type of best practice, basic inclination, or even a sample program of process for the small business owner so they are able to decipher the rule or regulation, understand how it applies to them, and how to train their employees. For instance, this best practice or sample program would illustrate how a program would be implemented and suggestions on how to train employees. The hazard communication standard, for example. Material safety data sheets best practices give examples of how they are kept and shared. Labeling seems simple, but what kind of label should be used and what must it say? Training must be done so employees understand the hazards, but form should it take and what should it include?

As a safety professional, I'm keenly aware that some employers simply take safety programs and processes, add their own names, and call it their program. I do not feel that that should keep us from trying to develop more user-friendly processes to meet safety regulations and standards for those employers who the majority, I believe, truly want to implement these rules in an effective manner.

Comment ID: 780.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Finally, one last issue of concern is NIOSH's recommendation that OSHA take action to deal with silica exposure in the workplace, despite the continued doubt or trend silica-related deaths nationwide. If it weren't enough, then scientific studies are showing that the risks of harm from silica exposure are much less than originally thought. Three separate panels of the SBA have concluded that the recommended policy actions would place crippling demands on America's smallest businesses. NFIB recommends that NIOSH reconsider its prioritization to abatement of crystalline silica exposure in the workplace.

NFIB appreciates this opportunity to address this panel, and remains committed to continual partnership and participation to promote safe work places. We also really appreciate the good work that NIOSH does. And it's been an enjoyable five years, and look forward to more. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 781.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Etiological research

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Hi, I'm Ronald Klein. I'm the Medical Director of (inaudible) Workers Care, which provides occupational medical services throughout the Dayton area at various sites. I do not have a script to talk. Obviously, I couldn't keep my mouth shut.

I've heard lots of good material here. We've skipped around the ergonomics and the low-back issue. And I'm surprised at how many -- I thought I would see many more of my medical providers here who are working in day-to-day providing ongoing frontline services. I'm a little dismayed that we're not here, and I'm going to apologize for it, because we should be.

One of my concerns is, obviously, we've touched on some of the low-back issues that obviously comprises probably the single largest percentage of patients that we see, and it is a very difficult group to deal with. There is currently not really good research of how we are dealing with these low back and their ongoing treatment. One of the things that we have instituted is what we call a back decompression device. And, unfortunately, it is not reimbursed. There is no particular code for it.

While retrospective studies would indicate that you have 85 to 86 percent success rate in reducing herniated or ruptured disks successfully without surgery, there is no prospective studies being done. And I think that we would like to see NIOSH and OSHA get involved in funding some of that research to try and see if we can't do a better job at treating low-back issues.

The only other thing that I wanted to bring up is carpal tunnel syndrome. That has been an ongoing problem here in the United States. It is -- the United States and Canada are the only two holdout countries still recognizing carpal tunnel as being work related. There is no evidence that this is a work-

related problem, statistically, at any population that you look at. And I wish we'd come out with a statement of paper that finally calls it what it is, so we can clarify that to our providers that are having to deal with it on a daily basis, as this continues to be a very muddle ground. That's all I have to say.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 782.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment
Work-site implementation/demonstration
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good morning. My name is Farhang Akbar with the Medical University of Ohio. And, again, I couldn't keep my mouth shut. I didn't have anything for presentation, but I thought I would make a couple of comments from my own personal experience.

In fact, we have employers, we have workers, and then we have other bodies, like government and industrial hygienists and all of that. What we are trying all to do is eventually control the exposure. Unfortunately, our recognition, our applications of hazards, or monitoring, they are going very well. Everything is electronics. We can cut various spawn amounts of pollutions and so on. But, unfortunately, when it comes to control we are so weak. I'm talking about the (inaudible) expense, I'm not talking about (inaudible).

I'm a researcher. I spend my time hands-on. I tell my students that I collect dirt and notes. This is what we do. One of the things that is very, very popular now a days is using in lieu of very good control methods is personal protective devices. And I have very, very long experience personally with PPEs. And we have published two papers. And in both of them you will be very, very surprised that people don't like PPE. And either they don't understand that why, or we do ignore it.

In my experience that conducted a research in about five, 600 people, 50-something people, they didn't like the respirator. Still, we insist that people use respirators. The same with hearing protectors. They don't like it. They don't like the collar, they don't like the size, they don't like how they're made, they don't like the way they're designed on the face. They're all issues. And we do not have any research. As I said, the only research we have, very, very short, and in a short time, was a couple of things that we published.

And I'm going to ask we put in our agenda a more elaborate, a more intensive way of looking at personal protective devices. Not walk there as an industrial hygienists or health and safety professional and throw a hearing protector or something in front of the worker and say, go and use it. Why I'm saying that is because I see them all over the factories, shops. They're not using them, they're not cleaning them, they're not maintaining them well. There is no way to check in and out. So that's a major problem. That's number one.

Comment ID: 782.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Number two comments I wanted to make, again, comes from my personal experience. Last year I tried numerous employers and unions to let me do a simple pilot research in this state. I couldn't. They didn't let me to do that. And I'm sharing that until we do -- if you're not providing the research, and Leggs is one of the employers for us, if you're not going to cooperate with us and let us do our work, how are we going to do the research?

So my second suggestion is, we put in NORA how we approach employers. It's not a matter of educating them to do health and safety, like educate them and let us do research. And then don't have any good communication on that either. I probably share this through frustration, as the first presenter said here with you, and ask for help.

And thank you very much for the opportunity to let me speak.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 783.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Capacity building

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: I want to actually comment on what Chris mentioned, the small business. Now, we have been kidded about the small businesses from our industry collaborators. Now, my question -- I had a particular question which amplified on the previous speaker, and that's targeting NIOSH and targeting our friends from industry and partnerships and so on.

Now, when we go and approach a small business to conduct research, it would help them out -- there are very few companies that are very proactive and come forward that speak with us. However, based on our limited experience, the grand majority are kind of reactive. So my question to people like this and others, what would you do to overcome those obstacles, particularly one who approves them with research. I'm not going to call it research we're going to call it smart solutions. Because whenever you talk to people they say, oh, these people are in high ivory towers. Well, we are engineers. We have learned to do things on the shop floor. So how do we overcome the obstacles whenever you go and talk to those small manufactures, which is like 80 percent of the U.S. manufacturing, or maybe even more into the future, especially when we get into nanomanufacturing. The major player will not be the P and G, GE, it's going to be predominately this one manufacturer. So that's what we'd like to know. We'd like to know how can we help these people, how to break the ice and get to them. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 784.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Infectious agents

Work-life issues

Approaches

Etiological research

Health service delivery

International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: My name is John Hochstrasser. I'm a graduate at the University of Cincinnati, PhD, and I also graduated from their Engineering Department with a degree in -- Master's degree in Civil and Environmental Engineering. I've been practicing in industrial hygiene for well over 30 years now. And in 1993 I ran into a situation where I had two employees in the workplace that had obstructive airway -- lower airway disease, obstructive lower airway disease. Over four-and-a-half years of pursuing it, we pretty well discovered what we thought was the cause.

And, of course, you can always get rid of an occupational disease if you engineer it out of your workplace, but you seldom find out what the causative agent it or the interactions are. It was gone.

And around the year 2000, 2001 popcorn workers came up with the disease. It's one of those things that just doesn't go away. One of the problems we found, we thought that there was an implication of viruses or bacteria and pre-infection of employees from those diseases. And as infectious diseases spread globally, I think what we're going to see, and we may already be seeing it, but not finding it for some reasons I'll mention, is diseases that predispose employees from a viral disease or influenza and go into the workplace and the levels to which the ACGHTLVs, or the OSHA PELs state are insufficient to protect those workers that are predisposed.

Now, one of the problems that we have today is there is no one in the workplace to recognize the disease. Unless you're doing a respirator program with a very good pulmonary function program associated with it you may not find the disease. And you won't find it unless you're monitoring by the year, every year doing pulmonary function tests.

So I believe as we go through these research possibilities, one of the things you need to look for and keep an open mind to is the possibility of natural occurring diseases. If you go to the CDC website you'll find a publication called -- let's see -- infectious diseases, emerging infectious diseases. The publication started in the late 1980's as a quarterly publication, and now it's every month, 200 pages long every month. And I think as globally we expand in the workplace we're going to see these diseases start to spread, and it's bound to have an effect in the workplace. And one of the reasons we don't find as much today is because we don't have occupational physicians and occupational nurses actually working in the workplace to find these diseases and head them off. So that's my comments.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 785.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: My name is Dr. Judy Jarrell, and I'm at the University of Cincinnati, Director of Continuing Medical Education and Director of Continuing Education in our Education and Research Center for NIOSH. I just wanted to come and say a couple of comments, and reiterate what Dr. Carol Rice was speaking about earlier.

As an educator, as a trainer, I run into frustration a lot. I do a lot safety training, a lot of health and safety hygiene training. And the thing that's come up in my research and the thing that comes up repeatedly in our training is that, okay, we understand. So there's not a problem with getting our workers to master the material that we're teaching them. And, yes, we feel it's beneficial. So they're maybe not widely motivated, but they're motivated to change behaviors on the job. The problem comes in when they get back to the job. And, as you know, training is of little utility unless it changes behavior on the job, and safety.

So my concern is that we get some more funding, some more support for doing the after-the-training type of research that we need to do into what can we do best on the job to be sure that behaviors are changed and that there is a culture of safety that is built within our companies, especially when the bottom line means so much to them and they see safety as detrimental to them. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 786.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: I'm Jay Jones, and contrary to what it says on your agenda, I'm not representing the University of Missouri-Rolla. I'm not sure how that got on there; maybe because I'm an alumni at that university and have an alumni e-mail address. I think they must have pulled it off the e-mail address. Anyway, I'm a self-employed industrial hygiene consultant, also an adjunct faculty member at the University of Cincinnati, Industrial Hygiene. The comments I've got to make really go across -- really relate to some of the stuff this morning about small business.

First, I guess I will offer a little bit of defense of some of the NIOSH work. There is quite a bit of work that NIOSH has done in small business. A lot of it you have to find under individual industries. And so the main point of the comment this morning that they weren't finding stuff I think is true. It is there though, a lot of stuff, but it's not very easily identified. And that kind of relates to my concern about this.

I think small business is an important topic for almost all of these sectors, certainly it is in manufacturing and across the board. But I'm afraid that if there isn't specifically mentioned in the charter for these groups that small business stuff needs to be the emphasis since 40 percent of the workers are smaller businesses. But it ends up and gets forgotten, especially down the road as we progress on with these.

Also, I think the other thing, if it isn't specifically spelled out that small business issues need to be taken care of, that as universities begin to -- or other people apply for research money, unless something's in there that talks about small business, it becomes much more difficult for them to put in projects that relate to small business.

Comment ID: 786.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Small business

Health outcomes; diseases/injuries

Exposures

Approaches

- Engineering and administrative control/banding
- Intervention effectiveness research
- Marketing/dissemination

Partners

Categorized comment or partial comment:

And I think, concerned with that, one of the big areas that needs to be looked at is the delivery; how do you get information to small businesses. I think they're -- also, in each of these sectors we need to be cognizant as we're developing strategies, that the same things that work in the big companies may not work in the small companies.

So those are two issues that I think are important to keep in mind to cross these, but also I think there really needs to be something spelled out fairly specifically about small business in there. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 787.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Etiological research

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: I'm Tim McDaniel, and I'm the Environmental and Safety Manager at the International Truck and Engine over in Springfield, Ohio; manufacturer of medium-duty trucks. And a few of areas that we've been seeing our area of interest that we think are worthy of considering for research might include the relationship between illness injuries and the fitness of employees, as our company's been getting more and more involved into wellness programs and in fitness programs.

We think we're seeing some -- maybe some benefit there, but would like to see some research to confirm that. Right now at our location we have about 280 people going through a fitness program that includes diet and exercise and things like that. We're just into it right now about six weeks into the program. But longer term we think things like this should have an impact, particularly in the area of ergonomic-type issues out in the plant, but would like to see some research in that area.

So we're wondering -- or questions that we would have are, are better fit employees less likely to have straining injuries or carpal tunnel or other repetitive motion-type injuries, associated things. What effect does pre-conditioning have on preventing injuries and such?

Comment ID: 787.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Etiological research

Partners

Categorized comment or partial comment:

The second area of interest, and one that our company did a little bit of work in a couple of years ago was in the area of medications. And they worked a little bit with one of the pharmaceutical companies and looked allergies, and seeing if there was -- based on an employee survey, to see if there was any relationship between employees that were taking allergy medications and whether they were reporting injuries, and there seemed to be a little bit of a correlation there. The people who were taking allergy medications tended to have a higher incidence of reporting injuries according to this survey. So I think that could be an area of interest. And not necessarily just limiting it to allergy medications, but it could be other over-the-counter medications or prescription medications that are commonly out there. But are those things that are causing employees to come to work that shouldn't be at work, or are they things that are some how distracting employees if it's injuries, or if it's -- again, more ergonomic-type things. Are they things that are causing them to be more prone to building up stress in their joints or their muscles or just -- I think there could be a variety of things you could look at there for questions.

Comment ID: 787.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

Best practices in returning injured employees to work, or particularly those with repetitive motions and strains. In our union environment, the employee -- the way the process works is you try to get the employee back to their particular jobs. The same one that they were complaining of having problems with is the job that they're going to move right back into. So what are some best practices to try and deal with that sort of environment?

Comment ID: 787.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Musculoskeletal disorders

Respiratory disease

Exposures

Work organization/stress

Approaches

Etiological research

Partners

Categorized comment or partial comment:

And the last one is, just as we see more and more business trying to move away from the traditional five days a week, eight-hour workdays, what are some of the implications of that? Our company has looked -- has a couple of operations in other states that work four days a week, ten hours a day. I know other companies have other modifications of the 40-hour work schedule, but just trying to understand how that -- again, ergonomics being one of the areas, how it might impact that.

Also, the similar facts on respiratory issues and just tiredness towards the end of the day. Does there tend to be more injuries if you extend the days and things like that?

So that's all I have. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 788.01

Categorized with the following terms:

Sectors

- Manufacturing
- Services

Population

- Small business

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Surveillance
- Etiological research
- Exposure assessment
- Risk assessment methods
- Engineering and administrative control/banding
- Personal protective equipment
- Work-site implementation/demonstration
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good afternoon. My name is Dr. Diane Mundt. I'm an epidemiologist based in Amherst, Massachusetts office by ENVIRON International. We're an environmental and health consultancy. Now, I'm not representing a particular company today, but I'm here to speak in support of a research agenda for occupational health and safety in nanotechnology, that some have called the next industrial revolution.

We've recently worked with some companies that are looking for guidance and best practices in nanotechnology. And we looked to NIOSH, which has provided an important lead in providing access to the limited research findings that are available, as Mary mentioned, through their website, as well as through conferences and meetings in occupational health and safety. They've also been active in supporting research in occupational health and safety, but more is needed.

The population at risk is currently somewhat different from what you would consider a traditional occupational work environment. That is, it's primarily consisting of those in university labs, start-ups, RNDs and small RND sectors in small and large businesses. This will change over time as research and development moves from the development stages to the large-scale manufacturing. It includes those

who are using nanomaterials and what they're doing, as well as those who are actually manufacturing nanomaterials.

Risks and diseases associated with nanotechnology are currently unknown, and efforts are needed to develop surveillance tools, as well as to define what is needed for monitoring. Nanomaterials are highly diverse, and exposures are not low characterized. Additional research is needed in how and what to monitor, as well as how to interpret the findings of that monitoring, including whether, in fact, the monitoring results indicate that some risk is apparent for the health of those working in the industry.

Associated with understanding the exposures is the need for continuing research on fast and effective engineering control strategies and PPE for those who are in real world settings using and developing nanotechnology. NIOSH will need to find creative ways to encourage participation in research by the small and large companies, as well as the research labs, which currently represent the frontline of occupationally exposed workers. This is all particularly challenging where a proprietary nature of the work may in fact be a disincentive for participation.

Nanotechnology research will require intra-disciplinary expertise, including health scientists and engineers, individuals who are generally not seeking collaborative research agendas. We would encourage any nanotechnology research agenda to be industry relevant. That is, involving exposures and materials and methods that are, in fact, currently in use for those doing nanotechnology.

Finally, we would encourage NIOSH to advise and update any planned research agenda, as we can only begin to imagine what new challenges to occupational health the next ten years of nanotechnology will bring. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 789.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good afternoon. I'm Gordon Reeve. I'm the Manager of Epidemiology at Ford Motor Company in Dearborn, Michigan. And what I'd like to do first is congratulate NIOSH on the process of continuing their work with NORA, and also offering our strong support for the process.

I'd also like to say that we're very pleased with how NORA 2 is being organized. As a charter member of the NORA 1 group in traumatic injury research, we had certain problems in looking at just traumatic injuries because as we went along it was not only people that had traumatic injuries in the manufacturing sector, there's people that have traumatic injuries in 7-11 stores, people have traumatic injuries in taxicabs, and people who had traumatic injuries while working as lumber jacks. And so you try to put that diverse group of people together to try to develop a unified agenda for research, it was next to impossible.

But we managed to do that with first stepping away from the fatalities and getting to the injuries, because if you said, what industry has the greatest fatalities, then it skewed everything in one direction, but then you said which industry has the greatest number of people injured and the greatest amount of disability, it pushed you in a much different direction. So I think we still need to do that.

But the step that you've taken forward now as looking at these things in terms of manufacturing sectors and other segments of industry alleviate a lot of these problems. It also lets you cover acute injuries, ergonomic issues, and cost of injuries across each of these manufacturing sectors and other things that you're looking at.

I would, however, with the manufacturing sector suggest that we probably start off with a manufacturing sector split into two parts. One part would be the labor-intensive manufacturing. And I would haphazardly guess that even though Ford is very labor intensive, we're also very cost intensive for equipment in engineering, which is very different than running a chemical plant or a chemical manufacturing facility like a Dow Chemical or an Amoco BP you've set up where the cost of the equipment is very expensive but you might have acres and acres and acres of equipment, but only 50 to

80 people running the whole thing. Again, very different sets of issues, but I would suggest that we start off with those separately and then try to merge them as we go along.

Comment ID: 789.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Surveillance

Etiological research

Risk assessment methods

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

So with that background, the things that we've learned from having all of this data to look at is that, one, we need to do a much better job on incident investigations in terms of coding them, in terms of underlying cause or root cause, and the safety terminology, instead of looking at the immediate cause.

The other thing would be we need to do a much better process of assigning a risk score so we can prioritize them. No matter how good of a year Ford has, we will never have enough money to tackle every injury problem that comes along and just say fix them all. And even if you could fix them all, you have to fix something first and something second and something third.

So what we are looking at, and we have a model running this in our operations in Australia, where we look at the frequency of the injury, the clinical severity of the injuries, and that targets you on getting a number. And, actually, our managers in those plants, they say, well, you know, I know we've got a problem, we had X number of people hurt and I've got this and this to do, show me the number and if the number is above a certain score, there's no question they fix it. And we're trying to pull that into the U.S. operations and also the European operations. So we don't have the argument, well, gee, it was only this guy, it was only that guy, and it only happens once in a while. It puts severity and frequency into a whole issue of risk.

The final one is looking at some quantitative effort to look at the cost of injury interventions and the effectiveness of those interventions. We have a lot of cost information about work comp, days away and those types of things, but we have very little cost about the impact, the economic impact to the

cause to the worker that doesn't get reimbursed from any recognizable source other than that worker's own pocket. We also wanted to make sure we could look at the intervention in terms of the injuries before the intervention, after the invention, and look at the cost savings.

So those are the three things that we would like to make sure that we can push into the agenda based on our experience of having a lot of information and data. And it's not just for a large company like Ford, it could be for small companies and down to the small business of the workplace. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 790.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Immune disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Work-site implementation/demonstration

Economics

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Brush Wellman, Incorporated

Categorized comment or partial comment:

Verbal Comment 2006/03/06: I'm David Deubner, Medical Director for Brush Wellman, Incorporated. Brush Wellman is headquartered in Cleveland, Ohio, its largest manufacturing facility is just outside of Toledo. Brush Wellman is the largest world-wide supplier of beryllium materials.

So what's beryllium? Beryllium is a light-weight grade metal. It and its alloys and compounds are used in a variety of important products. From medical lasers and X-ray machines to telecommunication satellites, to building fire sprinkler systems, as we have here, to bushings and bearings in commercial and military aircraft.

The reason I'm here today is to report on and thank NIOSH for the research on which we have collaborated for the past eight years. This collaboration is a model for government industry interaction to further the health and safety of workers in the manufacturing sector.

In 1997, with the backing of company management, I wrote to NIOSH requesting help in better understanding how beryllium could affect health so we could improve protection of workers engaged in the manufacture of beryllium materials and products. We received a very enthusiastic response from NIOSH. In 1998, we signed a formal agreement to work together. With NIOSH we have conducted intensive studies in seven of our manufacturing facilities. The outcome of this has been the

development of the enhanced beryllium safety model, which we have implemented in our facilities. With NIOSH, we are in the final stage of preparing for scientific publication a report that documents the effectiveness of our enhanced safety plan. Our workers are healthier thanks to the efforts of NIOSH.

In addition to converting research to practice in our own facilities, we are currently beginning a process with NIOSH in a project of how to best communicate this enhanced safety model throughout the downstream beryllium manufacturing industries.

We are also working together to better understand the broader implications of some of the lessons learned with beryllium. As an aside, I have personally consulted to portions of the diisocyanate chemical industry and the cobalt industry on how the NIOSH industry collaboration can be mutually beneficial.

NIOSH and Brush Wellman are collaborating -- just beginning collaboration on the case study of the business case for improved industrial safety. We are exploring the potential applications of some of the technical aspects of beryllium safety to emerging technologies, such as you just heard, nanotechnology, as well as other occupational hazards that involve either very low levels of exposure or allergic mechanisms of disease causation.

The NIOSH/Brush Wellman work-together has required mutual respect for the missions and the practical realities of the respective institutions, as well as the continuous support of management in both Brush Wellman and NIOSH. It has also required ongoing work on both sides to identify potential misunderstandings and to surface and resolve potentially divisive issues.

One of the greatest benefits to Brush Wellman has been the enthusiastic support of workers for the NIOSH relationship and the research. Brush Wellman workers have developed improved trust in the company's commitment to their safety as a result of receiving the company's openness and inviting NIOSH into its plants, and as a result of the consistent communications of research results and safety coming directly from both parties to them. We hold an annual conference in Morgantown to which we bring a group of production and maintenance workers and supervisors. And these workers have also taken great pride in showing to NIOSH at this conference their dedicated work in implementing a variety of the aspects of the enhanced beryllium safety plan.

In conclusion, both objectively and subjectively, the NIOSH relationship has been a win for Brush Wellman, for which we are thankful. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 791.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing
Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good afternoon. I'm Manuel Gomez, the Director of Recommendations and Outreach for the Chemical Safety and Hazard Investigation Board. And before I tell you what I'm here to talk about on behalf of the Board, I wanted to tell you a little bit of a story.

We have at our office a chemical incident reporting system because we investigate chemical accidents, and I carry with me the name on everybody's existence, one of these little gadgets. So I looked at sometime around noon this morning, and it turned out that two workers were killed in a Texas incident in a hazardous material treatment facility. And 15 were injured, some of them apparently seriously, in an electronics manufacturing facility, I think a semi-conductor one, somewhere in California.

I don't have the details, but I'm saying that at the out set to put in perspective what I am going to try to share with NIOSH today. In any case, the Chemical Safety Board, the CSB for short, is an independent federal agency that investigates chemical accidents in fixed facilities. We're modeled after the National Transportation Safety Board, but we've been around for about a decade only.

We look at root causes, as the gentleman from the Ford Motor Company pointed out, and try to look at not only equipment failures, but also inadequacies in safety management systems, in regulations, industry standards, volunteering and internal industry standards, in any case, anything that might be the root cause of an accident.

Our investigations result in recommendations that may go to regulatory agencies or even research agencies. We, in fact, have one to NIOSH from an earlier investigation. They can go to the plants themselves, to corporations, through labor unions, to extend their develop organizations in short to any number of different institutions.

I can cite two examples from the region in the event that there are still some of our guests here from this area in Ohio. In 2003 we investigated an incident of nitric oxide explosion in Miami Township, which is not far from here. Fortunately, there was only one injured worker there. Fortunately in the context of what I said earlier, but, of course, not certainly fortunately for him. But there was also damage to several nearby homes.

The second one that I can mention, which is somewhat related to the area, is that we have a 2005 urgent safety recommendation to BP out of a Texas city incident in which 15 people died in March of last year. That recommendation is to conduct a very major study about safety culture in the entire company. And one of the facilities which they will be looking at, or perhaps has already looked at in a panel that was formed as a result of our recommendation, is a facility near here in Toledo, Ohio, one of their refineries.

I brought with me, by the way, and I have outside copies of some of the paperwork reiterating or talking about what I'm saying, a FAQ sheet about the CSB, and two CDs that have, one of them has all of our investigations, the reports, and the other one has several short videos that we've begun to create to do outreach with regard to the lessons that we draw from our investigations.

We're led by a Presidential-appointed board, and I'm here on their behalf. Our Chair, Carolyn Merit (*), considers of NORA, and I'm actually quoting, it's a defining frame work for the nation's occupational safety and health research goals in the past decade. And so we're very happy as the CSB to be here, and we're pleased to collaborate with NIOSH in their efforts to revamp the NORA agenda.

They recently -- the Board recently voted -- unanimously voted for a statement suggesting that NIOSH incorporate into NORA research in the future topics that focus on chemical process safety and the prevention of accidental releases of chemical substances through explosions, fires, and similar incidents. We think that NIOSH can accomplish this by a combination of in-house and extramural research, and by being a catalyst for such research and partnerships with other stakeholders, which hopes to speak at this manufacturing sector.

But I should point out that we could probably just as well have gone to a cross-sectional meeting if it had occurred because many of the incidents that we investigate, in fact, many chemical incidents occur not only in the manufacturing sector, either the producers of chemicals or the users of chemicals, but they occur in practically every one of the other sectors that you saw on the slide.

Research in this area of chemical process safety we think will address very serious hazards that effect large numbers of workers. The available data don't permit us to make really good estimates, but at least in 1992 when OSHA promulgated their process safety management standard they estimated the population at risk was approximately three million workers.

I think it's probably safe to say that certainly the population at risk remains at least at that level, but I would dare say much higher because the process safety management standard for which those were made encompasses only a limited number of substances after they go past a certain threshold, amounts of the substances present in the workplace. But chemicals exist in many quantities and they're processed in many, many different ways that are not necessarily covered by the PSM standard. So the estimate of three million effected workers by the risk of catastrophic chemical incidents is probably very conservative.

Not only that, but I think that we can -- we would probably all agree that the growing concern with chemical security, which is a related but closely, closely related topic, it's very, very much, very much touches on the question of chemical process safety. Because to make chemical manufacturing use transportation and handling safer, inherently safer, it's also to make it less susceptible to criminal intentional activity, such as terrorism.

We also think that research in the chemical process safety area can bring important benefits in other areas of health and safety. Because management systems and I would dare say that many of us here have been hearing that word a great deal, play a central role in the prevention of catastrophic incidents, as they do in any health and safety programs and practices. In fact, the use of management systems across a safety introduces principals and procedures into the workplace that can improve health and safety far beyond just the prevention of incidents, chemical incidents, or chemical release incidents.

The requirements of the OSHA PSM standard, in fact, one could argue, were the forerunner of ideas that are now contained in the more recent and more comprehensive management system approaches that we see in ANSI Z-10, the National Voluntary Consensus National Standard for Occupational Health and Safety Management Systems in the vital guideline on the same topic, and in the commercially available technical specifications called 18,000. It's got a long name, but I probably won't -- can't even remember it.

For example, OSHA PSM requirements require, and that's of course for that narrow, relatively narrow group of substances and therefore companies that are covered by that standard, but it required the systematic collection of safety and health information about the chemicals, processes, and equipment, as well as process hazard analysis of that information. It requires a lot of other things, but I'm giving that as an example. These two steps in PSM are called process safety information, PSI, and process hazard analysis is called PHA.

Well, if you leave the jargon aside -- in fact, if you take the word process out, you're really talking about the more traditional approach, risk-assessment approach, which applies to all health and safety; what have we got here, how hazardous is it, what is the size of the risk, and then you go on to what do I do about it and how do I prioritize it. That's what management systems do.

So I would argue that this kind of proactive management systems approach, which is inherent PSM, in the process safety arena it's applicable to prevention of chronic health and safety -- health hazards and safety hazards and other kinds. NORA has not explicitly included work on this area of process safety in the past. And, in fact, researching this area has been relatively scarce. And as a result, there are many gaps in knowledge that that kind of research could address.

In our statement we list a few as examples. We're not trying to point them out in any particular order of priority. But to give you a feel,

Comment ID: 791.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Transportation, Warehousing and Utilities
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Intervention effectiveness research

Partners

Categorized comment or partial comment:

we can research how to measure and improve the effectiveness of emergency-preparedness programs for releases of toxic chemicals.

Comment ID: 791.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

We need to improve the information regarding catastrophic chemical hazard potential that is contained material safety data sheets. We run across that all the time in our investigations, the absence of that information.

Comment ID: 791.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

We need to better understand the possible safety impacts of a large contractor workforce in the chemical industry, and especially the petrochemical industry where we think that the percentage of contractors runs to 15 to 20 percent, a very large proportion who are not working directly for the employers. We need to learn how to better and more objectively define what people call these days safety culture, perhaps by combining the ways we're trying to measure the effectiveness of occupational health and safety management systems.

Comment ID: 791.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Transportation, Warehousing and Utilities
- Unspecified

Population

- Small business

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Marketing/dissemination

Partners

Categorized comment or partial comment:

It would be useful to develop and implement methods. Guess what? To reach small and medium-size businesses, although I won't belabor that one; I think we hit on it real hard before during in this event. But particularly learn how to get -- learn better ways of getting the lessons out to them. We're all tried, but none of us know how to do it very well at all. So we've got a lot of learning there, and I think research could help a great deal.

Comment ID: 791.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Transportation, Warehousing and Utilities
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Surveillance
- Exposure assessment

Partners

Categorized comment or partial comment:

And, finally, we need to improve the data that are now available to measure trends in accidental chemical releases and their impacts. You know, there's a phrase out in the business world that says if you can't measure it, you can't manage it. And we can't and don't measure very well lots of things in health and safety, but certainly one of them is how many accidental chemical releases we have.

Comment ID: 791.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Chemical Safety and Hazard Investigation Board

Categorized comment or partial comment:

So to conclude, I guess I may have run out of time already, but I think we're flexible, and to reiterate, the CSB believes that NIOSH is in a unique position to stimulate research in the area of process safety and that this research can have beneficial ripple effects in areas that are much broader.

And as the new NORA takes shape we also would like to emphasize that the CSB is very willing to support, participate, collaborate, whether it's with the research council on the cross-sector, research council in what ever way is possible to help better define what the most important areas of research should be, to prioritize them, whether they are the ones that I've listed or others that we have identified.

And on behalf of the CSB I thank you for the opportunity to speak to you. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 792.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good afternoon. My name is John Morawetz. I'm speaking today on behalf of the International Chemical Workers Union Council of the United Food and Commercial Workers Union. I currently work for the chemical workers, both as the Director of a national HAZMAT training program for a consortium of seven unions and as the (inaudible) Director of Health and Safety.

First, NIOSH has a proud history of service to America's workforce. From health hazard evaluations, industry-wide studies, (inaudible) technology, to hazard alerts, library services, respirator approvals and NIOSH pocket guide to name a few areas. NIOSH is the primary national research organization to protect workers. For chemical industry, for peoples of companies both large and small, NIOSH is an important source of assistance in what is all too often a difficult situation. (Inaudible) health and safety activists, there is no other place for them to turn to for all of these services and follow-up.

NIOSH provides essential services, and although not all activities results in a scientific article, they are invaluable. We have often called NIOSH and you have rapidly responded both walking us through technical subjects and meeting our needs.

NIOSH conducts research in a tripartite format, which involves both management and labor at each stage. Workers all too often perceive themselves as, at best, subjects and, at worst, guinea pigs for research. Worker and union involvement helps to minimize this, produce better and more useful research, and is a practice to be consistently implemented in all research efforts.

Second, occupational health and safety research is not done for its own sake. It's done to identify areas to intervene, to lower exposures, to help assist in injury rates, to give workers and their employers information to ask the right questions and to get answers that will improve people's working lives. All NORA projects, therefore, should include evaluation on how the research is utilized.

[Editor's note: The third item is presented below, so all the "Comments on the NORA Process" could be grouped together for efficiency.]

Fourth, we all need to review the overall NORA process and accomplishments to date and what are realistic short and long-term goals. NIOSH has continued to openly discuss what they're accomplishments were at the first decade, what was learned, and what questions remain in these priority areas. I've tried to find current information on the NORA website; however, it does not look like some of these web pages are being updated regularly.

[Editor's note: The fifth item is presented below, so all the "Comments on the NORA Process" could be grouped together for efficiency.]

Sixth, the use of significant NIOSH resources in recent natural disasters clearly will delay or reduce most other efforts. Although we firmly support securing all additional funding, the political reality might be that NIOSH will have to use existing resources. Rather than trying to accomplish everything with finite resources, NIOSH must have a plan to adjust its normal agenda when responding to another anthrax incident, hurricane, or public health disaster.

Seventh, we have serious concerns on the possibility of contracting out NIOSH's workforce. We do not believe that this is in the best interest of either quality research, NIOSH's workforce, many whom are members of the American Federation of Government Employees, NIOSH as an Institution, the companies and workers who are NIOSH stakeholders, or our national interests. Chasing the allusive rhetorical goal of cheaper work all too usually only serves the lucky contractor and few else.

Eighth, and related, is the need to preserve and strengthen your highly qualified and dedicated workforce. While there are many excellent professionals outside of NIOSH, many of whom are here today, a strategic view should balance the contracting out of research projects with the need to preserve your internal professional resources. Specific priorities will change, but ensuring your strong professional staff and Institution is crucial. From the national perspective, NIOSH adds a valuable public health approach. NIOSH needs to remain institutionally separate within the nation's public health structure to ensure continuing and appropriate emphasis upon protecting our workforce.

A recent example of NIOSH's contribution was a collection of anthrax exposure data when a musician was infected in New York City. The rapid use of antibiotics to his friends and fellow musicians, one might say fellow workers, is a protective measure that we learned after the failure to take these steps for Washington, D.C. postal workers in 2001. Tragically, occupational health research all too often reaches conclusions at the expense of the health of workers as in the -- I'm repeating myself, in the death of postal workers in 2001.

NIOSH and its NORA agenda is a vital institution in investigating and disseminating information to decrease this national burden. Thank you for your time.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 792.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance
- Etiological research
- Exposure assessment
- Risk assessment methods

Partners

Categorized comment or partial comment:

Third, NIOSH should continue their efforts to investigate hazards, such as nanotechnology, mixed exposures, and special populations. Industries, hazards, and demographics change, and NIOSH must have the necessary resources on hand to launch investigations. Some may be industry specific, while others will cut across various sectors. Similar to the original NORA priority research areas, and will therefore be an issue, I presume, for the cross-sector research council.

Comment ID: 792.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Fifth, for all research documents needs to be issued timely for our members and any recipient to make full use of them. Clear recommendations and brief synopsis, as well as the full document, need to be available for NIOSH's hard work to be useful to the communities it serves.

Comment ID: 793.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Exposure assessment

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good afternoon. My name is Chris Henderson. I've been in the food business for 17 years in the safety and health systems. I actually graduated from the Rocky Mountain Research Center. And I'm actually here today representing the Poultry Industry Safety and Health Committee. That is a committee whose member companies employ 250,000 workers in the United States. But based on my experience in the food and pharmaceutical business, I can tell you that the concerns that that committee asked me to bring to you are concerns that the entire food industry share, and I have no idea what they employ.

I actually on the agenda I put down for two subjects. The first one is impact of cold on musculoskeletal illnesses. I will not address that, because we're fortunate that a local employer in the area is able to attend, Mr. Kevin Reed, and he's going to address you following me, and he's going to talk on that. But I am going to talk a little bit about chloramine exposures and the concern that is in our industry. And, actually, we had a safety committee meeting in February and we were discussing the subjects that we voted on to bring to this meeting, and I was shocked that this was such an issue within our industry, having been in the industry for 17 years. I've only had two experiences, both of these in my personal work were just in the past few years with chloramines.

So I need to give you some quick background to let you understand how insidious these are in the food business. We use chlorinated water a lot in the food business. Usually it's to rinse equipment at the end of the day, but it can be used during the processing also. For example, returns on conveyers or a conveyer loop going back on the bottom. If it's bringing a product on that conveyer, it will be rinsed

with a spray of chlorinated water. When chlorine in water, a solution is combined with ammonia it produces a gas, a various gas of chloramines. These are very obnoxious or irritating to employees. We have no means to monitor chloramine in the workplace at this point.

My first experience was I got a call from a plant that employees were extremely upset and complaining and complaining month after month about the irritating chlorine. But yet the safety health people at the plant were monitoring the chlorine levels, and there was no significant exposure taking place. I hated to do this because it was in the middle of the night that I had to go out there to the plant and I took my meters to verify and sure enough the level of chlorine in the air was quite acceptable. But yet you could look at the workers and all of them had bloodshot eyes. So either they were having a real good time and I didn't know about it, or something was going on. There was a very faint smell of chlorine. And this was my first exposure. It took me about a month to figure out what was happening there. And this is usually the way it is with chloramine exposures.

I took did a little research coming down here today. It just so happens there is a local facility, a food company in this area, that has had a suspect of chloramine exposure in which six workers were sent to the hospital just a couple of weeks ago. Now OSHA and EPA are trying to determine how those chloramines formed, and they have a couple potential solutions or a couple of reasons that they're investigating.

But really we don't have any idea what kind of exposure is out there, how many workers are having these problems. I think it is being missed. As an example, at our meeting we were having this discussion and I asked for a raise of hands of all the members there with our committee, how many have had a suspect chloramine issue. About half of those raised their arms, which shocked me. I thought there would be two or three. Which then makes me wonder if maybe the other half that didn't raise their arms probably have also had issues, they just don't know it.

And what we would need from NIOSH is some sort of estimate about what exposures are occurring in the workplace, what their causes are, and most importantly, what can we do about it. Particularly, there would need to be some effort put into how can we monitor it and determine when we have an exposure. I think that's all I have. Any questions?

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 794.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Heat/cold

Approaches

Surveillance

Etiological research

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good afternoon. My name is Kevin Reed. I'm the Safety Manager for Cooper Farms Processing in Saint Henry, Ohio. I'm here as part of the Poultry Industry Worker Safety and Health Committee. My subject is the impact of cold work environments on musculoskeletal injury rates.

Although cold environment is generally accepted as contributing to musculoskeletal injuries within the meat industry, the significance has not been described. Anecdotally, highly repetitive work in warm environments, such as hatcheries and evisceration departments, does not result in the level of symptoms that are reported in refrigerated environments.

For example, at one federal OSHA program location the incident rate for the evisceration department where the average room temperature is 50 to 52 degrees and meat temperature is over 100, the incident rate was 4.1. Yet, at the same location in the de-boning department where the average temperature is 44 to 47 degrees and meat temperature is 45, the incident rate was 7.3 to 8.5.

Epidemiological studies could provide some quantification of the impact of cold on repetitive work. This would benefit both industry management and regulatory concerns in accessing efforts in ergonomics. A more formal understanding of this relationship, if it proves to be significant, could also lead to industry-wide changes in work practices. And that's it. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 795.01

Categorized with the following terms:

Sectors

Manufacturing
Transportation, Warehousing and Utilities

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research
Exposure assessment
Risk assessment methods
Engineering and administrative control/banding
Economics
Authoritative recommendation
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good afternoon. My name is George Shaw. I'm with NK Parts. We are a Honda supplier in Sidney, Ohio. We provide logistic and manufacturing for Honda facilities.

Two issues that I would like to address for NIOSH and NORA agenda. First of all, ergonomic modeling. That is our primary concern at NK Parts is improving the ergonomic risk factors in our job processes for both the warehousing and the manufacturing. Currently we have seven models that we have been using; the NIOSH lifting equation, the University of Michigan 3DSSP, the rapid upper limb assessment in job streaming. These all provided useful information in modeling and assessing risk to form a (inaudible). However, each of those has some significant limitations. First of all in terms of (inaudible) that it covers. The shoulder (inaudible) aren't addressed in any of these models, some of them address the back, some of them address the upper extremities. We've had some significant cost associated with the shoulder.

Also, secondly, this does not address the aging workforce. In none of these models is the age range of the associates doing the job in a variable that is input into this model. So we feel this is also a shortcoming that can be addressed during ergonomic modeling over the next decade.

Second of all tying into that is cost analysis. After we've identified the jobs and we've prioritized for the next fiscal year, we have to do a cost-benefit analysis to justify the cost of the improvements we want to make. And currently we can do a good job of assessing the direct cost; looking at the workers comp history of these injuries, both of that we have had in our plants and through industry averages. However, we do not have a good handle on indirect costs, things like overtime, lost production, supervisor time, retraining. And so a good method in measuring indirect costs will help justify some of the projects that we want to do in the upcoming. And that's all I have. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 796.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Hazard identification
- Etiological research
- Exposure assessment
- Risk assessment methods

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Good afternoon. My name is Ralph Froehlich. I'm a certified industrial hygienist and consultant with Helix Environmental in Dayton, Ohio. I'd just like to recommend three areas of additional consideration for the National Occupational Research Agenda.

First, and I think the most important, is additional research on the interactions between chemical air contaminants. You've heard about chloramines being a concern, that's the interaction between two chemical contaminants and the reaction products. But there are additional reactions that can occur inside of people to multiple chemical exposure venues. And while we've done a pretty good job of identifying direct chemical health effects for about 700 air contaminants, we've done a very poor job in looking for interactions and the health effects of multiple chemical exposures, and I think that it is time for that to be a major focus of the national agenda.

Comment ID: 796.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Exposure assessment

Risk assessment methods

Partners

Categorized comment or partial comment:

The second issue that I think requires a lot of work in the manufacturing sector is the health effects associated with increasing use of promenaded [sic] [brominated] organic materials that are used as drop-in substitutes for chloric-chlorinated insolvents.

There has been some evidence of reproductive health effects associated with these promenaded [sic] [brominated] compounds. And because of those rather dire health consequences, I think a lot more research needs to be included in the national agenda; just looking at the direct health effects of those promenaded [sic] [brominated] compounds, especially the reproductive health effects.

Comment ID: 796.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Indoor environment

Approaches

- Etiological research
- Exposure assessment
- Authoritative recommendation
- Marketing/dissemination

Partners

Categorized comment or partial comment:

Finally, indoor air quality remains a concern in all sectors of the economy, and we are poorly equipped to define acceptable indoor air quality at this time. So that is a significant research need in my opinion. We also need to define the levels of biological and surface -- air and surface contaminants in indoor air quality complaint situations so that standards can be developed against which measurements can be compared, both for problem and non-problem indoor environment.

Finally, I strongly recommend that the research be directed to define the best practices for indoor air quality communication and involvement. Often times we've been involved in indoor air quality complaint situations where we can't identify or even postulate any indoor contaminant being present that we haven't sampled for. Yet, the occupants still have significant concerns about indoor air quality. Either we haven't looked hard enough, or, more likely, we're having a horrible time communicating our results to the occupants in indoor air quality complaint situations. I see this as a major research need for the next ten year period.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 797.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Heat/cold

Noise/vibration

Radiation (ionizing and non-ionizing)

Approaches

Hazard identification

Etiological research

Exposure assessment

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/06: Thank you very much. I want to add to something that the previous presenter was talking about combining effects of chemicals together. But I would like to add combined effects of chemical and physical agents, particularly noise and heat stress and ultraviolet radiation. And, unfortunately, even though we don't have any standards, OSHA doesn't have any direct standards for UV and all of its physical agents.

I wonder if we can put that in our agenda to do more research on, say, UV radiation exposure by itself, and with the chemical. For instance, we know with tar and so on create cancer. What other chemicals? You don't know that. The same thing with heated stress. Heated stress is something that is just completely forgotten by us. Even we don't understand this. You have some recommendation from ACGIA. And any chemical exposure, or any physical exposure, heated stress is one of the contributing factors.

So there are some of the things that they could probably put in the agenda for the next ten years to work on is physical agents and non-ionizing radiation. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Piqua, OH 2006/03/06.

Comment ID: 798.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

The effects of commercial use of antibiotics on microbial resistance (bacteria, viruses and fungi) needs more study

Comment ID: 798.02

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Studies of the effects of exposure to antimicrobial chemicals on drug resistance are needed.

Comment ID: 799.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Hearing loss

Exposures

Approaches

- Etiological research
- Intervention effectiveness research
- Work-site implementation/demonstration
- Authoritative recommendation
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

The division of topics by industry may dilute the importance of noise as a leading hazard. Noise is one of the last real industrial hygiene issues. People in many sectors are still losing hearing every day, particularly in construction, which needs more research and best practices development.

Comment ID: 800.01

Categorized with the following terms:

Sectors

- Services
- Wholesale and Retail Trade
- Unspecified

Population

- Youth
- Disability

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance
- Etiological research
- Engineering and administrative control/banding
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Authoritative recommendation
- Marketing/dissemination
- Health service delivery
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Health and Safety Issues for Workers with Developmental Disabilities

Robin Dewey, MPH, Labor Occupational Health Program, University of California, Berkeley

Approximately 4.5 million individuals in the United States have developmental disabilities. Developmental disabilities are severe, life-long disabilities attributable to mental and/or physical impairments which result in substantial limitations in three or more areas of major life activities such as self care, language, learning, mobility, self direction, economic self-sufficiency, and capacity for independent living. Examples of developmental disabilities include mental retardation, autism, Down Syndrome, cerebral palsy, traumatic brain injury, and epilepsy.

An estimated 30 percent of working-age adults with developmental disabilities are employed. The federal government has targeted the increased employment of persons with disabilities as a national priority. Recent legislation, such as the 1997 amendments to the Individuals with Disabilities Education

Act (IDEA), the Workforce Investment Act of 1998, and the Ticket to Work and Work Incentives Improvement Act of 1999, as well as President Bush's New Freedom Initiative of 2001, indicate that promoting the employment of people with disabilities has become an even greater area of focus.

Workers with developmental disabilities are employed in both facility-based settings ("sheltered workshops") and in integrated employment settings (competitive and supported employment). In 1999, NIOSH published recommendations for protecting the health and safety of workers employed in sheltered workshops. This year, NIOSH funded the Labor Occupational Health Program (LOHP) to further examine this issue and conduct an assessment of the needs and resources currently available to address occupational safety and health issues of workers with developmental disabilities, particularly in integrated employment settings. This study has involved conducting a comprehensive literature review, creating a database of agencies and organizations that could potentially be partners in the effort to promote the safety and health of individuals with developmental disabilities on the job, and interviewing key informants about these issues.

Preliminary results of the current NIOSH study indicate that workers with disabilities are often employed in hazardous workplaces (including food service sanitation, janitorial and building services, retail and clerical support) and frequently bring unique risk factors to the job. Many adults are also exploring opening their own businesses. For example, a recent newspaper article reported about two individuals with mental retardation who own a salvage company in Ohio where they handle forklifts and disassemble telecommunications equipment to extract metals for resale.

Very few agencies and organizations serving this population appear to be addressing the issue of workplace health and safety or have knowledge or resources to help them prepare their constituents for safe employment. In many cases the topic seems to come as a surprise as an area of concern but after discussion, staff agree that more attention, support and resources are needed. Additionally, anecdotal reports to the National Young Worker Safety Resource Center, staffed by LOHP and its partner, the Education Development Center, Inc., indicate that the groups most interested in delivering health and safety education to their participants and most enthusiastic about the Center's basic curriculum, Youth@ Work: Talking Safety, are typically those who transition youth with disabilities from school to work. Over and over we have heard from these practitioners that they are thrilled to have a curriculum that specifically includes learning activities that are adapted for individuals with cognitive and learning disabilities.

The topic of health and safety issues for workers with developmental disabilities should be a priority of the National Occupational Research Agenda. Recommendations for future research and other activities include:

1. Provide for more extensive research into the health and safety issues facing workers with developmental disabilities in integrated employment settings.
2. Research best practices among employers of workers with developmental disabilities to identify examples of accommodations, training programs, and support systems.
3. Evaluate the National Young Worker Safety Resource Center's Youth @ Work: Talking Safety curricula for young workers specifically for its effectiveness in teaching youth with cognitive disabilities basic occupational safety and health skills.

4. Sponsor a partnership of key staff from federal agencies and national organizations as well as researchers in the field to plan future activities that promote workplace health and safety among individuals with disabilities and the groups serving them.

Comment ID: 806.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you, Wayne. Yes, I am John Lundell, and I'm the Deputy Director of the University of Iowa Injury Prevention Research Center. I'm also a co-principal investigator on the NIOSH funded Iowa FACE program. I'm here today to speak on the huge public health toll caused by occupational injuries and why their prevention should be a priority area on NIOSH's research agenda.

Every day, 16 workers in the United States are killed on the job by traumatic injuries. More than 5,700 workers were killed in 2004, and here in Iowa 89 workers were killed by injuries that year. And of course, the number of workers with nonfatal injuries are many times greater than the numbers who are killed.

Let me begin by describing the NIOSH FACE program, and how it is improving the health and safety of America's workers. The NIOSH Fatality Assessment and Control Evaluation Program is a research program designed to identify and study fatal occupational injuries.

The goal of the FACE Program is to prevent occupational fatalities across the nation by identifying and investigating work situations at high risk for injury, and then formulating and disseminating prevention strategies to those who can intervene in the workplace.

The FACE Program has both a NIOSH in-house component, as well as state-based programs such as the one here in Iowa. Currently, there are 14 other state-based FACE programs, besides the one here.

Since 1995, the University of Iowa has operated the Iowa FACE Program under a subcontract with the Iowa Department of Public Health in Des Moines. The Iowa FACE Program is organized around three specific goals; to conduct comprehensive occupational fatality surveillance, to conduct rigorous investigations of priority cases, and formulating and widely disseminating prevention strategies.

The FACE team here at the University of Iowa is comprised of a wide variety of disciplines, including an occupational physician, an industrial hygienist, an agricultural engineer, a product safety engineer, and an injury control specialist.

At the health department we work quite closely with the Director of Forensic Operations in the Office of the State Medical Examiner. This multi-disciplinary approach enhances the ability of the Iowa FACE Program to undertake highly technical investigation of specific cases.

Through a wide variety of notification mechanisms, including first responders and law enforcement, news media, and colleagues, our goal is to identify every worker killed on the job. We then follow up each of these incidents by contacting public safety officials and others, to collect baseline information.

From this surveillance system, we develop a comprehensive profile of fatal occupational injuries in our state. Over the past five years the victims were 97 percent male, 27 percent were over 60 years of age, and 40 percent were involved in agriculture. Further analysis indicates that agricultural-related fatalities tend to be over represented in both the youngest and oldest age groups.

Over the past five years, two-thirds of the fatal occupational injury victims in Iowa were under the age of 18 who had been killed working in agriculture. Similarly, during the same period over 80 percent of the victims over age 70 were working in agriculture.

Using priorities established by NIOSH for state programs we then select specific incidents to conduct in depth on-scene investigations in order to analyze the circumstances of the fatal injury. More importantly, we develop recommendations aimed at preventing similar events from occurring in the workplace. Since the year 2000 we have conducted 53 in depth investigations.

The final phase of Iowa's Program is the broad dissemination of these preventive strategies. Our Program truly believes in the NIOSH research to practice initiative. We have taken our FACE Program on the road, making numerous presentations at symposiums and professional meetings, as well as published an impressive list of related articles in the peer-reviewed literature.

But what makes the Iowa FACE Program unique and we believe effective is our emphasis on publishing in the trade literature. During the past several years we have published FACE investigations in trade journals such as Wallace's Farmer, Professional Safety, American Towman, Arbor Age, World of Welding, Waste News, and Successful Farming. I was just going to show some slides showing these publications.

We have found the trade publications very receptive to printing our FACE investigations, and believe that this mechanism places the preventive recommendations in the hands of the most important readers, the managers and the workers in the industry described in the report.

These magazines are frequently found in waiting areas, lunch rooms, and break areas where employees have time to peruse them. Similarly, agricultural-related publications such as Wallace's Farmer or Successful Farming are read by most Iowa farmers and their families.

It is human nature to be interested in reading about workers in similar situations who have been killed on the job. We strongly believe these FACE related articles with preventive messages have the potential

to influence worker behavior. In addition, we make ample use of media releases, when appropriate, and maintain an informative website to disseminate our prevention message.

In closing, I urge you to include occupational injury surveillance and specifically the FACE program in your NORA recommendations. Thank you for this opportunity to speak before you today.

And now I'll just take a minute to run through some of the fabulous publications that we're proud to have authorship in. American Towman; we've published an article about -- We've actually published twice in this magazine related to fatalities related to the towing industry. There is one of them (indicating), that was a double fatality that occurred up on Boone, Iowa. Arbor Age; we've also published twice in there. This was an article about a cherry picker that collapsed. It was old and should not have still been in use. World of Welding; published twice in there. This was an article about -- I believe he was welding on a barrel that exploded. Wallace's Farmer; published a number of times in there. This was a very well-received article, very sad and tragic. These all have tragic stories about a farm wife that was killed by a grain wagon.

And Professional Safety; we won an award on this particular investigation that had to do with a crane that was assembling a water tower that collapsed and killed a worker. And wonderful World of Waste News; we published about a garbage truck operator who was killed.

That's just a sampling of what we believe is the effective way to reach the workers who need to hear this message from the FACE Program. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 807.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Violence

Work-life issues

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you, Wayne. I'm actually here representing Dr. Corinne Peek-Asa, who prepared some remarks on workplace violence and then was unable to come and deliver them. So I agreed to come and deliver them for her.

Violence in the workplace has been recognized as an important occupational and public health issue only within the last 25 years. In these past 25 years, we have estimated the scope of the problem, we have identified violent hazards in different industries, and we have described factors that place some employees at greater risk over others.

In this same period over 20,000 workers have been homicide victims, and an estimated 25 million have been victims of violence at work. We have not yet done enough. The work to reduce violence in the workplace has just begun and the most important steps are yet to be taken. Research that identifies the most effective and comprehensive strategies to reduce violence needs to be conducted. Evaluation studies need to use rigorous methodologies with sufficient power to detect program and outcome effects.

We need to understand and motivate employers to take on the issue of workplace violence prevention, and to provide employees with the information and tools to make good decisions.

We need to move beyond associating basic typologies of workplace violence with specific industries, and identify the components of comprehensive approaches that can address all types of violence. We need to identify how the workplace fits into the larger social agenda of safety and security.

Acquiring this knowledge will require resources, partnerships, and collaboration. NORA 2 will work to remediate the most important occupational hazards and fill gaps in the occupational health programs.

Addressing the safety of workers who work in a climate of fear and risk for violence should be one of the most prominent roles included in this effort.

That's the end of her remarks. You might be asking yourself why faculty at the University of Iowa are so interested in workplace violence. Fifteen years ago this coming November, a disgruntled graduate student bought a handgun and went on a shooting spree and shot and killed three faculty members, shot and killed a fellow graduate student, killed a vice president of the university, and shot and rendered quadriplegic, a young secretary.

These events had a tremendous effect on all of us who live and work on this campus, and led to our beginning to explore the issue of workplace violence. Together with our colleagues from NIOSH and other stakeholders, we convened a national symposium on workplace violence, which resulted in a report on workplace violence and the things that needed to be done to address workplace violence. That report was quite successful. Senator Tom Harkin was particularly touched by it because he was touched by the events that happened on this campus, and he led an effort in congress to get the special allocation of funds to NIOSH to nourish researching workplace violence.

We think that the research in the field has now gotten to the point where we have interventions that can be tried out in the field and evaluated. And we think that's the most important next step to be taken, and we hope that there will be room in NORA 2 to include that material. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA 2006/02/17.

Comment ID: 808.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Good morning. I have a presentation, but I have no keyboard. I'd like to talk to you today about building ventilation; workplace respiratory system.

We've all appreciated the need for ventilation. This wonderful 16th century wood carving depicts a workplace described by Pliny the Elder in ancient Rome. The two workers in the center of the picture wave a linen cloth to move clean air to and contaminated air away from a digger. This ventilation delayed the development of workplace disease, although most of the people who dug in ancient Rome died of workplace disease.

Modern ventilation, we've come a long way. Modern ventilation systems are everywhere. I see supply air grills in this room. I see intakes to move contaminated air away from us. They provide us with clean air and they remove contaminants; nothing has changed there.

We have gotten a little bit more adept at installing these systems, and they help our respiratory system prevent occupational illness.

However, if we look at the life cycle of a ventilation system, it's quite strange. We install them, they get up above the ceiling, and we never look at them again until there's a complaint or there's an occurrence of a disease, or some other threat such as Anthrax in senate office buildings.

Immediately after installation the burden of occupational illness switches -- gradually switches from the ventilation system back to our own respiratory system; so new research is needed. This is a quote from Mel First in 1984. He said that the industrial hygiene profession is still living off of Delvals' 1930 and Silverman's 1942 doctoral thesis for its entire body of ventilation theory. We desperately need a new infusion of science and engineering.

Well, my Ph.D. work at North Carolina was on ventilation ducts and particle transport. I was shocked at the dearth of literature that exists in our journals and any research that's funded at a national level. My work was funded by Ford Motor Company. It won an award for the best dissertation in the School of Public Health at the University of North Carolina. Since arriving at the University of Iowa, I've tried to submit grants for national support, but found it very difficult to have things funded on this type of research. I get comments such as it's not significant. It's too practical. So I've moved to hot topics, such as exposure assessment of nano particles and the health effects of diesel exhausts. These are important problems too, and I'm really excited about working on them. However, I think it's a shame that we don't have some national support for these things that are also very important.

So basically my message is pretty simple, and I suppose that my message fits under the category of identifying failures in the system. I suggest that the next NORA should add ventilation systems by name as cross-cutting issues in all sectors, and I think that the new NORA should add language to heighten the significance of work in this important area.

I believe that these changes would provide national support for researchers like myself, who seek to keep our building respiratory system brunting (*) the burden of occupational illness. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA 2006/02/17.

Comment ID: 809.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Mining
- Unspecified

Population

Health outcomes; diseases/injuries

- Respiratory disease
- Traumatic injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Engineering and administrative control/banding
- Work-site implementation/demonstration
- Authoritative recommendation
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Good morning, my name's Bill Heitbrink. I'm an Associate Professor in the Industrial Hygiene Program here at the University of Iowa. But before I came here in 2001, I didn't really work as an industrial hygienist I worked as an engineer working in occupational safety and health for NIOSH.

One thing I wanted to talk about that I think NIOSH should support both internally and externally is the ability of occupational safety and health researchers to work with equipment manufacturers, so that we have control measures for various occupational injuries and illnesses built into the equipment.

My latest experience has been working on cabin filtration systems. These systems cut across agriculture and surface mining. In agriculture, we've got issues of high dust exposures during combining, pesticide application. In surface mining, the issue is silicosis, a very dangerous respiratory disease.

I think NIOSH needs to fund this work, both internally and externally. It offers several major advantages to the workers. One, think about a combine or cabin filtration on the surface mining vehicle. If we've designed the thing right the worker gets into the cab and he's protected. He may not even -- Worker acceptance may not be an issue because the control is so inherent to the design of the product that the worker may not even be totally aware that he's being protected. He does not have to put on a respirator. That -- as I will discuss later -- has several advantages and disadvantages.

Basically, when we fund research in this area it needs to go into health product development, but it also needs to help develop engineering standards for product specifications. This can involve some very implied research that answers questions that need to be answered, so that you can develop adequate testing procedures that are needed to make sure that the control measures actually work.

The occupational safety and health community, I believe, can assist manufacturers in a couple of ways. One, we can perform in situ evaluations of control measure performance, both to answer the question, does the control measure initially work and a more important question when you think about the length of time that agricultural equipment will be in the field, does this equipment continue to work over the long term?

As Wayne had pointed out in some of his research in Iowa we have tractors that are functioning for 40 years. So, does the ROPS really work for 40 years? Does the cabin filtration system work for 40 years?

As we all know if we own automobiles -- when was the last time you were able to run a car for three or four years without maintaining it and not getting into trouble? Clearly, there are many practical issues that need to be addressed.

In doing this research I think manufacturers may end up being good partners, but we also have to understand many of the practical issues that manufacturers face. In dealing with a consensus standard on cabin filtration systems that was eventually withdrawn, product liability was an issue. The manufacturers could only control the equipment until it leaves the factory floor and is sold to the end user. And then the practical issue is how long will this equipment work? How do we integrate the use of this equipment into a comprehensive safety and health program? What sort of steps do we need to take to make sure that this equipment continues to provide useful hazard control over the entire life of the product?

All of these are issues which need to be addressed and unless we address them, ultimately, the implementation of control measures will fail because they will initially work, and then later on as Tom found it on ventilation systems, they will ultimately fail.

So with that, I rest my case. And hopefully Mr. Job, who's retired actually from AGCO, can talk about details pertaining to the cabin filtration system standard.

Note: Verbal testimony provided to NORA Town Hall meeting

Comment ID: 810.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Heat/cold

Approaches

Etiological research

Engineering and administrative control/banding

Personal protective equipment

Training

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you for providing me with this opportunity. I'm speaking on behalf of Dr. Terry Stentz from the University of Nebraska at Lincoln. He is a human factors engineer on the faculty there, and does research on meat packing-related injury in particular he's interested in lacerations and cumulative trauma. And he is funded by NIOSH to do work on lacerations in this setting together with collaborators at Harvard. And he cannot be here today, so he kindly provided me with some slides and invited me to give this presentation.

This is a great example, I think, and I'm familiar with this environment. I'm interested in occupational health in general, not only respiratory problems, but I think this is a wonderful example of how NIOSH resources have provided funds to look at a very important problem.

The people who work in meatpacking have a 3.5 times greater risk of traumatic acute injury than do people who work in other sectors. Lacerations are very, very common despite extensive use of personal protective equipment.

The plant I'm going to talk about, or the plants -- there's actually three of them in this region have state-of-the-art safety programs, state-of-the-art safety equipment in place, and there's a big problem with that in spite of this.

This is a pork processing facility (indicating), one of three. There's one in Nebraska, Iowa, and one in Illinois. They graciously have been welcoming to investigators who want to help them improve their safety programs, and this has been a very fruitful relationship.

The Fogus Plant has 1,200 employees. They run five to six days a week, two shifts of kill and process, and they clean the plant in the night shift. They process up to 9,000 hogs per day.

One of the huge challenges in this area is working with people who do not speak English as a first language. At this particular plant, anywhere from nine to twelve languages are spoken as a first language by these individuals. The main one is Spanish, but there are a number of other ones.

This plant does have established safety and ergonomics programs. And in spite of that for lots of reasons, there's a very, very high worker turnover. This makes it very challenging to have effective safety programs and to keep the plant functioning optimally.

There's a lot of issues, one of them is many different types of cutting tools are used, both powered and non-powered. This is just one example of this kind of work environment (indicating).

These people are working on a cold side of the plant. It's really quite cold there. The temperature's in the high 30's; so people's hands tend to become stiff and that just makes it that much more likely for them to become injured.

Dr. Stentz and colleagues conducted a retrospective descriptive analysis of laceration injuries for nine plant years, and they used this analysis to underpin a major research grant proposal. Also, the results resulted in a publication, which came out last year. And I'm happy to say that grant proposal has recently been funded.

They used OSHA 200-log injuries. First reported the accident/injury forms, and then the plant production operations information, and worked very closely with the plant safety officer. And they analyzed demographic information about worker populations, in addition to the information that was available from the log itself, and did calculations looking at person hours by plant, department, year of incident, et cetera. They found that the first report of injury was not always entirely complete. There were some of the issues. No PPE use documented -- they did not -- the people who filled out the forms did not always indicate how much time had elapsed from the beginning of the work shift to when the injury occurred, and the description of the work activity at the time of injury was incomplete.

Understandable when you see how busy these plants are, how busy the nurses are, but it makes it difficult to reconstruct what happened and how this can be avoided.

They had a large number of cases, the majority were men. That may be in part because of the division of jobs in a meatpacking plant. The kill side of the plant is usually where men work, and that is where the majority of the injuries occurred.

The majority were lacerations and there were however a variety of other injuries reported. And again, missing data was a huge issue. A number of the people -- if you look at the bottom line -- actually a fair percentage of people who got hurt were on the job for less than one week. So that's where the worker turnover becomes a big issue.

The laceration cases were a substantial portion of the OSHA 200-log cases, so that was definitely an important problem for them to address. And that was true for all the plants, even though they differed slightly in their approach to the slaughter and processing aspect.

The rate has fallen since 1998 in their analysis, but it's still considerable. As I said, it varies quite a bit. Plants Two and Three are not kill plants. Plant One, is one where the entire range of activities occurs in reference to pork processing.

So possible risk factors for these injuries, PPE use, time of day, people get tired and they did notice -- I didn't have time to present but, more injuries in a certain time of day. Experience, were people current on being trained appropriately or had they been transferred to a new department because someone didn't come to work that day, also things like the wrap-up speed. The lines have gotten faster and faster over the years and for some people it's just too fast for them to work safely. Were there enough rest periods? These people have a 15-minute rest period in the morning and the afternoon and a half hour for lunch, which isn't really a whole lot if you're doing fairly physical work.

They looked at day of the week, and then production bottlenecks, new equipment and product-line problems, et cetera, being factors; and then finally training issues and language barriers.

So again, this is a great example of the research that NIOSH is funding and I hope that it's possible to continue doing this work, extending it to other aspects of problems related to the occupational environment in the meatpacking industry. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA 2006/02/17.

Comment ID: 811.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Cancer
Reproductive
Neurological effect/mental health
Immune disease
Dermal disease
Infectious diseases
Musculoskeletal disorders
Respiratory disease
Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research
Exposure assessment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: I perform research in the area of agriculture in Iowa, particularly the health and safety of Iowa's farming population. My primary research activity in this area is through the Agricultural Health Study, a prospective cohort study of 90,000 Americans, composed of farmers, spouses of farmers, and commercial pesticide applicators from the states of North Carolina and Iowa.

Over 58,000 of the studies' participants come from Iowa. The activities of farmers in Iowa are broadly representative, especially of the Midwestern United States. Common exposures experienced by this population include pesticides and fertilizers, fuels and oils, engine exhausts, zoonotic microbes, organic solvents, paints, grain dust, welding fumes.

Health outcomes associated with farming include injuries, Parkinson's disease, and other neurologic conditions, musculoskeletal diseases, reproductive and developmental outcomes, immunologic effects and autoimmune diseases, respiratory diseases and cancers; particularly lymph, stomach, brain, prostate, connective tissues, skin, leukemia, lymphoma, and multiple myeloma.

These common exposures and diseases experienced by the agricultural sector are not unique to them. The urban population of the United States shares them also, and stands to benefit from the research knowledge gained from the agricultural sector.

Many of the diseases I previously spoke of are classified as chronic diseases. For these chronic diseases we still have poor understanding of their relation to the common exposures experienced by the farming population. I request that NIOSH continue to include in its National Occupational Research Agenda the pursuit of an improved understanding of mechanisms relating exposure to health outcomes in the farming occupation. Two particular challenges are exposure assessment and genetic susceptibility. Regarding exposure assessment, how can we better measure or quantify the common exposures experienced by this population?

A good example here is pesticide exposure. This improved assessment is particularly needed when research needs to account for the long latent period associated with the chronic diseases experienced by farmers. Second, what is the role of genetic susceptibility factors? In particular, how do they increase risks of the chronic diseases experienced by farmers?

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA 2006/02/17.

Comment ID: 812.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Surveillance

Personal protective equipment

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you. Well, my name's Chuck Jennisen and I'm a pediatric emergency medicine physician and a faculty member of the University of Iowa College of Medicine in the Department of Emergency Medicine. And I've always had a great interest in agricultural-related injuries and in health problems, having grown up on a dairy farm in central Minnesota, and seeing a lot of the injury-related problems that occur in agriculture, in the emergency department.

And I received a number of e-mails about this town meeting occurring and I felt it was really important for me to come and say a few comments about what I thought was important as far as research in the future for occupational safety and health and particularly about agriculture.

I think everyone probably realizes that agricultural-related injuries is -- Well, agriculture is one of the most dangerous occupations. And because of this, of course, it is important for us to continue to fund research in decreasing agricultural-related injuries and health-related problems.

And I would like to talk a little bit more about how it's very important to keep in mind the youth that work on farms, and the research to identify why they have problems, and have injuries on the farm, and

how we can take the research that we do know and put it into practice and get it out to families who are working on the farm.

One of the big problems that we run in agriculture, agricultural-related research is that we have a difficult -- really identifying the number of injuries and even maybe worse the health kind of problems that people suffer being on a farm.

Most farms are not regulated by federal rules, and we have a hard time getting -- You know, where a lot of occupations may have to report those injuries they suffer while working a lot of those are really hidden from people who are doing agricultural research and we don't know exactly the numbers that we're dealing with.

And because of that it makes it difficult to see what kind of changes our research and our interventions and education is really making out there. And so certainly I think one of the things we need to continue to fund related to research is the surveillance, so that we can see what kind of changes in agriculture we have made through our research and interventions.

In addition to that, we have identified a number of things that could make a big change on the farm, and again, this research to practice; additional research in looking at what it would take for farmers to adopt interventions that we know work.

So providing money in that area -- And for example, we know retrofitting rollover protective structures work for decreasing tractor-related injuries and deaths. What do we need to do to get farmers to put those on their tractors to decrease those injuries? What kind of incentives have to be made to do that?

Obviously, some of that may be additional funds, funding needed to help that take place, but certainly identifying those things that would make farmers make those changes that we know already would work if they were practiced.

And in addition to that, I think a very important area that some people here at the University have worked on is really, since again most farms don't fall into these federal regulations, what -- Can we identify farms that are safer and have implemented strategies to decrease work-related injuries in health practice? And can we take a list of standards that actually if farmers would implement on their farm would make them safer and have less health-related problems? If we can prove that and put research to prove that then maybe they can be adopted, we can set up programs to have farms certified as being a safe and healthy farm, and maybe decreasing insurance premiums, and proving to get insurance companies to accept that and have a decreased rate so that people would have incentive to do so. And I think a safe certified farm is kind of a model and has potential to do that. But research -- there's other places that have worked on this as well. I think that's a very important area of research to get research to practice.

And finally, I'd like to just mention again about the importance, I think, of pediatrics and children on the farm. Often we don't think of children as, you know -- perhaps teenagers over 16 are working on other fields, but in agriculture there's children that are basically a part of that factory and are everywhere in that situation and can be injured. And even though some of them are not actually working, I think we still need to think about efforts to make that a safe place because it is affecting the workers on the farm, the farmers themselves.

Efforts in research are looking at daycare options or kind of innovative ways to deal with children on the farm and preventing them from getting injured, helping implement developmentally appropriate tasks

for children on the farm. We have a lot of guidelines that have been developed, but how can we get that out to farmers and have them implement those?

And additionally, one of the things that I have been seeing so much in my practice is ATV injuries. I think it's no surprise to many people that the escalation of all-terrain vehicle-related deaths and injuries is just escalating exponentially. And it is, I think, important for -- These vehicles are used for agricultural-related things on the farm, also recreation. But they are a very dangerous item that we need to put more research in because it is becoming unfortunately a terrible epidemic of injuries and deaths related to this vehicle. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA 2006/02/17.

Comment ID: 813.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Hi, I'm Ashleigh Haus, a youth delegate from Farm Safety 4 Just Kids. I represent Farm Safety 4 Just Kids as a member of their youth network serving the United States and Canada. We attend meetings, promote local farm safety efforts, and serve to increase peer-to-peer education.

I am here today to talk to you about keeping childhood farm safety a top priority. Without support from educational programs like Farm Safety 4 Just Kids many youth like me wouldn't know about the dangers of falling grain, how fast the power take-off shaft can turn, or about storing chemicals in a safe place.

I grew up in the city and represent a large majority of rural Americans who are making the move to live on small acreages. I wasn't aware of the dangers such as ATVs or four-wheelers, horses, or small equipment. By becoming involved in Farm Safety 4 Just Kids, I have been given the tools to teach other youth, like me, about the dangers.

Farm Safety 4 Just Kids believes that youth can make an impact in spreading the word of injury prevention. Each year, Farm Safety 4 Just Kids selects youth representatives to represent them at various functions. This year, I represent Iowa; while we have other representatives from Michigan, Arkansas, and Pennsylvania.

Here are some of the events that we have been participating in. Waco Phillips of Nebraska and I both were on RFDTV program called Living the Country Life. Waco talked about ATV safety, and I spoke about horse safety. The segments aired all across the country.

Waco was awarded a \$5,000 scholarship and a \$5,000 community grant from the 2005 Do Something Brick Award for his work on an ATV safety demonstration. This award was presented to him by Former President Clinton. Waco was also on the cover of High Plains Journal for his farm safety work.

Wayne Lenderman (*) participated with Marilyn Adams and Dave Schwartz in a one-hour call-in show on RFDTV. Thousands of viewers tuned in or called in questions about farm safety. Wayne was poised, professional, and up to speed on many farm safety issues.

Nicole Shannendorf (*) of Michigan and Waco Phillips helped give presentations to FFA Members and their advisors at the national FFA convention about ATV safety. Nicole also was well received when she presented at Michigan State University. She stepped in when Marilyn couldn't attend due to prior commitments.

Waco and Nicole represented farm youth when they traveled to the National Organization of Youth Safety Meetings in Washington, D.C. All four current Farm Safety 4 Just Kids youth representatives have helped plan, organize, and present at Farm Safety 4 Just Kids regional chapter conferences.

Each of these examples shows that youth can and are on the forefront of making a difference in farm safety and health. And these examples do not include the countless hours that youth from everywhere devote when they perform puppet shows for younger kids, review material to make sure that it fits the youth audience, conduct sessions at Farm Safety day camps and other farm safety and health programs.

As you begin looking at ways to allocate funding please keep agriculture a viable industry by supporting initiatives that impact children and youth. Together we can keep rural children safe and healthy.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 814.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Motor vehicles

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Hello, it's nice to follow Dr. Jennisen. My name is Shari Burgus. I am education director at Farm Safety 4 Just Kids. We're located about 135 miles west of here, and we hope that you've all heard of our organization.

We deal with a lot of the issues that Dr. Jennisen was talking about. We try to educate in ways to provide a safe environment for all that live and work there, primarily with kids, but we work with kids and adults.

I've been with Farm Safety 4 Just Kids for a little over 14 years, and I've seen a lot of changes in agriculture throughout those years. Children are the future of our agriculture in the United States. Their health and well-being need to be preserved to ensure agriculture's next caregivers, protectors, and influential leaders remain safe and healthy.

While children are young it is an adult's responsibility to protect them. That means that we need to do everything in our power to eliminate the hazards through engineering modifications, reinforcing established safety and health regulations, and education of family members about safe ways to stay safe within that rural environment.

Education and community outreach are Farm Safety 4 Just Kids' area of expertise in farm injury prevention. After nearly 20 years of nonprofit experience, we are still looking for new ways to reach children and their families with life-saving information and programs.

Nearly 140 volunteer chapters conduct farm safety and health information every year on a continual basis. And each year we reach over one million kids, families, and their parents.

North American farms are changing. With these cultural changes comes the need to modify programs and resources to meet specific needs. That's where we fit in. Increases in small hobby farmers, large corporate producers, and migrant workers are all examples, and that all affects what we do as nonprofit people. Recent education efforts at Farm Safety 4 Just Kids include a comic book on pesticide exposure for Spanish speaking audiences, and a magnetic display for Amish issues.

Funding is needed to make sure that these programs are designed, delivered, and evaluated to reach the unique audiences through appropriate channels. We rely on research institutions like the University of Iowa, the University of Kentucky, and everywhere else to help us develop and evaluate programs, strengthen those programs that are making a difference, and altering the ones that are making a positive impact on knowledge, attitudes, and behaviors.

A couple of examples that come to mind that we've been working on recently are types of cooperation where we reach people on all-terrain vehicles, just as Dr. Jennisen was talking about. Another example is where we're reaching people with rural health issues.

ATVs have become popular in rural communities. The number of injuries attributed to ATVs, especially among the youth, are staggering. To identify how youth are using ATVs and to create programs to address these behaviors, Farm Safety 4 Just Kids has recently worked with the Great Plains Center for Agricultural Health, where we surveyed 600 FFA attendees at the recent national convention down in Louisville.

A rural health education packet was also developed by Farm Safety 4 Just Kids recently, and it's being evaluated by ASH-NET. This allows us to take a critical look at programs that teach youth about preventing health-related problems in the future. Our role within the research-to-practice model includes the practice end of the spectrum, and we try to do that through working with other organizations that are on the research end of the spectrum.

In order to provide quality community programs, research is needed to work in tandem with programs like ours that are implementation in nature. We believe at Farm Safety 4 Just Kids that children's health and safety issues need to be a prominent importance when determining the direction for future NORA and NIOSH initiatives.

Safety and health practices start at a young age. Children crawl before they walk and walk before they run. In the same sense, they need to learn how to use a lawn mower to mow the grass before they start using larger and more powerful equipment.

I urge you on behalf of Farm Safety 4 Just Kids and all youth on the farm to please place high priority on our youngest farmers. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 815.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you, Nancy. As Nancy mentioned, I'm on faculty at the University of Iowa here and I have some presentation points that I have also written. And I think the written version is probably better than the spoken version. I usually write much better than I speak. And these are not -- These comments are not being coordinated with the University of Iowa, so I think you can consider them being just my own.

I'd like to approach this issue, again, from the agricultural sector point of view. And I would not in this presentation like to present any specific research areas that are important, but rather just address some of the structure and organization within NIOSH and how the decisions are made and how in my opinion those processes could be made more effective, so that they serve the agricultural sector better.

And so here are my five points. First, add agricultural industry representation into critical NIOSH decision making processes, including preparation of grant announcements, scientific review panels, and agency grant decisions.

The purpose of the NIOSH agricultural program is to produce information that can help farmers to stay safe and reduce injuries. And I think it is important to have input from the agriculture sector in the decision making. And if we don't have that, it is very hard to get buy-in afterwards, after the fact.

And I think it would be a great asset for NIOSH to have agricultural representation from groups that represent the agricultural workers and the industry. And that would really help guide the research so that it really serves the industry as good as it can.

Secondly, the agricultural expertise within NIOSH should be strengthened. We used to get a lot of collaboration, actually with NIOSH people we used to get site visits and we used to have people come and discuss on a very practical level how the programs are going and what should be done. And I thought that was a very good idea, but it seems like lately bureaucracy has taken over and that process has not been as effective as it used to be. And I think it would be very good for NIOSH to utilize the

expertise of those people who know the agriculture program already, and I think NIOSH should hire more people who actually have real agriculture background and who can discuss with USDA Farm Bureau, agriculture industry commodity groups at the level where they are, and be very effective in exchanging ideas and seeking input and cooperation.

Third point, there needs to be more transparency in the NIOSH agriculture program; especially the intramural program seems to be something that we don't really know much about and we have not been able to collaborate -- It may be our fault, as well, but I think there needs to be a better connection between the intramural and extramural programs. And I think at our end we have felt that the extramural program has perhaps decreased in funding levels. And we would like to, I guess, have good transparency so that we know where the funds that are appropriated for agriculture research, where those funds are used. And I think particularly that applies to the NIOSH intramural programs.

Comment ID: 815.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Work-site implementation/demonstration
Economics
Authoritative recommendation
Marketing/dissemination
Health service delivery
Emergency preparedness and response
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Fourth point, I think we should do more research that affects larger numbers of people. We tend to do small studies with small samples, effecting only small numbers of farmers. If you go today and do a survey on American farmers and you ask them what they know about NIOSH or research that has been funded by NIOSH, the result may not be as good as we would like it to be. And I think we should find ways how to develop prevention models that are actually affecting greater numbers of farmers. And those kinds of things can be, for instance, occupational health service models with financial incentives, which have been very effective in, for instance, my home country about 40 percent of farmers are members of an occupational health service system.

Also, I think the new information technologies and education needs to be utilized more because that's about the only way you can really reach over two million farms on a frequent basis all the time.

I guess my next point and last point is that we should support research that helps develop standards or technical innovations or some solid ideas that we know are effective. And I think we should judge new projects, incentives or initiatives from the prevention point of view.

There's already a lot of preventive information. If you go on NASD you will find over 4,000 documents that describe in great detail what farmers should do to prevent exposure or to reduce their hazard. And

if we propose a project that doesn't create anything new, that we don't already know about prevention, then what good is that research?

But we know that new standards, for instance, the ROB standard is about, maybe, one of the most effective tools in the agriculture health and safety sector that has really made a difference in increase of use of roll-over protective structures on tractors. And we may need some new other standards. We may need a standard in organic dust exposure levels. We may need other new standards that could be something that can really be a yardstick and move the field forward.

And I guess finally, just whenever we're doing studies, we should really look at the existing prevention information, especially at NASD and judge whether our new projects are really creating something new and some new value that moves the prevention forward.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 816.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Indoor environment

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Good morning. My name is Wane Baker with Michael's Engineering and I am very pleased to take part in today's session. I don't have prepared comments, and I thank those of you who are onsite for your careful preparation of the PowerPoint materials. My segment -- my participation today is going to represent something of a departure because I'd like to speak to the issue of indoor environments, and specifically the concept of the damp buildings and the impact that it has on -- for the impact that it has on our nation's workforce, that is non-industrial, non-agricultural represents about 70 percent of our nation's workforce of approximately 90 million Americans working in indoor environments that again, are non-industrial, non-agricultural.

I recognize and appreciate that the indoor work environments represent just one of -- as I understand it -- 21 priority areas for the occupational research agenda. But nevertheless, I feel very strongly as part of my professional practice over the last 25 years that some additional emphasis and effort must be placed on looking toward the impact of damp buildings and the health of our children in schools, office workers, folks perhaps like myself that spend some time behind a desk, as well as many of you in attendance today.

The research from Scandinavia, Europe, and Canada clearly shows a significant impact in relationship between damp buildings and hazardous health effects. And many of you may be familiar with the various studies, but frankly the mechanisms behind the adverse health effects associated with exposures to damp buildings remains a mystery and remains unclear.

When I registered to take part in today's meeting my topic was identified as adverse health effects of damp buildings and the role of microbial amplification. I'm a certified industrial hygienist, a licensed professional engineer and my associate -- a lot of my associates here are master-level microbiologists.

It's what we do every day, we help people figure out why they're feeling poorly in their work-a-day world. And it's more than just a matter of the sniffles or a runny nose. There appears to be a series of rather profound, adverse human health threats associated with time spent in damp indoor environments.

And I'd simply like to encourage in these few precious minutes today, NIOSH to consider additional huddling and research associated with trying to figure out what this mechanism is. The Institute of Medicine, in their recent report on damp indoor spaces, made it clear that we simply don't know yet. We recognize that there is an association between damp buildings, but we simply don't know what the mechanism is. And again, this is an issue which affects an enormous number of people in the United States. And that's about all I have for you today. I appreciate the opportunity to address this group. And thank you, I'll certainly stay tuned and listen throughout the day.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 817.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

labor unions

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you. As Nancy indicated I'm the director of the University of Iowa Labor Center. The Labor Center was established in 1951 to serve Iowa's organized workforce. We teach non-credit courses to trade union members each year, reaching between 2,000 and 3,000 trade unions a year.

The classes we teach vary greatly, but relate to practical industrial relations, labor history, communication and leadership economics, safety and health, train the trainer, and other related areas. And of course, worker safety and health education is one of our primary missions at the labor center, and we've been teaching programs in those areas for many years.

I would like to first emphasize what I think is critical in NIOSH's research program, and that is the importance of working with labor unions in your research activities. And I say that really for two reasons, or rather two main contributions that labor unions can make and that is knowledge and voice.

Knowledge. As workers on the job site, union workers are intimately familiar with the occupational hazards of their fields. And because of this first-hand knowledge they are often key to finding solutions to overcoming those problems. Unions also bring an important institutional knowledge in perspective to health and safety research. Unions are uniquely able to collect and analyze the experiences of workers across industries, and because of this are often able to identify hazards in terms of their severity and frequency that may be less obvious to researchers who may depend on reported data or other indirect sources of information.

And of course, knowledge without voice is useless and unions provide workers with a voice that can be heard, unlike their non-union counterparts who routinely face employer retribution for reporting injuries and safety and health hazards. Union workers are in a much better position to defend themselves against such employer retribution and to speak out and honestly when they are confronted with occupational hazards.

Unions also organize that voice through local health and safety committees and through their international union health and safety departments. Also through basic workplace democratic processes, unions are able to prioritize their health and safety concerns, thus helping to focus researchers attention to the most important and immediate needs of workers.

The union voice is present in health and safety education and training programs conducted by local, state, regional, national and even international union organizations and institutions. Through these educational programs and other organizational activities, unions are in a unique position to disseminate research findings to workers across entire industries. No other group is in a better position to educate workers in health and safety issues than our labor unions.

Comment ID: 817.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

And I wanted to add a few other comments that relate to issues that are reoccurring themes that come up in the classes that I teach from workers in Iowa. These are more specific. Number one is line speed, which continues to be a problem for workers in this state and I believe across the country. Increasingly, there's pressure to do more with less and this is having an effect on worker injury rates.

Second, I wanted to mention a related topic and that is staffing levels and work organization. Again, doing more with less is a reoccurring theme that I hear across all the groups that I deal with in the labor movement and should be researched in detail.

Comment ID: 817.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

Approaches

- Engineering and administrative control/banding
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Ergonomics continues to be an issue for workers. I think it's particularly challenging for unions today because of the rollback of the ergonomic standards. Ten years ago it was common for unions to negotiate comprehensive ergonomics programs. I can't think of one that's been negotiated in this state since the rollback of the ergonomics standard; that's just very difficult to achieve success at the bargaining table.

Comment ID: 817.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

- Language/culture/ethnicity
- Other

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance
- Etiological research

Partners

Categorized comment or partial comment:

Fourth, employer policies that discourage the reporting of injuries and in particular behavior-based safety programs. I believe that there is a prevalence of those policies that result in a serious and wide-spread under reporting of occupational related injuries and illnesses. While I believe the problem exists in almost all occupational groups, I think it is particularly true for recent immigrant workers, low-paid workers, and also workers in the construction industry.

Research focusing on the relationship between such programs and policies to injury rates and occupational hazards, I think, would be particularly beneficial and relevant today.

Comment ID: 817.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Fifth, I think the role of enforcement or rather lack of enforcement in eliminating worker exposure to occupational hazards is a problem. Iowa, for example, has 21 OSHA inspectors responsible for covering 90,000 workplaces. And it's essentially impossible for them to cover that many workplaces in Iowa. And what I'm hearing from unionized workers and non-union workers is that OSHA is simply unable to provide the enforcement that is needed to have a serious impact on health and safety in the workplace, and this problem needs to be studied.

Comment ID: 817.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Etiological research
- Training

Partners

Categorized comment or partial comment:

Certification and recertification systems for skilled workers, particularly in the building and construction trades is important, as well as gas, electric, and communication utilities. Many states do not require certification or recertification for junior-level workers. And the question is whether this has an effect on the health and safety of those workers, as I believe it does.

Comment ID: 817.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

And lastly, let me just say I think there's general support in the labor movement, at least this is my impression, for the industry or sector-specific research programs that NIOSH is moving towards. I believe that that is the most useful form of research for the labor movement.

And I will conclude my comments there unless there are questions. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 818.01

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you, Nancy. I'd like to take this opportunity to make a comment on my colleagues' and my understanding of the NIOSH acquisition process. Director Howard and Dr. Soderholm, it is an honor being able to participate in this forum. I am the director of the Jolt Vibration Seating Lab in the ergonomics section of the Iowa Spine Research Center. In addition, I am a licensed professional engineer and a certified professional ergonomist. I'm a faculty member at the University of Iowa and have been working in occupational safety and health for 33 years.

I participate in standards development related to human exposure to vibration. I have received funding from NIOSH and other agencies and I've been involved in creating significant practical solutions. I will participate in the first American conference on Human Vibration, to be held in Morgantown this June, where I understand Director Howard will be the keynote speaker.

For many years I have worked with talented and thoughtful people who understand effective approaches and research directions needed to address work-related musculoskeletal disorders. These same people have also been frustrated by and have cautioned me to be careful about a particular aspect of the NIOSH acquisition process. That is, if anyone advises NIOSH to support a particular area he or she is barred from applying for funds in that area.

I suspect one reason for this has to do, at a minimum, with the appearance of a conflict of interest. Occupational health issues are preventable. Is there anything that can be done that would allow those with practical insight into occupational health and safety to advise NIOSH?

It is a common perception that one is barred from participating in the process after giving such advice. This is a generic problem that compromises the efficiency of NIOSH. Knowledgeable people are not participating because they are unable to participate. The Department of Defense seems to have exemptions with similar issues, how do they do it?

It would be extremely beneficial to the occupational safety and health of the people of the United States to grant an exemption in this area in the name of prevention. With ever increasing healthcare costs, a stitch in time would indeed save nine. Thank you for considering this question.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 819.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Cancer

Reproductive

Respiratory disease

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Exposure assessment

Engineering and administrative control/banding

Training

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Capacity building

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you, Nancy. It's a pleasure to be here. Dr. Soderholm, thank you very much for making this happen here. I have about three major things I want to say, and the first is in a process like this let's make sure that we build on the past. There's been a lot of people that have put a lot of effort into designing [sic, defining] what the problems are. And it's one of the things that started way back in the early or late 1980's was this conference called Agriculture at Risk, which led to the first Surgeon General's conference in 50 years, which was Agriculture and Safety Conference, which was held

in 1991. There's a lot of good information there. [Editor's note: Proceedings can be found at <http://www.cdc.gov/niosh/docs/92-105/>]

And then follow up to that, there was a conference that was put on by the Agricultural Health and Safety Network in 1999 called Using the Past and Present to Map the Future Actions. And it included a lot of information that had gone on in the past and tried to funnel that into the future. So my message is to use that information and build on that past and into the future. [Editor's note: The conference website and a summary report can be found at <http://www.uic.edu/sph/glakes/agsafety2001/> and <http://www.cdc.gov/nasd/docs/d001701-d001800/d001786/d001786.pdf>, respectively]

One of my assignments for that particular conference, which was Using the Past and Present to Map the Future Actions, was to review the success and the failures of the 86 recommendations that was in this particular report. Those 86 recommendations are broken down into about four or five different areas that included policy recommendations, education, occupational health and service delivery, and research.

And one of the -- In our analysis of that, of those 86 recommendations, the research actually came out probably one of the best areas in terms of percentages of or percentage of increase or progress in that area. We estimated it somewhere in the neighborhood of about 54 to 57 percent of the goals in that area were achieved.

Comment ID: 819.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

However, one of the big deficiencies -- and this is my major message today -- is in the area of occupational health and services delivery. It relates to some of the comments that Dr. Rautiainen had mentioned in his item number four up there on the board. So we do have failures in the occupational health and safety services delivery.

There are some innovative programs scattered across the country that have been facilitated by NIOSH, particularly the certified safe farm that Dr. Rautiainen had mentioned. There is a new organization that is developing within the region -- or at least within Iowa so far and hopefully to the region, it's called the AgriSafe Network. But broadly speaking, there is relatively little delivery of occupational health services to the agricultural community, and that's what I wanted to focus on.

And I wanted to then mention some of the specific recommendations that came out of this report that are still rather in need of development. Development of a phased system to provide comprehensive occupational health and safety services to the agricultural communities involving federal, state, local, and private partners. And that's a large category that needs to have -- And I think there's really research applications here. There's a whole -- as you know -- in terms of health services delivery, it's a large research area in many places in the country. And I think this can be applied specifically to agricultural occupational health and safety services.

Funding of projects with concerted efforts towards development of occupational health and safety services is something that was a recommendation that still needs to be considered. Incorporation of costs sharing arrangements with farmers, farm groups, insurance companies, and local hospitals in communities assuming some of the responsibilities. An establishment of linkages with services such as community access hospitals, a whole new notion of new hospitals that have specific funding where they can charge what it costs. And there, I think, is a growing opportunity there to help to ensure that there are some occupational health services put within that context.

So that's my main message, is to consider that because it is a bottleneck. There's a lot of good research that's being done, but unless we can get it into the health services delivery community the access to that research and the translation of that research doesn't happen very effectively.

Many of us who are involved in this area do so because of personal experiences. And having grown up and raised on a farm, having been on the wrong end of a serious injury to my father who received a permanent disability from that injury and had very poor, or no actually occupational health and safety services to help him through that period and to remove the hazards. That really has stuck with me because I generally don't see much of an improvement since that time, 40-some years ago.

So it is an area, a bottleneck, and certainly an area that I would promote to really help get the research out to translation, where it's really needed.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 820.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Traumatic injuries

Mortality

Exposures

Work organization/stress

Approaches

Training

Intervention effectiveness research

Marketing/dissemination

Capacity building

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: I'd like to thank NIOSH and the Great Plains Center for making this town hall meeting possible. I drove 220 miles today to get here, and I hope that tells you how important I think that this process is. I have really three main points to make.

The first is to build on what Dr. Donham and Dr. Rautiainen introduced, and that is research that gets the word out to large groups of people. My work with AgriWellness, which is a nonprofit corporation, is in seven states, Iowa, Wisconsin, Minnesota, North and South Dakota, Nebraska, and Kansas. Our work is to build behavior health supports for the agricultural population.

In each of our states we have a farm helpline, which is used annually by more than 35,000 farm people in terms of number of callers. We have trained staff who operate these hotlines 24/7, every day of the year. We also have trained agricultural professionals who deliver behavior health services; mental health, and substance abuse counseling, primarily.

Our work involves training the staff who operate or provide these services in what we call agricultural behavioral health. We can reach lots of people, but the funding in anything that has to do with rural has taken a substantial hit during the past year-and-a-half or so and in some ways longer than that. So we need help from NIOSH showing that this kind of a support network can do some good.

The suicide rate for the agricultural population is twice that of the non-agricultural population and even higher for males. Depression is rampant as a stress-related illness in the agricultural population. And not only does stress impact the injury rate, but it also impacts the psychological vulnerability rate. So that's my first point.

Comment ID: 820.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Traumatic injuries

Exposures

Approaches

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Second comment, and it's kind of related to this point that Kelley and Risto made and it is that put greater portion of NIOSH funds into grassroots research, if it all possible. Because it's at the grassroots level where agricultural injuries and their prevention start, both for physical and psychological injuries.

Comment ID: 820.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

National Rural Behavioral Health Workgroup

Categorized comment or partial comment:

A third point I'd like to make is to invite NIOSH to consider joining the National Rural Behavior Health Workgroup. This workgroup has formed within the past year to bring together all of the federal agencies that have something to do with rural mental health and substance abuse issues in rural areas. With agriculture necessarily being almost entirely rural, we think it important that NIOSH be at this table.

The organizations that are at it already are the Substance Abuse and Mental Health Services Administration, the National Institute of Mental Health, the Bureau of Primary Healthcare, Indian Health Service, USDA, Center for Mental Health Services. We think that NIOSH needs to be at this table to help set the agenda. The last meeting was held on January 23 and 24, not only were all those federal agencies there, but so were chief representatives of the National Rural Health Association, the National Association for Rural Mental Health, WICHE, the Western Interstate Commission on Higher Education, and AgriWellness, and several other groups. So we think it's important if NIOSH can find a way to dialogue with that, and I'm going to provide you with some information about that particular workgroup, as well as an e-mail that I addressed to Dr. Max Lum, but I think you'll read it.

So that takes care of my comments unless there's a question or two that I might be able to respond to.

DR. SPRINCE: Could you tell us the name of the workgroup again?

DR. ROSMANN: The workgroup is called the National Rural Behavioral Health Workgroup, and it's an agenda setting workgroup that has been formed primarily because rural needs a voice that is unified at the federal level.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 821.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Good morning, I'm Todd Wyatt. I'm an associate professor at the University of Nebraska Medical Center. I would like to address lung disease as my topic.

Lung disease is the number three cause of death behind cancer and heart disease. But unlike cancer, deaths due to lung disease are increasing each year.

The interest that we have is that NIOSH continue its funding related to basic laboratory research in airways diseases. Particularly, I'd like to make the pitch that increased funding be appropriated for combination injury studies centered around tobacco and alcohol exposure. And as you can see these are very important causes of death in our society today.

The major disease problem that we're facing is chronic obstructive pulmonary disease. It's the fourth leading cause of death right now. A lot of Americans are affected by it. You may not be aware of the fact that alcohol -- there is a component of alcohol consumption that contributes to the development of COPD.

The majority of people with COPD are cigarette smokers or previous cigarette smokers, but a significant amount of COPD is caused by occupational exposures. And this is where NIOSH comes in in its

commitment to researching that. COPD is very complex and poorly understood and therefore our treatment modalities are very inadequate. Yet, in the study of COPD it consists of an intersection between chronic bronchitis, emphysema, and asthma.

The hallmarks of this injury after the inhalation of substances, toxins, organic dusts, consist of the elevated tissue inflammation in the lungs, a decrease in our innate ability to clear the things that we've inhaled, as well as a decrease in the repair processes that remodel and restore the lungs to its normal functioning. Basic research in these areas need to be continued and need to be expanded.

That innate protection that I'm talking about, what I'll focus on, at the level of the cilia lining the airways participates in a mechanical mucociliary transport system that keeps us healthy from things that we inhale. A lot of people refer to this as the mucociliary escalator of the ciliated cells that function in coordinated action in the airways to clear inhaled particles out of the airways and into the GI tract where those particles can be processed and destroyed.

The upper airways as well as the lower airways -- this orchestrated ciliary beating is essential to move substances into the esophagus where we swallow them and then they can be processed. And this innate ciliary beating and mucociliary transport apparatus is essential as our first line of defense about anything we might inhale in the workplace.

So we're hypothesizing in addition to the exposure of dust that can impact proper clearance in the maintenance of lung health that co-exposures of cigarette smoke and alcohol that haven't been previously studied in combination with these concepts be addressed as workers in every occupation are consuming alcohol and smoking cigarettes.

You may have been aware that the vast majority of alcohol abusers are cigarette smokers and studies have reinforced that. But, what you might not be aware of is that anywhere between a third and a half of all cigarette smokers have problems with alcohol consumption, as well. So the two exposures go hand in hand and basic research needs to be addressing that, and I think NIOSH is a good vehicle for that.

In addition, preclinical animal models need to be continued to be supported and developed for co-exposure studies. Lots of studies have been supported for cigarette smoke exposure in small animals, such as the one pictured here (indicating), as well as lung function and exposure studies that can deliver alcohol and other organic and dusts and particles to the airways. But, the combination of these exposures has not been addressed and not been reported in the literature.

So to summarize, COPD is a growing and very significant disease that has been addressed by basic science and laboratory research through NIOSH funding and I believe should continue to be a priority. Our basic innate protection against inhaled particles, I believe, is a very important thing that we should be investing research dollars in because this is addressing how we can maintain -- If we can understand proper innate protection of mechanical production then this will lead to understanding how we can prevent disease as opposed to just treating symptoms of a chronic disease once it's developed.

I feel that animal models are extremely important in developing this, and public policy is always impacted by individuals who like to limit the use of animals in research. And I would like to see that not be public policy, but rather the importance of animal models for preclinical disease studies be an important feature of funding and continued funding.

And then my own particular emphasis would be I would stress that we look at the context of multiple sources of injury, like cigarette smoke and alcohol, and how they combine to affect the lung health in the workplace. So thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 822.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Language/culture/ethnicity

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Noise/vibration

Motor vehicles

Work-life issues

Approaches

Exposure assessment

Engineering and administrative control/banding

Training

Economics

Authoritative recommendation

Marketing/dissemination

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you very much, Dr. Sprince. I appreciate this impromptu moment to share a couple of thoughts with you, particularly after spending a couple of sobering days that I'd like to tell you about.

First of all, I'd like to add to Dr. Donham's comment about the importance of the Surgeon General's conference and the Ash Network, led by Dr. Chip Petri (*) out of Illinois. But add to that work of the

extension service in producing the document called NCR-197 as an informative guide to the safety and health research in agriculture. [Editor's note: The NCR-197 report can be found at <http://www.cdc.gov/nasd/docs/d001601-d001700/d001601/d001601.html> or on its home page [http://www.tmvc.iastate.edu/NCR197/.](http://www.tmvc.iastate.edu/NCR197/)]

Comment ID: 822.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

As Dr. Sprince mentioned, I have a role in the Iowa FACE Program and the Great Plains Center for Agricultural Health. I'm also a board member of Farm Safety 4 Just Kids and president-elect of the National Institute for Farm Safety, the professional organization for people in our field.

Part of yesterday I had the rather sobering task of plotting on the four-state map the roughly 120 farm and agricultural deaths in 2005. Depending on how you count and who you count that's one-sixth the national total. For Region 7 there were 30 tractor-overturn deaths in '03, 23 in '04, and 19 in '05; is that progress or just different numbers?

The ATV, if not already so, is becoming the agent most frequently involved in deaths and injuries in our nation surpassing tractors. Nationally 600 to 700 deaths in agriculture/forestry/fishing, which now includes logging, it didn't two years ago and before. The number 600 to 700, if you use the National Safety Council method of death-to-injury ratio calculations, which in the past has indicated 120,000 to 150,000 disabling injuries; that is where you can't return to work the next day. But if you use that same ratio process one might conclude 15,000 to 25,000 disabling injuries in our four-state region.

Eighty-five percent, historically, of the National Safety Council, the BLS numbers for census of fatal occupational injury deaths, 85 percent have historically been associated with the production agricultural; crops, life stock, and agricultural services portion of agriculture. Our farm and agricultural injury monitoring system, which is essentially a press-clipping service captures 120 deaths, 110 nonfatal injuries of a serious nature each year. And some of these same deaths, of course, make it into the FACE catch basin, since I capture both of them. And much later, many but not all end up as part of the CFOY

count (*), especially those which -- Well, it excludes the course, those which do not meet their selection criteria.

Fatalities alone, and if you add them together with nonfatal injuries, present the same picture; tractors, self-propelled equipment, other machines top the list of agents. However, the life stock maulings, grain suffocation's, manure pit tragedies can't be ignored. Within the machinery category, overturns, run-overs, crushes, and crashes with motor vehicles predominate.

I would hesitate not but a moment to say there are too many that occurred to those who are too young, too many that occurred to those who are too old, and most of them that occurred to people in between.

Comment ID: 822.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

First, current surveillance does not provide a meaningful picture for the American public for priority setting, for targeting our efforts appropriately, for measuring progress.

Comment ID: 822.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Capacity building

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Second, incentives are incomparably powerful motivators. To the extent we can effectively incentivize that which will improve safety and health we need to do so. Incentivizing the system, measuring the results, continuously feeding back to improve and doing it over lead to my third and final comment. And that is that I encourage NIOSH and appreciate their support for the infrastructure because without it we won't find the incentives and we won't measure the progress that's needed to improve the safety and health of the people engaged in agricultural activity.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 823.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Good afternoon, this is Richard Job.

I am currently the chair of the ASABE, which is the American Society of Agricultural and Biological Engineers. My comments this morning are we know that a properly designed cab using the application of toxic materials in agricultural can provide protection superior to a respirator. We need research on the need to define when the level of protection of these cabs falls to levels below the limits. If you look the basic operations involving the process of agricultural, tilling the soil, preparing the seed beds, application of fertilizers, pesticides, and herbicides -- (inaudible). The questions that we have are how well are the operators of the equipment protected in the cab with equipment that we have today.

In industry, we think we've done an excellent job, but there is no research to verify that. There is also no research to verify how long these cabs are effective. Earlier this week, I was at the ASABE Technology Conference in Louisville. And the question was asked how well do our cabs protect the operator? (inaudible). Another question that was asked was how well do our cabs protect the operators of lawn care equipment when they are doing lawn care or lawn maintenance work? (Inaudible).

The one thing that we have no way of identifying today is the protection provided by the cab (inaudible). So essentially in our cabs and the standards today (inaudible). We would like to see sensor technology that will identify when the level of protection provided in an environmental cab has been compromised and maintenance must be performed. We need a simpler, reliable, refutable, and cost-effective test so that when maintenance has been performed we can verify that the protection level offered by the cab (inaudible).

When you have answered these questions in applied technology, we could have confidence that we can provide the operator to (inaudible). Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 824.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Training

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: My name is Terry Meek. I am the executive director of Proteus, Inc. We are a nonprofit organization that works with migrant seasonal farm workers, as well as other immigrants that come to Iowa to work in agribusiness and other professions.

We conduct every year sessions for migrant seasonal farm workers on workplace safety and pesticide training. And the thing I think that's become quite evident to us is that many employers do not give adequate time to providing education on these very important subjects in a manner that will really help their workers.

Many of the employers use videos, which allow -- Which do not allow for any conversation or question answering for individuals that do not speak English well. And this sometimes clouds the issue with overall safety procedures, as well as working with pesticides in the field. And we have found many workers who have many questions to ask and without there being some type of bilingual interchange between the trainers and the workers it becomes very difficult for them to pick up the kinds of information that they need to protect themselves while they're working.

If there could be a way that would deduce more employers to do a better job in this area, I think that we could eliminate many accidents or things that happen in the field or in the workplace that we have problems with now that OSHA and ETA have to deal with.

Those are my main comments, and I'm very thankful that you were able to include me right now.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 825.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Older
- Small business

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

- Work organization/stress
- Work-life issues

Approaches

- Etiological research
- Intervention effectiveness research
- Economics
- Health service delivery
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you, Dr. Sprince. As she said my name is Kimberly Gordon. While I'm literally wearing my hard hat representing our Heartland Center, I'm speaking today with my NSN graduate student hat on and as an occupational health nurse.

America's workers are aging, many with co-morbid conditions and preventable chronic illnesses. As occupational health nurses, we deal with worker's lifestyles and that link to their ability to be at work every day in our work on a daily basis.

Work sites are large, they're small, they're diverse with many special populations of workers. Many Americans work eight to twelve or more hours a day, some six to seven days a week in jobs that cover

all the sectors that were discussed here this morning. With all of the other family, personal, and commitments that workers have, a healthy lifestyle is often forgotten. Let alone, finding the time to exercise for 30 minutes a day, as the Healthy People 2010 Program recommends. Employers in the Midwest and Federal Region 7 vary in the type and the amount of health promotion activities and programs offered to workers. Large employers may have resources to provide such services, but it is the small employers that make up the majority of work sites in this region. If there are budget cuts, it is often these extra services that are eliminated.

The question from occupational health nurses is what is the effect of lifestyle, physical conditioning, and overall health of workers on their productivity, the injury rates that we see, the severity of work-related injuries, and their ability to return to work following an injury?

Research to show health promotion and health-related program effectiveness, reduction of work-related injury and illnesses because of such programs can only benefit employers, workers, and us as a nation with a more productive work force. I suggest the overall health and physical conditioning of workers in all sectors be considered as a priority in NORA 2.

Research findings could help motivate employers to take a broader health expectation for what we want in workers, and could help workers accept the challenge of living a more healthy lifestyle. Thus, NORA 2 could help all of us have more productive and effective workers. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 826.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Capacity building

Partners

those delivering services to agricultural health professionals and farmers

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you. I feel fortunate to be able to participate in this session, especially because I'm far away. And for those of you that are not aware, the AgriSafe Network is a nonprofit membership organization that consists of health professionals who have been trained in the field of agriculture health and safety, and they receive that training there at the University of Iowa through I-CASH. So we have a strong link to the University of Iowa and a strong history. And it's actually a wonderful example of a program that went from our research phase to something that translated in the community.

We have 20 clinics now in the State of Iowa that are based in hospitals, health departments, rural health clinics. And again, they're run by health professionals who have received core training there at the University of Iowa in the field of Ag. Health and have gone back to their organizations and started applying services.

The network is a membership organization representing those health professionals. We provide resources for them in training and technical assistance to make sure they can do the job.

We're also very excited because we launched a new initiative to expand that particular model in other states because we are a national organization and you can't be national unless you have presence in other states. And so we are going to -- by the end of 2006 we're expected to have new AgriSafe clinics developed in at least ten other states. We've joined an initiative with the National Rural Health Association to make that happen.

And we're very, very excited by the response to our recent (inaudible) promotion program where we have people throughout the country who are excited to go to core training there at University of Iowa and excited to think about developing AgriSafe clinics.

I just give you that background because it's important to understand that we have health professionals out there that even felt (inaudible) of rural communities that we're serving farmers and yet they don't feel they have the resources and the information and the training, and technical assistance to serve those health needs. And so it's really important when we think about research agendas and their translation that we make a connection between what the universities can offer the trained health professionals and what organizations such as AgriSafe Network can deliver in disseminating that important information.

So I would encourage you to think about how to design research initiatives that have a strong dissemination component, that have organizations, non-profit organizations that are really providing the outreach actively involved, very familiar with other funding sources. We get some funding from the (inaudible) Health Policy, whose federal agency is very interested in the field of agricultural health.

They fund -- They don't fund universities, mostly they fund organizations that are out delivering services. And I think we need to think about some collaboration between those who deliver and those who do the research. And I know that we've just begun, but perhaps NIOSH needs to think about career programs that are specifically geared for research institutions that require collaboration with those out in the field, and then grant programs where those who are out in the field require collaboration with research institutions because we want to make sure that the research that's being done reaches the farming community. And I can say that both I-CASH and the Great Plains Center have been actively involved with doing that. And I think what's happened in Iowa is a wonderful model for other states to follow. And as we expand to other states, we are going to actively be looking to other universities to partner with us in delivering services to health professionals and farmers. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 827.01

Categorized with the following terms:

Sectors

- Construction
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Hearing loss
- Musculoskeletal disorders
- Traumatic injuries

Exposures

- Chemicals/liquids/particles/vapors
- Motor vehicles

Approaches

- Engineering and administrative control/banding
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: This is Marty Limmex and I'm a safety consultant for an Iowa-based utility.

(Inaudible) With the vehicles, NIOSH has done a lot of research. A more recent report was with regards to how to (inaudible) delivery trucks. (inaudible)identifying the hazards of these trucks that are problems that the employees face, the slips, trips, the strains, the potential strains, diesel emissions, noise levels, et cetera. But, they never really developed a standard.

I guess I'd like to speak for all construction vehicles and service vehicles. This is an ongoing battle with safety consultants. We are constantly faced with trying to reduce slips and trips getting on and off the vehicles and in back of the service part of the vehicle. There's really no standards in place for, like, in the building construction trade, every step that you go up to in a building is typically between 15 and 17 inches. There's no standard for vehicles for getting on and off.

So everything that we do has to be custom done, which adds -- It's tough to get our customers' employers to do -- to get the vehicle ergonomically equipped.

The other item with the vehicles is diesel emissions, just wanted to push an effort to put forth and encourage the use of Iowa-based fuels, (inaudible) potential hazards that we see with diesel emissions.

We constantly struggle with the placement of the exhausts. There's no set standard out there, once again, but we go to manufacturers to get the vehicles built and it's always something special we have to pay extra for it.

And the third item is noise levels within vehicles. There's always been a standard for quite sometime where noise levels an operator in a cab can have so that his cab is totally closed and the vehicles open up where you have constant readings over maybe two to three decibels over an average for operators of vehicles going down the road.

So that was a concern of mine and there's a lot of research that we can use out there on vehicles, construction and service vehicles, but there's just not a lot to help us out with -- just go back and maybe preventing less trips and strain coming on and off vehicles. On the ergonomics side, our diesel emissions and our noise levels.

The second item I just talked was from the standard that's going to be forthcoming here from OSHA and NIOSH has done a lot of research on that. (Inaudible) That's all I have. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 828.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Thank you. I'm Ken Culp. I'm director of the graduate program in the Occupational Health Nursing Core at the Heartland Center. And I just wanted to make some antidotal comments about the supplemental NORA funding that the centers receive.

Like many nursing faculty entering the field of occupational health, many of us have had established careers in other specialty clinical areas, and mine was in aging. And in fact at the time that I became director of the Center, I had R-01 funding from the National Institute of Aging, as well as R-15 funding from National Institute for Nursing Research.

And I've really found this supplemental funding that the centers receive and the flexibility as it currently exists very, very helpful in facilitating my career and actually I think improving the graduate education of occupational health nurses.

Comment ID: 828.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing
Unspecified

Population

Older
Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders
Traumatic injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

In the three years that I've been able to get some of this supplemental funding I've been able to pursue work in studying problems of older workers. And we recently did a survey, for instance, in three counties here in rural Iowa. Very basic questions about what is the participation rate of older workers in the workforce? And I guess I've had an ongoing interest in older workers.

And I find it really -- I think a phenomena that I don't know if NORA and NIOSH is going to continue to place emphasis on older workers. We have an aging workforce and when we move to this sector classification system I feel like I don't know how important it really is. Does it all fall under special populations or what?

So I do hope -- You know, I'm not the type of researcher that does some of the things that NIOSH funds; the industrial hygiene, you know, chemical toxicities. I'm the type of researcher that's going to be looking at older workers in the workforce, whether there's increased injuries in older workers. We recently undertook with that NORA supplement another study here in Iowa in a meatpacking plant looking at injury rates in older workers and particularly minority workers as well.

So I would just advocate that we continue these supplemental funds to the ERCs, and allow the center directors the flexibility to allocate those funds to the individuals that need it. I think it works really effectively in its current state. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 829.01

Categorized with the following terms:

Sectors

Services

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Hi, I'm Joe Brenson from facilities management here at the University of Iowa. And I had not prepared anything, had not intended to speak, but there's two things that I think are very important for NIOSH to understand.

Number one, supporting what Mr. Culp just said, I think the aging workforce is critical. We've done some looks at our workforce in facilities management. We have places where our average worker -- this is maintenance workers, custodial staff and those folks are 53 years old.

This is a big issue for us. There are a lot of injuries for that. We have not a good injury rate here and now we're really starting to look at those things. So any work that you're doing on aging workforce is tremendous.

Also, to support that, the other thing I want you to think about is the sector. I think is a great idea of the sectors. It looks very good. The one sector that I'm not hearing anything about is service, and we are a service organization in facilities management and we have that aging workforce.

Remember in the '80's we told our kids, get your educations. Go get those good jobs. Well, guess what? For once the kids listened. They're out there getting the good jobs and they're doing well.

But as manufacturing and all the other areas start to diminish jobs, those jobs are being created in service. And who's getting those jobs? The older folks from the manufacturing, and ag., and the other businesses are now our employees in the service sector.

They're older, they're moving into service, and we need to figure out ways -- Ergonomics seem to be a huge issue for us and we need to figure out ways that those folks can have good, safe careers and be productive workers for a long time and not be hurt.

So again I'm supporting what Mr. Culp said, and hopefully you'll look at the service sector because that's where I think a lot of those older folks are. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 830.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Motor vehicles

Approaches

Surveillance

Engineering and administrative control/banding

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: My name is Bob Aherin. I'm a professor in the Agricultural Biological Engineering Department at the University of Illinois. I worked in the research and education fields of agricultural safety and health for a little over 30 years -- I don't want to say well over 30 years; and just a few comments. I commend NIOSH for its continued support in research and academic activities, development in the agricultural safety and health area. Our industry has some significant problems to the efforts that were made in the '90's and the early 2000's by NIOSH. We have certainly been able to understand many of the problems better and have developed concepts and interventions will have more of a lasting impact on our industry and have had lasting impact.

However, there are some issues that concern me a bit, and I encourage NIOSH to take a look at these. When we look at data that's been presented on morbidity/mortality data a lot of it's been analyzed, developed, or collected by NIOSH researchers and other institutions, all of them sponsored by NIOSH, as well as the National Safety Council's Department of Labor.

The greatest problem that faces our industry, based on the data that we currently have -- currently we need better data in the illness and disease area, but by far the biggest morbidity/mortality problem is traumatic injuries. Yet, when I pursue or review the research projects that are involved with some of these, both in health and traumatic injury side of things and supported to the centers and other sources, particularly by NIOSH, it appears to be -- while I don't have hard data -- it appears to be that

somewhere in the neighborhood of 67 percent of the research projects are focused in illness/disease issues.

And part of that might be the nature of the people who are applying, whether these centers are funded, and these are certainly areas -- the disease/illness areas are needed. There's a lot of issues that are in need of being evaluated and understood better. Yet, I feel that we are not really addressing as strongly as we should the traumatic injury problems in agriculture. And I would encourage NIOSH to review, you know, where is the funding going? I have a hard time putting all that data together, I'd like to do that to see if there's an imbalance here to some degree. And if there is, as I perceive there is, I would encourage that there are -- we need a greater effort to fund traumatic injury type of research problems.

We have a number of needs in this area and you are addressing several of the critical ones, particularly the tractor overturn issues that are going on and have been going on. And this is certainly very important work, but when we look at traumatic injuries there are other issues with general machinery, there's problems with (inaudible) equipment structures. We need better designs for structures. We have a real problem with (inaudible) that have appropriate fall-out systems, particularly in grain bins and silos. The musculoskeletal injuries are very significant in all our workforces. The dairy industry and the (inaudible) industry, and we need to continue that work and enhance the work in those areas to prevent the high percentage of back injuries that are occurring and other musculoskeletal type of injuries I think are also -- We are going to work with you to continue your enhanced work in that area. We need to take advantage and think also of the new technologies and enhance those (inaudible), particularly in the areas of sensory technologies that have potential -- and the research that I read on this is that and the people I work with here and other locations I've talked to there's great potential to help us do a better job of automating our equipment.

Even so our older equipment can be adapted to better prevent injuries in the first place and to take the place of a (inaudible), where it cannot use (inaudible) both in our equipment, as well as other industries.

Comment ID: 830.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

And final comment, when we talked about special populations, and some of the previous speakers already discussed this here and also the other hearings you had, but I also concur that one of the areas we have not looked at very closely -- we did a lot of work on child safety issues and some special populations such as migrants and Amish workers and so forth, but we do need to take a closer look at the older workforce. Because we need to draw better guidelines, appropriate tasks, grain workers need to be aware of risks and how to minimize those risks.

We learned mortality/morbidity injury rates to worker's over 55 or close to all the studies I reviewed had a more significant experience as far as incident rates in this area. There is research being done and that we need to look at these issues.

Comment ID: 830.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

And a final comment is that it is very important at the beginning that you continue your efforts in research to practice because our industry's not as heavily regulated as other industries. That's an issue we need to look at closer and the appropriateness of that to try to change some of the culture to some degree and I think it's happening to some degree. But we need to try to incorporate in the social structures of agriculture the adoptions of the way the state practices interventions that we write out our research hoping that the industries serve the production agriculture in the farming industry itself.

I thank you for your time and appreciate making some comments.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 831.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Etiological research
- Capacity building
- International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: Yeah, thanks Wayne. My name is Tom Cook. I'm on the faculty here in occupational and environmental health and physical therapy and international studies. I just have two areas that I think NIOSH needs to look at or continue to look at.

The first of those is the international involvement of NIOSH. I've been fortunate enough for the last -- well, ten years now, since 1996, to be involved with the Fogarty International Center and the International Training Program in Occupational and Environmental Health. During that time we've been able to bring over 60 physicians and health professionals from central eastern European countries, West Africa, and South African here to the University to participate in our programs and to connect with our faculty and our faculty mentors.

They've done a number of things. They've enriched our curriculum so that we now have students who interact with people who understand different social systems, different health systems and so on. So it certainly enriches our students, but I think it also keeps us in tune with this whole globalization thing.

And I think of research priorities for the next ten years -- We're all overwhelmed with what's happening in terms of globalization and outsourcing, and other things. Clearly in the next ten years our occupational health and safety issues are going to be more and more entangled with the world's occupational health and safety issues. I think there's a lot that can be learned by comparing and contrasting other countries and other things that are going on. I give you a couple quick examples just from our program, which is one of 16 programs that NIOSH helps fund.

We've done a couple of studies; ergonomics in Slovakia. And again, the different healthcare system, a different social system, different economic system, and but yet the musculoskeletal injuries to construction workers are fairly identical, except for hand and wrist, and upper back. So that's an example of -- We're still trying to figure this out, but that's an example of, you know, by sort of these natural experiments by the way things are done differently in different countries, we can learn something about how we do things and how we might do things better or how they might do things better.

PCBs, again, in Easter Slovakia, there's sort of natural experiment, there's a place there where workers and people have been exposed to inordinately high -- some of the world's concentrations of those chemicals. We can't go out and do that experiment and just say what are the health effects of PCBs in the workplace in this country? But we have a natural experiment by studying the health of those people.

And similarly pesticide use in Gambia and West Africa. Dr. Sanders and others have been involved -- and Kelley have been involved with some of our students from there and there's just a lot to be learned about, again, pesticide use, toxicity, fertilizer, and other things. So I think over the next ten years NIOSH will need to be more and more in tune with what's happening in other parts of the world because the world is shrinking, like it or not.

Comment ID: 831.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

The second area that I would like to encourage NIOSH to be involved in is information and communications technology, and that's probably, you know, looks like a natural for me since I've been pushing all the buttons and doing this stuff. But I really think that, again, it would be wise of NIOSH to take advantage of the ever-changing technology for communicating ideas and information.

We just heard, you know, our previous speaker talk about research to practice and certainly NIOSH has been active in that area, but I think we can do a whole lot more. I think we need to understand from a social marketing point of view, where do people get their information? Where do they get the messages to change their behaviors?

We really live in a sound bite, bumper sticker society and we need sound bites and bumper stickers that send NIOSH messages, you know, and health and safety messages. And I don't think we understand how to most effectively deliver that information. For example, we know farmers get most of their information from the radio when they're out in the field driving their combines and tractors.

So I think we would do well to do things like the FACE Project is doing; publish in, you know, Waste Management Magazine and places that things that are laying around in the break room of the service workers that we talked about earlier.

And then I think we could use the communications and information technology like we're doing now, in terms of sort of spanning time and space and involving people who don't come to scientific meetings and don't read scientific journals or maybe don't go to the NIOSH website. Maybe we need to go to them.

I think the idea that if you build it, they will come might work for baseball in Dyersville or Field of Dreams, but it doesn't work necessarily -- We can't be satisfied that we build the world's greatest website with all the information in the world. Many times the people who need it most are the least

likely to come to those places. And I think we need to beat them over the head, if you will, with the information that they need to hear.

So I think those two, international involvement and information technology will be very important in the next ten years. Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 832.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Work organization/stress

Approaches

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/17: So I basically have two broad questions. One question is, I think that there needs to be a greater effort in a concern about tinnitus. There's lot of interest and noise-induced hearing loss at times, but it seems like there's very few research activities funded. It's hard to find information on the web page and in fact in many situations tinnitus can be much more debilitating than hearing loss. And I don't think that's widely appreciated, and it think deserves more careful attention.

So my second -- Should I just go ahead?

DR. SANDERSON: Sure. Sure.

MR. TYLER: My second question is, there have been standards for noise-induced hearing loss, and recommended limitations of noise exposure for decades. And it's my impression that workers are still getting noise-induced hearing loss and tinnitus from the exposure. And I wondered if people appreciate why that's the case, and if they do, if there's a chance of changing the standards.

I think there's lots of evidence to suggest impulsive noise is much more damaging than continuous noise; that's one major reason. And I think a second major reason is that there are lots of workers that work more than 40 hours a week. And the standards in fact are based -- The noise exposure limits are based on research done many years ago where workers were exposed to 40-hour work weeks.

And I think that those two factors in themselves have probably been major factors. There are many others, but I think that many people would largely argue that the attempts to prevent noise-induced hearing loss and tinnitus in workers based on the current guidelines for noise exposure have frankly failed. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Iowa City, IA, 2006/02/17.

Comment ID: 836.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Work-life issues

Approaches

Etiological research

Training

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you. I really appreciate this opportunity to speak with you today. I work at the nonprofit Education Development Center where I co-direct the National Young Worker Safety Resource Center, which is funded by OSHA to increase the state capacity to provide occupational safety and health training to high school students. And prior to that in collaboration with the Massachusetts Department of Public Health, I worked on several NIOSH funded projects. One, to work with community groups looking for ways that they could increase the safety and health of teen workers, and then another NIOSH project to work with state agencies to help them look for ideas for resources and activities that would better protect young workers.

So I'd like to speak today about the need for NIOSH to maintain a focus on the safety of young workers. Although I think teen safety can be considered within specific industry sectors, it's important that it remain an important cross-cutting issue.

Teen workers are a unique population and deserve special attention from NIOSH. Between 200,000 and 300,000 14 to 17 year olds seek emergency department treatment every year for injuries they suffered at work. And teen workers have a higher rate of injury than adult workers, despite the fact that they're

protected by child labor laws from working in the most dangerous occupations. And then tragically between 60 to 70 young people are killed on the job every year.

So having worked on this issue for over a decade it's clear that a lot of progress has been made, especially in our knowledge about the types and locations of injuries, about potential prevention strategies. And much of the credit for this project is really due to NIOSH for having conducted and sponsored research in this area. Nevertheless, it's also clear that a lot of progress needs to be made. So I'd like to suggest three general areas in which research is needed.

The first is the unique risk factors associated with adolescent growth and development. Some collaboration with experts in adolescent health and injury prevention, research should be conducted on the roles that size, strength, bone maturation, motor coordination, sleep needs, judgment, and cognitive ability play in work injuries. Particularly concerned are the large numbers of back injuries suffered among teen workers, and this can result in long-term disability.

And also, NIOSH should complete the initiative it began in 2002 where they were doing research to recommend updates to the child labor laws by determining which tasks that are being done by teens that are prohibited by teens should continue to be prohibited and which needed to be added to the prohibited list.

The second main area of research that's needed is in training and health communication. Professionals in the field of substance abuse, injury prevention, health promotion for adolescence have made great strides in understanding how to best frame and deliver messages to teens and to those responsible for their health and safety.

This research may or may not translate to the field of occupational safety. So research is needed to answer questions such as what education and training methods are most effective with youth. What strategies are being used now, especially by employers? What information to parents, healthcare providers, educators, and employers need to know about young worker safety and what's the best way to deliver that information to those groups?

The last general area of research that's needed is an intervention effectiveness. It's important to examine whether the kinds of prevention strategies being used in other disciplines are relevant to occupational health and safety. And programs that are already being implemented and those that are suggested in documents such as the Institutes of Medicines' Protecting Youth at Work report, need to be piloted and evaluated. Some of these interventions include teaching safety as part of job readiness programs, passing and enforcing stronger child labor laws, awarding safety certificates for youth who have received training, implementing worksite safety programs tailored to youth workers, and delivering occupational safety training to teachers and job placement professionals.

NIOSH has been a leader in fostering research to protect young workers. It's essential that its emphasis on industry-sector research not diminish its focus on the vulnerable population of teen workers who need our protection today and our help in preparing them to become adult workers of tomorrow. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 837.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Exposure assessment

Risk assessment methods

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you, Dr. Wegman, and thank you for taking me out of turn. I'm here today to talk about non-friable asbestos. And the Massachusetts Division of Occupational Safety respectfully suggests that the NIOSH research agenda include an examination of asbestos hazards associated with commonly conducted renovation and demolition activities that disrupt non-friable asbestos-containing materials.

Assuming the asbestos exposure hazards are demonstrated by the studies, we'd further recommend that NIOSH develop model-safe work practices that can be broadly applied to control exposures in a manner that is both effective and economically feasible.

Since the publication of landmark studies on asbestos exposure in human illness over 25 years ago, the federal government and virtually all state governments have instituted regulations aimed at limiting asbestos exposure for workers and the general public. Because friable asbestos materials pose a high

risk of exposure due to their tendency to release fibers when crumbled, most regulations were initially focused on them.

Friable asbestos, of course, is commonly found in pipe coverings, boiler coverings, and spray-on insulation. In recent years, however, the use of more sophisticated analytical techniques has demonstrated the presence of asbestos in a wide array of so-called non-friable materials where the asbestos fibers are more or less encased in a hardened non-asbestos matrix. These materials include floor tile, joint compound, mastics, and window glazing compounds, just to name a few.

It's been widely assumed that the tendency of these non-friable materials to release asbestos fibers is low as compared to friable materials. Nevertheless, the requirements of state and federal asbestos regulations are increasingly being extended to work operations involving these non-friable materials. In many cases, particularly those involving renovation and demolition work, the asbestos content of non-friable materials is never tested and the work proceeds with a total absence of any asbestos controls. Such a scenario routinely occurs during painting operations, when window glazing compound, for instance, is disturbed during sash painting and during interior renovation and demolition work.

In other cases, non-friable materials are found to contain asbestos in advance of the work taking place and the owner or contractor is required to utilize an asbestos contractor to perform very expensive, but questionably cost-effective abatement. Because of these anomalous situations, there's a need for research on asbestos exposure potential occasioned by renovation and demolition work involving these non-friable asbestos materials, and where risk has demonstrated the development of model work practices, which will adequately control these risks.

DOS suggests that NIOSH focus on one or two of these materials, such as joint compound or window glazing. The current don't ask/don't tell approach toward the treatment of these materials is not acceptable, both from a public health and from a public polity perspective.

Here in Massachusetts, over 138,000 workers are employed in the construction industry. Nationwide, this figure is over 6.9 million. These workers and many workers in other industries who conduct renovation work in structures where non-friable asbestos materials are present are potentially impacted by this issue. Property owners are also impacted if they own structures that potentially contain non-friable materials as well.

We feel this issue has broad implications, both in terms of cost containment and worker safety. We surmise that appropriately scaled controls for renovation and demolition work that disrupts non-friable asbestos-containing materials lie somewhere between the existing framework established for friable materials and the complete absence of controls found on most projects.

The basis of our recommendation is that the measurement of the actual asbestos hazards involved with this work should form a foundation for the consideration of appropriate controls for the protection of workers, the public, and the environment. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 838.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders
- Traumatic injuries

Exposures

- Work organization/stress

Approaches

- Surveillance

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: We're going to do two small group activities in my five minutes. Thank you. My name is Nancy Lessin. I'm health and safety coordinator for the Massachusetts ALF-CIO, and a proud member of the Steel Workers' Union.

I've worked in the field of health and safety for over 25 years. I've served on NACOSH, and I served for five years on the NIOSH NORA team on organization of work. I've worked with workers in unions in all sectors of the economy, both private and public sector, nationally and internationally.

Fifteen or 20 years ago when I asked workers and union representatives what's happening in your workplaces that's causing workers to be injured, made ill, or stressed on their jobs. The list they created included many traditional health and safety hazards.

In the last decade, the responses to this question have changed. The answers invariably begin with downsizing, under staffing, mandatory overtime, push for production, job combinations, multitasking, speed up, work overload. It doesn't matter the industry and it doesn't matter whether it's public or private sector.

Workplaces have been undergoing massive changes in the way in which work is organized, often made possible by innovations and information and communications technologies. New forms of work organization are being introduced with very little attention to their potential to hurt workers. However, we do know that these forms of work restructuring can increase workers' risk of injury, illness, stress, and death.

Work's being restructured by management to achieve the goals of standardization of work, which in turn is used by management to increase their control over the work. And in many workplaces undergoing changes, worker knowledge about the production and service process is gathered through employee involvement and management then leans out and standardizes the process. This has resulted in job loss for some, while increasing the workload and work pace for others.

And I turn your attention to the first activity, which is called basic principles of continuous improvement. This is from a multi-national corporation. And you look at the job that's being documented here, the left hand isn't doing very much, the right hand is doing all the work.

If you turn the page over, you'll see the new improved job where the left hand and the right hand are working equally hard. This multi-national corporation says it's an ergonomic improvement because workload impact is spread across more body muscles instead of being isolated to only the right arm and hand.

The first way of doing the job is a recipe for repetitive-strain injury. And the right hand, the second way, is a recipe for bilateral carpal tunnel syndrome or something like that.

Workers are experiencing increased injury, illness, and stress from downsizing, mandatory overtime, 12-hour shifts, increased workload, and increased work pace. And to hide this increase, employers are implementing blame-the-worker behavior-based safety approaches that discourage workers from reporting injuries, illnesses, and hazards. These programs and priority in policies and practices blame workers who have or report injuries for committing unsafe acts and engaging in unsafe behaviors. They include safety incentive programs that provide prizes to workers who don't report injury discipline policies that provide discipline or threat of discipline to those who do report. Programs that focus on OSHA recordables and lost work days as key measures and milestones in attaining a safe workplace and full-blown behavioral observation programs that focus away from hazardous conditions and blame workers for being inattentive or working carelessly when they suffer injuries.

We've tracked the rise of behavior-based safety programs and linked them with the increase in employers' work restructuring efforts. These blame-the-worker schemes are hazards in and of themselves. When workers are discouraged from reporting their injuries, not only do they risk not getting the care they need, but the hazards causing those injuries don't get identified and addressed. It's hard enough to fix the problems we know about, it's impossible to fix the problems we don't.

I want to call your attention to the second small group activity. It's an accident report form from another multi-national corporation. The injury in this case was a bee sting. The question on the form says what did the effected employee do or not do that contributed to the accident? Why do you feel their actions contributed to the accident? The response on the form is the employee should have been aware that a bee had landed on his shirt and taken the appropriate steps to remove the bee without being stung. There is no injury or illness that a worker can have at a workplace like this that is not their fault.

The letter I received from NIOSH about this meeting stated the meeting is a key part of a national effort to keep working people, business, and the U.S. economy strong and vital in the next decade by reducing worker injuries and illnesses. Right now the perception is that workplaces are getting safer, except perhaps for nonunion mines, and that workplace injury and illness rates are down. Employers are working hard to create that perception as they discourage the reporting of work-related injuries and illnesses.

If NIOSH truly wants to meet the goal of reducing worker injuries and illnesses there will need to be concerted effort on the part of NIOSH, OSHA, and the Bureau of Labor Statistics to cut through the fairytale figures that too many employers are passing off as their OSHA recordables and find ways to understand and document what is really going on regarding injury and illness experience in this nation's workplace. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 839.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Manufacturing
- Services
- Unspecified

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

- Work organization/stress

Approaches

- Surveillance
- Etiological research
- Exposure assessment
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Marketing/dissemination
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you. Working conditions in the U.S. have changed greatly over the past several decades, as Nancy's been detailing. More people work in the service sectors and fewer in unionized manufacturing settings. Precarious employment is a more common experience in the U.S. workforce than it was in the early decades of NIOSH's history. The U.S. now has more immigrant workers who often work under hazardous conditions for low wages and may be politically and legally insecure.

Work has changed and so our understanding of health and safety risks and prevention programs are probably out of date and not sufficient to address the needs of many U.S. workers.

NIOSH needs to support and promote new and creative research designs and approaches that will help us to discover the occupational health and safety conditions and issues that have resulted from these changes in the U.S. economy.

I have a background in work environment policy, using qualitative and case study research approaches, worker health and safety training programs, and have been the PI for the past five years of a study of health disparities among healthcare workers that was funded by NIOSH. Early in that study, we learned that employers are fearful of employees knowing enough about health and safety issues to complain.

We also learned that workers were mistrustful that we were working in collusion with employers. Employees didn't have the time to participate in the research because they either had to work multiple jobs or were juggling shared work/family schedules with their spouses so that the kids were taken care of, the chores were done, and both parents got to work on time. The many single parents in these facilities had to manage all of that on their own.

Despite these challenges, our research has succeeded largely because of the integration of multiple qualitative and quantitative research designs; epidemiology, ergonomic exposure assessments, and political economic case studies. We also incorporated participatory research approaches midway through the study, successfully overcoming some of the barriers we were facing. In addition, we have had an interdisciplinary team that's broadened our scope and perspectives about the research. We've been conducting case study research to understand the context of health and safety in these settings. We interviewed managers, conducted focus groups with workers, examined years of employee newsletters, reviewed media reports about each facility. We've learned that through case study research we have a better sense of the questions that we need to ask in all our data collection efforts.

If research is to be put into practice then data collected must be valid and reliable. Increasingly we are going to need to use community-based participatory research approaches to attain good data. A more varied set of approaches and designs are needed to learn what hazards are presented in new work arrangements and how to prevent the risks, exposures, and the associated adverse health outcomes.

If we want our research to help advance the prevention of morbidity and mortality then our research has to start with the people who can make that happen; workers, unions, employers, and communities, and not simply give the results to them when we are done. That takes time and NIOSH will need to provide resources that support such relationship building.

When it comes to learning about the conditions of low-wage and precarious work, and work in the so-called informal sector, we would rarely be able to conduct studies with the permission of employers. Study of the health and safety of minority and immigrant workers in these settings must carefully aim to protect them from jeopardizing their livelihoods.

These conditions are going to require new approaches. Hester Lipskum (*) and her colleagues wonderful study of poultry workers in North Carolina is an example of how excellent work can be done without gaining access to the workplace. Of course, neither researchers nor workers have the immediate ability to improve working conditions, but working together just might make us stronger than working apart.

Lastly, for bringing research to practice, NIOSH has supported intervention research. But I would like to suggest a different model. We could call this new strategies research. The idea would be to promote work environment improvements through research that doesn't just address one issue or set of issues,

but develops the capacity of workers, communities, and employers to make continual workplace health and safety improvements.

Using community-based participatory approaches, the changes can be informed by the knowledge and experience of local actors. Their involvement at all stages of the research will establish a foundation for not just an intervention, but for the ability to learn about improving the work environment in ways that can be sustained over time and through whatever market and technology changes affect the production process.

NIOSH should look to the National Institute of Environmental Health Sciences success with funding community outreach and education programs as core components of research projects. Workplaces are different from community settings, but to put research into practice it's going to require education and training, and change networks will help sustain local action.

The economy has changed, work is changing, and work environments are changing. NIOSH is needed to promote new research approaches for the prevention of workplace injuries, illnesses, and deaths. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 840.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Liberty Mutual Agency Markets

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good morning. The mission of Liberty Mutual Agency Markets is the same as our parent group, which is to help people live safer more secure lives. We do that by providing insurance services to small and medium-sized enterprises.

We have approximately 125 consultants and industrial hygienists, the majority of which our customers have between ten and 50 employees. We're making around 25,000 visits a year to those customers.

The U.S. Small Business Administration estimates that 95 percent of all new businesses are small businesses. They may not end up that way, they certainly start that way. So we would request that NIOSH and NORA focus on occupational injuries and illnesses for small and medium-sized enterprises.

Certainly, we would also want to continue the focus on occupational injuries versus illness. Illness is important, but injuries are what we see in our market as the major problem.

Also research partnering. We have partnered with our industry association, the PCI, Property Casualty Insurers, as well as OSHA to provide small business training for safety and health. We welcome partnerships on the research end as well. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 841.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: My name is Chuck Levenstein. I'm a professor emeritus here at the University of Massachusetts Lowell, but I am also the co-chair now of the MTA Health and Safety Committee. And unfortunately Cathy Boudreau, who's the head of the MTA was not able to be here, but she asked if I would present testimony for her.

So the Massachusetts Teachers Association represents 93,000 workers in Massachusetts, including faculty and staff in K-12 schools, as well as higher education. We are the largest union in the Commonwealth, and we are affiliated with the National Education Association.

Surveillance. We have joined with a coalition of public employees unions in this state to petition the legislature for public employees OSHA, in order to ensure that the most basic protection that is guaranteed to employees in the private sector also apply to our members. Perhaps most important is that the absence of federal OSHA surveillance and reporting requirements; there is no systematic collection of data on the occupational injuries and illnesses of teachers. Our members have been exposed to hazardous work environments and building materials, including asbestos, but there's scant data available to inform policy and prevention.

Comment ID: 841.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Indoor environment

Approaches

Partners

Categorized comment or partial comment:

Second, indoor air quality. We are supporting separate state legislation concerning indoor air quality in public buildings because we have innumerable complaints from our members, as well as data collected by the State Department of Public Health about mold and other air contaminants that threaten the respiratory health of teachers, staff, and students.

We understand the current OSHA standards do not deal adequately with such indoor air issues. We are deeply concerned about the health of children who spend their days in contaminated schools, as well as the large number of staff who report one form or another of respiratory illness. We would welcome research that examined the relationship between respiratory health of teachers and the variety of indoor air contaminants in schools.

Comment ID: 841.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Hearing loss

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Third, construction and renovation hazards. At a recent meeting, the MTA Environmental Health and Safety Committee heard complaints from members about the difficulties of working in the midst of deteriorating physical plant renovation projects and new building construction. Noise and unidentified dusts were the principle hazards mentioned. We are concerned about these conditions which may pose serious threats to the health of educational personnel, but are considered mere nuisances by public officials. Investigation of such circumstances is warranted and would be very, very helpful.

Comment ID: 841.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Next, breast cancer. We would also welcome investigation of the already identified problem of excess breast cancer in teachers. We've been able to find only on paper that examines environmental hazards that may be related to this problem. This is a serious issue that warrants attention from researchers.

Comment ID: 841.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Violence

Approaches

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Job stress and violence. Teachers report that job stress and violence in the schools are problems that warrant attention. In particular, we would like to know if there are identifiable health effects of the level of stress that teachers experience, and we would like to know about the efficacy of interventions to reduce stress and violence.

These are issues that addressed by occupational health researchers concerned with the healthcare industry; there has been inadequate attention to the education sector.

Comment ID: 841.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Approaches

Etiological research

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

Infectious disease. We know that the Centers for Disease Control recently recommended flu vaccination for children under seven years of age. As the New York Times commented in an editorial, it is important to make available vaccination for school-age children in order to protect them, their teachers, and the community.

A recent pilot study of faculty and school personnel by the Mass. Department of Public Health suggests that a third of these staff suffer from respiratory disease. A larger study of school-age children in Massachusetts suggests that about 25 percent have asthma, not in infectious disease, but one which could be exacerbated by a flu epidemic.

We need NIOSH research to examine the school environment as a promoter, if not the sole cause of illness. And we need studies to establish effective intervention to prevent the spread of disease among staff and children.

Comment ID: 841.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

School siting. We are concerned that localities are induced for economic reasons to site new schools on or near wetlands and landfills, which may then pose a variety of hazards for children and teachers. We believe that the mold problem in many schools, even new ones, is related to this unfortunate siting.

It would be desirable to study the long term health effects of schools sited on contaminated property, particularly those on or near landfills that leak. Some of the schools on landfills have monitoring systems, but we have no information on how frequently they are calibrated or otherwise monitored, or how often the bells go off. It would be useful to have studies of the health effects of such environmental conditions since they have profound effects on children, as well as teachers and other school personnel.

And finally, the economics of health and safety. We believe that many of the occupational health problems experienced by teachers are the result of inadequate and inequitable funding of public schools. Maintenance of buildings and staffing levels are serious issues. Low-bid requirements for maintenance, renovation, and school construction are a threat to safety and health of teachers and children.

There is virtually no research on the cost effectiveness of interventions to protect school health and safety. NIOSH's previous interest in social and economic dimensions of health and safety could well be applied to the investigation of problems in the education sector.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 842.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Violence

Approaches

Surveillance

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good morning. I'm Noreen Hogan. I'm a Registered Nurse. I'm here representing the Massachusetts Nurses Association. The Mass Nurses Association represents over 22,000 nurses in the State of Massachusetts. We've also taken the leadership in looking at the issue of workplace violence. I am also on the Task Force for Workplace Violence and Abuse Prevention, and we have -- I'll talk a little more, I guess, as I go on about some of the things that we have done.

The issue that I want to address today is preventing and reporting workplace violence in healthcare settings. As we all know, violence has increased everywhere in our world, and healthcare facilities previously known as caring places and once considered immune from this are now frequently the site of violence. In fact, violence in healthcare settings continues to rise.

The violence often is assault on the healthcare personnel, nurses in particular. Some of the Bureau of Labor Statistics show that nurses are being assaulted and hurt and victims of violence at a much higher rate than other healthcare professionals and at a much higher rate than workers in other industries.

From studies we know that there are multiple risk factors for this rise in the violence in healthcare settings. This includes the low nurse staffing levels, inadequate security in hospitals, unrestricted access to most hospital areas, and lack of staff training in recognizing and managing potentially violent situations.

And we believe on our task force, the Mass Nurses Association in total believes that workplace violence is not getting addressed because nurses and other healthcare providers fear being blamed and retaliated against, and this is much of the feedback we get from our members of why assaults and other violent acts aren't being reported.

In fact, what happens in many settings, in many agencies, that the victim is the one that is blamed for the action and for the violence and is often retaliated against and they often end up leaving; either are forced to leave or leave because they feel that things are just so uncomfortable in the setting. Another reason for not getting reported and getting addressed is inadequate reporting systems and a lack of effective response and aftercare programs.

One of the things that the Mass Nurses Association Task Force has come out with is a position statement where we recommend that all healthcare employees implement a workplace violence prevention program that's consistent with OSHA guidelines for preventing workplace violence to healthcare and social service workers.

We also really felt strongly and have come out strongly in our position paper that each facility should develop a defined plan for the agency's response to any incident of violence, including the right and protection to call the police and file criminal charges against assailants.

Part of the work we do on our task force in the Mass Nurses Association is a big piece of education. The position paper is just part of it. We've also come out with guidelines on how individual nurses can respond if they're assaulted in the workplace. We have addressed -- We've had speakers come to our conventions the last couple of years. We have also presented several day-long and sometimes half-day workshops on prevention and response to workplace violence. So again, as I said, we've taken the leadership in the State of Massachusetts.

What we would like NIOSH to look at for us is to research the effect of improved reporting systems because we feel one of the big, big issues, again, is the under-reporting that there's a much higher percentage of assaults that are occurring that never get reported. We'd like help in developing appropriate reporting tools and best practice formats so that the information can be readily utilized and replicated in healthcare facilities and agencies across the country.

This information will be useful in helping to change the culture of the healthcare industry to embrace worker safety with the same commitment as they do patient safety. Thank you for this opportunity to share my concerns and those of the Mass Nurses Association.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 843.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: I'm going to talk about environmental occupational asthma. Asthma is a serious chronic disease, which is a critical public health issue in the United States. Morbidity and mortality linked with asthma has markedly increased. Adult new-onset asthma that is work related has risen to between five and 29 percent of the workforce.

Mandatory reporting of occupational asthma became a requirement in Massachusetts on March 1st, 1992. This reporting requirement does not provide a complete account because it is known that many cases are not reported.

Cases are identified using doctor's reports of workers they have treated. Hospital discharge data are also used by identifying those workers with asthma and participating on workmen's compensation.

The Massachusetts program distributes research information gathered for the SENSOR program. This surveillance system gathers information for healthcare providers about specific occupational diseases in the state.

One of the diseases of interest in this system is occupational asthma. In 1988, Massachusetts, New Jersey, and Michigan received funding to establish this surveillance system, and in 1992 California also received funding.

The concept of this model is that occupational asthma is a preventable disease and disability, or untimely death serves as a signal that prevention efforts have failed and others could be at risk. With surveillance data, work-related exposures are identified and marked for intervention.

All four states describe a rise in reported cases of occupational asthma and new agents are being discovered. Workers' compensation could be obtained if pre-existing condition was exacerbated by workplace exposure.

Occupational asthma is caused by exposure to substances in the workplace. Many substances found in the healthcare industry fall in this category, and they are pharmaceuticals, animal dander, proteins, enzymes, and other low and high molecular weight molecules.

Over ten percent of the workforce is employed in the healthcare industry, which has been growing steadily since the 1990's. Most of the reported cases are new-onset asthma due to exposure to hazardous chemicals. A large percentage of occupational asthma occurs after exposure to sensitizing agents.

Another form of work-related asthma is reactive airways dysfunction syndrome, or RADS, which occurs after a single exposure to high levels of an irritating vapor, fume, or smoke. Symptoms develop minutes to hours after exposure, and they can persist for more than a year. Clinical manifestations of this condition are obstructive symptoms and airway hyperactivity.

The onset of RADS can be usually specifically timed and dated. These symptoms usually are evident after a dramatic event, such as an accident, such as a spill involving a vapor, gas, high level of smoke or dust exposure. This is why the worker is able to identify the substance by where exposed to and exactly when the exposure took place.

Causes of workplace or occupational asthma in the healthcare industry are triggered by many toxic chemicals; environmental cleansing agents contain bleach and/or ammonia. If these are accidentally mixed together they produce chloramine gas. The fumes from this mixture cause tearing, rhino rhea, cough, dyspnea, and it can also be deadly.

Cleaning agents contain chemicals that are known sensitizers and respiratory irritants. Disinfectants such as chloramines, chlorhexidine, formaldehyde, are known allergens and these products have safer alternatives and are available and are in use today.

This information will be helpful in helping to change the culture of the healthcare industry to embrace worker safety with the same commitment as they do patient safety. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 844.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Risk assessment methods

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hello. Thank you for the opportunity to address the meeting and to see all of my colleagues out there. It's nice to see you all here. I'm at the University of Massachusetts Department of Work Environment here in Lowell. I was trained at an ERC. I'm in a training grant center now, and have been doing research in occupational health and safety for many years.

I'd written a bunch more extensive comments that I'm going to submit, so I'm just hoping to highlight a few things. And I want to focus on what was highlighted as one of the new Es, evaluation, by Max Lum in his introduction.

My first point in the topic of evaluation is to point out or to remind people that the TOSCA inventory contains about 80,000 chemicals currently, and of those about 2,800 are considered high-production volume chemicals. EPA has done a survey of those high-production chemicals and found that only 43 percent of them have toxicity information on them and only seven percent of them have any OSHA standards.

So I guess my first point is that I think that these -- at least these high production volume chemicals should be a focus for examination of human health effects. They're in use out in industry and we know very little about the human health effects of these chemicals. So epidemiologic studies and so on, I feel, are a high priority for this group of chemicals.

Comment ID: 844.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Authoritative recommendation

Partners

Categorized comment or partial comment:

My second point is that over the past several years there seems to have been a move away from exposure surveillance and quantitative assessment and towards this concept called controlled banding. And although on the face of it, I think, controlled banding is a useful tool in the public health arsenal of prevention. I also want to point out that there's been very little work done to validate this approach across a range of industries, and jobs, and tasks. And so I would strongly encourage NIOSH to put some effort into an extensive validation of the controlled banding approach before it is -- before encouraging its wholesale acceptance.

Comment ID: 844.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Exposure assessment

Authoritative recommendation

Partners

Categorized comment or partial comment:

And I guess the last area that I'd like to comment on is the role that NIOSH has played in the development of exposure assessment methods. I personally have come to depend on the basic research that NIOSH does in analytical chemistry and aerosol science, clinical lab science and toxicology. Over the years, they have been the backbone of my research that I have used and applied; the applied research that I do.

And so I feel that it's vitally important that NIOSH continue to focus its resources in the area of exposure assessment, and some of the topics that I would like to see them focus on are the development of new analytical and exposure assessment methods to identify and characterize exposures to those chemicals that are currently in commerce, and especially those chemicals that are in new products and processes such as nanotechnology, as well as helping us identify some of the hazardous components of some of the older technologies like metal-working fluids.

A focus on methods development should also include a collaboration between toxicologists and analytical chemists, and together, hopefully, they can identify classes of compounds with similar biological activity. And then the analytical chemists can work to develop methods to measure these classes of compounds, rather than having to develop methods for each individual compound, separately. A good example of this kind of development might be looking at isocyanates and measuring the active NCO group in isocyanates, rather than developing methods to measure each individual isocyanate separately. This kind of an approach to classes of chemicals would also help in validating the controlled banding idea, which focuses on the concept of risk groups for chemicals.

Also, I'd like to see development of new direct reading or portable and expedient measurement methods that could be used in the field. There are lots of situations where field personnel could use these instruments for a quick assessment to determine the level of control needed. And so I would like to see NIOSH focus on exposure assessment, the basic sciences, in the future.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 845.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you. Good morning, everybody. My name is Marlene Freeley and I'm an occupational health nurse practitioner, and I have worked in the healthcare industry for 20 years. Healthcare has been faced with increased costs, but more importantly the loss of knowledgeable technically-expert experienced nurses due to work-related injuries. Back injuries are the most common problem associated with nurses' injuries due to the type of work we do; the manual patient handling. And going forward, we expect to see that this trend will increase because we have issues with an aging workforce, but we also have issues where there's more obese patients in the hospital than ever before, and there's more dependent patients in the hospital with multi-system problems. And what this does is it puts more physical work on the nurse who's doing the care.

Let me give you a quick picture. If you were a construction worker and you were told by your boss to go and move a 200-pound block of cement, you would say certainly, and you would get your forklift and you would go and you would move that block of cement.

If you are a nurse and you are told to go move a 200-pound patient, you would say certainly, and you would go into that room and try to move or reposition that patient by yourself or maybe with the help of another nurse, and that's the reality for nursing.

Job tasks that are associated with musculoskeletal injuries, mostly back injuries, are lifting, transferring, and repositioning patients; tasks that nurses do, not once a shift, but constantly every hour throughout their shift. The magnitude of this problem is absolutely huge. We have about eight million healthcare

workers and we make up less than ten percent of the workforce, but nurses lead most other occupations in terms of injury rates.

And as other industries have tried to figure out ways to decrease their injuries, in the healthcare industry we've struggled with increasing injury rates. Between 1980 and 1990 there was a 40-percent increase in injury rates among nursing personnel. Right now, the rate for a nurse in a hospital -- the rate of injury is 9.8 per 100 FTE, which makes nursing the fourth highest injury rate for all occupations. So the magnitude of injuries in nursing is well substantiated, both from research in this country as well as international research.

The healthcare industry hasn't been sitting around, not trying to address this problem. First of all, there's been body-mechanic training that we focus on. And body-mechanic training has actually had its founding in people living vertically from the floor to the waist level. But as you know, nurses don't -- hopefully, we're not lifting a lot of people from the floor, we tend to lift horizontally. And so the body-mechanic training that we force on nurses has absolutely no application to nursing; it doesn't work, it cannot be applied to nursing.

And yet we make nurses feel guilty when they have a back injury, and we say did you use proper body mechanics? We also have had in some places nurses are told to wear back belts, which again we know is not effective at all. So traditional methods the healthcare industry has used; absolutely not effective at all.

But, what's really exciting for me is that there are some new technology that's emerging, some safe patient handling technology that looks really hopeful. And this new technology goes from the high-tech stuff, which are like ceiling lifts and portable patient lifts to low tech stuff, such as friction-reducing sheets. And we know from studies that are just coming out that this technology reduces the amount of work that nurses have to do. Studies are showing that this new safe patient handling technology decreases costs between 20 and 80 percent. And now we're also finding that it increases patient satisfaction because they have more dignity, being moved up in bed instead of being hoisted. And we're seeing better patient outcomes because instead of getting out of bed maybe once a day, nurses are able to get patients out of bed four or five times a day, which again leads to better outcomes.

So we need help. We need research to be done to study this new safe patient handling technology. We need to see what the cost benefit is so we can convince administrators that this is the way to go. We want to measure the health outcomes of patients who are being transferred by this safe patient handling technology and also the satisfaction in healthcare workers. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 846.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Cancer
Reproductive
Immune disease
Infectious diseases
Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding
Personal protective equipment
Training
Intervention effectiveness research
Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you. I appreciate this opportunity to bring the concern of the nurses and the Massachusetts Nurses Association. We're talking here about nurses' exposure to hazardous drugs.

The use of hazardous drugs as identified in the NIOSH publication "Alert: Preventing Occupational Exposure to Hazardous Antineoplastic and Other Hazardous Drugs in Healthcare Settings" is extensive. Today, many drugs have multiple uses, and while they may be recognized as antineoplastic agents, thus hazardous in a chemotherapy unit, they are not recognized as such in other settings.

Immuno-suppressive drugs, gonadotropins, estrogens, estrogen agonists and antagonists, and antiviral's are all classified as drugs considered hazardous according to NIOSH.

New drugs come to the market almost daily with little or no recognition of the damage that can be done to the health and well being of nurses and others who work with these drugs on a daily basis. Since the healthcare industry is still recognized as the fastest growing industrial segment in this country, millions of workers have the potential for exposure and disease in the future.

The NIOSH publication classified many of these drugs in use today as actual or suspected cancer causing agents, others as contributing to adverse reproductive events, such as infertility and miscarriages. Many other drugs are known to have properties that cause or exacerbate asthma.

As nurses we could count off on our fingers the number of our friends and colleagues who have had cancers and who have had adverse reproductive events. Today, I know at the MNA we have three -- nurses in three hospitals who are concerned about clusters, either of breast cancer or brain cancer. And we really have no way to research or to look for research to find causative agents.

While the extent of the adverse health effects of many drugs are recognized and have been known for years, in some cases the extent to which nurses are informed of the hazards is not well understood. As nurses, we learn the intended action of drugs on patients and diseases. We also learn to recognize adverse effects of drugs as they're administered to the patients and how to respond in the event of an adverse reaction to protect the patient from harm.

Historically, nurses have not been taught about the potential effect of these drugs on themselves or their coworkers. Nurses are seldom trained to select and utilize appropriate personal protective equipment other than gloves or to carry out appropriate disposal or spill clean-up methods. Protective equipment that is utilized is often for the protection of the patient.

While nurses in specialty practice or with advanced education may have been provided with this information, the majority of nurses at the bedside, in outpatient clinics, in home care, or office settings have not had this opportunity to learn why and how to protect themselves.

OSHA requires that chemical hazard communication is the employers' responsibility, and there are very specific requirements for that training. Drugs and pharmaceuticals are exempted from hazard communication training, only if the drug is administered in a pill form. Once the pill is crushed or the drug is administered through a vein as a liquid or inhaled as a mist, the drug falls under the requirement of the OSHA Hazard Communication Standard. This standard also requires the employer to identify and provide engineering controls and appropriate personal protective equipment.

Also poorly understood is the type of protective equipment that is appropriate for protection against exposures, both to nurses and other workers. It would be valuable to have research that identifies nurses' knowledge related to the hazards of the drugs that they use and the personal protective measures that are necessary.

It would also be valuable to have research related to hazard communication programs that are in use in hospitals today that provide training related to preventing exposure to hazardous drugs. We would like to see examples of hazard recognition, selection of personal protective equipment, engineering controls, recognition of exposures; that is spills, releases, contact with patients' blood or waste materials, post-exposure reporting, and follow-up protocols and medical surveillance.

This information then could be transferred into fact sheets and information bulletins that are so useful in educating nurses and other healthcare workers, including doctors and hospital managers, and administrators. This information will be useful in helping to change the culture of the healthcare industry to embrace worker safety with the same commitment as they do patient safety. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 847.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you for this opportunity to address this group today. I have had a number of years now in occupational safety and health, and have the privilege of engaging in NIOSH funded research, including under the NIOSH NORA umbrella for a project we call the Sustainable Hospitals Project, and now a project on blood exposure and sharp injuries among home healthcare workers. And this latter project we're very excited about because it's located both here at the University of Massachusetts Lowell, together with our collaborators at the Massachusetts Department of Public Health, and we work with both labor partners through the Massachusetts Nurses Association, the SEIU Local 2020, and a number of private home healthcare agencies. So it's really a partnership that we're quite excited about.

Many of the colleagues have already spoken about issues related to healthcare. And so what I would like to do is focus on a cross-sector strategy, a cross-cutting issue and apply it to two of the NORA sectors.

The cross-cutting strategy is one that we've been working on here at the University of Massachusetts Lowell in many capacities, which is to develop and apply methods to substitute or eliminate hazards through the identification and design of safer and healthier products, materials, and work practices.

At University of Mass. Lowell, we're calling this Alternatives Assessment and Design, or Redesign. And the alternative being to finding alternatives to conventional materials, products, and all the associated work processes and practices that go with them.

I'd like to talk about applying these to the healthcare sector and also to the sector of manufacturing, in particular the manufacturing of nanotechnologies. It's been a top priority of the occupational hygiene hierarchy of controls that we should substitute or eliminate hazards. But really, more of the focus over the past decade has been controlling hazards through engineering controls, administrative controls, and we hope as a last resort but often not, personal protective equipment.

Yet, many products, materials, and their associated processes are introduced into the workplace and then eventually communities, without any input from occupational health and safety researchers or professionals. That is, materials and products are produced as a given. Occupational health researchers, workers, community members are not assumed to have any role in saying what those products should look like and how they should be made.

But, thanks to decades of important research in occupational safety and health, including much of it funded by NIOSH, we actually now know a great deal about many substances of their hazards of exposures. And I think it's time that we begin to develop methods to reduce those exposures or eliminate them, in addition to measuring and controlling those hazards. And I know that's been a focus of our field, but I'm proposing that we try to actually become involved in the design and redesign of processes and materials, and even products.

And applied to the healthcare sector, that might look like something we engaged in in the Sustainable Hospitals Project to have occupational health and safety researchers, along with clinicians and administrators in hospitals identify hazardous products like needles and getting safe needle devices, as in new drug delivery systems, and seeing if we could identify alternatives to those and if those alternatives did not exist actually suggesting ways to redesign them.

And one of the things that we became involved in is actually starting to work with manufacturers around their product design, especially when hospitals and other clinics decided that their purchasing power was enough to get them to influence how they might actually design their products in a healthier and safer way.

I just wanted to touch on this issue related to nanotechnologies because we're getting a whole new, very widely dispersed technology introduced here. And I think that occupational safety and health researchers and professionals could be on the design teams for these new products, not just waiting for them to come off the line and then the rest of the world saying well, how are you going to make these safe for us once they've already been produced?

We should ask do we need to take these hazards as a given or can we design them? This approach, I think, is cross-cutting and can be applied to other areas, especially these two sectors. And I think that it can help to expand the scope of occupational health and safety research and also the role of professionals in their practice. And I hope that we can grow our field in addition to deepening the research in the field.

In addition, I think that it's a way that we could lead to innovation. Occupational safety and health can be innovative in addition to measuring and controlling. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 848.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Violence

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: My name's Chris Pontus, I'm from Mass Nurses Association. My topic and title of comments are mandatory overtime, safe patient handling devices, workplace violence and the relationship to administrative policies and procedure. And my last question is is there a need for best practice model in each of these arenas?

My basic premise is that in the proper environment many accidents and injuries can be prevented. I will briefly discuss the issues and concerns of each category, and then suggest that each healthcare facility have policies, procedures, and most importantly the key personnel in place to work towards prevention and decreasing the amount of these injuries.

In the current healthcare system, health and safety professionals need to be empowered to create environments for healthcare personnel to deliver patient-care services. It has been my experience through various healthcare systems that there is a lack of consistent practices in place to ensure safe working conditions.

A disconnect exists from the health and safety policies in place to the actual implementation of getting the needed or anticipated result. When it comes to the health and safety of the worker, there are pockets or voids of misunderstanding and department through most healthcare organizations. I find that some departments have a sense of what health and safety provisions are necessary and other

departments do not. For example, some medical centers are not even equipped with the appropriate equipment or knowledge base to implement a basic safety action plan.

A recent actual example is an ICU nurse attends a seminar. She was interested in obtaining safe patient handling equipment and training for her unit. When she returned to work she was unable to communicate the lessons learned during the seminar. Her workload interfered with transferring the critical information to her associates. Consequently, the proper safe patient handling equipment was never acquired.

On the frontline is the lack of support from the immediate supervisor and director of nursing due to a misunderstanding or lack of understanding the problem when the nurse attempts to bring a solution to one of the nation's leading causes of injury in healthcare. This lack of response from the working infrastructure to provide a pathway for a dialogue to be initiated and reach someone within that facility who could and should understand the need to respond is an issue often not provided.

We as occupational health nurses know that repeated and overuse of the body without rest periods and/or the use of ergonomic equipment to help with certain tasks can lead to a breakdown of the body for many workers. Recent studies indicate that those working in jobs with overtime schedules experience a 61 percent higher injury rate in comparison to those working the same positions without overtime. Individuals working 12 hours per day are associated with an increase injury rate of 37 percent. Those working 60 hours per week experienced an increased injury rate of 23 percent.

Substantial efforts should be made to create an in-house pool of nurses employed part-time that understand they could be on call for a certain day of the week. There are many practical solutions that could be implemented before the use of mandatory overtime. Mandatory overtime should be a last choice of action.

Strategies to prevent workplace injuries should consider changes in scheduling, practices, job redesign, health protection programs for people working in jobs involving overtime or extended hours.

Last, the incidents of physical violence is increasing in America. Healthcare providers are exposed to violent incidents due to neighborhoods that city hospitals are often located in, the population served, such as mental health or forensics, meaning violent patients, a family member sometimes upset or out of control, an operational environment that is open to the public at all times.

We at MNA believe that there are procedures that can be taken to prevent violent incidents and proactive measures that can be implemented when an incident occurs that can lessen traumatic effects. We also believe that the incidents of workplace violence is under reported. Additionally, there are cultural and organizational acceptances of inappropriate behaviors that contribute towards violent incidents.

The researchable issues of the sectors just spoken to are healthcare facilities that have established effective workplace prevention policies procedures need to be identified. Is there a best practice model in healthcare that we can follow? And that there is a breakdown of organizational communication interfering with health and safety issues and is perpetuating preventable occupational injuries in most facilities. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20

Comment ID: 849.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Etiological research
Exposure assessment
Risk assessment methods
Engineering and administrative control/banding
Personal protective equipment
Training
Authoritative recommendation
Capacity building
Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hello. Thank you for the opportunity to speak here today. I have about 26 years of experience in nuclear power plant biotechnology healthcare and academia. But relevant to my proposal today I am a member of the Pandemic Flu Project Team of the American Industrial Hygiene Association, and I'm the Infection Control Team Leader of the AAHA newly created Healthcare Working Group. I'm representing the Massachusetts Nurses Association today.

During the 2002 SARS outbreak there were 8,450 reported cases in 33 countries on five continents. The eventual death rate was 9.6 percent; 774 people, worldwide. The elderly rate was over 40 percent. It was also noted that in Toronto, 42 percent of the cases were healthcare workers; in Vietnam, 57 percent.

It's assumed that most of these were nosocomial or transferred within the hospital; work acquired. They were infected at work, and it's also a concern that the nurse to doctor ratio was ten to three, SARS death rate.

After the SARS outbreak, several shortcomings became evident in the healthcare incident response. These included the inability to identify and contain agents, inadequate worker protection and surveillance, misunderstanding of transmission. It was also determined that after the fact workers had

inadequate understanding of personal protective equipment and there was a shortage of isolation equipment.

Information about the disease was unavailable or poorly integrated, and there were few monitoring capabilities to survey the agent in the environment or the workplace. Other hospital management and industrial hygiene shortcomings included the failure to track patient contact history, the failure to track visitor contacts, and an overall lack of preparedness and an inability to prevent the spread of the disease.

Much of the system failures mentioned here were due to a general lack of consensus in infection control in healthcare. In the past, infection control emphasis has been on patient care. Infection control professionals tend to emphasize medical and administrative controls and are not thoroughly aware of industrial hygiene rubrics. Industrial hygiene and safety professionals have to deal with rapidly changing conditions for which the risks, the transmissions, the viability, and other issues are not well understood.

Lastly, there remains a general attitude that healthcare workers should continue to accept workplace risks that would be unacceptable in other industries. As an example, in a recent document published by the World Health Organization they showed this overwhelming acceptance of risk in healthcare workers by issuing the following statement with regards to when a respirator may be warranted instead of a surgical mask, quote, serological surveys in close contacts of patients, communities where clusters of cases have occurred, or high risk populations, such as healthcare workers, will provide early alerts to changes in the behavior of the virus, unquote. With the future outbreak potential still looming, and the last I checked the World Health Organization has us in a Pandemic Alert Three, meaning human infections with a new subtype but no human to human spread are at most rare instances of spread to a close contact. If this virus mutates in such a way that the disease can be transmissible from human to human like SARS did a serious pandemic could become a reality, unquote. So that's the WHO.

So to summarize, the needs for increased industrial hygiene research in infection control are evident. The following topics should be prioritized. Determination of acceptable environmental levels for various agents, the development of air/surface monitoring capabilities and other evaluation techniques, better abilities for industrial hygienists to describe how agents may move through or exist in the environment to expose workers, better ways for the medical community and industrial hygiene to communicate about diseases. And then, just naturally, development of better engineering controls, ventilation filtration disinfection, isolation, administrative controls, the needs for clear and concise programs and procedures, policies planning, techniques for tracking worker exposures and monitoring materials in the environment, job rotation access control, and when to administer prophylactics.

And lastly, but not least, going back to the respiratory protection issue is clear and concise directions for personal protective equipment. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 850.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Surveillance

Etiological research

Exposure assessment

Engineering and administrative control/banding

Training

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hello. I'm going to speak today about hazardous drug exposure in the healthcare environment. I'm a registered nurse with more than 30 years of direct-care provider experience in major Boston teaching facilities, and I'm a member of the MNA, and in the Congress on Health and Safety. I'm here on their behalf today, as well as UMASS Lowell, where I am a student in the work environment policy program and also research assistant in the PHASE healthcare study, which is Promoting Healthy and Safe Employment in Healthcare. I'm also an injured worker.

Currently, more than 5.5 million healthcare workers may handle hazardous drugs like chemotherapeutic agents, antibiotics, antivirals, hormones, bio-engineered drugs, and other miscellaneous drugs. Serious health effects have been reported in healthcare workers exposed to these hazardous agents, and Evie actually went through those effects.

Hospital staff, particularly nursing and pharmacy personnel may be exposed to hazardous drugs by breathing them, ingesting them, or having skin contact with these agents while preparing, which

includes counting the pills, crushing them, breaking tablets, administering and/or disposing of the hazardous agents, the equipment that's used to administered them, and linens patients may come in contact with, or the patient's body fluids or feces.

The healthcare industry has been recognized as one of the fastest growing segments in the economy. In the future, more and more workers will have the potential for work-related exposure to the myriad of hazardous drugs found in the complex healthcare environment.

A 2004 NIOSH conference was entitled Alert on Reducing Occupational Exposures to Hazardous Drugs in Healthcare, Converting Theory to Practice. Unfortunately, while we have made strides in recognizing these hazardous exposures and the potential health effects facing healthcare workers, we have not gone far enough. Converting theory to practice, even in large teaching facilities, has not been consistently accomplished.

We would like NIOSH to focus on prevention by conducting research in facilities that have successfully designed, implemented, and are practicing comprehensive hazardous drug exposures prevention programs or aspects of programs, which reach workers in all potential exposure areas.

Information on the types, frequency, and circumstances of exposure to hazardous drugs among healthcare workers will assist in prevention efforts and also help occupational health professionals monitor exposure and resulting health effects, detect emerging problems related to hazardous drug exposure, for instance, the occupational health and safety implications of nanotechnology in hazardous drug administration, and monitor prevention program impact.

We have made progress in identifying and focusing on a wide variety of exposures found in the healthcare environment since the last NORA agenda was set. I am very proud to have been part of that last NORA meeting. This invaluable work should not only continue, but be expanded.

Additional focus should be placed on research and education that will provide support to the healthcare workforce directly, particularly for direct-care providers who are most at risk. Aspects of the work environment that serve as barriers to training and the ability to carry out what has been learned, like staffing, are also integral to effective preventive efforts. These barriers should be researched and solutions supported by the occupational health community, as well as hospital administrators.

We would like to have this research translated into fact sheets and best practice formats so the information can be readily replicated and utilized in healthcare facilities and agencies across the country. This information will be useful in helping to change the culture of the healthcare industry to embrace worker safety.

Thank you for this opportunity to share my concerns and those of the MNA and the UMass Lowell community.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 851.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Traumatic injuries

Exposures

Work-life issues

Approaches

Engineering and administrative control/banding

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good morning, my name is Elizabeth O'Conner and I'm here on behalf of the Massachusetts Nurses Association. And I am the last nurse to speak to you this morning, but certainly not the least. I also am a member of the Congress on Health and Safety at our Mass Nurses Association, as is Kathy as she mentioned, and also Chris and Tom.

I am speaking to you today on the topic and the title of my comments is preventing needle-stick and sharps injuries. I'm a registered nurse and have been providing bedside care for 29 years now at a major teaching hospital in Boston. I'm also a member of the Needlestick Advisory Board of the Massachusetts Department of Public Health.

I appreciate this opportunity to bring forward to you the concern of continued exposure of nurses and other healthcare workers, including doctors, to blood and body fluid through needle-stick and sharps injuries. This blood and body fluid can transmit HIV, Hepatitis B, Hepatitis C Virus, as well as viruses that cause West Nile Fever. Many of these injuries occur because healthcare facilities and agencies purchase and provide workers, unknowingly in some cases, with unsafe devices, although there are safer alternatives on the market that may have not been researched by the facilities.

The healthcare industry continues to be recognized as the fastest growing segment in the U.S. economy. And for this reason, more and more workers will have the potential for exposure in the future. A few years ago, OSHA estimated close to one million needle-stick injuries in this country occur each year. We quote the number as an estimate since it is recognized that probably 50 percent of these injuries go underreported, yearly.

The hospital I work in had a proactive approach to preventing needle-stick and sharps injuries. Prior to the changes in the OSHA Blood Borne Pathogens standard and the Massachusetts legislation which followed that requires reporting of needle-stick injuries and sharps injuries by healthcare agencies and facilities to the Department of Public Health. Before those -- Prior to these changes, a committee was formed at my hospital and monthly meetings were held to discuss the needs to research and test engineered safety devices that would be appropriate for specific departments in our facility.

These meetings included hospital management and were attended by representatives from nursing, pharmacy, surgery, radiology, anesthesia, and medicine. As safety devices appeared on the market they began to be utilized. Problems were identified with certain products, and alternatives were selected.

I feel that my hospital has been ahead of the curve in working to prevent needle-stick and sharps injuries. As a member of the Needlestick Advisory Board at the Department of Public Health, I realize that not all nurses, such as myself and other workers are as protected and not all facilities and agencies are as proactive. Injuries continue because of a lack of commitment to assure that only engineered safety needles and other sharps are provided for their workers. I have learned that unsafe devices are still available due to several factors.

The first factor is backdoor purchasing, a term that describes how specific departments can order equipment outside of the regular purchasing channels. This allows them to bypass the system that would only purchase safety devices and lets them order whatever they choose, or whatever they have been used to using. That was the case at my facility in certain instances.

The second factor is procedural kits that include unsafe needles and/or sharps. These kits contain all the supplies and equipment in one sterile package to accomplish a medical procedure. The suppliers who fill these kits are not held to the same requirement as that of the employer in relation to protecting workers from exposure. Thus, unsafe devices often costing less and in great supply from the manufacturers are placed in the kits, posing a hazard to the workers using these kits unless the safer alternatives are chosen and they are instructed to do so from their facilities.

And thirdly, purchasing contracts. A hospital or agency may be included in a purchasing agreement with a supplier to allow lower costs for bulk purchasing of medical equipment and supplies. And I must be speaking very slowly.

Just to summarize, those three factors are a major reason why we feel that there needs to be further research in this area so that we could develop fact sheets, as has been stated earlier this morning, and best practice formats to provide information to other healthcare providers in this country so that they will not be injured. And the information would be useful in helping to change the culture of the healthcare industry, as also was mentioned earlier today. Thank you very much for allowing me to speak at this time.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 852.01

Categorized with the following terms:

Sectors

- Construction
- Services

Population

- Language/culture/ethnicity
- Small business

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Work-site implementation/demonstration
- Marketing/dissemination
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good morning. I'm research faculty here in the Department of Work Environment at the University of Massachusetts Lowell, which means that 100 percent of my time is spent on occupational health and safety research, most of it funded by NIOSH.

I was trained in occupational health and safety research at Hunter College and here in the Department of Work Environment, and most of that training was also supported by NIOSH.

I'm currently the principle investigator on a NIOSH-K or career development grant to investigate methods for evaluating nail salon hazards and health effects. And this work was motivated in part by interest in the apparent need for new ways of reaching immigrant workers, non-English speaking workers, and workers in very small businesses, all of which have generally been underserved by research money in the past.

And there is good reasons for this lack of attention to these working populations. These workers are hard to reach, there are cultural and linguistic barriers between them and university researchers, and often times they are alienated from mainstream institutions, be that universities or unions, or professional associations, or government.

So I've worked hard over the past few years to form relationships with and to collaborate with my research partners in the Vietnamese community from which nail salon workers generally come. And this

focus was inspired in part by NORA's focus on special populations, and I've gotten a lot of guidance from that committee on my approaches.

Together with the Vietnamese -- my partners in the Vietnamese community, we've conducted community-based occupational health and safety survey and designed a unique culturally and linguistically appropriate outreach tool; the Nail Salon Health and Safety Calendar.

I'm now co-investigator on a research application to continue our department's work with Hispanic construction workers. This proposed project links many of the current -- the existing NORA's goals, especially the targeting of at-risk special populations and the prevention of falls; a leading cause of death for construction workers.

We believe that in order to be successful we have to work closely with the entire affected community, including more than the contractors and the workers, but also their families, local government, and even the religious community.

I urge NIOSH to recognize the challenges and the rewards of such research/community links and to support through the next NORA research with special populations and the methods required to work with them; qualitative inquiry, community-based participatory research, and time. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 853.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: I'm Pam Quinlan. I'm a senior occupational health nurse for Tyco Electronics M/A-COM division, here in Lowell. I'm here to talk about repetitive-motion injuries as they relate to our worker population.

I manage the workers' compensation for M/A-COM facilities across the country and also the disability. What we are seeing is an injury that has probably been focused on quite a bit already. I'm sure lots of research has been done. We did have an ergonomic standard provided, but I don't think it was ever put in place. And, we really need more guidance in this area.

We're finding that workers, not only who are doing the manufacturing -- We have FABS across the country. We have workers who are doing project management working at computers for eight hours a day. We have people who are in the IT programs, SAP programs, entering data for eight hours a day. And what we need is more guidance to teach them about ergonomics, and also guide us in the rest periods; how many breaks they should take, what the exercises should be.

We've taught all this, we know. We've done the ergonomic evaluations. We have a very good safety record. Our environmental health and safety committee is very active. We're proactive in educating our employees to set up their work stations so they do work in neutral positions.

We know the value of administrative controls, engineering controls, and changing jobs.

But in this economic environment, we can't really change jobs because if a person cannot do their job chances are they won't have one. And especially now in the electronics field, much of our business is being transferred to China and other countries, actually where we also have many plants.

So I'm asking that NIOSH go back to this diagnosis, it's an old injury, you know, repetitive-motion injury has had a lot of work done, but I don't want to keep it on the back burner. I'd like to see it come to the front burner again and have a lot of research done on it, as to how we can prevent these injuries.

Because I not only manage the claims in dollars, and half of the dollars spent on all our claims are spent on repetitive-motion injuries. I also manage the case; the individual's healthcare from the time that they report the injury until they either return to work full-duty or are totally disabled. Yes, some of our people are totally disabled across the country, whether it's California, Virginia, Maryland, here in Massachusetts, we have plants all over this country and it is causing a disability, even today.

So thank you very much. And I would just like to say that I'm on the Board of Directors for the Greater Boston Association of Occupational Health Nurses. So I am an employee advocate, and that's what I'm here for today. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 854.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you. I'm a certified professional agronomist [sic], and I am also a registered occupational therapist licensed in the State of Connecticut. I've worked in ergonomics for the last 15 years for a large property casualty insurer in Connecticut in the loss control department. My role is to be a resource to our field staff and also to work directly with our insured on various aspects of ergonomics. Prior to that, I worked for many years in the healthcare industry as an occupational therapist.

I'd like to address three topics briefly.

The first, I'd like to support the trend toward addressing occupational safety and health by industry group. This approach is inline with trends in the business community, including the insurance industry, where aggressive efforts are currently underway to produce industry-specific insurance products and associated occupational safety and health programs and products, such as ergonomics and occupational safety and health programs and materials, including training programs. Such a coordinated approach would promote greater effectiveness in employee-based occupational safety and health programs and practices.

Comment ID: 854.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Wholesale and Retail Trade
- Unspecified

Population

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

Approaches

- Engineering and administrative control/banding
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Marketing/dissemination
- Health service delivery
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Secondly, focused outcome-oriented research on the advocacy and cost effectiveness of ergonomic interventions would help those of us who work directly with employers in the field on various aspects of occupational safety and health, and would also help safety directors and risk managers in those companies who face the challenge of developing effective safety and health programs, selling those programs to senior management, and implementing those programs effectively.

The employers that I work with want to know -- They want to hear about practical solutions to ergonomic exposures. They want to know what those solutions will cost and what the return on investment will be. They're asking for training programs and materials, and in particular, time-efficient training programs; the time available for training in the workplace is just shrinking rapidly.

They want to know more about how effective training programs -- Excuse me. They want to know more about how effective those training programs are and what the most effective training approaches will be.

As a previous speaker stated, back injuries continue to be a major exposure in the workplace and certainly a major challenge in the healthcare industry. Material handling continues to be a challenge in other industries, as well. Recently, for example, I've received many requests from the retail industry. Employers want to address issues associated with loading and unloading trucks, stacking shelves, delivering products to customers down narrow flights of stairs and in and out of various buildings.

In the spirit of the NORA research-to-practice agenda, can we identify and utilize those, who like me are in the position to pass research and best practices onto employers effectively?

Comment ID: 854.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

And lastly, the other issue I briefly want to address is older workers. Employers attempting to implement ergonomic programs are recognizing the aging of their employee populations. They want to know what they need to do, what they can do, to support the health and productivity of their workers. What's different with the older worker? What works with the older worker?

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 855.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Other

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

- Work organization/stress
- Work-life issues

Approaches

- Surveillance
- Etiological research
- Exposure assessment
- Engineering and administrative control/banding
- Economics
- Authoritative recommendation
- Health service delivery
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good morning. I'm Laura Punnett on the faculty of the Department of Work Environment at UMass Lowell. Musculoskeletal disorders of the back, upper, and lower extremities represent a continuing major source of morbidity in all sectors of the U.S. economy; we've just been hearing about some of that. It's very important that NIOSH not permit political events, such as the overturning of the OSHA rule to push musculoskeletal disorders off of the research agenda. We should also note that recent changes in the BLS record-keeping rules eliminated the repetitive trauma

category of illness. And NIOSH also has a special responsibility to make sure that this -- the resulting artifact in reporting is not confused with a true decrease in the magnitude of these problems.

Unlike diseases that are eventually fatal or acute injuries that can be witnessed by others, medical surveillance of musculoskeletal disorders relies primarily upon monitoring the behaviors of individuals, such as when they seek medical attention or tell their employers about their problems. These behaviors, of course, are influenced by circumstances both within and outside the workplace. For example, if I don't believe that my employer will or can take steps to help me recover, then I'll be unlikely to report the problem.

Anecdotally, the availability of support systems and appropriate employer responses varies by socioeconomic status and possibly also by gender, and race or ethnicity. NIOSH should support more research to examine the magnitude of reasons for and distribution of under reporting, as well as the extent of work-related morbidity that remains obscured in the general population for the same reasons.

There's substantial epidemiologic evidence demonstrating the musculoskeletal effects of exposure to physical stressors at work. Recently with WHO researchers we estimated that over one third of back pain globally is explained by occupational demands. Of course, still there are gaps in knowledge. Musculoskeletal research could better inform preventive efforts if we had more longitudinal studies generating data on the natural history and the latency of effect for different exposure profiles, including combinations of physical and psychosocial exposures.

There's been little examination of how occupational experience might affect disease risks or progression even after leaving work. We need outcomes research to examine the long term impact on health, as well as on employment and economic status, especially the vicious cycle of worse outcomes in low-status workers who are injured.

We also need more laboratory studies on patho-mechanisms that are relevant to the forms of mechanical load that occur occupationally. Such research can inform the development of more etiologically relevant exposure indicators and of better diagnostic instruments. The available examination techniques do not adequately serve for many of the symptoms and syndromes that are commonly reported in workplace settings.

The challenge of analyzing non-routinized jobs has become more pressing as fewer people than ever work on traditional manufacturing assembly lines. Certified nursing assistant, hotel room cleaner, bus driver, legal secretary, construction laborer; these are only a few examples of jobs that are repetitive in their fundamental motion patterns, but are not routinized to the extent that they can be described completely by observation of only a few minutes of work time.

As ergonomic exposure assessment becomes more time consuming and more labor intensive, the trade-off between the precision of direct measurement and the need to describe exposure variability over time also becomes more challenging to optimize.

Ergonomic exposure methods are almost as numerous as ergonomists. Worker self-report, investigator observation, direct measurement; they each have utility, but the lack of standardized exposure metrics severely limits our ability to compile findings across studies. While the epidemiologic literature has consistently implicated a common set of physical exposures, the magnitude of specific exposure outcome associations often vary substantially. Besides differences in operational definitions of exposure, variation in quantitative findings may also result from differences in case definitions,

exposure-dependent latency periods, correlations among risk factors or the ranges of exposure available for analysis.

Similar to the important role that NIOSH has played with respect to standardization of chemical exposure assessment methods, NIOSH could play a similar role here with regard to ergonomic exposures. And it's badly needed in order to facilitate the meta-analytic tasks such as quantifying exposure/response relationships and defining permissible exposure levels.

There have been some highly counter-productive arguments in recent years about how to partition musculoskeletal disorder risks between physical and psychosocial exposures. It's important to appreciate that many of these job features have common upstream determinants rooted in the way that work is organized. More studies should utilize multi-level analysis to identify those work organization features that explain variability in both physical and psychosocial conditions.

And finally, I would urge that there be more research on the role that occupation plays in socioeconomic disparities in health. NIOSH could enter more fully into the mainstream public health conversation by stimulating and supporting more research that examines the way in which worse working conditions among lower status workers form part of the mechanism of socioeconomic disparities in health. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 856.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Motor vehicles

Work-life issues

Approaches

Training

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you for the opportunity to speak. My name is John Eagan. I'm an employee of NStar Gas and Electric. I am a member of the Local U, WUA-369 Joint Safety Committee. I represent the overhead line workers at NStar.

My reason for being here today is I am the blue-collar worker that you hear about. I have 36 years of experience in line work. I on a daily basis rubber-glove 8,000 volts, which means I put on a pair of 20,000 volt gloves and go up and put my hands on the conductor.

I work with many individuals that have a tremendous need for training in this field. Unfortunately, as Nancy Lessin got your attention earlier today explaining the fairytale that is in the work environment today of training and lack of training. The company that I work for has a tremendous amount of paper that shows training, but the actual field training is very lacking.

I can give you an example of what the younger workforce, those with less experience than myself, must deal with on a daily basis. They are exposed to the similar risks that I am. It's a very unforgiving commodity. You do not get a second opportunity if you make a mistake in the work that I do.

What happens, unfortunately, is individuals are sent out into the field under my guidance as an example, and I'm instructed to give them what they need. It's a very difficult task to monitor that and to do what needs to be done.

What I'm requesting and what I would love to see is some kind of monitoring research so that some agency outside of the individual utilities is responsible for what goes on. These companies, not just the one that I work for, have the ability to hide many, many statistics. As has been mentioned earlier, those

individuals that are injured do not come forward with injuries, even though there is a mechanism and a method to do such, they're afraid.

Also, I will tell you some of the circumstances that I've worked under recently, and this is just a brief example. There was a storm on Cape Cod on December 9th; it was termed a wintercane or a bombogenesis. On December 9th, I reported to work at 7:30 a.m. I was instructed to work for the day in a storm. From that point, we were instructed to drive to Cape Cod. Under the direction of the state police, they closed Route 495 to allow us to assemble and continue to the Cape. Then continued to work all night, all day Saturday, and was given rest at 11:00 p.m. Saturday night. Without doing the math, I'm sure you people understand how long a time period that is. Under that time frame, we were rubber-gloving 8,000 volts, alive. Now continue that whole process to the point that I returned to my home on Tuesday afternoon. I was there Friday, Saturday, Sunday, Monday, and most of the day Tuesday. Now, would you like to be facing me coming down the road if I've worked under those conditions when I'm driving a huge bucket truck on the major highways of this state? I don't think so, but that's what's going on every day.

So on the premise that we could get training that would allow others to be in a great spot because we're going to be doing this regardless of what happens, because of downsizing, because of economic issues with power companies now, deregulation, the DTE demanding reliability, we're going to be doing this. I request training and monitoring of that training which allows other individuals to be at the top of their game so when I'm not then they can take their own ownership of what they're doing. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 857.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance
- Risk assessment methods
- Engineering and administrative control/banding
- Work-site implementation/demonstration
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you. My name is Raphael Moure-Araso. I am the chair of the Department of Work Environment of the School of Health and Environment of the University of Massachusetts Lowell. And I would like to give my remarks about NIOSH research to understand and prevent hazards arising from emerging technologies.

NIOSH has been committed to understanding and preventing hazards arising from emerging technologies for very many years. For example, ergonomics issues on BDTs in the '70's, indoor air contamination in the '80's, and impacts of new drug manufacturing on the skin and respiratory systems in the '90's. In 1996, NIOSH through NORA recognized emergency [sic] technology as one of the 21 priority research topics for the next decade.

The first nine years of NORA have demonstrated the importance of strategic research partnerships in providing safe and healthy workplaces. NORA now seeks to build on past successes while preparing for new challenges in designing research to address the 20th-century workplace. Framework to integrate

emerging technologies research in each of the nine proposed sectors will provide guideposts for research directions and to develop partnerships in support of those pursuits.

The sectors that you heard from early this morning -- I recall mining, constructions, manufacturing, retail, transportation services, healthcare, and an additional one that is cross-sector research. I am aiming to that cross-sector research perhaps, but also to all the different sectors that definitely have emerging technologies.

The original approach to emerging technologies was the creation of a team that anticipated the elimination of occupational hazards associated with new technologies. NIOSH convened a multi-disciplinary team and applied consensus and (inaudible) assessments techniques to identify research gaps. The challenge was to apply knowledge to emerging occupational hazards before they become ingrained in workplace technology. The vision was of a proactive design of emerging technologies that incorporated principles to eliminate hazards rather than just controlling them.

The team met from 1997 to 2002 and it identified four areas of research and development to address perspective emerging technologies. I will discuss three of those four areas, modify my own analysis -- As a matter of fact I don't pretend to represent the team; I have this opportunity to tell you my piece of it. And I'm going to propose that this consideration of research be applied to the nine sectors of future NIOSH/NORA research work.

The first area is to identify and prioritize emerging technologies by sectors. The need to identify and prioritize the emerging technologies that must deserve attention with regard to their potential positive or negative consequence of occupational health in these nine sectors was considered during the deliberations of the team. The suggestion was a two-tier approach to fill this identification and surveillance gap. The first tier will use existing sources of information to identify relevant emerging technologies, and the second tier will prioritize which applications of these technologies could potentially harm or benefit occupational health.

We discussed the specific needs of research, like to determine the minimum data needed to identify technologies and their hazards. We also need to periodically evaluate the emerging technology literature, specifically the NIOSH Health Hazard Evaluations Database for potential reported effects on workers health.

We also talk about the need to conduct prospective analysis, specifically promoting the use of alternative analysis that will apply prospectively a framework for the search of optimal technology. And then, analyzing each alternative of emerging technologies by interactive risk assessment.

The third sector was apply the concept of inherently safety processes. We believe that the design of emerging technologies and their deployment is needed that will resort in safer workplaces. This new approach of inheriting safer process, considered (inaudible) and processes that are inherently safer for the workers. We make specific recommendation of where to look at the published literature in inherently safer process to apply in the development of new technologies.

Finally, it is important that we create an integrated process for adopting beneficial emerging technologies and avoiding potential safety and health problems with these technologies in all sectors. This process needs to integrate identification, and knowledge, and design of emerging technologies. It must also encourage collaboration between safety and health professionals and technology developers in all the sector areas identified by NORA. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 858.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good morning. My name is Steve Schrag, and I work for the Service Employees International Union in our HAZMAT training program. I want to thank NORA for the opportunity to give my input on the proposed research for the next ten years.

Since 1985, I've worked for SCIU and I've either facilitated or conducted workshops for over 20,000 workers in a variety of workplaces: hospitals, nursing homes, homecare workers, Department of Transportation both on the road and in their facilities, and for building maintenance workers. What I see is a lot of holes in training programs that most employers put together. I see workers who get a HAZCOM training that's 15 minutes, and it's a video, and go back to work.

What I see as operations-level training, or what's called operations-level training where people get little time to actually use the equipment they're supposed to use, whether it's confined space or whether it's decontaminating a patient. I see lots of situations where workers are asked to sign a sign-in sheet before the class that says yes, I understood everything I learned in the class; a little bit presumptuous. And what I see is for most of those programs there's little impact on what happens to workers in terms of protecting themselves.

So I think that what NORA should look at is a couple of questions. One is what is the quality of training that is currently provided to workers, to fulfill OSHA mandates? Second is is the length of that training adequate for workers to assimilate the information that's provided? And third is the frequency of the training sufficient to ensure up-to-date information and skill development using necessary safety equipment and protocols?

OSHA mandates dozens of kinds of training in their various standards. Some of them are compliance standards where they just have to check it off that they did the training. Some of them are performance

standards where they actually measure what workers know. I find that the use of lecture and PowerPoint and now online training and use of experts dominates many of these programs that employers do in order to fulfill their compliance requirements.

What I've seen in the training that we've done is that participatory small groups and the use of peer educators offer the opportunity for greater performance success and that is people actually leave the workshop learning something.

Other participatory methods such as using hands-on activities, such as donning and actually doffing personal protective equipment, handling and practicing with specialized safety equipment can increase the retention of information provided and increase their understanding.

If you wanted to learn how to ride a bike, you wouldn't listen to an expert to teach you how to do it, you wouldn't watch a video on how to ride a bike, you wouldn't go on an online program to learn how to ride a bike, you'd get on the bike. You'd probably learn it from your older brother or sister or somebody else who's a bike rider. So if we want people to learn, and that's the goal of these mandates, that's the way it needs to play out.

And when we look at other people who take care of the health and safety of others, like requirements for professionals, they spend years learning a body of information. Why do some employers think that an hour or two is enough for workers?

Emergency medical technician paramedics go to school for at least two years of training, epidemiologist's, four years, industrial hygienists, four years, physicians, eight years. To understand the information in occupational health and safety sufficiently, there needs to be enough time allocated so that students can absorb the information and be able to apply it to real-world situations.

It is common for many employers to use the new employee orientation as their basic health and safety training. Unfortunately, a new employee may not have a lot of practical questions on workplace hazards unless they already worked in that industry. So that's not the place for people to get the training.

Other kinds of programs require annual performance appraisals; people who get their performance appraisals in terms of their work, corporations in terms of their finances, professionals in terms of continuing education training. If other training and measuring tools are conducted annually, why can't all OSHA mandated training have the same requirements?

Knowledge is the first step to help protect workers from occupational hazards. Without adequate knowledge, there is no motivation to change the behaviors of the working conditions.

However, knowledge alone will not help reduce exposure to occupational hazards. Workers need to understand the information provided. Understanding comes from a combination of absorbing the information and practicing using it in a combination with their own practical work experience and hands-on activities.

There needs to be a greater emphasis on determining the effectiveness of current training practices in order to assess how effective OSHA mandated training is working to help reduce injuries and illnesses on the job.

OSHA can issue standards, NIOSH can do terrific research. However, if workers don't understand what needs to be done, then little will change on the worksite. Too many workers are needlessly exposed to hazards every day, and every day that another worker gets sick or ill, we have failed.

I hope we stop failing in the future and NORA's research will help in that cause. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 859.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Hearing loss
Infectious diseases
Traumatic injuries

Exposures

Work organization/stress
Heat/cold
Radiation (ionizing and non-ionizing)
Indoor environment
Violence

Approaches

Surveillance
Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: My name is Chris Witkowski and I'm director of the Air Safety Health and Security Department for the Association of Flight Attendants Labor Union. We represent 46,000 flight attendants at 22 airlines, which is about 40 percent of the flight attendants in the United States. Don't forget that about a billion U.S. based passengers shared this workplace last year, alone; that's one person getting on one individual flight leg throughout 2005. I'm here today to raise awareness at NIOSH on three points. First, flight attendants have inadequate safety and health protections on the job, making them an at-risk population. Second, flight attendants sustain a significant burden of occupational illness and injury. And third, flight attendants are sorely understudied populations.

These three points serve to justify AFA's request to fund some specific and inexpensive air quality-related research that we described in detail at the December 1st NORA meeting in College Park, Maryland. I don't want to waste my time going over again what we presented then, but I want to take the time to put them and the urgency with which they need to be addressed in context.

For my first point, flight attendants are particularly at-risk population because no agency has bothered to issue and enforce necessary safety and health regulations for them. Crew members were stripped of their OSHA protections almost 31 years ago with no opportunity to submit comments, no fanfare, no

opportunity to engage in discussion about this, just a simple federal registered notice by the Federal Aviation Administration in which they announced that they had exclusive responsibility for regulating the safety of civil aircraft in operation. And they went on to say that you can't take apart the occupational safety and health issues from the aviation safety issues so they have to remain together under the FAA. So they made the announcement, but they did not exercise that jurisdiction. So they didn't issue the occupational safety and health protections in '75, and they haven't done so since.

Twenty-five years later, OSHA and FAA signed a memorandum of understanding, committing the agencies to jointly address the safety and health hazards in the aircraft cabin. Unfortunately, all that the MOU has amounted to is that the agencies are inviting airlines to participate in voluntary safety health programs, effectively giving the air lines the message that we'd like you to please issue some protections, but if it's too burdensome or costly, then don't worry about it. Well, according to the Bureau of Labor statistics on occupational illness and injury data, the airlines have not worried.

This takes me to my second point, that flight attendants sustain a significant burden of occupational illness and injury. You might wonder how that can be so, after all how dangerous can it be to tell people to buckle their seatbelts and serve sodas and pretzels?

A survey of our AFA safety and health representatives reveals that injuries related to turbulence, poorly designed and maintained carts and galleys, handling or being struck by heavy carry-on baggage, opening and shutting doors on turbo-prop aircraft, falling on icy walkways and galley floors, and getting cuts and burns from oven racks and coffee pots, and in addition, getting their arms crushed by food service elevators from the lower deck to the main deck of wide-body aircraft continue.

Flight attendants report poor air quality, aggressive and violent passengers, hearing loss, cold cabins, poor sanitation, malfunctioning equipment, and rigorous flight schedules with short ground times. They are concerned about radiation exposure at altitude and contact with blood, which is a common occurrence, by the way. They report that they routinely work when sick because they fear losing their shift or losing their jobs altogether. Our analysis of the Bureau of Labor statistics data from '98 to 2002 identified non-fatal recordable injury and illness rate for flight attendants were at least twice as high as the rates for construction workers, and up to four times as high if you consider that flight attendants only work 20 hours per week. Also, the flight attendant data were three to four times as high as the rates recorded for all private industry, and double that again for hour by hour comparison.

For my last point about flight attendants being understudied, it must be said that last round of NORA research did dedicate significant time and money to testing data collection methods for flight attendant cohort studies, and we acknowledge the NIOSH work on contaminant monitoring under normal conditions. However, we since learned that NIOSH has apparently cut funding for their intramural program on aviation health. So we're concerned that the advances in data collection methodology will be left sitting on the shelf.

We have also been told that NIOSH has never solicited research specifically for this industry in their extramural requests for applications, despite the many health and safety threats to cabin crew and passengers. So in closing, I want to remind NIOSH about the 115,000 U.S. based flight attendants who need research to address specific hazards in their workplace, and we thank NIOSH for providing these forums to identify at-risk populations, and our members are ready to assist to make any research that's proposed a reality. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 860.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Neurological effect/mental health

Traumatic injuries

Mortality

Exposures

Work organization/stress

Work-life issues

Approaches

Surveillance

Etiological research

Personal protective equipment

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good morning, everyone. My name is Angela San Philipo. I've been the president of the Gloucester Fishermen's Wife Association for the last 29 years. I'm here today to speak to you about the hazards and the health issues of the commercial fishermen of Massachusetts, New England, and our nation. In the past, I've also served as a U.S. Coastguard on Commercial Fishing Vessel Safety Advisory Board. I am the Founder of the Massachusetts Fishermen Health Plan. And I'm also -- I worked with Tufts University in translating medical booklets for the Italian population.

Yes, the commercial fishermen in Massachusetts, especially, and around the country, they are immigrants. The Massachusetts Gloucester primarily is Italian-speaking; in New Bedford they are Portuguese-speaking. This is an industry that today has been decreased very much because of fishing regulations and it posed many, many health hazards, not only physically, but also mentally to the fishermen themselves and their families, as well. In the last 20 years since fishing regulations have taken place, we've lost many people, but once the Coast Guard report is filled out, it's put on a shelf.

And the next thing is we're going to see enormous tragedy in the fishing industry. And this is why I'm here today because I really would encourage NIOSH to allow some funds to do some good research.

Fishing days have been cut to 52 days a year, and on May 1st they will be cut to 25 days a year. There is not much income to keep our boats safe.

Fishermen don't have insurance. If you own a boat and you're the captain the insurance company will not insure you. So if you have a medical problem resulting from an accident in your boat, if you have personal insurance you can be treated, if you don't, you will just receive the minimum benefit that you can get from a free-care hospital. And once this injury takes place nobody traces them and nobody knows what happens to them. This is why I repeat again, we need some serious research funding to see what happens to these people.

I want to give you two examples that just happened in the last four months in the fishing industry of Gloucester. On November 26th, my husband was fishing in his 47-foot boat alone, as he has done for the last three years, because the fishing regulation he cannot employ other fishermen to help him. On a 47-foot boat, normally would be three people on that boat, but he's fished alone.

It was a beautiful day when he saw smoking coming out from his galley. He was smart. He grabbed his survival suit, went to the stern of the boat, put his suit on and then tried to go forward to see what happened. As he did that, fire hit his face and he turned and realized that there was nothing that he could do but just to jump in the water if he wanted to survive.

Little did he know that a survival suit, at the cost of \$700, is not fireproof. Nobody knew that until then. He jumped in the water and 20 minutes later another fisherman picked him up. And it was after we looked at the survival suit, we saw that the back of his suit was burned. And thank God, not to the degree the water would've got in because if water were to get in he would've never survived. And there's nothing anybody can do about getting the manufacturers to make them fireproof, but the fishermen's wife will make sure that happens.

But another incident -- Another incident happened about two weeks ago. A 36-year-old young fisherman -- and we don't have many of those because young people are not getting into fishing because fishing regulation doesn't give them a future. They were fishing on a day where they should not have been fishing because the weather conditions were not that great. But you know there are so many days and at the end of this month, if they don't use those days, they lose them, and they have families and they have boats to keep up.

Something came untangled from this wings the boats have so they're stable in the ocean. This thing hit him in the stomach, and he weighs 300 pounds. He was knocked unconscious, airlifted by the Coast Guard, and brought to the hospital, operated, and most of his intestines were removed. That boat doesn't have insurance because he's an owner. Their bill is getting paid by his personal insurance that we created back ten years ago through the Massachusetts Fishermen Health Plan.

These are the stories that you don't read in the newspapers or read in magazines. What will happen to this young fisherman? Nobody knows. There is no support groups. They tell you to go to psychiatrists; they don't know nothing about fishing.

So these are the things that we need, and I really urge NIOSH that they will work with us so we can study these people who little by little by federal regulations are being wiped out. Remember, we always going to eat fish and we always going to need good and brave fishermen. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 861.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Surveillance

Etiological research

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hi. My name is Karen Hopcia, and I'm a nurse and a doctoral student at the Harvard School of Public Health. My current research projects include injuries to nurses. Today, I would like to raise awareness of the special circumstances surrounding the work of nurses.

There are several points I would like to make.

First, despite numerous articles examining nurses' work in organization health, or the impact of workload on patient outcomes, there are few studies that examine the association between nurses' work and their health. Second, nurses sustain significant occupational illnesses and injuries, and this may increase as the mean age of nurses' increases. Third, there are inadequate studies on nurses, despite the large number of practicing nurses in this country. These points justify a looking at increased expenditures on nurses' working conditions.

As mentioned, studies involving nurses usually revolve around how nurses impact the organization or patient outcome, such as medical errors. But there are few studies on how nurses' work impact their health. Today's nurses face increased demands in the hospital environment. There is more intensity and a faster pace at work, as the rate of patient turnover continues to increase and patient acuity rises. There are also organizational changes that have increased the demands on nurses. These include

enhanced monitoring and surveillance at work, increased sensitivity to reimbursement issues, evidence-based medicine, and an emphasis on improving patient safety.

Furthermore, individual care has become more complex with sicker patients, increased technology, increased skill requirements at the bedside, and more multitasking. This change in work creates not only more physical demands, but psychological demands for the nurse.

My second point is related to nursing injuries and the increasing age of the workforce. Nursing work is hazardous. Nurses work 24 hours a day, seven days a week. Overall, nursing injury rates are substantial with a particularly high rate of sustained back injuries, third only to construction and transportation workers.

However, our knowledge of nurses' injuries is derived from BLS statistics that are reported per annum across industrial settings and occupations, but exclude organizational data such as staffing, the impact of shift work, and the variability of work in a given setting or in changing settings. It is therefore impossible to understand how the contribution of the organization of work and stress in nurses impacts occupational illnesses and injuries.

Additionally, nurses are aging. The average age of a nurse is between 44 and 47, depending on the state where they work. This increase in average age will continue if fewer nurses enter the field due to poor working conditions, the abundance of attractive alternative careers, and general wage suppression relative to the cost of living and inflation. Also, the continued shortage of qualified nurses in an aging population requiring increasing medical care will only continue to exacerbate these issues surrounding nurses' working conditions. Yet, there is almost no data on how the aging nurse workforce responds to injuries, how injuries affect their health, and whether they continue to work or exit the workforce.

Finally, the demands in today's work environment are significant and more stressful than ever for the more than 2.9 million nurses in the U.S. However, the relationship between stress, work, and health in nursing is seldom examined. Most studies segregate physical exposures sustained by work from the psychological exposures at work. Studies to date have focused on nurses' health without examining exposures, on work exposures or work-related outcomes without full appreciation of stress or the organization factors.

When researchers try to examine the relationship between nurses' stress, their work, and their health, these studies are limited by small sample sizes, varying definitions of stress, or limitations in cross-sectional designs. Furthermore, measuring physical and psychological demands of the job does not take into consideration the interaction of total workload experienced by the nurse or any outside demands experienced in the home.

In closing, aims of future research on nurses should include the exploration of the work of nurses, their stress and health outcomes, how reorganization impacts the health of nurses, how aging is impacting the nursing workforce, and the relationship between healthy nurses and the productivity of the healthcare system.

I would like to thank NIOSH for providing these forums to discuss this important issue. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 862.01

Categorized with the following terms:

Sectors

- Construction
- Healthcare and Social Assistance Services
- Unspecified

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Neurological effect/mental health
- Mortality

Exposures

Approaches

- Etiological research
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Health service delivery
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Just a slight correction, I am Richard Rabin, but I'm here as a board member of Massachusetts Coalition for Occupational Safety and Health. What I want to talk about is research that's needed regarding immigrants and other low-wage minority workers.

Immigrants are in -- you name the high-hazard industry, and they're probably in it. Construction, services such as hotels, restaurants, beauty salons, healthcare; the list goes on and on. In the lead registries around the nation, Hispanics are found to be in disproportionate numbers in Massachusetts, in Texas, New Jersey, California, of course. And in the Boston area, in the last several years, Brazilians, Brazilian house painters have increased in tremendous numbers of getting very high blood-lead levels. And nationwide, Hispanics who are foreign born have roughly a third higher fatality rate than does the rest of the workforce. So we have the problem. Now, what kinds of research questions do we have? Well, one is in specific industries, why is it that immigrants have these higher rates? Do they have more hazardous jobs within the industry than other people do? Do they lack training? Do they lack

environmental controls? Are there language barriers? Fear of retaliation? Do they simply not know where to turn?

So what kinds of programs? We want to see research that tells us what kinds of programs and policies can help solve the problem. A more effective OSHA? Do we need bilingual inspectors, training, emphasis programs, local emphasis programs by OSHA where there are large numbers of immigrants in high-hazard industries? And English classes. Can there be programs directed specifically -- much more resources directed at training programs for English so that workers have literacy in hazards and understand what the health hazards and controls need to be? And these could be offered both by employers, because a number of employers have their own training programs in English, and community groups.

And lastly, to what extent are immigrants denied benefits, such as workers' compensation? Why are they excluded? Is it simply that they lack the knowledge? Is it that they have a fear of retaliation? Or simply the inability -- even when they know what their rights are -- the inability to navigate the bureaucracy of workers' compensation?

And again, barriers, programs. What kinds of programs can address these barriers? Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 863.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Training

Authoritative recommendation

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: `I'm just going to give a little context to put my remarks in, and also I'll do that before I have five recommendations. My name is Davida Andelman. I'm the director of community health at the Bowdoin Street Health Center in Dorchester, which is a section of Boston. I've been at the Bowdoin Street Health Center for almost 15 years and have been interested in occupational health and safety issues for over 25. I'm also a member and co-chair of the Occupational Health Surveillance Advisory Committee at the Mass DPH.

The Bowdoin Street Health Center is a community health center licensed by Beth Israel Deaconess Medical Center. The health center has played an important role in the delivery of medical care and public health programs in Dorchester since 1972. In addition to primary care, public health, and other services, the health center for almost 15 years has had an interest in ensuring that our patients, who are primarily members of immigrant and communities of color, have access to occupational medicine services.

The health center has 7,500 patients. There are approximately 40,000 patient visits per year. Our patient population is composed of 40 percent Cape Verde, 35 percent African-American and Caribbean Islander, 15 percent Latino, and five percent Vietnamese, and five percent Caucasian.

For fourteen years, the Bowdoin Street Health Center had on staff a primary care physician, who had a sub-specialty interest in occupational medicine. While this physician is no longer at Bowdoin Street Health Center, our current medical director maintains a commitment to ensuring our patients receive appropriate occupational medicine services.

However, as a community health center, this commitment can be a challenge. In Boston alone there are 27 community health centers. Most have very little understanding of occupational health and medical issues. This is important to note since community health centers serve mostly lower-income and communities of color.

A few years ago, the Bowdoin Street Health Center was a part of a project carried out by Mass DPH Occupational Health Surveillance Program. This project was funded by NIOSH to prove the hypothesis that work-related injuries and illnesses are common and disproportionately affect racial and ethnic minorities and lower-income workers.

Understanding the occupational health experiences of low-income and minority immigrant workers will inform prevention, intervention, and policy strategies to protect the health of working people. One hundred and eighty-two Bowdoin Street Health Center patients participated in the anonymous survey. Bowdoin Street Health Center was one of five community health centers involved in this project.

While there's not enough time to go into the results of the survey, here are some of the results, along with the experience of having been in charge. And here with my five recommendations is some of the experiences and some of the recommendations I have as a result of my involvement in occupational health.

One, immigrant workers do not obtain access to occupational medicine services as easily as other workers. Perhaps this might explain the severity of their injuries and illness by the time they have presented to an occupational medicine provider. This was a frequent occurrence at Bowdoin Street Health Center.

Two, there are disparities between immigrant workers and others when looking at awareness of OSHA and workers' compensation. There needs to be further analysis throughout the United States as to how information about both of these programs is presented to immigrant workers. Issues associated with language and literacy are barriers to people getting access to this information and how to use the programs.

Three, safety training at work is less likely to happen in workplaces where there are immigrant workers, and what safety training there is is conducted often in English or in a language not understood by the immigrant worker. An example of this is training given in Spanish where there are Cape Verde and Creole-speaking workers.

Four, family medical leave. The intent of this law is not to undermine the workers' compensation system. However, in far too many instances this is exactly what has happened.

When workers are not informed or do not have an understanding about this benefit they are taken advantage of and employers are successful in minimizing their workplace injury and illness experience. There needs to be a nationwide analysis on how FMLA is used when the situation involves work-related injuries and illnesses.

What happens when an injured worker -- What happens to an injured worker who has maximized his or her FMLA benefits and then has a family member who becomes seriously ill and the worker needs to spend time with that family member?

Five, health insurance. Finally, there are also far too many instances of employers not informing the state workers' compensation departments of workplace injuries and illnesses, and then telling the injured worker to use their own health insurance or to have the bill sent directly to the employer.

This also has the effect of undermining the system. Immigrant workers who are not informed and do not understand the system are most vulnerable. This practice has huge implications should the worker become injured or re-injured again. I hope NORA will take these recommendations under consideration. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 864.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hi. Good afternoon. My name is Elisa Garibaldi. I work as outreach worker at Lowell Community Health Center in the COBWEB Project. The COBWEB Project means Collaboration for Better Work Environment for Brazilians, and I'm a health educator. I am also physician by training in Brazil. I'm going to talk a little bit about Lowell, Lowell Community Health Center, and culture competency.

Today, Lowell has one of the largest Brazilian immigrant communities in Massachusetts. The 2000 United States Census Bureau data counted that the population of Lowell as 105,000 people making it the fourth largest city in Massachusetts. Residents in the city come from many parts of the world, including Southeast Asia, the Caribbean, South and Central America, and many countries in Africa.

While census data from 2000 does not reflect or clearly categorize the growing Brazilian population in the city, we do have some information that gives a sense of the numbers of Brazilians here in Lowell. Of the 11,000 students in the Lowell Public School -- I'm talking about pre-k to eighth grades population -- five percent identified themselves as Brazilians. There is only one high school here in Lowell with a population of 3,700 students; seven percent of these students identify themselves as Portuguese speakers with the vast majority of Brazilians.

Indication of the economic impact of the Brazilians in the community includes Brazilian stores through Lowell and other business, like hair dressers, computer stores, and restaurants. Brazilians, as well as other immigrants, clearly contribute to the new workforce and the economy in the Merrimack Valley and the rest of Massachusetts.

Based on the history of immigration in Lowell, we know that before this new wave of immigration Lowell welcomed other newcomers, including the Irish, Polish, Greek, and Canadians. The community has responded to the needs of new populations in many ways, as well as being enriched by the contributions of these new neighbors.

The Lowell Community Health Center is an agency that's recognized the needs and assets within the community. Created 35 years ago, our mission is to provide caring, quality, and culturally-appropriate health services to the people of Greater Lowell, regardless of their financial status. We are devoted to enhancing the health of our community and to empowering each individual to maximize their overall wellbeing.

As with any community health center, we work to identify and then eliminate access barriers. As an example, language and culture can be a barrier for some seeking healthcare. Lowell Community Health Center works to remove this type of obstacle by recruiting a staff reflective of the community we serve. Over 50 percent of our staff at Lowell Community Health Center is bilingual/bicultural with many speaking three or four languages.

Lowell Community Health Center works with community agencies, including the Brazilian Immigrant Center, Massachusetts Alliance of Portuguese Speakers, the Cambodian Mutual Assistance Association, and the African Assistance Center to help us to build a better relationship with our patients, increasing and improving our skills to meet their needs and strengthen our relationship, thus creating credibility and trust.

In 2002 and 2003, Lowell Community Health Center noticed an increase of the number of Brazilian patients. These new patients came not just looking for primary medical care and place to refill medicines, they also came to ask questions about their lives and guidance in dealing with the different way of life and culture in United States. Their concerns included navigating the healthcare system for their children, as well as questions about symptoms and illness that may relate to their new work environment.

Prior to that, UMASS Lowell had been working with the Lowell Community Health Center in projects with new immigrants to the city. Eduardo Siqueira approached us with the idea of a partnership between academics, community health providers, health and safety based organizations, and community. This led to the birth of the Collaboration for Better Work Environment for Brazilians, the COBWEB Project, with focus on the Brazilian immigrant workers funded by the National Institute of Environmental Health Sciences.

Lowell Community Health Center's previous experience and expertise in ethical and respectful community-based research was clearly an asset to this potential partnership. Our approach to the community research is collaborative. When seeking information, our methods include the development of advisory boards comprised of stakeholders to inform any program development.

COBWEB staff at Lowell Community Health Center is often to see Brazilians concerned about or affected by hazards in the work environment. As important first step in the outreach work necessary to inform people of the resources within the Lowell Community Health Center and COBWEB Project. When more investigation of hazardous workplace is necessary, this mediation may be helpful or if it's needed for legal assistance, we refer to the Brazilian Immigrant Center.

In summary, our staff became a bridge between Brazilians and providers at Lowell Community Health Center helping us to offer our services in a better way. The COBWEB provides a light in the tunnel for those immigrants who may be overwhelmed and sometimes blinded by the difficulties and complexities in their new lives in the United States. Without the support of agencies such as NIOSH and NIEHS, the fundamental work that combines community research with services that assist communities, our work would not be possible. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 865.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good afternoon. My name is Tom Oiumet, and I'm a certified industrial hygienist and certified safety professional employed by Yale University, and as an independent consultant. And although I work for an ivory tower, I really come from the trenches underneath that tower. I'm a practicing safety and health professional.

And I'd like to bring to NIOSH's attention today two areas of research, which if supported could bear, I think, significant fruit for the industrial hygiene profession and worker safety.

The first involves the application of Video Exposure Monitoring or VEM. This is a technique that was pioneered by NIOSH and others in the mid to late 1980's. The technique involves a simultaneous display of a worker's activity with real-time exposure monitoring data. It's an extremely useful technique for pinpointing the workers' activities that lead to exposures and the sources of those exposures. And as an industrial hygienist, I always feel that I understand exposure, but whenever I've used that technique, I've proved myself wrong. Armed with this information, very effective exposure controls can be devised.

The second very important use of this technique is as a training tool. The video and exposure overlay can be used in real-time in the workplace to demonstrate to workers and management the impact certain activities and controls have on worker exposure. I have found this to be an excellent way to change worker behavior and attain the resources from management necessary to implement effective exposure controls.

Despite its potential usefulness to the occupational health and safety profession, adoption of Video Exposure Monitoring has been very slow due to its high costs and the high technical hurdles that must

be overcome to get non-standardized equipment to function together. The costs and technical hurdles have made Video Exposure Monitoring inaccessible to most industrial hygiene practitioners and has failed to live up to its potential as an exposure assessment tool.

However, recent advantages in two technologies that support video exposure assessment monitoring, real-time sensor technology and digital videography are now making this technique less expensive, the equipment less bulky and wireless, and the data collected more compound or agent specific; all of which will further increase its potential value as an industrial hygiene tool.

I'd now like to identify two critical needs that would encourage its use and dissemination of this technique in the industrial hygiene profession. The first, software needs to be developed that can integrate the video signal with several channels of data in real-time on a laptop so that it can be shown and replayed to workers and management in the workplace, as well as studied later in detail. This software must be available to the industrial hygiene community at reasonable cost.

Two, suppliers of real-time sensors and instruments must be encouraged to produce equipment with consistent data output so that their equipment can be easily integrated with the Video Exposure Monitoring system. A committee of interested parties should be established to recommend a standard for sensor or instrument output and integration. The community must also discourage a current trend by some real-time instrument manufacturers to produce sensors that only output proprietary digital signals that can not be integrated into Video Exposure Monitoring systems.

The VEM could be packaged so that the software and existing video and sensor technology were plug-and-play. It would provide the industrial hygiene profession a powerful new tool to assess and control worker exposures to a wide variety of agents, particularly those for which agent-specific sensors are being developed. It would also be an effective worker/management training tool.

Comment ID: 865.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

In my few remaining moments, I'd also like to make a pitch for NIOSH to begin exploring how new training and communication technologies can be integrated with the existing approaches and used more effectively to train and communicate hazards to workers. I, like many of the speakers this morning, am finding the traditional training methods are not adequate. That training is often not sufficiently assimilated by workers to be useful when it is needed, often months after the training is provided. However, traditional classroom or hands-on training, coupled with web-based tools and resources often referred to after forming support systems, an additional just-in-time e-learning can provide a worker the knowledge needed to perform a complex task or an infrequently performed hazardous task safely.

However, no research has been conducted how to effectively integrate traditional training, just-in-time training, and performance support systems. As jobs and the hazards faced by workers get more complex and change quickly, new methods of training, coupled with performance support systems must be utilized in the workplace, and we do not know how to apply them today.

Also, the use and effectiveness of multimedia, audio, video, animation, graphics, and even virtual worlds, and training and communication should also be researched and new uses explored. These tools appear to make information more readily understood and assimilated by workers, but today we don't know how to apply them.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 866.01

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Cancer

Respiratory disease

Traumatic injuries

Exposures

Approaches

Surveillance

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you. Good afternoon. I'm going to talk to you about occupational health surveillance. I am currently the chief of health statistics and data management for New Hampshire DHHS, Division of Public Health Services. I'm also adjunct professor in the Master of Public Health Program at the University of New Hampshire. Prior to taking the position with the state, I worked as a research consultant in the occupational and environmental health sciences, collaborating with such entities as UMASS Lowell, Rutgers University, New Hampshire COSH, and others on EPA and NIOSH funded research projects.

In my capacity as the head of health statistics for the state, and mind you I've only been there for six-and-a-half months so far, I have learned about the importance of administrative public health data in forming occupational health surveillance. Health surveillance data are needed to determine the magnitude of work-related injuries and illnesses, identify workers at greatest risk, and establish prevention priorities. States must be able to measure baseline health of their populations and changes that take place over time.

Occupational health surveillance systems would allow for this assessment and monitoring of overall health, and would lead to comprehensive policy development, service planning, and program evaluation. Successful interventions to reduce the burden of occupational injury and disease in any state have to start with good occupational health surveillance.

The current nationwide system for surveillance of occupational illnesses and non-fatal occupational injuries has substantial gaps. Many of the public health reporting systems are fragmented, having no

consistent or standard system for collecting, analyzing, or interpreting data. Many do not have data compatible systems or systematic methods for coding or linking data sets, and many do not even capture occupational information.

Increased funding for the national occupational health surveillance research agenda will help NIOSH reach its goals to identify these gaps and deficiencies and reduce fragmentation among current surveillance programs. It will also provide states and the nation as a whole with the ability to streamline resources, to identify and target high-risk industries, occupations, and worker populations for outreach and intervention, and to measure progress in preventing work-related diseases and injuries.

According to the first reports of injury to New Hampshire's Department of Labor, in fiscal year 2005, businesses reported over 47,000 work-related injuries and disease, involving 3,700 lost-time cases, and 1,200 permanent-impairment cases, which along total over \$12 million.

New Hampshire's workers' compensation data is unique in that the law requires employers to report all work-related injuries and illnesses, regardless of whether or not lost time was involved. Employers understand that reporting in this system has no bearing on acceptance or denial of a workers' compensation claim. As a result, there appears to be fairly complete capture within the occupational injury reporting system, and even some over-reporting as employers err on the side of reporting questionable cases. This is quite different from most other states, where reporting is required only for lost-time cases, or where the employer believes that the condition is definitely work-related.

Prior studies using New Hampshire DOL workers' compensation data demonstrated that older workers had significantly more pre-injury co-morbidities and had more severe injuries, requiring more medical care and surgery and chronic medications. Priority groups of older workers include those who are forced into early retirement by their work-related injury and older workers with significant pre-existing health problems. These subgroups are at particularly high risk for adverse post-injury consequences, and should be the focus of further studies using the New Hampshire Department of Labor database.

In addition to workers' compensation data, New Hampshire has several administrative data sets that can be used for occupational health surveillance. These include hospital inpatient and discharge data, death data, insurance claims data, cancer data, and behavioral risk factor survey data. Under CDC bioterrorism funding, we are piloting a project to collect live emergency department data from our hospitals on certain syndromes that could be linked to acts of terrorism.

All of these data sets of information that can tell us so much about work-related injuries and illnesses; however, there is no systematic method of collecting this data for occupational surveillance purposes. We need better coding, additional fields to discern occupation, employer name, injury at work, and we need better ways to link databases to match exposure data with health outcomes.

New Hampshire has a high incidence of high-occupational blood-lead levels. We don't really know why. Is it better surveillance? Is it low numbers? Is it a record-keeping artifact? Is it immigration of out of state workers with high blood-lead levels that get picked up at work in New Hampshire?

Asthma is also increasing in our state. Studies indicate that at least ten percent of new asthma cases are occupational asthmas. However, SENSOR data tell us these numbers are very low. There's a disconnect that needs to be explained.

In New Hampshire, we're equally constrained under the tightening budget belts of both our federal and state governments. Without NIOSH funding, however, the Division of Public Health Services in New

Hampshire is unable to allocate any resources to hire dedicated personnel to do occupational health data collection and analysis. Our public health community relies on surveillance information to set research and prevention priorities.

Building capacity to design local occupational safety and health interventions and increasing their quality and effectiveness is an intentional product of an improved surveillance system. Research to enhance surveillance will identify occupational safety and health hazards particularly to New Hampshire, assisting in prioritizing the numerous hazards and issues needing to be addressed and provide key targeting demographics in the design and execution of local interventions and programs.

Finally, an improved and integrated occupational health surveillance system will provide information to policy makers who need to understand the magnitude of occupational injury and illness and their costs. The interrelationship of causal factors inside and outside the workplace, and the necessary data to build outcome measures for progress towards state and national goals. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 867.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Dermal disease

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good afternoon. I'm going to be talking about negative impacts on worker health of environmental workplace practices. An emerging issue today is the growing risk that environmental decision and practices in the workplace can result in negative impacts on worker health and safety. In a number of cases, in a major manufacturing plant in Massachusetts, in an auto-assembly plant in the automotive repair industry, attempts to reduce or eliminate ozone-depleting chemicals have resulted new hazards for workers.

In one plant, CFCs were replaced by flammable chemicals resulting in fire hazards that did not previously exist. In another case, the CFC was replaced by a substance that caused severe dermatitis and did not work well in the process. In both of these cases workers, through their established health and safety committee structure, raised the concern and pushed to have it resolved. In the second case I mentioned, a solution was found using steam as a cleaning agent. This eliminated a toxic chemical and improved both the work and the ambient environments. Workers, industrial hygienists, environmental managers, and process engineers worked together to develop this new solution.

In the State of California, automotive repair shops were urged by a state agency to replace methylene chloride, an ozone depletory, with hexane for brake and engine cleaning resulting in debilitating

peripheral neuropathy for many workers. In chemical plants in New Jersey, similar instances were reported by workers and managers of unforeseen occupational health impacts resulting from environmentally motivated chemical substitutions.

In many cases, elimination of a chemical that is an environmental hazard may improve working conditions; the elimination of hexavalent chromium from a process, for example. But there is also a distinct risk of creating new or worse occupational hazards, including ergonomic hazards when health and safety issues are ignored and occupational health professionals and the workers closest to the operation are not included in the decision making.

Military and other government specifications may also be developed for environmental purposes without regard for the work environment. Such specifications affect large numbers of workplaces and workers. The Air Force, for example, provides a list of acceptable substitutes for high VOC products, even though some of these substitutes are toxic or flammable, creating new workplace hazards.

Green construction is a growing trend with the laudable goal of creating safer more environmentally friendly and more comfortable buildings. However, many of the new materials are untested or are not examined from a worker health perspective. New types of flooring materials that are promoted as natural may contain significant concentrations of formaldehyde, for example, creating risks for the construction workers. What happens when bamboo or new composite materials are cut, drilled, or sanded? What is the occupational impact?

In research I conducted independently and with others, workers were often the first to recognize or to suffer the effects of these new hazards. In one plant, an active joint-labor management health and safety committee has been expanded to include environmental issues, as well as a means of preventing unintended effects of environmental decisions.

It is unknown how widespread this problem of risk-shifting from the environment to the worker is because little research has been done. This is a new important area that needs to be explored in a number of ways. NORA needs to recognize the cross impacts of chemical substitution on the work and ambient environments. Research is needed to document the prevalence of this problem, as well as uncovering best practices in the area.

Intervention or other research is needed to explore decision-making structures that may prevent cross-over hazards, as well as developing systems which may enhance the wellbeing of workers and the ambient environments simultaneously.

A methodology for determining appropriate chemical substitutions and/or process change that take into account both occupational and environmental health concerns is needed. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 868.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Etiological research

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good afternoon. I would like to thank NORA for letting me address the issue of health and safety and literacy. The morning sessions and some of the earlier ones prior to myself have spoken about the issue of health and safety training. I've been a trainer for two years and a health educator for three years. So I have seen first-experience what happens when you do training.

It's not enough to provide training in the language that the workers speak. I've come with my presentation, my big old folder, PowerPoint slides, translated, ready to do in Spanish or in English to find out 30 minutes later that the workers can't read, which means I have to switch my whole training session appropriately for the workers.

We've seen everybody asking for training, but we also have to make sure that the training that is provided to the workers takes into account the literacy level. I'll just give you statistics. According to -- This is the old statistics, but the 1992 National Adult Literacy Survey showed that 40 to 44 million people of the 191 million adults in the United States could not read, could not understand written material that require very basic proficiency in reading. They could not read the instructions on a medication bottle, household cleaning solution, or directions on a map.

As some of you are trainers, you've seen what material safety data sheets look like. Those sheets require at least 15 to 17 years of education, which is a college degree. The hazard communications standard was a great move to allow workers to understand what they were being exposed to at work. The problem is is that hazard training can be anything from a material safety data sheet, a fact sheet of best practices guide, ten-hour OSHA training or one hour, and as somebody has explained, it can be part of your employer orientation training.

So people have to understand that it takes more than just training in the language in a short time. You need to make sure that the workers understand what you're trying to provide in the training for them.

So as I said, my experience -- I believe that more research is needed in the areas of how health and safety literacy affects illness and injuries, the effects of literacy in the workplace in regards to health and safety training, and effective training strategies for workers. What are the best practices? What training? How should training be conducted, so workers can understand and stay safe? Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 869.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Motor vehicles

Approaches

Risk assessment methods

Engineering and administrative control/banding

Training

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good afternoon, and thank you for the opportunity to speak this afternoon.

I am a practicing safety manager. I've worked in a large number of industries; heavy industry, construction, and transportation. And I'm here informally today to represent contractors and highway construction workers to advocate for further research into highway work-zone safety, specifically because this is an area that has been well researched over the years.

The specific area of emphasis is short-term highway work-zone activity; resurfacing, temporary repair, guardrail repair, activities where workers are exposed in very short-term durations to the work zone that they're operating in.

This is a unique problem. In addition to contractor activities and work-zone activities, and worker activities, it also very much depends on public transportation policy that sets the contractual guidelines that contractors and these workers will work under. And it also is very much related to the behavior of the public as they pass through these work zones, which is essential to a significant number of safety issues that occur in these work zones.

Short-term presence work-zone activity is very important to focus on. Unlike a lot of heavy highway construction activity where there are engineered barriers and a lot of work goes into isolate passing traffic from the presence of those workers, in short-term work-zone activities, typically, the workforce is isolated from passing traffic only by temporary cones that are very easy for vehicles to come through.

Increasingly, this work is scheduled at night to provide a minimum inconvenience to the public that are passing traffic. This creates a significant number of problems in terms of the pressure of working at night, the increased hazards of working in darkness, and the increased speed that is typically encountered by traffic passing at night. And again, there's a very strong interrelationship between the public behavior as they pass through these work zones.

On paper and within the literature, this is a well-researched problem. NIOSH has done some great work in terms of the 2001 Building Safer Work Zone Studies, and there were extensive standards that are available, including the Federal Highway Administration's Manual of Uniform Traffic Control Devices.

However, there's a significant gap between that documented knowledge and the implementation of that knowledge when you're trying to occupy a roadway. And the research work that exists needs to work on the implementation of that theory, of that documented knowledge.

Specifically, needs include practical methods of risk assessment before deployment on a roadway. Typically, there's a contracting document that will indicate from a construction perspective what type of work is supposed to happen and when and maybe set out a work schedule. But there remains to this day -- it's very difficult for an industrial safety manager, construction safety manager to assess the hazards that are presented by a particular roadway. The hazards that I speak of are accident frequency, the average speed of traffic, local hazards that may be unique to that particular roadway in terms of its configuration and its type of use.

There needs to be increased research into practical and effective methods that calm and control traffic, which is a huge problem. So many of these issues related to injuries to workers, collisions that occur from vehicles passing through work zones, and collisions that occur from vehicles and construction equipment as they mingle trying to get in and out of work zones is related to the speed of traffic. And there needs to be much better research and practical methods to calm and control traffic.

I know for the construction activity, which we're about to engage on in the upcoming season in the state of Massachusetts, by our own radar assessments, we're about to enter roadways where we know that the 85th speed percentile of traffic is frequently ten or 15 miles an hour above the posted speed limit. And we're just a few short weeks from having to put workers into this environment to try and restrict the roadway that's available.

We know in one unique example -- it's anecdotal, it's not scientific. In one unique example last year, in response to collisions of vehicles entering our work zone, we had speed observations by state police officers. In a single day of cars moving, there were more than 100 observations in a single shift of cars moving more than 80 miles an hour in speed within the controlled work-zone area.

The problem only gets worse the further you pave the road. Once the damaged roadway that people are used to driving very slowly on -- as you pave the road and your work zone is now at the end of ten miles of pristine, immaculate, high-speed capable roadway, the situation gets worse as the progress goes on.

There needs to be much greater research in the management of safety, the practical application of it in terms of risk communication and safety management techniques that work, in terms of how you communicate risks and how you control risks presented by the public, specific contracting policies, which very definitely affect the safety of workers on the road, the management of safety work that contractors employ and the safe work training and preservation training to workers and police agencies that control the traffic. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 870.01

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Neurological effect/mental health

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good afternoon. My name is Dina Dickinson. I am originally from northern Italy. I don't know how to do this, sorry. When I was in my early 20's, I fell in love with an American boy and follow him here to Boston. For the last 18 years, I am being a single parent. I raise five kids on my own by working as a room attendant at the Logan Airport Hilton Hotel.

By working very hard, I was able to keep my family together and give my children a chance to better themselves. I am very proud of my family; all five of my kids went to college. One of my sons is in the Army Reserve and he was recently called for active duty.

I have been a room attendant for 18 years, and I am proud of my profession. Our hotel is successful because we don't just clean rooms; we take care of our guests. Hotel management, no respect housekeeping work.

My job has always been very physical, active job, but the workload has gotten heavier and heavier. Twin beds have been replaced by queen and king luxury mattress, simple bedding by triple-sheeting, more pillows, duvet, and heavy bedspread. Bathroom and sleeping quarter have more supplies, amenities, and equipment.

Also the company expects a higher cleaning standard than they did years ago. This means that me and my sisters in housekeeping have been working with injuries and more and more pain in our bodies from the work.

Last year, my hotel introduced a new bed, which greatly increased our workload and strained our body to the limit. I saw a lot of my coworkers getting hurt because of the bed. The new bed has bigger, heavier linens, and much, much heavier mattress and mattress pad. We put three sheets on now, instead of two, and we now stuff up to eight pillows per room.

Because we have only about 20 minutes to clean the room, make the bed, and scrub the bathroom, we have to work faster than ever. Most of my coworkers are working with pain, and almost all of us take some sort of pain medication every day. This is not just the situation at my hotel. I have talked to attendants who work at the Sheraton and Westin, and all the major hotel chains. What I'm describing is what room attendants face everywhere, no matter what hotel company.

I'm fortunate that I have a union at my hotel. We have ability to fight against and limit the hotel push to increase work at the expense of our health and safety. After the 16-month long fight, we were able to get Hilton Corporation to reduce the number of rooms that we are required to clean in a shift at our hotel. The concession that we won from the Hilton is a step in the right direction, but is not enough. We are just one hotel.

Ninety percent of hotel workers in this country don't have union. For most room attendants that means a hard choice. Do the work and ruin your body, health, and often your family life, or lose your job; that is a problem. It's a big problem. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 872.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Youth
- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Respiratory disease
- Traumatic injuries
- Mortality

Exposures

- Chemicals/liquids/particles/vapors
- Violence

Approaches

- Surveillance
- Intervention effectiveness research
- Work-site implementation/demonstration
- International interaction
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: My name is Tish Davis, and I'm Elise's boss. For over 20 years, with help from NIOSH in much support, I have directed the Occupational Health Surveillance Program at the Massachusetts Department of Public Health. And, you've heard about our program from Elise, and as you might predict I'm here today to underscore the importance of surveillance. And frankly, surveillance is historically or typically placed second fiddle to ideologic [sic, etiologic] research in any kind of research or academic environment, and I've been really happy today to hear so many people, beyond my staff, underscore the importance of public health surveillance and really telling the story.

We clearly need robust surveillance systems to establish the magnitude of the problem; information that we need to garner the research and intervention resources. We need surveillance to develop a research agenda that is relevant and addresses the most relevant, the most pressing problems.

We also need surveillance to identify emerging concerns, and I just want to highlight several from Massachusetts. In the last several years, what we've seen is safety hazards in floor finishing, fatalities associated with the manufacture and installation of granite counter tops, asthma, associated not only the use, but the overuse of cleaning agents that you just heard about, young worker exposure to violence in retail settings and the failure of the workplace movement to address shoplifting. We have a spike in fishing-related deaths in Massachusetts. Massachusetts is second only to Alaska in the number of fishing-related deaths. And we've seen in recent years an increase in Brazilian worker fatalities.

Each NORA sector, I think, should be mandated to address surveillance. At the same time, I think it's crucial to establish a coordinated and comprehensive cross-sector surveillance plan with appropriate cross-sector funding mechanisms. This plan should include population-based activities, such as periodic suplets (*) to the National Health Interview Survey, but it also needs our place-based [sic, state-based] approach, such as SENSOR and FACE, that link to individual workplaces and provide the detailed information necessary to develop effective interventions. And we've seen a decrease in those programs in the last several years.

While I'm very pleased to see that the practice of surveillance is included in the NIOSH program portfolio, I want to emphasize the continuing and I see as distinct need for surveillance research. That is, research to document the biases in the existing surveillance systems and to explore new surveillance methods.

Occupational health policy and practice in this country relies heavily on the BLS annual survey of occupational illnesses and injuries. This system not only omits 20 percent of the workforce, including all public sector workers, but research has consistently demonstrated that the system substantially undercounts cases that should be captured by as much as 30 to 40 percent. These research findings are strikingly discordant with OSHA record-keeping audits, which suggests that there is relatively little under reporting.

How do we explain this discrepancy? How do we explain last year's, one year's, 15 percent decline nationwide in lost-time repetitive-motion cases? There was a 30 percent decline in Michigan in repetitive-motion cases in one year. How do we explain that in this system on which we're basing so much policy?

I want to call on NIOSH to join with BLS, OSHA, and other research partners to collaborate in developing and implementing a dedicated research plan to document systematic biases in the BLS survey, and the factors, many of which you've heard about today, that lead to under reporting. We need to know which categories of workers establishing events that are being systematically undercounted. We need to understand how OSHA enforcement targeting, how behavioral safety programs, how management evaluation practices influence reporting, and then we need to test interventions to improve the system.

We also need to continue to explore innovative approaches to address chronic disease and under-served worker populations, issues that we know will never be adequately addressed in the BLS survey. And I think we need to look at community-based models, some of which are being used in developing countries, that we need to bring back here for application at the community level.

I'd like to underscore the importance of NIOSH's state-based programs, and you've heard about that here today. States have access to unique data sources that can fill gaps in national surveillance. Surveillance by definition includes the use of data for action, and states have a very solid track record of linking surveillance to practice at the state and local levels. State health agencies, which historically focus on addressing the needs of under-served groups, can play a particularly important role in identifying and addressing the occupational health needs of under-served worker populations whose occupational health needs have clearly not been addressed.

Comment ID: 872.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Youth
- Language/culture/ethnicity
- Other

Health outcomes; diseases/injuries

Exposures

Approaches

- Intervention effectiveness research
- Work-site implementation/demonstration
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

This brings me to my final point, which is needed to document and address the occupational health disparities among population groups. The sector research panels should be mandated to address these disparities. I want to weigh in with others you heard here today to particularly emphasize the need for research to address the needs of young workers and low-income immigrant and minority workers.

In Massachusetts in 2005, 37 percent of juniors and seniors in high school were employed, according to the current population survey. And 17 percent of our workforce is foreign-born; double the number or the proportion in 1980. We need research to identify the factors that place these workers at increased risk, and we need intervention research, including community-based participatory research, such as we've seen in the environmental justice partnerships to develop interventions that work.

Comment ID: 872.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Mortality

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

In closing, let me say that for the last 20 years I've been involved in tracking every work-related death in Massachusetts and it's grueling. And I have never ceased to be moved by the fact that these workers died doing work that enable me and all of this in this room to lead the lives that we do every day. And I look to Max and the communication folks at NIOSH because I think we also need to learn how to better tell this story.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 873.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Surveillance

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good afternoon, and happy spring to all of you. Spring rolled in about an hour ago, I think, officially; so it should be about 40 degrees warmer out there now than it was this morning. I'm sure you'll be happy to know that.

I can use some extra time to talk like this because Tish and all these other speakers have already said all the things that I was planning on saying, so... I'm Tim Morse. I'm with the Ergonomics Center at University of Connecticut Health Center, and also participate in the Connecticut Occupational Disease Surveillance Program, along with Labor Department, Health Department, and Workers' Comp Commission. We've also at UCON do a lot of research looking at under reporting, particularly of musculoskeletal disorders, and I'd like to focus on those issues in particular.

Complete accounting of occupational injury and illness is important for several reasons, Tish and some others have pointed out some of those. But, it also goes along with if there's a lot of undercounting of occupational diseases, then it tends to also affect resource allocations. So that if you don't count all of what's going on out there, you don't get as much resources going to solving the problem. It also -- We need surveillance and accurate counting in order to target those resources accurately to make sure that we're addressing the right problems, the right industries, and the right occupations that are at the bulk of the problem.

And finally, accurate counting is important for assessing interventions so that, you know, as we move towards more emphasis on intervention research, then we need better counting so that, for example, in ergonomics and musculoskeletal, we find that when we do ergonomics intervention programs in industry, a lot of times the increased awareness leads to increases in reports because they've been so

undercounted previously. You intervene and then rates go up and so you need better counting and better ways of figuring out how much is not getting reported in order to understand how effective those interventions are.

It's now reasonably well-established that there's extensive undercounting, particularly for occupational disease in the BLS and OSHA surveys. You know, from research that we've done that's both population-based, random digit-dial phone interviews, from capture/recapture analysis of comparing physicians' reports to workers' comp reports, in Connecticut our estimates are only about ten to 20 percent of musculoskeletal disorders actually get reported to workers' comp or to BLS. We used to think that that was -- the situation was much better for acute traumatic injury, but some recent capture/recapture studies that are just starting now to get reported find that even for overall occupational injury and illness we're probably only getting somewhere between 50 to 80 percent of the cases are getting reported to BLS, even for lost-time pretty severe injuries, which you'd expect to be reported pretty well.

The Lanora Azerof (*), who's here somewhere has mapped out some of these filters that we see in terms of where things don't get reported and where they don't get recognized. Part of that is physician non-recognition of occupational disease, part of it is workers not reporting to their employers, and part of it is employers not putting it on their records and getting it into the statistics.

Our studies have shown that there are characteristics that increase the reporting. For example, more severe conditions are more likely to get reported, more likely to get reported in unionized environments, in manufacturing, and among workers that have access to personal physicians.

We need to better understand these mechanisms associated with under-reporting, partly so that we can improve our reporting systems overall, and we also need to know what the extent of the magnitude of that under-reporting is so that we can adjust those known figures to try to compensate for that. And we also need to test interventions that would try to improve reporting characteristics, you know, looking at kind of the negative consequences of safety bingo kinds of programs, looking at what are some positive reinforcers that we can use to get better reporting of those conditions, and therefore help in prevention.

For the most part current data's based almost exclusively on employer-based systems, and so those numbers can be impacted by workers not informing their employers, it can be impacted by employers not understanding reporting requirements and categorization, and also by negative incentives such as the employers' perceived -- perception by employers of what the impact is going to be on the OSHA inspections or workers' comp rates. For MSD in particular, current data's also made less available due to the dropping of repetitive-trauma category from the BLS system, which has caused a break in series and also made it more difficult to understand what are the longer term patterns for MSD.

Population-based studies, such as phone or mail surveys, web-based surveys, employer-based surveys are highly useful for broadening the scope of the information. We have -- These can be pretty expensive, but they're really the only way that you can get at some of these under-reporting issues and try to understand what community burden is.

So I would advocate a few things. One is support for population-based surveys, support for NIOSH to do regular participation in things like National Occupational Exposure Survey, National Health Interview Survey so that we can get population-based systems. And then also link programs between -- funding

programs between OSHA and NIOSH for funding intervention programs that are based on surveillance data.

And I think the other stuff has been said by Tish, so thanks very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 874.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Work-site implementation/demonstration

Marketing/dissemination

Health service delivery

Emergency preparedness and response

Partners

state programs, like the Maine Occupational Research Agenda (MORA)

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you, Ann. And I want to thank NORA and NIOSH for giving us the opportunity this afternoon to talk about issues that are important to us. I'd like to bring you spring greetings from Maine, but we don't get spring in Maine. In about a month we'll get mud season, and then six weeks later we get black flies, so... I don't know if you want to be greeted that way, but that's the way it is.

I am a past chair of MORA, and have a consulting firm in Maine. I'm also on the faculty of the Masters in Public Health at the University of New England, and I've had some work at the NORA level as part of the Intervention Effectiveness Committee of NORA.

What I'd like to talk to you about today is the tie that we can make between state programs like MORA - and Ann and I were trying to decide how many there are in the country, and it probably is no number that you could count on one hand, and why we have a program like this. And I think one of the keys here are the fact that many of the problems we have are local, and in a state like Maine, which is very large geographically and very small in population, it's very difficult for like-minded individuals in the area of occupational health to find each other. And we've used MORA for the past six years to have a very useful dialogue among practitioners that's been very helpful to us.

I'm not going to go into the background of MORA and its startup. My colleague, Peter Doran, will cover that in detail, but we have worked for six years. We've worked for six different areas, which Peter will mention. We've narrowed those areas down most recently to occupational asthma, cost-drivers associated with workers' comp, and better characterizing the incidence of pesticides-effected illnesses.

We work well with regional partnerships, and I think this is an extremely important aspect of our program. The ERC has been very helpful to MORA, not only have they assisted us with conferences, which has been very important, but they've also had a pilot project recently and these pilot programs have funded some programs in Maine. They are small dollars, but they go a long way in a state like Maine, and we're able to do quite a bit with them.

We really feel that there are opportunities that exist at the local state level that NORA can really take advantage of. One of these is the diffusion of research. It's difficult to reach out into the hinterlands and make sure that you are reaching a lot of companies that exist out there. With a state program like MORA, you are able to reach some of the practitioners with the research and get it defused from the ERCs and the universities into small companies that exist.

The other area is the access to small business. A state like Maine has over 90 percent of their businesses are small businesses. And in Maine we define small businesses as less than 100 employees, so it's really small. Getting into those small businesses is not easy; NIOSH has a lot of difficulty with that, and so state programs can really provide a way of doing that.

We also can leverage research dollars. In one of the pilot projects that we received funding through the ERC at Harvard, we were able to do some really initial-level work. That work has now been funded by the agency in particular that the work was done for as a second level, and it's a survey that was done using participatory methods, which will now go forward this year based on the fact that we had some pilot funding to start. So I think leveraging those small research dollars is an important aspect, and I emphasize small. Small-dollar grants in a state like Maine can go a long, long way.

Also, access to field studies. NIOSH has been in Maine studying the schools and asthma induced in schools, which have experienced high levels of mold. This kind of cooperation has been very helpful in solving some problems in Maine.

And last, advocacy. There have been many programs like MORA in other agencies in the federal government. And as we discovery with these programs, as you have more people involved at the state level and issues come up that the national level wants to have something done with we have people that can advocate, both with the senators and the congress people in our region.

So I think state programs can be helpful in a number of different areas, and I'd like to see NORA and NIOSH consider expanding and supporting those programs. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 875.01

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Respiratory disease

Mortality

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you, Ann, and thanks for the opportunity to visit with you. And I can assure you that you can get to Maine from here. I want to follow a little bit from Ivan's remarks, and tell you a little more about MORA; what it is and how it functions.

MORA promotes safety and health research in Maine. We were spawned in the year 2000 at an occupational health and safety research summit, which was called by the Maine Department of Labor, and we were honored with some guests from NORA at that time who acquainted us with what NORA's all about and how it works. As a result of that we developed a steering committee, that steering committee meets monthly and it maps a strategy with action steps. The Maine Bureau of Standards provides meeting space and staff support, for quite frankly, an entirely voluntary organization.

Tell you a little bit about our accomplishments during the last six years. We're data driven, so we assess data sources. We've supported legislation to improve data collection in the Workers' Compensation Medical Only First Reports. We found until we could get medical only reports available to us from all of the insurance companies, we really didn't have good insights into prevention. We recently reported in

February to the legislature our recommendations for data collection and injury prevention and that's making a substantial difference in the electronic reporting process.

We've convened a symposium in 2003 and 2005 with NIOSH support. We received the State Government Team Work Award and we've established six major priority areas. Those priority areas, about which you've heard quite a bit today from other speakers; musculoskeletal disorders, occupational asthma, fatalities, toxic exposures at work, the aging workforce, and cost-drivers. And, with all of those priorities, what we do is to try to identify research partners and then collaborate with topic experts to identify the more specific research needs to locate funding sources and to encourage the conduct of the research specific to those.

Let me highlight just one of those areas for you, which is of particular interest to us and that's occupational asthma. We have an estimated ten to 20 percent of asthmatics who have work-related occupational asthma. We have one of the highest asthma rates in the United States in both adults and with children.

Asthma -- occupational asthma often goes unrecognized as work related. There are significant limitations in the data gathering. By understanding the magnitude of the problem, the prevalence, and the trending we can do a better job of identifying at-risk work environments and potential associations with other indoor air quality problems and then design and implement preventive interventions.

This is a collaborative kind of process. MORA's currently promoting research on occupational asthma through collaboration with the American Lung Association of Maine, which incidentally is focusing with NIOSH research help from the respiratory disease section on school buildings as an occupational source, and also the Maine Asthma Council, and the Maine Environmental Public Health Tracking Project. And we feel that this is going to be an excellent model for us to use as we work with our other priority areas.

I think my final message today, one -- I wanted to share with you that I think that a state-level research agenda can be a very cost effective, a very stimulating and exciting kind of enterprise. At the same time it would certainly be helpful to us if we could establish a federal/state program in occupational health research to provide support for state occupational safety and health agendas like MORA, and to link education and research centers regionally with the NIOSH, NORA, and state agendas. So thanks for the opportunity and don't hesitate to come back and see us during the warm months ahead.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 876.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: I just want to thank everybody for the opportunity to speak here today. To give you a little bit of background about myself, my name's Joel Garrett, and I work for a company called Kluber. And for those of you who don't know what we do, we make specialty lubricants for 31 different market segments, which includes food, pharmaceutical processing, the aerospace industry, as well as the automotive industry. And I'm responsible for all the day-to-day operations, which includes things like customer service, production, a laboratory, quality, facilities, on and on.

With all these responsibilities, the one that's most important to me is the health and safety of our employees. And to protect the health and safety of our employees, we must continually improve our approach toward EHS, and therefore we're always looking for best practices.

Particularly, we've done some work with behavior-based safety. Prior to starting the program, we did some background work to see if this would be effective. And the challenge here was that most of the information that we were getting with this BBS was that it was coming with a sales pitch. It was really information that was associated with a product or a service, and therefore what I'd like to see is more research on safety systems, particularly behavioral-based safety from NIOSH funded researchers with an objective approach. And this would really give the business community the opportunity to evaluate the pros and cons of different types of systems without the sales pitch. And I wish you all the best of luck, and that's all I have.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 877.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Violence

Approaches

Engineering and administrative control/banding
Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good afternoon, everyone. The topic is workplace violence prevention, and I'm reading this for my nursing colleague Susan Vickory. I have been a registered nurse in an urban Veterans' Administration Medical Center for 24 years. One of the most effective tools now being used to decrease workplace violence is the prosecution of the individuals who assault.

Too often a blame-the-victim mentality and an embarrassed staff ignore the violent behavior that would be unacceptable in the community. Inside the hospital this disruptive, abusive behavior was tolerated because the individual may have a mental illness or under the influence of substances. In other words, quote, they were not responsible, unquote. It has been my experience that if violent behavior does not have consequences that behavior will escalate over time.

When prosecution becomes the usual response, it will have a deterrent effect. It can be beneficial to those who assault to be held accountable. Filing criminal charges sends a strong message to staff and to patients that the laws apply inside the hospital.

Most people know right from wrong. Some patients and clients are able to take out their anger on staff because there are no consequences, because they can with no fear of retribution.

It takes courage to face what others choose to avoid. I would like to see violence prevention programs include prosecution of perpetrators in their programs. I would like to see administrators, police, court officers, and other nursing staffs encourage the filing of criminal charges for those who threaten, abuse, and assault healthcare workers. Violence in healthcare should never be considered part of the job. Thank you for this opportunity.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 878.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: My name's Paul Morse and I'm the project director for the New England Consortium, which I'll talk about a little bit more in a second. But I have to say that spending the entire day here has been a real privilege, and I want to thank NIOSH for the opportunity to be with so many inspiring people doing so much important work in our region, and I'm glad that you got to come and see it all and hear about it.

What I want to comment principally on today is to recommend that NIOSH conduct additional research into issues of effectiveness of worker health and safety training programs. Not only is it imperative and important to review the effectiveness of training, but critical to closely evaluate outcomes derived from different approaches to training.

The New England Consortium, TNEC, based here at the University of Massachusetts Lowell, is a unique regional partnership for the university and five grass-roots coalitions for occupational safety and health. The Consortium is committed to ongoing and dynamic training that regularly readjusts to reflect the ever-changing realities of workplace change and the risks associated with it.

TNEC is part of the National Institute of Environmental Health Sciences Worker Education Training Program, an extensive national network of nonprofit organizations, universities, and labor unions that are committed to protecting workers and their communities by delivering high quality safety and health training to hazardous waste workers and emergency responders.

Since 1987, the WETP has provided nearly 60,000 classroom and hands-on trainings to over one million workers in order that they are better prepared to safely and effectively respond to this nation's hazardous material incidents and hazardous waste operations. These workers are engaged every day in

handling hazardous materials, transporting them, cleaning up waste sites, restoring brown field properties, and responding to emergencies.

There are three critical issues, I think, that are related to health and safety training for workers in highly hazardous occupations that need to be addressed. While these training programs that are based -- The WTEP kinds of programs and many that you've heard about today are based on principles of popular and adult education methodology. And while they have been extremely successful in ongoing workplace controls -- improving workplace controls and conditions and in reaching a diverse worker population, it's clear that the vast majority of people working in hazardous occupations receive limited, inadequate, or no training at all; point number one.

Point number two is that workers in the response, rescue, recovery, remediation, and medical care communities are now expected to handle consequences emerging from more severe environmental disasters, industrial accidents, potential acts of terrorism, and the growing threat of pandemic disease outbreaks.

And point number three, until we are able to reverse the current climate of reduced regulation and enforcement of environmental and occupational standards, workers who lack strong unions or effective labor management structures must take health and safety protection into their own hands. What I want to say to point three, and the optimistic point, is we are going to reverse the current climate of reduced regulation and enforcement in this country. And I think it's the work of a lot of people here that is going to bring that about.

Our current experience is that reduced numbers of workers are making ever-greater sacrifices for the public good and the public protection. Often they must face these challenges with reduced resources and funding support. As we have seen from the tragedies of 9/11 and the Gulf Coast, these workers have done heroic service and far too many of them died and suffered greater injustices and illnesses than might have been necessary -- might otherwise have been necessary.

Similarly, the training arms and allied organizations for these workers have made heroic efforts to serve during these responses and recovery operations. The NIEHS WETP training programs have proved instrumental under adverse conditions to respond to these events. We know, however, that far more must be done to better prepare workers to prevent accidents, and to minimize the consequences and harm from unpreventable disasters.

Every worker injured or made ill on the job, and every life lost, devastates families and the economic well-being of our society. Too often those with the real power -- with the most power I should say -- we have a lot of power ourselves to alter the adverse conditions for workers gamble that tragedies will not happen, or they choose to calculate the trade-offs of inaction against the cost of prevention and institution of stronger systems of safety.

Under Section 21 of the Occupational and Safety Health Act, NIOSH shall provide for the establishment and supervision of programs for the education and training of employers, employees in the recognition, avoidance, and prevention of unsafe and unhealthful working conditions in employment covered by this Act.

NIOSH has been and continues to be a vital agency conducting important research that addresses the impact of work practices on the public health. Successful outcomes of effective training result in recognition, avoidance, and prevention. The difference between lesser and greater trending

effectiveness is a factor of having strong training infrastructure and training design that ensures that crucial information is understood and retained, and that workers can use it to transform workplace operations and design to prevent unsafe and unhealthful conditions.

Each year, in our annual report to the National Institute of Environmental Health Sciences, we are able to share numerous anecdotal information and examples that workers are bringing training lessons learned back to their workplaces. We know that the participatory design of our training and our program, and the investment we make each year in updating and developing new curriculum supports these outcomes.

It's a training model that empowers workers to take action and reflect on the outcomes of that action. I think a final point I want to make is that the programs that we work with also help promulgate the minimum criteria, Appendix E of the OSHA HAZWOPER Act, and it's continually worked on that minimum guidance criteria to make it apply to ever-changing situations in the workplace.

So again, I just want to really highlight that this is an aspect that I think is worth a lot more time and research. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 879.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: My name's Dan DeMille. I work for the Department of Industrial Accidents, more specifically the Office of Safety. I'm coming from a little bit of a different angle for you guys today, in that the Office of Safety can be a resource for you people for funding for injuries, safety training funding for injuries that you already have within your specific organizations, in that we have a grant program that gives out \$800,000 a year in training money. It's capped at \$25,000 per organization. Since our inception, we've given money to over 650 organizations and trained over 200,000 employees.

So I'll just kind of give you an overview of the grant program. Basically, to be eligible for it you need to have Massachusetts workers' comp coverage and be in compliance with it. We've given training money to all kinds of organizations, labor, union, non-union, healthcare, government, private and public, it doesn't really matter.

Any topic can be used for the funding that would somehow improve safety in your workplace, you know, talked about needle-sticks and whatnot with nursing today, you know, something like that. Fall protection; we will give a lot of OSHA funding, so anything like that.

The process starts in October when we release our letter letting you know that the application's available. It's usually due back in March of the following year. And then approval usually takes place in April or May, and then the training would have to take place within our fiscal year, which starts July 1st and ends June 30th or June 31st of the next year.

The application process itself, basically it's a five-page narrative. You would describe the need for your training, you know, describe the injury, what type of training, how many people you're planning to train, where it's taking place, things of that nature. And then, we would need a budget explanation in that you'd want to describe where all your dollars are going to be spent and then just a summary of that, and

some required forms that come with it because it's the state and nothing can be done on an easy basis, of course.

That's basically about it. I've got pamphlets out back, if anybody is interested. It's got our contact information and where -- We'd be happy to help you guys out with problems that you guys already have established. Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 880.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: (Through interpreter) The reason why I'm here today is because my testimony hopefully will bring up awareness to you and to many who work with people like me. I had a work experience in my workplace. I got injured at my workplace. I fell, and as a result they took me with an ambulance to the hospital. When my employer find out about my accident that I report to him, he pretend that he did not understand what I was saying or what I was telling him about, you know, my injury. He did not support me at all. I did not know where to go for support or to look for help.

I talked to my friends, I talked to my coworkers, I asked for information about where I should go for help. That's when I find out about myself, Isabel Lopez, that they can help me. I found the support so they can recommend me how to get workers' comp through a lawyer, so they could give me workers' comp, so I can be having all the doctors to see me and the medical treatment that I needed for my arm.

The doctor sent me to the therapy. My doctor had prescribed me -- had given me a letter saying that I need to do light duty. They did not follow my doctor's advice. The doctor that I was seeing, I never saw him again -- the doctor that gave me that letter. He was the one who wrote me the letter saying that I either, you know, do light duties; that I couldn't lift the heavy lifting that I was doing before.

I just had a surgery -- from her right arm (indicating), she's lifting her right arm. And now the insurance company just suspended the payment for my therapy, so imagine what it is.

I have never felt supported by either the company, nor, you know, anybody. There is no support at all for immigrant workers. They treat us very inhumane in different ways.

I hope that my testimony help you understand what we have to go through. And hopefully we will find some support in some of you here today.

Imagine the ways and what I've been through; there are so many different people that are going through the same things that I'm going through. There are so many people out there that are going through this same situation. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 881.01

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Work-site implementation/demonstration

Authoritative recommendation

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hi. Thank you for the opportunity -- for giving me the opportunity to be here today. First of all, I want emphasize on Gladys' testimonies. Her testimony is one of the typical testimonies that I hear every day in MassCOSH. And our hotline, when workers call that -- Yeah, I was injured on my job and my employer told me that, you know, you don't report it because I'm going to send Immigration to your home or it was your fault.

I don't know how you say this, mamita, it's like you're not being a man doing the construction work. So you just crying over nothing; and that's what we hear from workers when they come to MassCOSH.

And Gladys' testimony is one, like I say, one of the typical testimonies that we hear at MassCOSH every day, not only from as a worker in MassCOSH, as a labor community coordinator at MassCOSH, but also my personal experience I have. My brother and my sister who worked through the temp agencies every day, and you see -- And I see that the issues that our workers are going through, not knowing the language, not knowing what are the rights.

And being the most vulnerable to the dangers, doing the dangerous job is a very big issue that you all need to know.

Injuries and fatalities are dramatically increasing among them. And we hoping that, you know, by listen to Gladys, our workers are not getting the benefits for workers' comp, for example, because they don't know where to go. They don't know what to do because they get intimidated on the work.

And people like Gladys are, you know -- If she didn't come to MassCOSH she will be one of the workers who are not reported because she reported, but the employer did not do anything to help her. In fact, the doctor wrote her the letter and two days later, you know, after the doctor wrote the letter saying that she had to go for light duties, Gladys went back to her workplace. And because she could not lift those 15 and 25 pounds of heavy lifting, she was fired. She was fired.

And, you know, we need to -- We need to do something about this. We need to have better ways how to implement the health and safety for workers, letting them to know what are the rights, what are the equipments that they need, where to go. We're hoping that you all here today are going to put your resources to get to know -- We know that, you know, the immigrant workers are the most vulnerable, but we need to know why it's happening and what do we need to do about it. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 882.01

Categorized with the following terms:

Sectors

- Construction
- Healthcare and Social Assistance Services
- Wholesale and Retail Trade
- Unspecified

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Mortality

Exposures

- Chemicals/liquids/particles/vapors
- Violence

Approaches

- Surveillance
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Marketing/dissemination
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good afternoon to all. My name is Fausto da Rocha. I am direct from Brazilian Immigrant Center. A large number for Brazilians immigrated to Massachusetts after the 1990`s to work in residential construction, house cleaning, nursing homes, restaurants, and several other service-sector jobs. As the number for the Brazilians grew in Massachusetts, so did the number of cases of abuse and violation of labor laws.

The Brazilian Immigrant Center is an eleven-year-old community-based organization that was created to support and empower Brazilian immigrant workers in the Greater Boston Area around issues of workplace and immigration rights. The Brazilian Immigrant Center has become a place where Brazilians can meet, search for advice, and organize themselves to fight for their rights. The BIC mission is to unite Brazilian immigrants to organize against economic, social, and political marginalization in the United States.

Many Brazilian and American researchers interested in social, cultural, educational, and economic issues faced by Brazilian immigrants in Massachusetts and United States have contacted the center over the years. The center helped them with information about Brazilian immigration, key informant contacts, and access to the Brazilian workers.

Unfortunately, in most cases the end products of their research did not reach community leaders, and little information was disseminated to the community. The community was studied, but did not get much back from them.

In 2002, a few Brazilian researchers from the University of Massachusetts Lowell, proposed to me that the BIC collaborate on a community-based environmental research projects focusing on the hazards faced by Brazilian immigrant workers in house cleaning, construction, and food and restaurant service. Workers in these industries are often invisible and ignored, although they are a large segment of the workforce exposed to hazardous conditions for low wages and with limited access to healthcare.

We welcomed the opportunity to build a partnership with the Brazilian researchers who understood the health and safety problems faced by Brazilian immigrant workers. The project name is Collaboration for Better Work Environment for Brazilians, COBWEB, in Massachusetts, funded by National Institute of Environmental Health Sciences, NIEHS. From the beginning, we agreed that the community would be the center of the research efforts, not the researchers. I am happy to say that over the last three years this commitment became a reality. Let me highlight to you why this is true.

Project COBWEB has had a weekly radio program on the university radio station, WUML, for over two years now. The project also has a weekly column in the Brazilian newspaper called A Noticia, for over six months now, after ten months of columns in another Brazilian newspaper. Project COBWEB hired Brazilians to collect the health and safety survey data on Brazilian immigrant workers in places and times that are only accessible to the people who really have a deep commitment to Brazilian immigrants. It is not easy to survey people who are quite often afraid to talk to strangers, have fear of being deported, or are too busy working many hours to earn enough money to help them build a new life here in the U.S. and support their families in Brazil. Yet, we have had great success to getting Brazilians to respond to the survey, despite the perceived threat of signing an informed consent form.

Over 200 house cleaners have been training in churches to understand the hazards of chemicals they use to clean kitchens and bathrooms. After the training, it became clear to us that eliminating their workplace exposures in homes in Massachusetts residents -- we needed to eliminate or reduce the usage of hazardous chemicals.

We were fortunate to establish good linkage with Dr. David Gute, from Tufts University -- he's in the back -- who proposed to partner with the Brazilian Women's Group, another Brazilian community-based organization to create a green house-cleaner cooperative in Somerville. We hope that the project, funded by NIOSH, will allow us to contribute to the creating of health and sustainable jobs for Brazilian house cleaners in Massachusetts.

Project COBWEB was collaborated with OSHA in the investigation of fatalities for Brazilian workers in Massachusetts in the last three years. The BIC has learned the details of legal and bureaucratic process involved in those investigations. We now talk to OSHA inspectors and administrators quite often and will soon develop an alliance with OSHA. We are trying to make every death of a Brazilian worker a learning opportunity for the community.

Brazilian teenagers trained by the project COBWEB and the Massachusetts Coalition of Occupational Safety and Health, MASSCOSH, another partner in our project, have actually developed and implemented a campaign against violence in retail workplaces after the murder of the Brazilian teenager in Boston, 2004. The peer-teens surveyed other teens that work in retail and found out that most of their employers do not provide adequate training on what to do in case of shoplifting, nor do they have policies in place to prevent shoplifting.

All these examples, amongst many others that I could mention, show that community-based participatory research is a valuable approach to build partnerships between research institutions and community groups to identify the right questions and translate research findings into meaningful action. Only through such partnerships can communities get their fair share of the research effort, which includes financial resources, worker and community education, and feasible solutions to the problems measured and discovered.

It seems to me that BIC has learned a whole lot by participating in this project. We have learned how to include health and safety issues in our agenda because we now clearly understand that the same worker who is abused by not being paid overtime or even his/her salary is also exposed to hazardous substances and machinery, usually without health and safety training.

Since NIOSH is the major government agency that funds occupational safety and health research, I think that it should fund the research that studies how communities should or could be involved in what Dr. Sequeira, the Principle Investigator of Project COBWEB, calls community-based surveillance of workplace fatalities and injuries. NIOSH should also fund the research that assesses the effectiveness of non-traditional methods of worker education through mass media, as Project COBWEB has been successful doing. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 883.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Surveillance

Training

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good afternoon. My name is Franklin Dalembert, and I'm the director of the Haitian Coalition. Today, I represent a larger collaboration between the Haitian Coalition and I'm going to name them -- this is the collaboration that is lead by Tufts University. And Professor David Gute is the lead investigator, he's here among us, and we have MASSCOSH, Marcy is the link between us and MASSCOSH, the Immigrant Service Provider, an organization that serves or coordinates immigrant activity in Somerville, and Kim of Alliance, which is our health partner in the collaboration, the Brazilian Woman Group, the Community Action Agency of Somerville.

Somerville, basically for those of you that know is a rainbow city. It is a very diverse city, comprised of immigrants from Brazil mostly, from the Latino, and then from Haitian. So 30 percent of the Somerville population is immigrant.

As you know, immigrants play a vital role in this country's economy and this contribution does not often appreciated and recognized. Talking from Haitian perspective, when I came here, the work that I've been doing and the work that I've done, what I went through, it was an ordeal.

We know many immigrants living here and working here do not know their rights. They do not know where to go. There is some sort of a lack of information. Immigrants in this country, most of the time are misunderstood, unappreciated.

This program is aimed to educate immigrants and also to create awareness about issues that immigrants are facing in the workplace. This program chooses to walk with the young people because we understand that young people represent the future of our society, the future of our country. We have so many of the young people that are working, we train them, we prepare them to go out and work with the community, and then many of them are bicultural/bilingual, and then they are very well connected to the community.

We really appreciate the work that they've been doing. This project also allows us to create collaboration to develop capacity building and also to research problem that exists in our community because the problem that exists, most of the time we do not recall them because of many issues that are facing the immigrant community, one of which is the immigration issues.

Many immigrants have fears. They have fears to report work-related incidents because again of fear of retaliation they're afraid to lose their job. Most of the time they have to make a choice between bringing food to the table, paying their rent, or report an incident, although they are sick, although they are hurt. Therefore, we have a lot of work-related incidents that are unreported.

With this collaboration, what will happen because of so many of the young people are coming from the community, it's easy for them to establish the choice that they have in the community. So we are really, really pleased with that collaboration.

We started in August; already the word's been spreading out in the community. We have so many young people that are committed to this project. I am going to give them the time to speak from their heart, to tell you what they've been doing. Thank you very much for listening to me.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 884.01

Categorized with the following terms:

Sectors

- Wholesale and Retail Trade
- Unspecified

Population

- Youth
- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Traumatic injuries
- Mortality

Exposures

- Work organization/stress
- Violence

Approaches

- Surveillance
- Training
- Work-site implementation/demonstration
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hi, my name is Roberta Mauro. I'm 14 years old. I'm a student at Somer's Edison Middle School in Brighton. I'm a COBWEB peer leader at the Brazilian Immigrant Center.

I have been part of this program since January of this year. This program began with the tragic death of Cristian Ribeiro, a Brazilian student at Boston Latin Academy, a loving son, and a good friend. He was murdered in 2004 after chasing a shoplifter who had stolen toothpaste at a CVS store located in the heart of the Longwood Medical area in Boston. He chased the shoplifter because he had no training in how to deal with this type of situation. If he did, maybe this incident would have never occurred.

In my work at the Brazilian Immigrant Center, we are learning about safety and health in the workplace. Many young people are hurt on the job, some are even killed. How can we keep this from happening? It's not so simple, and that's why we want to educate other teenagers on their rights for protection against sexual harassment, stress, and violence at work.

We have joined with the MassCOSH teens to re-launch the workplace violence campaign. This campaign is basically about getting support from the community, and most importantly retail store owners to give their employees, especially teenagers, proper training.

The teens at MassCOSH and COBWEB wanted to have a better understanding of what really happens in the workplace in our community. They went to about 50 stores and collected 70 surveys from the teen employees, young supervisors, and store managers. Questions asked in the survey focused on health and safety training and how to deal with robbers, experience with robbers, and the existence of health and safety policies at work. Twenty-one percent of the survey respondents answered that they would not chase a shoplifter, while 54 percent said they would. Thirty percent of the respondents had experienced shoplifting in the workplace, 62 percent responded that they were not aware of the existence of health and safety policies in the workplace.

This evidence proved that most working teens have no idea of how to deal with any type of emergencies at work. To learn what really works in protecting young people on the job, we need more research that brings the youth themselves working together with people who know about workplace health and safety. This is why we need and appreciate NIOSH's financial support in helping programs to make serious research that can make a difference in helping working teenagers. Thanks for your support.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 885.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Work organization/stress

Violence

Approaches

Training

Work-site implementation/demonstration

Authoritative recommendation

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hi, my name is Renan Pinto. I'm 15 years old, and I'm a student at East Boston High School. I'm a COBWEB peer leader in the Brazilian Immigrant Center, and I've been working with the COBWEB project since late October.

We have been trying to promote laws that would protect teenage workers, and we've been working with the teenagers as MassCOSH in Dorchester since January 2006. Together, we have been trying to get more people to support our campaign to raise awareness about safety and health in the workplace.

Three weeks ago we presented three different skits on sexual assaults, stress, and armed robberies. We developed those skits to make people more aware of what teenagers can go through in their workplace, if they're not properly trained. I, myself, have learned a lot about safety and health, and want teenagers all over the U.S. to know that they have rights to protect them, if ever a situation similar to these happened to them.

Many young people are hurt on the job, some are even killed. This is a very important issue and should be taken very seriously. Yes, there is violence in our world, and we know that there is no chance of being totally safe in the workplace, but we can decrease the number of injuries or deaths in the

workplace by making sure our employers train our employees on how to deal with these types of situations.

I also think it's important to educate our community about these laws because many immigrants don't know their rights and bad things do happen. For example, a Brazilian immigrant teenager, Cristian Ribeiro, died in 2004 in Boston as a result of lack of training. A shoplifter came in CVS and stole toothpaste. Cristian, who was oblivious to the situation and had no training on shoplifting, thought that it was the right thing to do to run after the criminal, not knowing if the shoplifter was armed or dangerous. That was the worst mistake he ever made in his life; it resulted in his death. He got stabbed in the neck, while his supervisor got stabbed in the stomach. While his supervisor survived, Cristian unfortunately was not that lucky.

Bad things happen every day, and MassCOSH and COBWEB united are trying to educate teens in our community so that teens would not have to face what Cristian did.

As you can see, we need to make a change. Too many teens are getting hurt or violated in their workplace. We hear about it a lot, but at the end, not a lot of things are done about it. We usually don't do anything about it until something happens to someone close to us. We should not allow that to happen; teens should feel safe and protected in their workplace. They need to know that they have laws that protect them. Most important, all teen employees should be trained on how to deal with theft situations.

To make all of these things possible, we not only need community support, but also financial support. We are very grateful for NIOSH's support in community-based participatory research that allows teenagers to become leaders in health and safety in the Brazilian community. With the help of our community and NIOSH, we are making sure our knowledge about rights and safety working are spread to the teens. Thank you for all of those who helped.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 886.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Violence

Approaches

Training

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hi, my name is Raquel Lamons. I'm 16 and attend Charlestown High School. I am a senior peer leader at MassCOSH Teens Lead at Work Peer Leadership Program. I decided to work at MassCOSH because I was interested in learning about occupational health and safety pertaining to teens.

In the past, I always heard about other teen organizations working on common issues, and I felt that Teens Lead at Work was the only youth organization that worked on unique topics. I have been working here for three years. We are currently working on strengthening child labor laws, education and outreach, and community organization through the Dorchester Occupational Health Initiative.

A little over two years ago on February 16th, 2003, a teen named Cristian Giambone, who worked as a store clerk at a popular retail store, was fatally stabbed while chasing a shoplifter. He was not trained on how to approach a shoplifter or how to handle a dangerous situation. What would you do in this situation?

Well, I know what the MassCOSH teens did, we collaborated with Cristian's mother, Taciana Sabb, and the Brazilian Teens peer leaders to form the Workplace Violence Campaign in which we are trying to

implement a policy that will make sure all employees, especially teens, are adequately trained in workplace violence situations.

Teens are most vulnerable than adults and are injured at a twice the rate of adults. The reason for this being is teens are intimidated by older supervisors who usually ask teens to perform dangerous tasks and often forced to stay late.

Teens need to work to help their families and for personal needs. Jobs are good for teens because it helps build character and teaches them responsibility. This is why teens need to work, but how can they work in unsafe conditions? For this reason, we need to protect teens in their workplace.

Situations like Cristian's happen a lot. Just a couple of weeks ago there were several violent occurrences in which retail clerks were seriously injured. I think research should be geared towards teens because we could get the word out about health and safety quickly by organizing and researching out into the community.

We teens have fun and vibrant ways of spreading information and can recruit others to join us in our fight for workplace violence and health -- I mean, workplace health and safety. I believe that with the right research we can receive the appropriate funding and build stronger communities with teen activists.

We also need more research to make sure all teen occupational topics are properly studied. This will help the doors open to organizations like ours, MassCOSH Teens Lead at Work Peer Leadership Program. This will give other communities a chance to implement a similar teen occupational health and safety program in our neighborhoods.

Because of the work we are doing, other teen employees won't have to get injured or killed. Hopefully, everyone in this room is listening, because I'm really speaking through my heart. If you're down with me, then you're trying to help the teens. So thank you for listening, and please have a great evening.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 887.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Training

Work-site implementation/demonstration

Capacity building

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Like you said, my name's Carla Bourgos, I come from Somerville. I attend Somerville High School. I'm currently a ninth grader. I work as a peer leader in Community Action Agency of Somerville. We also involved with other youth programs, one being the Haitian Coalition.

We are so happy we can be a part of this project as a bilingual teen educator. Well, this program is a very productive thing because we are learning skills, teaching other members about occupation health risks and how to avoid injuries, and also where to go if they get injured.

This program is very good because we have had the opportunity to go see where immigrants work and the environment they work in. All this training we are getting is giving us knowledge that we can teach and use for ourselves in the future. Thank you for the opportunity to speak.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 888.01

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Hi, my name is Ricardo Bonhomme. I'm a freshman at Somerville High School. I work for the Haitian Peer Leader Program in Somerville to educate Haitian and Latino youth on safety and health hazards.

The reason why I'm doing this project is because I want to reach out as a bilingual student to represent many other Haitian community members who might not know about occupational health hazards. They also might not trust people who don't speak Creole, or who come from Haitian culture.

For all these reasons, having research into immigrant occupational health problems is important. And we thank you for your support and contribution for future years to come. Thank you again.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 889.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Hazard identification

Etiological research

Risk assessment methods

Engineering and administrative control/banding

Economics

International interaction

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Thank you. I just about lost my voice for the day, so I'll be brief. I come here representing myself, but I have been involved in the telecommunications equipment manufacturing industry for more than a dozen years. I don't represent the specific views of my employer, Lucent Technologies, but I think I have a fairly good perspective on the few things I'd like to mention.

I have certainly seen a lot of changes in that industry, most notably, recently things associated with outsourcing and that whole business. So my focus or the particular focus that I think would be of benefit would be to make sure that we maintain the good ability to have surveillance for introduction of new toxic materials throughout supply chains, and to be able to develop accurate means of assessing hazards and controlling those hazards. And then to develop, I guess, what you could call a global supply chain to epidemiology to look at the effects of spreading industries across many places and many different parts of the world, where there are different levels of capability for assessing the risks that might be involved with introducing new technologies and new materials. And to be able to incorporate those findings into economic models that would influence decision making on how supply chain sourcing is done. That's about all I have to say. Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 895.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Risk assessment methods

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: I want to thank everyone for being here this morning. I want to thank you all for giving me the opportunity to speak. My name is Kristen Borre and I have several roles and identities, but this morning I want to speak as the director of the Growing Up Fit Program at East Carolina University, and as an associate clinical professor in the Department of Pediatrics at Brody School of Medicine. I also want to speak from being involved with the North Carolina Agromedicine Institute for over ten years, helping form it, and working with partnerships to identify problems with our board of collaborators that we have sought funding for. And many of those problems we have been able to address through partnerships and we had some successes. I'm not going to talk about those successes this morning. What I'd like to do is talk about key issues that I think we need to pay attention to over the next ten years, and then give some suggestions about how we might address those.

First of all, I think it's very important that we continue to support basic research in agriculture, forestry, and fisheries. Basic research gives us -- there are several areas of basic research that are on the horizon, and because they're on the horizon, we need to follow up with those things. In particular, I want to mention chemical toxicities studies, pesticides and specialty biomarkers; a number of very interesting and important findings that are coming out of the agricultural health study that's being funded by NIH. We need to follow up with them as a partner and support their efforts.

Environmental health exposure, exposure to natural elements, exposure to man-made problems put in the environment as a result of our work efforts in agriculture are very important to follow up on. There's new exciting methods out there that need to be funded and looked at very carefully, especially

when they are cross-disciplinary in their approaches using both quantitative and qualitative kinds of studies and community-based studies as well as laboratory studies.

Comment ID: 895.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Work-site implementation/demonstration

Economics

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Finally, one of the most important issues that we've been struggling with in the last five years is the problems of stress in agricultural workers. Stress related to economic uncertainty, to communities that are disintegrating, to breakdowns of family systems as children become educated and move away. Parents sometimes don't want their kids to stay on the farm as life is just too hard, it's too uncertain. We have to take a community-based approach to look at that problem.

Comment ID: 895.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

I think it's very important that we do translational research, and the research-to-practice model endorsed by CDC, and NIOSH, and NORA is clearly the way to go because there's been too many studies done that are excellent studies, but they're sitting on the shelf somewhere. We need to get them off the shelf, get the information out there, and figure out how to make a difference in the lives of our agricultural workers in their everyday life. That's the only way to build trust with our agricultural workers. When you go to do a study sometimes they sit there and they look at you and they say all right, I understand, farmers are smart, fishermen are smart, foresters are smart, they understand. But their big question is what's the benefit going to be to me and you'd better be ready to tell them if you want them to work with you in partnership. You have to hit the road running with them. You have to be where they are. Sometimes our basic researchers are too far removed and don't understand that. That's why it's very important that they partner with people from public health, from agricultural extension, and in the social sciences. They also need to partner with local groups, faith-based groups, NGOs. They need to find who is in the community. They need to partner with local businesses. Partnerships can be built in many different directions because those people all are there to care about their community. If you go there and talk to them and be patient with them, meet them on their schedule, they'll give you some good information and work with you.

Comment ID: 895.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Disability

Health outcomes; diseases/injuries

Cardiovascular disease

Traumatic injuries

Mortality

Exposures

Cardiovascular disease

Motor vehicles

Work-life issues

Approaches

Work-site implementation/demonstration

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Finally, I think it's very important that we address some things that are on the horizon. One of the past speakers mentioned several of these things. Agricultural workers are more likely to die of heart disease, diabetes-related illnesses, and obesity than they are to die of a tractor turnover. Tractor turnover, though, should be prevented. There shouldn't be any tractor turnovers, but we've got to figure out how to prevent the tractor turnovers in the community from happening and get farmers to use the devices. But getting back to cardiovascular disease, diabetes, and obesity, those problems are real. They're prevalent. They cause disability. That disability will lead to disability in the workplace. When a fisherman is injured, it is very hard for him to heal if he has diabetes. When a farm worker has diabetes and becomes injured, he's sometimes laid off and can't work to support his family. And most recently in a study I interviewed a 24-year-old mother of two who's a farm worker who injured her back working in sweet potatoes. She was out of work for 18 months until she lost 80 pounds so she could recover and go back to work.

We have to pay attention to the issues of aging in rural communities. We have to pay attention to the disability. The average age of farmers in North Carolina right now is 55. We have to look at their issues with access to care, and we have to look at issues with health insurance. These problems are big. These

problems are broad-based. These problems, though, are synergistic. And if we don't bring together the different people who can address those issues with our farmers, we're not going to have farmers in the future. So we need to do this and we need to do this in a way that's meaningful for those farmers.

Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 896.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Cancer

Cardiovascular disease

Exposures

Chemicals/liquids/particles/vapors

Cardiovascular disease

Approaches

Etiological research

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: Good morning. Thank you for giving me an opportunity to share a few of my research findings and for being on the same horizon as the rest of the speakers are. My name is Avinash Tope and I'm from Kentucky State University. I'm a researcher there and I'm a part of the land-grant program. I'm here to share a few findings from my recently concluded USDS-supported project on the evaluation of genetic toxicity to farm workers exposed to pesticides. We have had a little bit of success, though we thought we could do a whole lot better. We had some genuinely constraining situations to -- that presented a challenge on recruitment of the needed number of people.

In our recently concluded project we had recruited about 30 predominately African-American farmers and we wanted to check the long-term low-level chronic exposure problems and impact of this exposure on whether or not they become predisposed to DNA damage. We happened to study them for two years. We happened to sample their blood and urine nine times a year, six times in the growing phase and three times in the non-growing phase of their agricultural cycle. We had about 18 samples overall per person. And we monitored changes such as chromosomal damage, formation of DNA adduct, which is considered to be a very significant cause behind cancers, and it was a fundamental research. And we tried to run the statistics and we figured out there was a particular biomarker that was a spiked in the DNA adduct and the chromosomal damage. And it was an awaking call. We were trying to, again, as suggested by Dr. Borre, we tried to have this information sent out to the stakeholders, the farmers that were part of the study per se, and we have tried to reach out to the community as such through some of the programs at Kentucky State University. We have farmers from the local counties who visit us every

Thursday for our special-interest programs, which cover a wide range of topics that are relevant to day-to-day lives. These usually send a message for the farmers and we are trying to send this message that there is an event of greater risks of genetic toxicity to them and ways to overcome.

Some of the suggestions that we have offered were to make it necessary to use protective wearing while they're working in farms because usually we have also observed summertime these folks do not tend to use clothing because of heat and humidity. We also emphasize the fact that it's very important that they read the instructions offered on the pesticide bottles and use the needed safety measures to help them from getting unduly exposed.

We would be interested to see more of an effort being put into this direction of fundamental research on pesticide and agricultural health. Again, African-American populations seem to be slightly higher and more predisposed to diseases such as hypertension, and cardiovascular diseases, and diabetes. We would like to see addressed that funding from CDC and NIOSH that will address some of those issues and we get to see something more meaningful reaching out to the needed clientele. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 897.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Reproductive

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Engineering and administrative control/banding

Training

Intervention effectiveness research

Work-site implementation/demonstration

Marketing/dissemination

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: Good morning. Thank you so much for letting me come. You will quickly know from the things that I have to say that I'm not the researcher in the room. So I hope that you will bear with me. I am from East Coast Migrant Head Start Project in North Carolina. And my job is to oversee the health disability needs of migrant farm worker's children in eastern North Carolina who are ages six weeks to compulsory school age in the summer while their parents are in the fields.

In addition to that I serve on the North Carolina Farm Worker Program Board. And so I have worked very hard to do a lot of things that you're talking about, about building collaborations. Because when I first came to Migrant Head Start I really felt like I had been put on Pluto, not even Mars, but Pluto because we were so separate from the rest of the world. In coming up through a very strong system in North Carolina for birth-to-five services, I was totally lost and wondered how I could be in my home state that I had known for so long and feel so isolated.

So I've come to you to tell you some stories and to suggest to you some problems that I hope that you all who are the researchers can help figure out how we can come up with solutions and indeed put them into practice.

Recently, I had a meeting where someone said that the numbers, the statistics are people with the tears wiped away. And so I want to encourage you to remember that as you're setting your agenda. We've also heard it said many times that a picture is worth a thousand words, and so I hope you'll bear with me when I show you this picture because I think just the opposite. When I saw this picture, I was speechless. And as I tried so hard to put my comments in writing today, I could not make the words flow from my brain and my heart to my fingertips, even though I have a very strong background in developmental disabilities. This migrant farm worker baby is one of three children who were born last year to migrant farm worker mothers. These mothers all worked for a very large produce grower that raises tomatoes, those little grape tomatoes you like in your salad. They work for this producer in both Florida and North Carolina. These mothers were young and they came with the anticipation of hard work, and they didn't mind doing what needed to be done in the fields every day, even though they were pregnant with their children to feed you and I at the very minimal amount of money that they receive. There's no way to say what caused the birth defects of this young man. There's no way to say what caused the birth defects of the child who died. There's no way to say what caused the birth defects of the other child who lived in the camp. There's no way to say 100 percent what happened to the other children who were miscarried or born prematurely.

We don't know how many children there are. It's very difficult to establish causality. Why? Because we don't have surveillance data. This is an invisible population. In North Carolina, we take our statistics for our 10,000 H2A single-men workers and that's where the attention goes. No one knows about the other 90,000 farm workers, many of whom are women are children. And we went to the health departments and we asked them what do you know about this? What do you know about prenatal care? What do you know about pesticide education? One of them even had a pesticides are dangerous sign outside on the mound in front of their health department. They knew nothing about pesticides. They knew nothing about pesticide education. And they knew very little about prenatal education for women of childbearing age.

And so I want to tell you why my passion is today to speak to you about migrant farm workers. In a couple of months my son is going to marry, and he's going to marry a young woman who is a grower, a farm worker, in North Carolina. And she did not know about why it was so important that she took her precautions. She had heard it, she had been schooled on it, but she didn't do it.

So I can just tell you that while we focus today on our migrant farm workers that there are many women of childbearing age who are also regular everyday farm women that we need to make sure are being educated and taken care of. So thank you so much.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 898.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Work-site implementation/demonstration

Marketing/dissemination

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: Thank y'all for letting me come today. My name is Sam Wiggins. I'm county extension coordinator in Pickens County, Alabama. I have with me today Dr. Ray Rice, who is my supervisor out of Auburn University. The Alabama Cooperative Extension System is made of the land-grant universities in Alabama, which is Auburn University, Alabama A&M, and then in partnership with Tuskegee University. Today, I'm going to talk about the Alabama Agromedicine Program, and I kind of title it a full partnership. But I need to give you just a little bit of history of how it's kind of developed.

It's a very informal partnership. Through the vision of Dr. John Wheat at the University of Alabama and his love for rural Alabama, he has developed a Rural Medical Scholars Program, a Rural Health Scholars Program. The Rural Health Scholars Program is for juniors in high school between their senior year to try to get them interested in the health field. The Rural Medical Scholars Program is a program for future rural doctors to get into medical school and then go back and practice in the rural areas of Alabama, hopefully.

As part of the process, farm business was a requirement. And through this linkage we developed some relationships with the farmers throughout Alabama, and especially in my area because we're next to Tuscaloosa. And with this relationship, we expanded into now what is deemed Alabama Agromedicine. And in this, Dr. Leaper had gotten a grant to do a study of farmers. And when he met with the farm group, they were very concerned about who was going to get the information and how it was going to be used. Not that they were wanting to hide anything, but it was a level of distrust of what the federal government might can turn and use against them. So they punted that, but they came back to them and

formed a steering committee. And through this steering committee they reviewed the survey instrument that would be handed out to farmers to gather information on what were the health needs, concerns in the agricultural community. So everything is run through this steering committee, which is made up of agricultural producers, a rural medical doctor, and myself as an extension agent. And we were able to pilot this program in 2003 with our poultry growers in Pickens County, and that night we got 35 or 40 surveys back from the group that were there, and he compiled the initial data. Since that time we've also surveyed the swine growers in west Alabama and got all of them. The plans are now to expand this survey out state-wide to get input from all the different commodity and different segments of Alabama agriculture.

The preliminary early results that came from the survey that addressed the concerns of the farmers was biosecurity and bioterrorism. Then the others were the stress level that they have to face because agriculture has changed so much. I grew up on a farm and about all you worried about was the weather and crop prices. But now we're in such a world economy and there's so many things that happen that there is just an additional stress level to them.

The other concerns were the need for healthcare that's affordable; in other words, the lack of affordable insurance for them. Many of their spouses would work off the farm so that they could provide insurance. Then the other things that came across were the daily things of being in the environment that they're in. Not that the environment is bad, it's just a stressful-type environment that they're exposed to dust and other things like that. And then the concerns of people understanding what they're trying to do, and appreciating them for the value that they bring to the table.

So I encourage you, if you will, just to support research. And what we like about this partnership is that it's a genuine partnership between the land-grant universities in Alabama, the agricultural producers in the Schools of Medicine in the University of Alabama. We're going to take this research and the goal is to develop a textbook for future doctors to use so that they could have practical information to take back to the agricultural segment. Thank y'all very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 899.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

- Hearing loss
- Musculoskeletal disorders

Exposures

Approaches

- Engineering and administrative control/banding
- Training
- Work-site implementation/demonstration
- Capacity building
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: Good morning. I'm Melissa Norman. I'm a native Mississippian, but now I live in Birmingham, Alabama. I am an assistant professor at the University of Alabama in the Environmental Health Sciences Department, and I'm here as a representative for the Deep South Center for Occupational Health and Safety.

The Deep South Center is an education and research center that is funded by NIOSH. It's one of only 16 in the United States. We service Alabama, Mississippi, Georgia, Tennessee, and the Florida panhandle. Some of our programs within the Deep South Center for Occupational Health and Safety include occupational health nurses; nursing, which is with the UAB School of Nursing. We have industrial hygiene, which is in the UAB School of Public Health. We have occupational safety and ergonomics, which is housed at the Auburn University School of Engineering. And we also have a continuing professional education department, which is on the campus of UAB. Our Center's mission is to develop professionals who will work to protect and promote the safety and health of workers throughout the southeast and the United States. By doing this, we're going to conduct research on occupational hazards that are primarily relevant in the industries within the southeast. Our Center's vision is to become a regional center of excellence that promotes occupational health and safety throughout interdisciplinary activities. In some of our interdisciplinary activities, our students go out in groups of five to industry, and we have a representative from occupational health and nursing, health and

hygiene, occupational safety and ergonomics. And they all get together to tackle one specific occupational hazard that the company is concerned about. So we're teaching our students to go out into the industry and take a multidisciplinary approach to whatever the occupational health and safety hazard is so that the practicing industrial hygienist can understand what an occupational physician or an occupational health nurse may need to know to adequately diagnose or to help to prevent certain kinds of musculoskeletal disorders, as far as having them do pre-work stretches or teaching them about their work-risk cycles.

Another important aspect of our Center's planning and development is to assess the training and research needs of industries within the southeast. We do this every three years. We have a survey that is sent out to our alumni, which we have over 300 alumni from the University Industrial Hygiene Program. And we also send it out to industry within the southeast in the states that we service, and they give us feedback on the type of training that they need or emerging issues within their industry that they want us to look at to try to come up with some kind of strategy to help them tackle these occupational health and safety issues. And our primary industries in our region include forestry, wood products, papermaking, poultry processing, and automobile manufacturing. That's the new emerging occupational health and safety area that we have now. We have three automobile manufacturing companies in the State of Alabama; the newest one being Hyundai, which is down in Montgomery, Alabama. Right now, our Center is trying to work on a project to help them go in and try to prevent some of those musculoskeletal disorders. We're look at their noise problem. Also, from my understanding, these employees have never worked on an assembly-line type of process, and to try to make them understand that they have to get their rest and you have to rotate from station to station to help to prevent some of the occupational issues that are coming up. So that's a project that we're working on.

Last summer, our Center presented at a NORA-related symposium that was held down at Auburn, Alabama. We had individuals from private industry, federal and state government. We had a representative from the U.S. Congress from the State of Alabama, and a civil rights advocacy group. Some of our topics included special populations at risk, the Hispanic worker, intervention effectiveness, social and economic consequences of workplace illness and injury. Our keynote speaker was Sid. He came down and did our opening remarks for our research symposium last summer. And we had other speakers from the University of Texas Health Center. We had University of Massachusetts Medical School Center for Health Policy and University of Washington School of Public Health. So we tried to get some of the top researchers within the United States to come down and talk to us about their research and how we can take that research into practice. And one of the reoccurring problems that we are facing is that when you do research it is such a controlled environment and how do we take these controlled environments and apply it to an occupational setting where you have so many uncontrollable variables that you have to look at. One of our possible solutions to our actual research going from research to practice is to have researchers go in and use occupational workplaces and use their data or use their work populations to do their research and do their studies so you can account for some of the variables that come up from a controlled environment in the research area and some of the uncontrolled environments that come up when you're dealing with occupational health and safety. And one of the biggest issues is behavior. You may have all of your key elements in place, but if you have improper workplace behavior, all of your safety features are really null and void. So we want to try to

look at behavior aspects of occupational health and safety and try to implement those into research that we do in a controlled environment. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 900.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Disability

Health outcomes; diseases/injuries

Cardiovascular disease

Hearing loss

Exposures

Cardiovascular disease

Approaches

Training

Authoritative recommendation

Capacity building

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: Good morning. James Garner from University of Arkansas at Pine Bluff. I'm the department chair for agriculture and the associate research director there. I'm also a native Mississippian, also a state retiree from Mississippi. I worked at Mississippi State University for 25 years, and retired five years ago and took a job in Arkansas.

I have a little handout to go with my talk. I want to talk about several things, but to get through this in five minutes -- We did a study on developing a rehabilitation service delivery model for minority farmers with disabilities. And that's some of the highlights of that study that I'm handing out to you; if we go through that together.

Just to give some of the high points because you can go through it completely so you can read that on your own. But just on the second page there you can see that we have some demographics of the farmers that we work with. The average age is 53 years old. The schooling average is around 12 years. The household size is 2.7. Farmer profit -- and you have to take those farm profits and that data with a grain of salt because farmers don't really like to tell the truth about what they make all the time. But if you go down to the figures and look at that marital status that mostly we had married farmers, the next largest group was single. And then gender, a little less than 600 of the farmers were male, but we also had a little over 400 female. And that's one thing that I would like for you to keep in mind from one of our previous speakers who talked about women in the farming industry and it's increasing every day. In

our study we had over 700 black, with the next largest group being white farmers, a little over 100. And again the schooling, you can see that the average is 12 years, but we had a pretty good variety of how much school most of them had.

Table four and five -- we also in this study looked at groups that served the farmers with disabilities. We looked at agricultural workers, extension agents, people that work with the NRCs, and the state vocational rehabilitation personnel. So we have some information on that group also. But going on on page 15, farmer's health and disability, I just wanted to point out in that third figure there what the major disabilities that they reported were; visual, as being the most prominent, hearing, metabolic, orthopedic, and then heart disease or cardiac problems.

Now, one of the things that we noticed in the study is that farmers were reluctant to admit that they had disabilities because they feared that if they admit that they had disabilities it would affect them as far as obtaining loans to continue the operation. So these figures may be low to what the real situation is. The other you can sort of look through, but turn back on page number 25. These are recommendations that came out of the study. Basically, what we try to do is recommend what the farmer's recommended or what the groups that we worked with recommended. So some of those you'll just have to use as information. It's not like we're trying to give you recommendations on what to do or what needs to be done, but what they feel is recommended. So some of those that I thought would stand out would be that second one where it says create literature and videos about disabilities on the farm to educate counselors about this population. Because some of the counselors that work with the disabled were not aware of the type of disabilities or the type of jobs that had to be performed by the people with disabilities. Better federal regulations to reduce financial threats for farmers who are afraid to seek help when they have a disability. Collaborate with the USDA agencies to provide information to farmers. What we're finding is that the state agencies had less contact with the farmers than some of the traditional agencies, such as the extension service or even the NRCs. And that the farmers tended to trust them a lot more and the university personnel than they did the state rehabilitation service agencies. I'm going to stop there and let you read through that at your will.

At the University of Arkansas at Pine Bluff we have what we call a regulatory science degree administered in the Department of Agriculture. In that degree we have three options. We have industrial health and technology option, an environmental biology option, and an agricultural option. All three of those degree options are administered under agriculture. We also have what we call the Regulatory Science Center, which was supported by the USDA. Since 9-11, we really lost that support once they took some of the people out and put in homeland security we sort of lost our contact and that's no longer there. They were really instrumental in helping us develop that program. The program itself is very strong. Many of our students go to work for some of the government organizations, but what we really try to do is look at policy and how it affects farming or how it affects the health status in other parts of the United States and Arkansas in general.

Along with that, we try to develop research areas that are covered under that center that we were talking about.

Comment ID: 900.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Small business

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Partners

Categorized comment or partial comment:

Now, a couple of things that we feel may be important, especially with small farmers. We try to work with all farmers, but we particularly work with small and what we call limited-resources farmers. For example, these disease problems that we're talking about every day, such as the Avian flu. I was at a large poultry producer and one of the gentlemen there told me that they thought that was a little bit blown out of proportion. I said even if that's correct, we feel that the small farmers who have a lot of poultry that's in the yard everywhere, and they handle this poultry and they kill this poultry. So I think those small farmers may be at risk if we do get that Avian flu within the United States. So we think that even with the mad cow and some of these other things that our small farmers are highly at risk when it comes to these.

We also work with medicinal crops. We have a joint project with the University of Arkansas at Fayetteville where we are looking at crops that have been reported to have health effects and we're trying to identify the active compounds of those crops. And we're also working with small farmers to try to get them to grow these crops and utilize them, especially some of those that have been said to affect high blood pressure, for example, which is prevalent among blacks. Thank you.

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Comment ID: 901.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Marketing/dissemination

Partners

state Farm Bureaus

Categorized comment or partial comment:

Verbal Comment 2006/03/24: I'm Mike Blankenship. I'm the safety director and rural health director with the Mississippi Farm Bureau. Most of the time when people hear Farm Bureau, it's an insurance company. When in reality the Mississippi Farm Bureau Federation is the parent company of the insurance company. Insurance was formed as a service for rural families because they couldn't buy insurance. Don't get me wrong, the insurance company is a big organization, but they are just part of the Federation.

Through the programs in the Mississippi Farm Bureau last year we trained over 30,000 people in the State of Mississippi. We do some 14 different programs, everything from CPR to machinery safety. We formed a networking group with other states through the Farm Bureaus. Right now we have 22 states involved in it. All the Farm Bureaus have people who do training. We don't do research, okay? What we do is take the research that's been done and we put it out there to the people. We think that's where it needs to go and I know a lot of you do research, but research is not any good to me unless we have the ability to put it out there where it's going to do some good, and that's what this networking group does. Right now we have 22 states involved in it and every year it grows. We have a meeting next month in the Outer Banks of North Carolina, and we'll hopefully have around 30 states represented at that point. It's a good contact for y'all. It's a partnership through your state Farm Bureaus because a lot of them have either health, safety or a combination of the two that are involved with training for the people in the state.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 902.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Unspecified

Population

- Small business

Health outcomes; diseases/injuries

- Infectious diseases
- Musculoskeletal disorders
- Traumatic injuries
- Mortality

Exposures

- Chemicals/liquids/particles/vapors
- Noise/vibration
- Motor vehicles

Approaches

- Training
- Work-site implementation/demonstration
- Marketing/dissemination
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: I'm Kelly Tucker. I am the director of the Center for Safety and Health at Mississippi State University, which is actually located here in the metropolitan Jackson area. And as part of that job I am the program manager of the OSHA Consultation Program. I guess my talk will be geared mainly toward OSHA consultation in general and not just Mississippi.

There are 56 of these OSHA Consultation Programs. Every state has one. I think six of the territories have one. They just actually started one of the programs in the northern Marianas. They have one in the Virgin Islands. I need to go down there and check out their program on some trip. OSHA and the U.S. Department of Labor funds these programs and you can find them everywhere in state government. I know Kentucky's is in the Labor Department; part of the universities are there; Georgia Tech University, University of South Florida have the programs. Health departments, Workers' Comp Commissions. We all basically do the same thing, and that is that we provide a free service to the owners and managers of small high-hazard businesses. Unfortunately, that does not mean the farm.

We do some agribusiness here in Mississippi, but we have to track what OSHA tracks and they're riders put on the OSHA bill every year and that typically eliminates the farm. We work with Bruce on agromedicine and we attend conferences and provide guidance, but as far as actually going out to the farm, we don't. Now, some other states do.

There are basically two kinds of states as they deal with OSHA. One is called a federal state, which Mississippi is. Where the federal government does compliance work and OSHA does the consultation work -- or the state does the consultation work. In state planned states, the state does everything; Tennessee, Kentucky, the Carolinas are some that jump to mind. Those states have the compliance officers, the consultants, and they also do public-sector work. No one in Mississippi is looking at the public sector.

What we do is we go out to the small businesses. We go only where we're invited and that's nationwide. So if you have a small business owner in California or North Dakota or Mississippi to get our services they have to invite us in. As I said, we are a free service. Historically, what these programs did is they tried to OSHA-proof companies. Well, that term disappeared probably about ten years ago. And really what we're trying to do now is work with the companies and implement a safety and health system which will put emphasis back on everyone in the factory, or the business, or the hospital, or wherever we're working. Everybody takes responsibility. All of the programs that are required are in place. During Katrina we had something happen here that was real interesting. We do a lot of work in nursing homes, and one of our key sites -- well, we called all of our key sites, our recurring customers, and we called some folks to help us implement an emergency action plan. You know, in a nursing home that's somewhat difficult as we saw on TV during Katrina down in the New Orleans area. These people were so excited that this system had been implemented because everything worked right, backup power, accountability. And these are the type of things that we work with our clients on. Not just to find a physical hazard, but to try to develop a system. Again, when I'm talking about what we do, I'm talking about what all of the programs do.

We all basically have two types of people. We have safety consultants and health consultants or industrial hygienists. The safety folks are looking at machine guarding. They're looking at egress from the facility. The health consultants or industrial hygienists, whichever way they want to be called, are looking at workstation air contaminants. Are these people at a workstation where there's spray painting going on? Are they overexposed to the organic solvents? Are they running a saw? Are they overexposed to wood dust? My background is industrial hygiene, so I know that a little more. We're looking at workstation noise-abatement work. We're doing some ergonomics work. Some of the states that are well-funded, of which we unfortunately are not, have ergonomists on their staff. We do a good bit of blood-borne pathogen work, first-aid work. We are typically, though, identifiers. Some programs have training elements. We do not in Mississippi. We go out and identify hazards and the companies fix those hazards.

I was talking to some people earlier about some of the problems that we actually see that are causing hazards. I guess in different states it's different things, but the biggest cause in Mississippi is people being killed on the job while operating moving vehicles. Now, they may be the salesman traveling between clients, the over-the-road tractor-trailer truck operator. We've had several wrecks west of Jackson in the last couple of weeks attributed to fog; trucks running into each other and people being killed. Also, fatigue, we see a lot of that. We see a lot of ergonomic issues; mainly back strains, shoulder

strains, people having problems like that. We see a lot of trash in the eyes in some of the facilities that we go into, which is a lot of foundries, sand and that type of stuff getting into the eyes.

One of the services that we offer is trend analysis. We'll go into one of these facilities and look at their OSHA 300 form, which is the log of injuries and illnesses and we'll try to come up with a trend and help them to come up with solutions to solve these problems. As I said, these programs are in every state. Every state has one program except Wisconsin. They broke their safety and health program out into two programs. Then in all of the territories, including Washington, D.C., has a program. They're everywhere. OSHA is trying to get the programs that want to move into universities because universities are the masters of managing grants, and we found that when we up under Mississippi State University in 1994 that everything just smoothed out. It helps during football season too when you're working for an Ole Miss or University of Southern Mississippi client there's always something good to pick on them about.

One thing that makes us feel good, you know, sometimes I feel like that we're sort of looked at as the son of OSHA. You remember the old horror movies the son of Frankenstein? Nobody likes to see OSHA show up, EPA, any of the regulatory agencies. We sort of consider ourselves the good guys. OSHA does a lot of good work and they provide our funding. I got a letter from one of our clients not long ago who worked with a series of nursing homes and we worked with them quite a bit. He sent me a letter and said that they appreciated all of the work that OSHA Consultation had done, and that they had actually improved their situation so much that they had actually gotten a refund on their workers' comp insurance. So those are the nice things that you hear from your clients.

Like I said, people during Katrina commented that some of their plans had really played out in the proper way. Of course, we're always glad to hear that also. You can go to the OSHA homepage, which www.osha.gov, and look down on the right side of the page down to consultation which is a link there and you can go to your state and find out exactly where the program is located. One of the things that we hear quite often is we didn't know you existed. So if people ask you for safety and health work wherever it might be, we'd appreciate your referral. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 903.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Unspecified

Population

- Youth

Health outcomes; diseases/injuries

Exposures

- Work-life issues

Approaches

- Work-site implementation/demonstration
- Marketing/dissemination
- Emergency preparedness and response

Partners

- Mississippi Extension Service

Categorized comment or partial comment:

Verbal Comment 2006/03/24: Thank you. I'm Maureen Hardy. I'm a physical therapist here at Saint Dominick's Hospital here in Jackson. And last year in 2005 Time Magazine picked Mississippi as the fattest state in the nation. We have our hospital, also, which has problems with not only obesity, but the co-morbidity problems surrounding that. Our human resources is looking at ways of reducing our healthcare costs. So this year we partnered with Mississippi State University. They have an extension service for each county, and they've come to our facility -- this is free, it's part of a study they're doing -- to initiate Mississippi in Motion. It's a weight-loss program and it's really a wellness lifestyle change.

We limited it to our employees. We had over 150 applications and we could only choose 25; that's just within our employees. So we're in the middle of this program right now and I would encourage that you look at partnering with programs like the Mississippi Extension Service, which are already up and running. However, I do want to comment that although this is for adults, I really feel we need to go back to the roots, which are the children. We put three girls through public high school here. Recently, I went back to high school with my fourth child, and there was a ten-year gap because I hadn't been in this high school for ten years. I was looking forward to seeing the changes and what shocked me when I walked in the door were the number of vending machines. I counted 30 vending machines in that high school with junk food and sugar-laden soda blocking water fountains; purposefully blocking water fountains. So, of course, I went to the principal to complain and I was told, truthfully, life is about choices and these choices and this is an opportunity to learn to make right choices. I said well, where's

the good food? So the choice is either I eat or snack or I don't. That's the choice. So following this line of logic I suggested that they put in casino slot machines so the children could learn to become compulsive gamblers or not. The schools make a lot of money, and we know that, from the machines. But that's not the right answer. They have a problem and we've not gone with the right answer. So I ask you to look at the children in Mississippi.

Comment ID: 903.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Marketing/dissemination

Health service delivery

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Mississippi Extension Service

Categorized comment or partial comment:

Now, I want to switch to my role as a physical therapist. I treat injured workers from traumatic and cumulative trauma injuries on the job. And part of my role is to go back to the company with the injured worker to recommend light-work restrictions for the employee. I find that I'm talking in a different language than the company. I'm talking in the R alphabet; rate, redesign the tools, rotate your employee. And the managers are talking in the P language, which is profits, product, and productivity. We're not connecting. The employees themselves -- I work so much in the clinics teaching them safe ways of moving. I place ergonomic knives in their hands to cut the poultry. But they are not empowered when they go back in the work to make these changes. So my request to you is that we all belong to professional associations. I'm on the American Society for Hand Therapy, American Physical Therapy Association, American Occupational Therapy Association. We need the research that you're developing. And if you have systematic literature reviews, and especially any evidence-based practice guidelines that we could link on our websites with our professional organizations, we need to get this literature to the practitioners so that they can use it. So anything on ergonomic intervention that will speak to the clinician as well as to industry, help us translate this information so we can put it in practice.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 904.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding
International interaction

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: I'm Bob McKnight from the University of Kentucky College of Public Health. I have five quick things to talk about today. Each one will be fairly brief. I want to talk about one population that I think NIOSH should place more emphasis on as a population at risk. I want to talk about a geographic region that I'd like to see more emphasis in the research agenda. I want to talk about one specific hazard. I want to talk about one partnership model. And I'm going to save the fifth on to the end.

First thing I want to talk about is a population that needs more of an emphasis area. I'll sum it up with two words, older workers; those workers over the age of 55, the area of occupational gerontology. I've been to some of the international conferences on occupational gerontology and I am amazed at how the Europeans and the Scandinavians seem to be so much ahead of us in this field recognizing special issues with older workers related to adapting the worksite so that older workers may be more productive. As we have an older population in the U.S., we need to adapt the types of research and strategies that our colleagues in Europe and other nations are doing to make the workplace a safer healthier place for older workers.

Comment ID: 904.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Healthcare and Social Assistance
- Manufacturing
- Services
- Unspecified

Population

- Small business
- Other

Health outcomes; diseases/injuries

Exposures

Approaches

- Marketing/dissemination

Partners

- State Cooperative Extension Services; State Agricultural Extension Services; Rural Health Departments; Local Opinion Leaders

Categorized comment or partial comment:

The second thing I want to talk about is a geographic region. Particularly, I'm going to sum that up in just a very quick word, rural occupational safety and health; those non-metropolitan counties, the rural areas of America. I come from Kentucky. We have a substantial rural population. You go to the next county and you're in Appalachian from where I live. So much of the emphasis that I hear about occupational safety and health tends to be either larger industries or businesses that are placed in metropolitan counties. When you go into the rural areas of any of the states, particularly in the south, you're going to find a lot of smaller businesses, in addition to farms, that are simply unaware of occupational health and safety resources that are available. These are mom-and-pop radiator shops, these are the junk yards, these are the sawmills, these can be nursing homes in rural areas. This is quite a number of businesses and industries in rural environments. Unfortunately, so many of the decision makers and leaders and researchers live in urban environments where they're things such as the Gap and Starbucks. So I would suggest a method to identify these rural counties is to get a map, make an overhead, have a plot map of the 50 states and plot out Gap Store, then I want you to take every Starbucks store and look for the regions of the country that don't have any of those dots. That way you will find rural America. It's not particularly a scientific definition, but I think it will get you there.

Comment ID: 904.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Unspecified

Population

Small business

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Motor vehicles
Work-life issues

Approaches

Etiological research

Partners

State Cooperative Extension Services; State Agricultural Extension Services; Rural Health
Departments; Local Opinion Leaders

Categorized comment or partial comment:

The other thing that I want to address is a specific hazard. And it's a hazard that has both occupational and non-occupational issues. And it is deaths and injuries from all-terrain vehicles. The all-terrain vehicle is one of the unique hazards that has both recreational and occupational lifestyle issues. They are often used in agricultural areas. They're used in ranching operations. They're used in other types of small industries as well. But at the same time, they're also a recreational vehicle. Some of the issues that we have faced is people have said we really want to study all-terrain vehicles, and I think that NIOSH might want to emphasize the occupational use of all-terrain vehicles as you begin to examine possible PARs and RFAs out there and how we can address this, really, emerging occupational health issue. There's also other funding agencies that need to address this from a recreational vehicle standpoint. And I supposed there's also in the recreational area for ATVs -- in Kentucky we have something called bush-hogging. Does everyone in here know what bush-hogging is? Well, usually it's an agricultural mowing operation, but we have a fair amount of recreational bush-hogging in Kentucky, where the guy just wants to get out on the tractor to get away from the family for two hours. But I think there's a fair amount of this going on with ATVs. It may be very hard to separate occupational from lifestyle, but let's put ATVs a little higher on that list.

Comment ID: 904.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Other

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

State Cooperative Extension Services; State Agricultural Extension Services; Rural Health Departments; Local Opinion Leaders

Categorized comment or partial comment:

The fourth thing I want to mention has been mentioned before, but I want to put it in a little different term. And that's the issue of partnership. I want to really emphasize how NIOSH could partner more with your state cooperative extension services and your state agricultural extension services. I'm not talking here just about partnership for farm safety and health. As director of one of the agricultural health centers, we do a lot with cooperative extension related to injuries, illnesses, and exposures, and poisoning on farming operations. However, several states, including Kentucky, have developed some rather innovative strategies for putting many types of health and safety information through extension service. We could expand that to the non-agricultural small business in the rural area. So I think there's a connection that could be made between focusing more on rural occupational health and safety using cooperative extension as a conduit. We've got some examples that we're working on now that -- and I know Mississippi has a program with health extension as well. I'm familiar with Texas, who has a very good program in health extension. Kentucky has a program called the Health Education Extension Leadership Program as well. So let's look at cooperative extension as a better way of reaching these rural populations.

Now, my fifth item ties into the use of cooperative extensions. I want to address how people spell NIOSH. So many times I have found that people particularly in rural areas spell NIOSH OSHA. Even though I've never used the word OSHA in a presentation it comes out as NIOSH, oh, you mean OSHA. The bottom line here is an issue of trust. This was mentioned by the extension agent from Pickens

County, Alabama. I think that when you're dealing particularly with rural populations, with small businesses, there is a fear of the federal government that if I get involved with a funding agency that is somehow tied to NIOSH, I've got to sign all of these assurances. I've got to have all of this legalistic looking paperwork. These are the feds, and they have a suspicion there.

I think NIOSH could do a better job in developing partnerships with community groups that would help to alleviate some of this suspicion and mistrust and that initial feeling that I'm here from the federal government and I'm here to help you. We need to get over that barrier.

So my last comment is NIOSH work a little bit more on developing trust relationships with local people by using local opinion leaders to help build that trust. I don't think NIOSH can do it alone, probably they should not do it alone, but they could certainly work with local health departments, local extension services, local opinion leaders to do that. If we're going to have good research in rural occupational safety and health, we're going to have to develop stronger and more trusting partnerships.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 905.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: Hi. I'm Margo Westmoreland. I'm with the Occupational Safety and Health Administration, OSHA. I am a compliance safety and health officer, which is one of the people who go out and do enforcement in the private and federal sector.

I was listening to all of the people talking about the different research and it's one concern that I have that I would like more research done and that's with Hispanic workers in poultry plants and furniture manufacturers. What I'm noticing is that traditional jobs that other races have done, like de-boning and stuff that has caused musculoskeletal disorders, now I only see Hispanics doing those jobs. Normally, they don't complain. I don't see injuries placed on their logs, but I'm beginning to think that maybe because they're so grateful for the job and they don't speak out and they don't say anything about these disorders that they may not get put on the log. So as far as research, a partnership with someone -- I'd like to see more work done where something can be done that we can get together and find out are they still getting these musculoskeletal disorders that was traditionally given to blacks and whites and everybody who did their job previously that they were getting.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 906.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Unspecified

Population

- Language/culture/ethnicity
- Other

Health outcomes; diseases/injuries

Exposures

- Work-life issues

Approaches

- Surveillance
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Capacity building
- Emergency preparedness and response

Partners

- North Carolina Agromedicine Institute

Categorized comment or partial comment:

Verbal Comment 2006/03/24: I'm Kris Borre. I'm from East Carolina University. I guess now I'm going to talk as an associate scientist with the North Carolina Agromedicine Institute. In hearing the things that everyone has been saying today, it reminds me that for our work to make a difference we really have to be able to measure what is successful. What kinds of interventions and educational programs are successful? So it's very important that we develop good evaluation. Evaluation research is a little different than basic research, and I think we need to look at what the different models of evaluation research may be.

I'd like to recommend that we try to pull all of these ideas about partnership in broad-based communities together. One of those models that I find useful is a socioecological model that's often used in public health. I'd like to recommend that we look at that. But in order to do this one of the things that we have to do is be able to know who the workers are, where they are, and why they're doing the work. One of the hardest jobs that we have in research is being able to make measurements

when we don't know exactly who those people are. With our special populations, like our Hispanic workers, we often have very poor information on how many there are, where they come from, how long they're here, whether they're really migrants or they're sort of migrants. They switch and work from one industry to the other. They may start in agriculture, then they go to food processing, then they go to construction, and come back. We need to find a way to be able to count people. We need to build trust with those people in order to be able to count them. Even when we work with farmers and farm families, they're often reluctant to tell us about all of the migrant workers that they have contact with and that they're working with because they're worried that they may somehow get in trouble, and they don't want to get in trouble, and they don't want to get their good workers in trouble either.

So I think that we have to do something to build trust and dispel any kind of fear that people are going to be punished in order to keep a good agricultural workforce available to us.

Finally, I think it's really important when we look at what we're risking to lose. In the United States we have very rich farmland. We can produce to feed the world probably. One reason we're so fat is because we control all of the calories. We have more calories today than any other civilized country has ever had in their history. We have more calories here in the United States to eat, to burn, than any other nation does, and we tend to wear it on our hips. But our food supply is coming in from international locations. And if we lose the farm production in our own country we're going to be dependant internationally for our food more and more. That creates a biosecurity risk, but in addition to that, what is it doing to the tradition of our own country and our own rural areas. I think we need to think about all of those things.

So NIOSH has a big role here because NIOSH and CDC together are key in building a healthy safe rural environment where farmers want to work, where agricultural workers can work. They will be key partners with us if they will work in the local communities.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 907.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding

Work-site implementation/demonstration

Economics

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

equipment dealers; equipment manufacturers

Categorized comment or partial comment:

Verbal Comment 2006/03/24: My name is Henry Cole; people call me Hank. I'm from the University of Kentucky. I'm a part-time farmer lifelong. I thought I'd just like to comment on a couple of things here. If you look at the Bureau of Labor Statistics Census for fatal occupational injuries for 2004, they're about 5500 fatal injuries across all industries in the United States. If you look at just the injuries related to tractors, two to three percent of the farming population account for about 3.3 percent of all of those national injuries. Tractor-related injuries and tractor machine-related injuries account for about a third of all of the farm fatalities. If you add the drownings, the falls, the electrocutions, all of the other sorts of things that happen, it looks as though in that year and other years that traumatic injuries to farmers account for nearly ten percent of the annual fatalities. So that's the area that I've worked in for a long time with Bob McKnight and other people. It's the prevention of those types of injuries. Some of the things that are really important if you're going to do that are there are a lot of partners, particularly related to tractors and machinery. Some of those partners are equipment dealers. They are very, very important. That was established a long time ago by Carol Latola (*) and her work. It's been established by more recent work that we've done.

Another group that's very important are the equipment manufacturers. We had a program a number of years ago where the major manufacturers got together and they worked with the dealers to promote ROPs. It made a big difference. Then when that dropped off, for many reasons because of the international competition and all the complications in manufacturing tractors, and not the least of which is having four or five sets of standards for ROPs design, made it very complicated. One of the nice things that's happening is the National Tractor Safety Initiative. So we have nine centers plus the children's centers that are working together over a period of two three years. That group is working together on a series of projects, which include policy, engineering, looking at ROPs design, ways to make them available, ways to distribute them involving the equipment dealers. Another part has to do with the economics of tractor-related injuries and the economics of their prevention. And there's a huge, huge economic advantage of taking these easily implemented measures. In addition, there's also the social marketing aspect to this that's going on where we have 36 focus groups, I think, in nine states where we're taking the initiative to the people in the community and we're asking their advice on this and having a dialogue with them about what needs to be done and in what ways that can become involved and what ways they might want to be involved.

So I think when we're thinking about the injury area it seems to me that it's easier to get someone to put a ROPs on their tractor than it is to change their lifestyle for smoking and diet. Yet, it's hard enough to do that. Anyway, I think that's a good development and I'm very happy that we're able to be involved in this at the Southeast Center, and very happy that NIOSH initiated this tractor safety initiative.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 908.01

Categorized with the following terms:

Sectors

Manufacturing
Unspecified

Population

Other

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/24: Just a follow-up comment on something that I had mentioned and Bob had mentioned also was about getting the word out and talking about rural safety and health. Of course, Mississippi is from top to bottom considered a rural state. As I had mentioned, we have problems getting the word out about our program, and they're a lot of other fine programs represented in this room. And I don't know if y'all being NIOSH have any ideas on how to get the word out about programs. It seems like we'll put on a good program and a lot of folks don't show. I don't know what the answer really is in that. I know we meet yearly here in Mississippi with the Mississippi Manufacturer's Association, and I know that OSHA puts on some presentations there. We don't really do that because of a lack of staff. I think that would be something to think about. There's got to be some way nationally to get the word out about not only occupational safety and health, but the other fine programs. I thought I'd just throw that out.

Note: Verbal testimony provided to NORA Town Hall meeting in Jackson, MS, 2006/03/24.

Comment ID: 909.01

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding
Personal protective equipment
Health service delivery

Partners

Categorized comment or partial comment:

There is a need for better protection against smoke exposure as well as improved treatment options.

Comment ID: 909.02

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Personal protective equipment

Training

Intervention effectiveness research

Authoritative recommendation

Health service delivery

Partners

Categorized comment or partial comment:

There is a need for research to prevent and treat acute chemical exposures, including the development of technology to reduce exposures, evaluation of prognostic diagnostic tests to determine if injury is likely to occur following exposure, and testing of new treatments to reduce the adverse effects of exposure including limiting antidotal therapy. Research and/or training should also be carried out to improve emergency preparedness for hazardous materials incidents. There is also need for review and updating of NIOSH IDLH levels. Particular groups within this sector, especially firefighters, are at highest risk for exposure to hazardous chemicals.

Comment ID: 909.03

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Manufacturing
- Transportation, Warehousing and Utilities
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Engineering and administrative control/banding
- Personal protective equipment
- Training
- Intervention effectiveness research
- Authoritative recommendation
- Health service delivery

Partners

Categorized comment or partial comment:

There is a need for research to prevent and treat acute chemical exposures, including the development of technology to reduce exposures, evaluation of prognostic diagnostic tests to determine if injury is likely to occur following exposure, and testing of new treatments to reduce the adverse effects of exposure including limiting antidotal therapy. Research and/or training should also be carried out to improve emergency preparedness for hazardous materials incidents. There is also need for review and updating of NIOSH IDLH levels.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

The following is a summary of input NIOSH received from attendees of the Tech Talk session focusing on Healthcare and Social Assistance Sector (HCSA) at the American Industrial Hygiene Conference and Exposition, Chicago, IL, on May 16, 2006.

1. The glutaldehyde substitute ortho-phthaldehyde (OPA) has been associated with sensitization in patients where OPA residue is present on tubes used in urologic applications, believed to be due to inadequate rinsing of tubes prior to use. Questions raised over possible sensitization of healthcare workers. Proper disposal of spent OPA is also a concern. There is a need for a validated sampling and analytical for OPA.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Partners

Categorized comment or partial comment:

2. Work-related asthma in healthcare workers possibly associated with the use of disinfectants, floor cleaning products containing quaternary ammonium compounds, and floor stripping products containing ethanolamine.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

3. High noise in mechanical areas and other areas of hospitals often overlooked. Need for better characterization of noise levels/exposures in hospital settings.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

4. Need for guidelines for quick decontamination rooms in emergency response scenarios.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

5. Ergo issues: a) patient handling with aging healthcare workforce and heavier patient population, especially in bariatric and burn units where traditional sling devices cannot be used; transfer of obese patients throughout hospital where inadequate clearances exist through doors, around beds and toilets, etc. (needs to be addressed in facility design; however, challenge is with retrofitting existing hospitals), b) upper extremity MSDs in administrative personnel in chart rooms who access files from file cabinets. The trend to electronic files may result in an increase in computer work station MSDs.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Partners

Categorized comment or partial comment:

6. Potential health hazards associated with delivery of new pharmaceuticals using viral vectors (tagging a drug onto a non-viable virus).

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

7. There is a need for direct-reading particle counting monitors for assessing effectiveness of cleanroom ventilation.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

8. Prevailing safety culture among healthcare workers of placing patient first (ahead of own safety) has placed them at high risk of injury and illness, this is a behavior-based safety issue that needs to be studied.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

9. NIOSH needs to evaluate less toxic substitutes for formalin in tissue staining applications. The real issue will be whether substitutes perform as well as formalin.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Partners

Categorized comment or partial comment:

10. Need for updated toxicological and health effects data on newer anesthetic gases.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

11. Need for industry guidance relative to safe transport and handling of cryogenics in hospitals.

Comment ID: 919.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

12. Concern over needlesticks associated with operating room personnel placing sharps in soiled linens, no regard for safety of downstream handlers.

Seven of the 10 attendees expressed interest in serving on the HCSA Research Council.

Comment ID: 920.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

The issue of nonionizing radiation health effects needs to come to the 21th century in the USA. The public is exposed to many radiating products as a primary or secondary outcome of the products` use. Energy efficient products are popular but how about encouragement in producing/promoting low-EMR products too? This would obviously improve worker safety and public acceptance of modern technology.

Comment ID: 921.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Etiological research

Exposure assessment

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Emergency preparedness and response

Partners

state-based surveillance partners

Categorized comment or partial comment:

Verbal Comment 2006/02/23: I offer the following thoughts for the ongoing support of occupational surveillance generally, and occupational disease surveillance specifically. Occupational surveillance lacks the prominence of a Sector or Cross-sector program within the National Institute for Occupational Safety and Health (NIOSH) Program Portfolio structure. So, as NIOSH moves forward under the Program Portfolio framework, NIOSH leadership should be mindful of the importance of injury, illness, hazard, and exposure surveillance data for establishing research agendas, making judgments about research priorities, and developing program performance metrics. Many of my remarks speak to disease surveillance, but are generally applicable to occupational surveillance.

Surveillance defined. Surveillance is the collection, analysis, interpretation, and dissemination of data describing a health related event, exposure, or hazard. Surveillance is critical to effective occupational safety and health programs. It enables decision-makers to identify the problem and the affected group of workers. Surveillance also describes the magnitude and severity of an issue, and assesses progress made in reducing the burden of occupational injuries and illnesses. As a result, surveillance programs create added value by establishing baseline and trend data, assisting in priority-setting and providing information to guide research, interventions, control, or prevention.

Congressional oversight in the 1980s. In passing the Occupational Safety and Health Act of 1970 (OSH Act) [29 USC § 651 et seq.], Congress mandated extensive authority to the Secretaries of Labor and

Health and Human Services to develop regulations requiring employers to record and report occupational illness, to conduct medical examinations, and to notify employees of clinically significant results [29 USC §§ 655(d)(7), 657(c) and (g), and § 669(a)(5)]. In addition, the OSH Act requires the Secretary of Labor to "compile accurate statistics on work injuries and illnesses which shall include all disabling, serious, or significant injuries, and illnesses, whether or not involving loss of time from work." [20 USC § 673(a).] This authority has been delegated to the Bureau of Labor Statistics (BLS). Unfortunately, much of this broad authority remains unused.

Accurate and reliable data on occupational disease is essential for informed public policy decisions, employer and employee awareness of health problems, and employers' ability to correct harmful working conditions. Congress recognized the importance of good information systems when it passed the Occupational Safety and Health Act of 1970 (OSH Act) [29 USC § 651 et seq.] Today, 35 years after its passage, the state of present national disease surveillance systems is - as described by Dr. J. Donald Millar, the former Director of the National Institute of Occupational Safety and Health (NIOSH) - "90 years behind...[surveillance] of communicable disease." No reliable national estimates exist today, with the exception of a limited number of substance specific studies (such as on asbestos), on the level of occupational disease, cancer, disability, or deaths. It cannot be meaningfully determined if diseases from chronic exposures to hazardous substances represent a greater problem today than when the OSH Act was passed in 1970. The lack of complete, reliable, and accurate injury and illness data greatly hampers any broad-based evaluation of the occupational safety and health programs, and threatens the statistical foundations for the current NIOSH Program Portfolio of Sector and Cross-sector research. Furthermore, the existing data from employer logs, used in BLS's Annual Survey, are generally viewed as unreliable and under-report occupational disease.

Accurate and reliable data on occupational disease is essential. For public policy, these data assist the Occupational Safety and Health Administration (OSHA) and NIOSH in setting and revising health standards under § 6 of the OSH Act, as well as setting enforcement and research priorities. The early reporting of disease causing exposures to vinyl chloride and kepone heightened the public awareness of previously undisclosed dangers of occupational exposures. Occupational disease information is also essential to employees and employers in alerting them to disease patterns as early as they become clinically significant. This is particularly important to the health of the worker, and is also significant to the employer who can take corrective action and understand the full economic cost of doing business.

BLS's ability to implement an occupational disease statistics program is hampered by the nature of occupational disease study, where expertise in epidemiology and occupational medicine is required. If the purposes of the OSH Act are to be achieved – if effective measures of prevention of occupational disease through elimination of hazards in the workplace are to be developed, and the effectiveness of these programs is to be evaluated – NIOSH must find solutions to the problems of obtaining adequate data on occupational diseases.

Future Directions and Challenges for NIOSH

Many of the following comments reflect the ongoing national dialogue on developing and improving the nation's occupational surveillance. The major "bullets" are distilled from the work of the NIOSH NORA Surveillance Research Methods Team.

- NIOSH must maintain a strong national surveillance program to establish priorities. Future surveillance should (1) maintain ongoing surveillance and disseminate of surveillance data as guided by

the NIOSH Surveillance Strategic Plan, and (2) respond to emerging occupational health and hazard issues.

Problem: Federal surveillance of occupational disease is fragmented among many agencies; i.e., NIOSH, NCHS, NCI, SSA, and CDC. The current activities of these federal agencies do not assure the nation's workers access to comprehensive occupational surveillance data in the United States.

Comment: Comprehensive information for occupational disease, disability, and mortality is needed to (1) develop effective measures of prevention of occupational disease through elimination of hazards in the workplace, and (2) evaluate the effectiveness of these programs. The one agency which focuses on the surveillance of occupational disease is NIOSH. NIOSH has long-standing expertise both in the study of occupational disease and in focusing research toward better a understanding of the etiological association between disease and workplace hazards and exposures. NIOSH is well-equipped to take on the central role and responsibility for the ongoing collection, analysis, interpretation, dissemination and use occupational disease statistics.

Problem: No reliable national estimates exist today on the magnitude and trend of occupational cancer, disability, and mortality.

Comment: It cannot be meaningfully determined if diseases from chronic exposures to hazardous substances represent a greater problem today than when the OSH Act was passed in 1970. State and local mortality, cancer incidence, and disability data have significant potential as data elements within a comprehensive surveillance system for occupational disease. Such data have yet to realize their potential because of incomplete or inconsistent data collection through local and State-level data sources, insufficient resources to support State and local agencies to collect or compile these data, as well as limited and inconsistent coding and classification of employer\employment (i.e. SIC or NAICS codes) and occupation (Census occupational titles and codes) information.

Problem: Employers are unable to record, and thus report, many chronic and latent occupational diseases.

Comment: Employee and household surveys are excellent alternative sources of data on the prevalence of disease in working populations. The National Health Interview Survey (NHIS) was adapted in 1988 for occupational surveillance purposes, gathering a wide range of occupational health and safety data. Medical examinations provide more accurate methods for determining occupational disease, disease precursors, and biomarkers. The National Health and Nutrition Examination Survey (NHANES) is used by CDC to gather a wide range of population demographic and health data. The NHANES could be adapted to monitor the population for selected occupational conditions and exposure measures.

Problem: BLS surveys of nonfatal occupational illnesses are unable to identify or report diseases with a long latent period. There is no adequate evaluation of the extent of under-recognition, under-reporting, or over-reporting of nonfatal occupational injuries and illnesses.

Comment: NIOSH should establish a dialogue with our federal partners, OSHA and BLS, on the feasibility of undertaking a comprehensive Quality Assurance Program on the OSHA logs. This dialogue should explore options to assess the accuracy and reliability of employer logs and the differences, if any, in levels of occupational disease as found in medical records, the OSHA logs, the Annual Survey forms, and employee surveys. NIOSH should provide epidemiologic, industrial hygiene, medical consultation and other assistance as needed. Such efforts could be expanded to general recordkeeping and reporting for

nonfatal injuries. As possible collaborators in such a program, NIOSH's state-based surveillance partners have significant experience in state-level data sources. These data sources should be explored to better understand disease under-reporting.

- NIOSH should support new program initiatives and projects to develop and adapt methods for state and non-governmental partners. New surveillance programs and research methods are advocated in the NIOSH surveillance strategic plan, as well as the reports of NORA research priorities for cancer, emerging technologies, exposure assessment methods, musculoskeletal disorders, traumatic injury, reproductive outcomes, and workplace organization factors.
- NIOSH should link the results from state-level surveillance to intervention and prevention activities. This could produce significant improvements in occupational safety and health. Recent evaluation and planning activities reinforce the importance of expanding and enhancing state-based occupational surveillance.
- NIOSH should advocate an expanded surveillance research program that focuses upon smaller employment establishments in a private sector surveillance research initiative. An estimated 7 million private sector establishments employed 115 million workers in 2001. Establishments with 19 or fewer employees accounted for 85.7% of all workplaces, but only 24.1% of all employees. Establishments with 100 or more employees accounted for only 0.7% of all workplaces, but over 46.8% of all employees.
- NIOSH should establish Collaborating Surveillance Research Centers of Excellence to guide the development of surveillance to prevention practices including new R & D teams that harness the strengths of occupational health researchers, non-government organizations, insurance carriers, and public health agencies. Specific activities within the Centers should include (1) providing technical assistance and consultation with respect to developing and evaluating occupational surveillance methods; (2) establishing outreach programs to identify specific methodological and research needs, evaluate occupational surveillance follow-up methodologies, and develop and evaluate innovative strategies for improving the quality and utility of surveillance data; and (3) expanding surveillance and surveillance research that focuses on smaller scale employment establishments.

Useful references

U.S. Congress, House of Representatives [1984]. Report on occupational illness Data Collection: Fragmented, Unreliable, and Seventy years Behind Communicable Disease Surveillance. Subcommittee of the Committee on Government operations, 98th congress, 2nd Session, Washington, D.C..

U.S. Congress, House of Representatives [1986]. Occupational Health Hazard Surveillance: 72 Years Behind and Counting. Subcommittee of the Committee on Government operations, 99th congress, 2nd Session, Washington, D.C..

National Research Council [1987]. Counting Injuries and Illnesses in the Workplace: Proposals for a Better System. National Academy Press, Washington, D.C..

Note: Verbal testimony provided to NIOSH Internal NORA Town Hall meeting in Cincinnati, OH, 2006/02/23.

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Older

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

A manufacturing sector roundtable was held during the 2006 American Industrial Hygiene Conference and Exposition in Chicago on May 16. Six people attended and each provided comments in what was a good and lively interactive discussion. Participants were from OSHA, private industry, consulting, and academia, which made for a well rounded group of discussants. Below is a summary of those discussions expressed as concerns shared:

- Workforce: Downsizing of workforce in the United States
- Workforce: Aging of the U.S. workforce
- Workforce: Outsourcing of jobs to other countries
- Migrant Workers: the makeup of a constantly changing workforce makes addressing hazards difficult. Workers that are trained on one day may move to a different job/worksite within a few days. Medical monitoring of these transient work populations is difficult and makes surveillance of health effects difficult.

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

- Guidance: Standard setting bodies such as ANSI may not be representative of the industry (e.g. do not have enough real world representation)
- Guidance: Industry needs assistance/guidance from government and non-governmental bodies to address health and safety problems. Most guidance is too general and outdated.

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

- Healthcare Industry: Need more guidance for the varied members of this community including nursing homes, doctors, dentists, ambulance workers.

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Small business

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Training

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

- Small Business: web based tools and toolbox approaches are needed to help small employers develop effective health and safety programs. More work should be done to provide sample programs and training fact sheets that are targeted towards small business

- Small Business: NIOSH should consider putting a small business "button" on the webpage which would connect hotlink companies to tailored solutions to common hazards/needs in their industry.

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

- Hazard Communication: Some thought needs to go into how to better communicate hazards to the workers. Current method of cataloging MSDS's and providing them in a binder are not useful in communicating with the worker.

- Hazard Communication: Need better communication strategies to account for varied workforce. NIOSH has many good publications in Spanish but not in many other prevalent languages (like Vietnamese and others). These strategies must also consider workers who are not literate in any language (consider use of pictograms).

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

- Sampling/Analytical Methods: there is a need for improved sampling and analytical methods for isocyanates--current method requires too much maintenance, too frequent change out of sampler in the field.

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

- Engineering Controls: Need more research/guidance on engineering controls to meet the new methylene chloride standard. May also need more research in chrome if/when new standards are adopted.

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Health service delivery

Partners

Categorized comment or partial comment:

- Asthma: Need better surveillance systems to identify new onset cases of adult asthma that may be related to workplace exposures.

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Intervention effectiveness research

Authoritative recommendation

Marketing/dissemination

Health service delivery

Partners

Categorized comment or partial comment:

- Noise: Need more practical guidance on how to control noise hazards. NIOSH used to publish a noise control booklet which was very useful but it is no longer available. Employers need specific guidance on simple methods for noise abatement.
- Noise control: Need guidance on good abatement methods--commenter sees more problems in noise control than control of chemical hazards.
- Noise: need better dissemination of noise control measures. Need assessment of hearing conservation programs. Need to develop new/better hearing protection devices/schemes. Need evaluation of hearing protection effectiveness like we do for respiratory protection.
- Noise: Need improved performance of hearing protection and conservation programs. Lack of predictive measures for hearing loss make prevention difficult--only trailing indicators are available (e.g. hearing loss).

Comment ID: 922.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Exposure assessment

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

- Nanotechnology: nanotechnology is an important issue--practitioners need help in finding ways to address the hazards encountered with these materials.

Comment ID: 923.01

Categorized with the following terms:

Sectors

- Manufacturing
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Cancer
- Reproductive
- Cardiovascular disease
- Neurological effect/mental health
- Renal disease

Exposures

- Cardiovascular disease
- Radiation (ionizing and non-ionizing)

Approaches

- Surveillance
- Etiological research
- Exposure assessment
- Risk assessment methods
- Engineering and administrative control/banding
- Personal protective equipment
- Training
- Work-site implementation/demonstration
- Authoritative recommendation
- Marketing/dissemination
- International interaction
- Emergency preparedness and response

Partners

- International Agency for Research on Cancer

Categorized comment or partial comment:

Protecting Workers from the Known and Emerging Health Risks of Non-ionizing Radiation - Presentation to NORA Town Hall Meeting

-- Definition on non-ionizing radiation (NIR) - electric and magnetic fields (EMF) which are weaker than X-rays and gamma rays that ionize molecules, but can still have biological effects at higher intensities.

-- Although UV, visible light, lasers, and IR all have well-known health risks, NIOSH research has focused on radio frequency (RF)/microwave radiation (300 gigahertz - 10 megahertz) and EMF at power frequencies (50/60 Hz).

- o As a rule, NIR toxicity increases with frequency. So RF radiation is more toxic, but power frequency EMF is more prevalent.

-- Known health risks from high intensity EMF:

- o tissue heating from RF (e.g broadcast antenna construction and maintenance, plastic heat sealers)

- o electrostimulation of nerves from power-frequency EMF (e.g. high-voltage transmission line workers and induction metal furnaces)

- o exposure limits exist for these health effects, so DART's research agenda has concentrated on control technologies:

Research priorities on NIR control technologies - from 'NORA at Nine' [Editor's note - published as "The Team Document - Ten years of leadership advancing the National Occupational Research Agenda," DHHS (NIOSH) Publication No. 2006-121. and available at <http://www.cdc.gov/niosh/docs/2006-121/pdfs/2006-121.pdf>, see p. 92]:

- Improve instrumentation and techniques to address measurement and control exposures in the near-field

- Improve engineering controls, personal protective equipment (PPE), and monitoring instruments for dealing with NIR exposure in the workplace.

- Encourage participation of both industrial hygienists and management to address NIR workplace hazards effectively.

- Improve worker and safety professionals' awareness of NIR issues through training

-- Possible health risks from EMF exposures below the exposure limits.

- o Power-frequency magnetic fields are a Possible Human Carcinogen, according to the International Agency for Research on Cancer (IARC) and NIEHS. These evaluations are based on epidemiologic studies of cancer and neurodegenerative diseases at levels less than 1/1,000 th of the exposure standards.

- o New epidemiologic evidence of acoustic neuromas and brain cancer from long-term use of cell phones.

- o DART research has concentrated on improved methods of exposure assessment for occupational epidemiologic studies conducted with partners at IARC, NCI, and the Electric Power Research Institute. The goal is to determine whether these low-level EMF are truly a health hazard, and therefore the present paradigm for setting health standards needs to be re-examined.

- o DART and EID also starting risk assessment research on how to manage workplace exposures to these "possible" health risks.

-- Surveillance of emerging wireless technologies.

- o Cell phones are an example of potential public health impact of any unforeseen health effects from the new wireless technologies.

- 65% of the US population are cell phone subscribers

- Cell phones at maximum power can expose the brain to radiation up to 97% of the current US health standard.

- o New wireless technologies are coming out constantly for communication, surveillance, tracking inventory, data transfer, and computing. An implantable chip has just come on the market.

-- NIR and NORA

- o NIR is a multi-faceted health hazard that fits into many of the present NORA categories, but is currently recognized only by Engineering Controls.

Below are all the places where NIR might fit within the new NORA Program Portfolio.

Sectors:

Manufacturing

Transportation, Warehousing & Utilities

Public & Private Services

Cross-sector Programs:

Cancer, reproductive, cardiovascular, neurologic & renal diseases

Global collaboration

Health hazard evaluations

Coordinated Emphasis Areas:

Exposure assessment

Engineering controls

Surveillance

O Suggested NIR Research Priorities

Maintain NIOSH's expertise in NIR research.

An epidemiologic study of occupational RF and chronic health effects (cancer, neurologic, etc.) – collaboration with IARC

RF protective suits

Epidemiologic studies of power-frequency magnetic fields with the new exposure assessment tools developed by DART

Interventions to reduce occupational exposures to power-frequency EMF
Health Hazard Evaluations and surveillance on new NIR technologies.

Note: Verbal testimony provided to NIOSH Internal NORA Town Hall Meeting in Cincinnati, OH,
2006/02/23.

Comment ID: 924.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

- Older

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

Approaches

- Engineering and administrative control/banding
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Verbal Comment 2006/02/23: MSDs are significant problem across all sectors. The problem is that MSDs are multifactorial disorders and therefore difficult to study. They account for a significant fraction of the cost of all occupational injuries and illnesses. Low back pain alone accounts for 35% of all occupational injuries and illnesses. A single case of back injury costs all most double in comparison of all injuries and illnesses. Nurses - 1 in 12 leave because of back pain. Intervention studies, especially prospective, have been neglected. It is true that there are a lot of biases and confounding factors in this type of research, but it is nonetheless important. Need to look at economics as well. For example, lost workdays are a tremendous cost to society. Companies may not be willing to participate in interventions unless they can be shown to save money - studies have shown that some ergonomic programs pay for themselves in reduced costs to the employer over time. Look at interaction of MSDs and aging - what are the crossover effects?

Note: Verbal testimony summarized from NIOSH Internal NORA Town Hall meeting in Cincinnati, OH, 2006/02/23.

Comment ID: 925.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Reproductive

Musculoskeletal disorders

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Hazard identification

Etiological research

Partners

Categorized comment or partial comment:

Verbal Comments 2006/02/23: Infertility is an issue among workers. Evidence has shown that workplace exposures to chemicals as well as stress and ergonomic factors have an adverse effect on reproductive health. However, these issues are not necessarily something that a company will observe. When people are having fertility problems, there may not be public discussion - may not tell anyone. It's not like other occupational health issues (i.e., back pain, hearing loss) - not something that companies track, so it is much more difficult to gather this sort of data. Our research has been at looking at reproductive health as a fertility status, not pregnancy loss. The process has often been looking at literature on toxicology studies of animals or reviewing case studies. I suggested that we look closely at the scientific evidence as we move forward - There needs to be a mechanism to look at the scientific literature and at trends occurring in certain workplaces or sectors so that we recognize these things and reproductive health is not forgotten as a large sector does not have worker complaints.

Note: Verbal testimony summarized from NIOSH Internal NORA Town Hall meeting in Cincinnati, OH, 2006/02/23.

Comment ID: 926.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Small business

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Surveillance

Engineering and administrative control/banding

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

The Construction Sector Workshop was held on April 20 at NORA Symposium 2006. Twenty-six people attended. Following opening remarks that included a presentation of the top issues that had been submitted to the NORA Docket, participants suggested important topics for future work in the construction sector and each participant received 10 votes to distribute among the topics. After grouping like topics, Table 1 presents the workshop participants' "top ten" group of topics. Table 2 presents a group of other important topics. Table 3 contains an unordered list of topics and key points raised during the discussion. Similar topics were then combined after the voting had occurred to make Tables 1 and 2.

Table 1. "Top ten" topics of workshop participants

Ranked Topics (Multi-votes received)

-Small Business/self employed contractor needs (28)

-Musculoskeletal disorders/ergonomics (24)

-Falls from heights (20)

-Safety and design (19)

- Special populations/Hispanic workforce issues (19)
- Hearing Loss and Noise exposure awareness (18)
- Intervention effectiveness (16)
- Surveillance (14)
- Promoting "crew based safety climate" (13)
- Training effectiveness (10)

Comment ID: 926.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Small business

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Work organization/stress

Approaches

Training

Intervention effectiveness research

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Table 2. Preliminary second tier of construction sector issues

Ranked Topics (Multi-votes received)

-Translation for small contractors and communicating risks (9)

-Transient workforce (8)

-Business case for safety in construction (7)

-Respiratory and other health hazards (6)

-Behavioral based safety (6)

Comment ID: 926.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Older

Language/culture/ethnicity

Small business

Health outcomes; diseases/injuries

Neurological effect/mental health

Hearing loss

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Mortality

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Exposure assessment

Engineering and administrative control/banding

Personal protective equipment

Training

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Marketing/dissemination

Capacity building

Health service delivery

International interaction

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Table 3. Inventory of "top Construction Sector issues" suggested by individual participants

Suggested construction topic and key points raised (Multi-voting results) [Was grouped with similar topic for "Top 10" list?]

- Falls from height (8) [yes]
 - *Targeting special populations (e.g. Hispanic workers)
 - *Disseminate tools that work
 - *Focus on laborers, roofers, residential construction
 - *Access to manufacturers data as a problem area
- Ergonomics (15) [yes]
 - *Designing for older workers
- Hispanic workforce/special populations (11) [yes]
- Training effectiveness (2) [yes]
- Reaching exploited (non-union) workforce on healthy behaviors (2)
- Noise exposure awareness (5) [yes]
 - *Lack of regulatory coverage for construction noise
 - *Mobile population challenges
 - *Identifying high risk groups
 - *Need for better surveillance systems
- Fit problems for PPE (1)
- Noise and special populations (5) [yes]
 - *Insufficient control technology
 - *Hearing conservation for transient workers
 - *Tool and noise data
 - *Impact noise poorly characterized
- Intervention effectiveness research (9)
 - *Example of working with unions that have had training programs
- Promoting "crew based safety climate" (9)
 - *Workers pre-planning and control activities
 - *Use work crew performance model from mining sector
- Small Contractors (9) [yes]
 - *Resource needs

- Respiratory and other health hazards (6)
 - *better characterize exposures
 - *long latency, rather than observable effects
- Hearing Loss (8) [yes]
 - *Lack of basic audiometric services and education
- Effect of changing demographics (1)
 - *Need to match needs with skills and tools
- Training effectiveness (6) [yes]
- Surveillance - gaps in available information with changes in coding systems (14)
- Translate knowledge for smaller contractors, especially for residential (6) [yes]
- Small tool design and engineering controls (1) [yes]
 - *sequential trigger for nail guns as example
- Falls in residential construction (12) [yes]
 - *Surveillance still important - need all hospitalizations to be reported
 - *diffuse solutions to small contractors
 - *better research effectiveness
 - *develop more solutions
 - *improve implementation of existing solutions
 - *show cost effectiveness of existing solutions
- Safety in Design (13) [yes]
 - *Increase architects` knowledge of hazards so they can be eliminated
- Business case for safety (7)
 - *culture in industry
- Implementation (3)
 - *Understanding disconnect
- Training credentials for company management and OSH professionals (2)
- Planning for Safety - System safety for construction (4)
- Special populations - Biomarkers and unique susceptibilities (3) [yes]
- Strategies for disaster response management for construction workers (1)
- Psychological Stress (3)
 - *Intermittent work

- *Contribution to substance abuse
- Residential Building (2)
 - *Improve surveillance (especially health)
 - *Need data to understand causes
- Falls (3) [yes]
 - *Root causes
 - *simple solutions
 - *understanding risk taking behaviors
- Subpopulations (4) [yes]
 - *"New" employees and early phases of work
 - *Teen workers
- MSD - Developing solutions (9) [yes]
- Safety Culture (3)
 - *What are the best practices?
 - *How to create good safety culture?
- Communicating risks to construction workers (3) [yes]
- Intervention effectiveness (7) [yes]
- Surveillance - for controls (1)
 - *What is being used? (need a baseline)
- Safety through Design (6) [yes]
 - *How to get architects involved?
 - *Learning from international approaches
 - *Moving safety upstream
- Small Business (15) [yes]
 - *Getting them information that is meaningful to them
 - *Simple messages that reflect their culture
- Transient workers (8)
 - *Impact on surveillance
 - *Underreporting of injuries
 - *Undefined hazards
- Heavy equipment struck bys (2)

-Facilitation of field research (helping researchers) (5)

-Behavioral based safety (6)

*Understanding barriers to implementation

*Changing behaviors

*Training effectiveness

-Self-employed contractors (4) [yes]

Comment ID: 934.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Cancer

Reproductive

Neurological effect/mental health

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Etiological research

Training

Authoritative recommendation

Marketing/dissemination

Health service delivery

Partners

Categorized comment or partial comment:

Grower faces record fines for pesticides

The state wants to know whether use of the toxic chemicals led to birth defects in workers` babies

Francisca Herrera, a former migrant worker for Ag-Mart, holds her son Carlos Candelario, 9 months old, at home in Florida City, Fla. Carlos was born without arms or legs. His mother worked in Florida and North Carolina. This photo was taken in September.

Palm Beach [Fla.] Post Photo by Taylor Jones

Kristin Collins, Staff Writer

The corporate tomato grower Ag-Mart was virtually unknown in North Carolina four years ago when it planted hundreds of acres of grape tomatoes in a swath of coastal plain.

Today, the Florida company is accused of the worst pesticide violations in North Carolina history. And state health officials are investigating whether pesticide exposure is to blame for three deformed babies born to Ag-Mart employees -- one with no arms and legs and another with no visible sex organs.

Last fall, the N.C. Department of Agriculture's pesticide section fined Ag-Mart \$184,500, the department's largest fine ever. Inspectors say it exposed workers to a host of poisonous chemicals, some linked to birth defects and other health problems. Four months later, Ag-Mart and the state are still negotiating payment.

"It's cheaper for them to pay fines than it is for them to operate aboveboard," said Fawn Pattison, head of the N.C. Agricultural Resources Center, a nonprofit that opposes the use of toxic pesticides.

Ag-Mart declined to comment about the violations.

"Our products are safe and have always been safe, and Ag-Mart stands behind its commitment to its workers, retail customers and consumers," said Leo Bottary, a company spokesman.

Since the violations were issued, an Ag-Mart worker named in the state's report says he was fired for talking with agriculture department inspectors. The company did not respond to questions about the firing.

N.C. Agriculture Commissioner Steve Troxler, whose department oversees enforcement of pesticide laws, declined to comment about the company.

Ag-Mart sells its tiny tomatoes, which it grows in North Carolina, Florida, New Jersey and Mexico, under the brand name "Santa Sweets" at grocery chains all over the United States. Their distinctive packaging features three cheerful tomatoes named Tom, Matt and Otto.

Wal-Mart, the nation's largest grocer, pulled the tomatoes off shelves because of concerns over pesticide violations. Last week, Florida Legal Services, a federally funded advocacy group for the poor, said it was trying to negotiate a settlement for hundreds of Ag-Mart workers who say they were sprayed with pesticides in North Carolina and Florida.

History of violations

Ag-Mart faces a \$111,200 fine for pesticide violations in Florida. And Ag-Mart's problems in North Carolina were not its first here.

In 2003, the state Labor Department fined the company \$12,600 for failing to properly train employees using pesticides and for not giving them proper protective equipment. The company paid just over \$10,000.

At the same time, labor officials found hundreds of Ag-Mart workers living in unregistered housing that didn't meet basic safety regulations. The company did not provide housing for its legion of seasonal workers, many of whom said they were in the United States illegally. It left arrangements to crew leaders, who supply labor for the company.

Labor officials said they wanted to fine Ag-Mart for the housing violations but could not. Under the law, Ag-Mart did not "own or control" the housing. Three crew leaders who arranged the housing paid more than \$15,000 in fines.

"I feel strongly that they could do a better job," said Regina Luginbuhl, chief of the Labor Department's agricultural safety and health bureau, which handled the 2003 violations.

Last week Ag-Mart officials refused to say how much land the company farms in North Carolina or how many seasonal workers it uses. State officials say it has about 1,100 acres, requiring about 500 workers, in Brunswick and Pender counties.

The Agriculture Department fined the company for 369 violations of state pesticide laws when it visited farms last spring. Ag-Mart was using 18 pesticides on its crop, six of which the U.S. Environmental Protection Agency classifies as among the most dangerous to workers and the environment.

Job conditions faulted

According to the October violation notice, the company failed to train workers who handled pesticides, using an unqualified trainer who showed an unapproved video. It didn't supply workers with proper safety equipment and didn't have adequate water for them to rinse their eyes.

The notice says the company was also burning empty pesticide containers beside a field, a violation of state law.

"They knew that they should not burn pesticide containers" in North Carolina, the notice says, an Ag-Mart manager told inspectors, "but Ag-Mart President Mr. Donald Long told them to stop sending empty containers to the landfill and to burn them on site."

The company applied one of its most dangerous pesticides more than three times as often as law allows, the notice said. And it allowed employees to work in freshly sprayed fields that weren't safe to re-enter for up to seven days, the notice said.

One worker told inspectors that he sometimes worked in the fields while the pesticide methyl bromide was being applied. By law, workers cannot re-enter a field until 48 hours after the application of methyl bromide, which is known to deplete the ozone layer. At least one study has linked methyl bromide to cancer in farmworkers.

The worker, Oscar Hernandez, said in a telephone interview last week that during the 16 months he worked for Ag-Mart, tractors often sprayed fields without warning while he was collecting debris and working on irrigation systems in them. He also worked as a pesticide handler and said he received no training for the job.

Hernandez, 36, said through a translator that he sometimes felt dizzy and agitated, almost drugged, while pesticides were being sprayed. He said he still suffers from headaches, nervousness and memory loss -- all documented effects of pesticide exposure.

Hernandez said he was given no drinking water while he worked. He said his managers got angry if he asked for it.

Hernandez left the company in the summer of 2005 and now works in construction in New Orleans. He has retained a lawyer, Carol Brooke of the N.C. Justice Center, a nonprofit advocacy group for the poor.

Brooke said Ag-Mart fired Hernandez because he talked with state pesticide inspectors. Hernandez has filed a claim with the Department of Labor's employment discrimination bureau and may file a lawsuit. He is not the only former employee threatening to sue.

Babies deformed

A few months before state inspectors arrived at the North Carolina farms, three former Ag-Mart workers bore babies. The women lived in the same labor camp in Florida when they became pregnant, and all worked for Ag-Mart in Florida and North Carolina during their pregnancies, said their lawyer, Andrew B. Yaffa, who practices in Florida.

The first baby, born in December 2004, had no arms and legs. The second, born in early February 2005, had a severely underdeveloped jaw. The third, born two days later, had a missing nose and ear and no visible sexual organs. That baby died within days.

The company has since stopped using five chemicals linked to birth defects.

Ann Chelminski, an epidemiologist with the N.C. Department of Health and Human Services, said she is studying whether the deformities could have been caused by exposure to pesticides. She said she expects her report to be completed in a few weeks.

Florida health officials did a similar study last fall, looking at the mothers' exposure while they worked there. The Collier County Health Department concluded that pesticides could not be definitively linked to the deformities.

Bottary, the Ag-Mart spokesman, said the Florida county's report showed pesticides were not to blame. "An independent study found no link between birth defects and pesticide use at Ag-Mart," he said.

Those who study pesticides say it is difficult to prove that pesticides cause specific health problems. Yaffa, the women's lawyer, said he sees no other explanation. He said he plans to sue on behalf of the boy with no limbs, Carlos Candelario, in the next few months.

He said that since the three women came forward, he has found a fourth former Ag-Mart employee whose baby was missing a part of its brain and later died.

He said two of the women had aborted fetuses with deformities.

"They're living in the same place," Yaffa said. "They're working in the same fields. It's screaming. The alarms are going off. Something's wrong."

Staff writer Kristin Collins can be reached at 829-4881 or kcollins@newsobserver.com.

Pesticide law lacks teeth

State fines insufficient to hurt big companies

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Stretch, move, lift are trifecta

Kristin Collins, Staff Writer

Tomato grower Ag-Mart has been charged with the largest violation of pesticide laws in North Carolina history. But state officials say they can do little to ensure that the company changes its ways.

Ag-Mart's 1,100 acres in Brunswick and Pender counties will get more frequent checks from state Agriculture Department inspectors, said Patrick Jones, the pesticide section's enforcement manager. But there are only seven inspectors to check on more than 26,000 private pesticide applicators in North Carolina, he said.

"We can check and check on them," Jones said. "But we can't just stay there all the time."

Ag-Mart, based in Florida, established its North Carolina farms in 2002. It sells its grape tomatoes nationwide under the brand name "Santa Sweets."

Before last spring, when the federal Environmental Protection Agency tipped off North Carolina officials about problems with Ag-Mart's pesticide use in Florida, the state Agriculture Department had never inspected Ag-Mart's farms.

Agriculture officials didn't inspect in 2003, after the N.C. Labor Department cited the company for pesticide violations -- which they found while investigating illegal worker housing. The Labor Department has authority to cite some pesticide violations, even though it is the Agriculture Department's duty to enforce those laws.

When Agriculture inspectors visited the farm last April, they found the state's worst pesticide violations ever.

According to the state's report, field hands were working in freshly sprayed fields that weren't safe to re-enter for up to seven days. Workers had inadequate training and protective gear. One toxic pesticide was applied more than three times as often as the law allows.

North Carolina health officials are investigating whether the chemicals are to blame for three deformed babies born to former Ag-Mart workers. One has no arms or legs, one an underdeveloped jaw, and one no visible sex organs.

Ag-Mart denies breaking any laws and says the birth defects are not related to pesticides.

"Ag-Mart not only obeys the law, but sets a higher standard when it comes to worker and product safety," the company's publicist, Leo Bottary, said in a statement. "We do so because we value and depend upon our people; because we, too, are consumers of our product; and because it's the right thing to do."

Agriculture Commissioner Steve Troxler said this week that he had not read his department's report on Ag-Mart and had not been briefed on the case.

Troxler said most farmers do a good job of obeying pesticide laws. The department, he said, pursues scofflaws with vigor. "We will take every step we can take to make sure it stops," Troxler said.

In fact, his powers are limited. Administrative fines are virtually the only enforcement tool, and state law limits them to \$500 per violation. Fines cannot dent the budget of a multinational company such as Ag-Mart, which is owned by a Philadelphia conglomerate and has farms in three states and Mexico.

Ag-Mart is still negotiating with the Agriculture Department, and the company will almost certainly pay less than the \$184,500 the state seeks. State law requires that agencies try to settle fines to avoid costly legal hearings.

Beyond fines, the state Pesticide Board can revoke a farmer's license to apply pesticides. But that would have little impact on Ag-Mart because those licenses go to individuals, not companies. Ag-Mart could simply bring in new employees to apply pesticides next year.

Jim Burnette, head of the pesticide section, said fines are ineffective in cases such as Ag-Mart's. But he said he hopes scrutiny and public pressure will force the company to improve its practices.

Already, the Florida press has lambasted Ag-Mart, and Wal-Mart has removed Ag-Mart products from the shelves. Under pressure, Ag-Mart announced that it would stop using five pesticides linked to birth defects.

Burnette said there is nothing he can do to ensure that the company keeps its promise to stop using those pesticides. But he said he thinks the company is making "meaningful changes."

"There are people who say, if you have these significant violations, you should fine them, you should put them out of business," Burnette said. "If you put the company out of business, those workers are out of jobs."

Ag-Mart employs about 500 workers, most of them seasonal migrants, in North Carolina, state officials estimate.

Critics say state officials don't want to crack down on companies such as Ag-Mart.

Most state departments, including agriculture, are both advocates and law enforcers for industry. Their commissioners are elected and rely on contributions from industry leaders to finance their campaigns.

"The enforcement agencies see themselves as allies of the businesses that they're trying to enforce these rules against," said Carol Brooke, a lawyer with the N.C. Justice Center, a nonprofit advocacy group for the poor.

Regina Luginbuhl, head of the Labor Department's agricultural safety and health bureau, said she knows the frustration of trying to protect Ag-Mart workers.

In 2003, she found many of them living in an abandoned hotel strewn with trash and infested with roaches. Because the company used labor contractors to arrange worker housing, she couldn't hold the company responsible. Instead, she fined three labor contractors.

Today, Luginbuhl said, she has no way to know whether Ag-Mart's workers live in better conditions. She has no authority to inspect unless the company or its labor contractors arrange the housing.

Staff writer Kristin Collins can be reached at 829-4881 or kcollins@newsobserver.com.

State: Women faced exposure to toxins in fields

Grower denies acting illegally

Francisca Herrera, a former migrant worker who picked tomatoes for Ag-Mart in Florida and North Carolina, holds baby Carlos at 5 months. State data say she was exposed to pesticides during pregnancy.

Palm Beach [Fla.] Post Photos by Taylor Jones

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Kristin Collins, Staff Writer

Two field workers who gave birth to deformed babies were illegally exposed to pesticides more than 20 times each while they picked tomatoes in Eastern North Carolina, N.C. Department of Agriculture data show.

A third worker, who spent most of her pregnancy working in Florida, was exposed four times during the less than six weeks she worked in North Carolina, the data show.

All worked for Ag-Mart, a Florida-based tomato grower, and they were illegally exposed to a host of chemicals as often as three times a week, the documents show. Three of the 15 chemicals are linked to birth defects in lab animals.

One baby had no arms or legs. Another had a deformed jaw. The third had no nose and no visible sex organs and died soon after birth.

The women's exposures were illegal because they worked fields too soon after pesticides were sprayed, agriculture data show. To protect workers from harmful effects, many pesticides require that workers be out of the fields for anywhere from a few hours to two days after spraying.

Ag-Mart says that none of its workers were illegally exposed to pesticides and that the Agriculture Department misinterpreted its records.

Andrew Yaffa, a lawyer who represents the three women, said the documents tell only part of the story.

"Sometimes it was more than once a day," Yaffa said. "They would come out of the fields covered. Their clothes would be green with pesticides. Their throats would be dry. They would be coughing. They were suffering from skin ailments."

Ag-Mart, which is privately held, grows about 1,100 acres of grape tomatoes in Brunswick and Pender counties, 125 miles southeast of Raleigh. The company employs about 500 people there during the growing season. It sells tomatoes under the brand name Santa Sweets.

State officials have been investigating Ag-Mart for nearly a year. The Agriculture Department has charged the company with 369 violations of state pesticide law, the largest pesticide case in state history. The company will have a hearing before the state Pesticide Board on March 28.

The state Department of Health and Human Services is investigating whether the three babies' deformities are linked to pesticides. That report is expected in the next few weeks.

Until now, the evidence against Ag-Mart has remained private, because neither the state Health Department nor the Agriculture Department has finished its investigation. Last week, the Agriculture Department opened its files to The News & Observer.

State agriculture officials went through reams of data that Ag-Mart provided to determine whether workers went into fields too soon after pesticides were sprayed.

The News & Observer looked at the dates of violations and at the work records of the three mothers to determine how often they were working in fields where violations occurred. The data show that the women frequently worked in fields on days when pesticides were applied.

Ag-Mart spokesman Leo Bottary said last week that pesticides were always applied to sections of the field where workers were not present. He said the company's records aren't detailed enough to show which part of a field each worker was in.

"There's nothing in those records that would put anybody in a particular section" of a field, Bottary said.

The company will keep better records in the future, he said.

State agriculture officials say they can work only with the data the company provided. "We put the burden of proof on them," said Patrick Jones, enforcement manager for the Agriculture Department's pesticide section.

Worker advocates who have spent years following Ag-Mart employees say Ag-Mart often exposes its workers to pesticides.

Greg Schell, a lawyer with Florida Legal Services, said his staff surveyed 89 Ag-Mart workers in June. About half said they had been sprayed with pesticides within the past three months. Some, whose job it was to apply pesticides, said they sprayed fields filled with workers, Schell said.

"We've interviewed applicators who said they did that all the time for Ag-Mart," Schell said. "They just told us all kinds of stories, and I don't think they're all making it up."

Exposed in pregnancy

In 2004, the three women, Francisca Herrera, Sostenes Salazar and Maria De La Mesa Cruz, were among hundreds of Ag-Mart workers who traveled with the harvest, picking tomatoes in the company's fields in North Carolina, Florida, New Jersey and Mexico. All three are illegal immigrants.

Herrera and Salazar became pregnant in April, De La Mesa Cruz in May.

Yaffa said none of the women were available to comment for this story. With Yaffa's help, Herrera filed suit against the company Feb. 28, claiming that pesticide exposure is responsible for her son's deformities. She is asking for an undisclosed amount in damages.

The agriculture records show that Herrera, whose boy was born in December 2004 with no arms and legs, started working in North Carolina in mid-April. During her first trimester, when a baby's limbs form, she was illegally exposed on 11 different days, the Agriculture Department data shows.

By the end of September, she had been exposed on 22 days. On four of those days, records show, she was exposed at least twice -- once at the company's Brunswick County farm and once at the Pender County farm.

Salazar, whose son had a severely underdeveloped jaw, started work in North Carolina in June 2004. She was illegally exposed on 25 days during the next 3 1/2 months, the analysis shows, seven of them during her first trimester.

De La Mesa Cruz, whose child died, didn't start work in North Carolina until mid-September. She was exposed four days by the end of that month, the analysis shows.

Salazar and De La Mesa Cruz also worked in Florida and were exposed to pesticides there during their pregnancies, a Florida study shows. Their babies were born in February 2005.

Among the chemicals that the women were exposed to are Monitor, Agri-Mek and Penncozeb. Ag-Mart has dropped those three because some studies link them to birth defects.

The Collier County (Fla.) Health Department studied the women's exposure there and concluded last fall that there was no definitive link between the deformities and pesticide exposure in that state. That study did not look at the women's exposure in North Carolina.

North Carolina officials say they are looking at the workers' exposures in both states.

Experts say it is nearly impossible to prove that pesticide exposure caused a specific baby's birth defect.

Ted Schettler, a Massachusetts doctor and science director with the Science and Environmental Health Network, an Iowa-based nonprofit that studies the impact of pesticides on health, said medical literature is full of stories about farmworkers with deformed children. But he said he doesn't know of a single completed study in which farmworkers were monitored during their pregnancies. As a result, when a deformed child is born, no one knows what pesticides, if any, were in the mother's bloodstream during her pregnancy.

"Assigning responsibility here is incredibly difficult," Schettler said. "The reality is that we don't know what causes most birth defects."

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From Today's News and Observer, front page state section.

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Grower faces new allegation

Ag-Mart worker says he was denied protective gear while he worked with a pesticide

KRISTIN COLLINS, Staff Writer

The state is investigating a new allegation that tomato grower Ag-Mart failed to protect its workers from pesticides.

The company, which farms about 1,100 acres in North Carolina, already faces the state's largest fine for 369 pesticide violations. State health officials are studying whether pesticide exposure is to blame for birth defects in three severely deformed babies born to Ag-Mart workers.

Now, a worker claims that his supervisors refused him protective gear last week while he was working with methyl bromide, a gas that kills organisms in the soil and can have serious health effects for people who are overexposed. State pesticide officials said they are investigating.

"He was being exposed to something, and his face was burning," said Carol Brooke, an attorney for the N.C. Justice Center, which advocates for the poor and represents some Ag-Mart employees.

The worker called Brooke, and she complained to the state Department of Agriculture's pesticide section. Brooke said the worker wants to remain anonymous.

Pat Jones, pesticide enforcement manager, said an inspector visited one of the company's two farms in Brunswick and Pender counties Wednesday. Jones would not say whether any new violations were found because the case is under investigation.

The brand of methyl bromide that Ag-Mart typically uses, MBC Soil Fumigant, requires that workers use a face shield or a respirator when working with the chemical.

Ag-Mart spokesman Leo Bottary said the complaint comes as a surprise. He said Ag-Mart has a hot line for workers to report problems -- and hasn't heard anything from North Carolina workers this year.

The North Carolina growing season has not yet begun for Ag-Mart, a Florida company that also grows tomatoes in Florida, New Jersey and Mexico. Brooke said only a handful of employees are in North Carolina preparing fields for the planting of grape tomatoes.

The company sells its tiny tomatoes under the brand name "Santa Sweets." It also packages tomatoes for several major grocery chains.

Settlement efforts

The company is still trying to settle the violations for which the state Agriculture Department handed out a fine in October. On Tuesday, the state Pesticide Board took an unusual step and sent the case to

the Office of Administrative Hearings. An administrative law judge will hear the evidence and make a recommendation to the board.

The board, composed of volunteers appointed by the governor, will make the final decision on the company's punishment.

Board members said they aren't qualified to sort through days' worth of legal evidence. State law allows them to send the case to a judge.

"All the details have got to be right," said board member Benson Kirkman. Trying to handle the hearing "would've been sort of like walking through a minefield with shoes that are 3 feet long," Kirkman said.

State pesticide inspectors took six months to build the case against Ag-Mart. They interviewed workers and sorted through reams of records and employee work schedules.

According to the October violation notice, the company failed to properly train workers who handled pesticides. It didn't supply workers with proper safety equipment and didn't have adequate water for them to rinse their eyes.

The company applied one of its most dangerous pesticides more than three times as often as law allows, the notice said. And it allowed employees to work in freshly sprayed fields that weren't safe to re-enter for up to two days, the notice said.

The notice also says the company was burning empty pesticide containers beside a field, a violation of state law.

The \$184,500 fine was a landmark for a department that typically fines farmers who violate pesticide laws less than \$1,000.

Ag-Mart officials have said that state inspectors misinterpreted company records. The company says it never sent workers back into treated fields before the law allowed.

Ag-Mart spokesman Bottary said the company welcomes an impartial hearing. "We obviously feel very confident about our position," he said Tuesday.

The company's Raleigh attorney, Mark Ash, said Ag-Mart has not given up on negotiating a settlement, which is how most pesticide violations are handled.

But after months of unsuccessful negotiations, some Pesticide Board members said the time for a settlement has passed.

"It's beyond that," said board Chairman Scott Whitford after Tuesday's meeting. "We're going to court now."

Board members said they knew nothing about the new allegations against Ag-Mart.

Staff writer Kristin Collins can be reached at 829-4881 or kcollins@newsobserver.com

State can't prove birth defect link

A report calls for a great increase in oversight in the use of the chemicals

Sostenes Salazar with son Jesus, who has jaw deformity.

Palm Beach Post File Photos

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Three cases of birth defectsFRANCISCA HERRERA

Child`s birth defect: No arms or legs

Pesticide exposure: Was exposed during the period when the baby`s limbs formed to chemicals that cause limb defects in lab animals

Other risk factors: None known

Prenatal care: Began in fourth month of pregnancy; denies use of alcohol, tobacco, drugs or medications

Her statement: Herrera told state investigators that she was sprayed with pesticides while working in the fields, that she was never warned about entering fields where pesticides had been sprayed, and that she was not given equipment to protect her from pesticides.

Report`s determination: "Data indicates a plausible association between possible pesticide exposure and the limb deficiencies."

SOSTENES SALAZAR

Child`s birth defect: Deformed jaw

Pesticide exposure: Worked with 13 pesticides while her baby`s jaw was forming

Other risk factors: Father has small jaw; one previous stillbirth

Prenatal care: Began in fifth month of pregnancy; denies use of alcohol, tobacco, drugs or medications

Her statement: Salazar did not claim she was sprayed with pesticides but said she was never given protective equipment and was rarely told when it was safe to re-enter fields after pesticide applications.

Report`s determination: "An association between possible pesticide exposures in North Carolina and the jaw and palate abnormalities ... cannot be ruled out; however, there is evidence to suggest familial inheritance."

MARIA DE LA MESA CRUZ

Child`s birth defect: Missing nose, no visible sex organs, died after birth

Pesticide exposure: None in North Carolina during the critical early stages of pregnancy; some documented in an earlier Florida study

Other risk factors: None known

Prenatal care: Unknown

Her statement: None taken

Report's determination: "She did apparently work five days in fields in Florida in ... situations when exposure to pesticide residues above levels considered health protective is likely." The birth defects included "some that have been reported in lab animals after pesticide exposure."

Related Content Read more stories about Ag-Mart's pesticide violations. More A Front Investigators enter Ky. mine after gas levels drop

Corrections

Fox urges stronger Mexico, U.S. ties

Abuses in Iraq decried

Birthdays

Basnight calls for open budget talks

Kristin Collins, Staff Writer

A link is possible between pesticides and the births of three severely deformed children to farmworkers who labored in Eastern North Carolina, state officials say, although they don't have the data to prove it definitively.

But a report released Tuesday says the children's problems -- and the lack of information about what caused them -- should be a call to action.

Health officials called for closer communication among the state's Agriculture, Labor and Health departments. They want more outreach to farmworkers and stricter enforcement of state pesticide laws. And they outline a program, to begin in October, that will track pesticide illnesses.

"Right now, there are different agencies doing bits and pieces," said Sheila Higgins, a nurse with the Department of Health and Human Services who helped write the report. "But nobody ever really pulls the data together to try to describe the number of cases [of pesticide poisoning] that are really occurring, and who it's happening to."

The report is the result of a 10-month study of three children born to migrant farm laborers who picked tomatoes for Ag-Mart, a corporate grower. One child has no limbs, another has a deformed jaw, and a third, who died, had no nose or visible sex organs. They were born within seven weeks, from December 2004 to February 2005.

The study began last summer after the Agriculture Department heard about the children. The department's pesticide section charged the company with 369 violations of pesticide law and asked health officials to investigate the cause of the birth defects.

Agriculture Department inspectors say that Ag-Mart failed to keep workers, including the three pregnant women, out of the fields for required intervals after spraying pesticides.

Ag-Mart is contesting those charges. Company officials say that their workers were protected from pesticide exposure and that the state misinterpreted their records.

Not enough data

Ag-Mart, a Florida company, grows more than 1,000 acres of grape tomatoes in Eastern North Carolina and employs hundreds of migrant workers during the growing season. It markets its tiny tomatoes under the brand name Santa Sweets and also sells them under store labels.

In Tuesday's report, state health officials said that without knowing how much of the chemicals the women absorbed, there is no way to prove that pesticides caused the children's deformities. But the report says that all three women, at critical times in their pregnancies, worked in fields treated with pesticides known to cause birth defects.

Ag-Mart officials said the report established no link between chemicals and the deformities.

"We would all like answers to the questions regarding the birth defects of the three children," Ag-Mart President Don Long said Tuesday in a statement. "We sincerely hope that we'll learn the truth someday soon and that it will offer some level of consolation to the families."

Andrew Yaffa, a Florida lawyer who represents the three women, said the study bolsters his case that pesticides are to blame for the children's defects. He has sued Ag-Mart on behalf of Francisca Herrera, whose son was born without arms or legs. Yaffa says Herrera often was doused with chemicals while pregnant.

"If you read between the lines, this report screams that there's a problem," Yaffa said.

The state's strongest evidence is in Herrera's case.

She spent dozens of hours working in fields freshly treated with the fungicide mancozeb, the report says. That chemical has caused limb defects and missing bones in the offspring of lab rats.

Herrera was exposed to mancozeb during the period when most fetuses develop limbs, the report says.

Sostenes Salazar, whose child has a deformed jaw, worked with 13 pesticides during the time her baby's jaw was forming, the report says. Studies link six of the pesticides to birth defects, and one, Penncozeb, has chemicals that have caused jaw deformities in the offspring of lab rats, the report says.

But Salazar's husband has a small lower jaw, which also could have contributed to the child's problem, the report says. It concludes that pesticide exposure and heredity might have worked together to cause the problems.

In the last case, Maria De La Mesa Cruz, whose child died, did not work in North Carolina during the critical phase of her child's development, the report said. But investigators noted that she did work with chemicals in Florida that have been known to cause similar birth defects in animals.

A Florida study, completed by the Collier County Health Department last October, found no link between the women's pesticide exposure in Florida and the birth defects.

No study has looked at the women's exposures in both states.

More personnel

Other state agencies were still wading through the 37-page report Tuesday. But Brian Long, a spokesman for the Agriculture Department, said his department has asked the legislature for three new pesticide enforcement employees this year, at a cost of \$194,000.

Some worker advocates say the state should go further by pushing to ban certain pesticides that are harmful to workers.

"You can educate farmworkers all day long, but it's not like they can say to their employers, 'I'm not going in there.' They'll just get fired," said Fawn Pattison, director of the N.C. Agricultural Resources Center, which opposes pesticide use. "The big recommendation that's missing is to stop using stuff that causes birth defects."

Staff writer Kristin Collins can be reached at 829-4881 or kcollins@newsobserver.com.

Here is the website for the Agmart report <http://www.epi.state.nc.us/epi/oii.html>

Comment ID: 935.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Disability

Health outcomes; diseases/injuries

Cardiovascular disease

Exposures

Cardiovascular disease

Work organization/stress

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

negating and fmla -manager Joanne Chapman, DON Pat Hurley, VP Milly Curley, Chris McAlpine---post polio totally ignored fmla on file decreed we all had to go to 12 hr shifts--fmla said i shouldn't work more than 10 hrs...tried to adjust -- i got second opinion- he felt defining number of hours was not the way to go---increased hours i believe have lead to the uncontrolled hypertension i now have developed....since have found out 9/46 that we know of have htn on this unit..youngest 32 -58....all but one are rn`s...not all accounted for..only those that have said something directly to me ...stats seem high..stress on unit extreme...not unusual to have to do staff intervention daily ...management doesn't have a clue of needs because they she hasn't practiced in years or %^^\$\$%%ever.....catch phrase with someone new "are you going to stay around long enough to learn your name"when we follow the written law or p&p---we are still reprimanded in written/verbal evaluations that follow us ...and we have no recourse---they can say or do whatever they wantwontonly....my fmla was ignored---then because i objected --they had a meeting of the above---did they inform me a meeting was to take place ---no---only the results---item by item...biggest item was a request to use an assistive devicve--a walker--which they denied ---another person a respiratory therapist with post polio has used a walker for say 5 years to the beside--- they responded in their letter that i couldn't meet the job requirement if i had to use an assistive device...well the only one that talked to me was the employee health nurse and she said she had to do a search on post polio because she didn't know anything about it....my boss however when i made the mistake onetime of saying i used the platform walker on the weekend said "you don't have a disability my husband had polio(ex) and you don't have a a disability....i said i have a fmla on file that says i do... and she has proceeded since to the above---meetings to convince people i have no problem-- --actually a pretty awful person...so, what do i do...i contacted the local eeoc in miami and they didn't

return my call...i know there is an ada plus fmla law non compliance....i have since working 12hr shifts developed uncontrolled hypertension...that is outrageous on work days and for one to two days after....and now out of control because of drug side effects...the anxiety over it all is outrageous and is causing me not to be able to sleep--ergo it`s 419 as i look at the clock.....in the yearly employee survey in the last question which asked how do you feel about the mission statement and your job--i said...the mission statement is utopia, my job is dantes inferno , and my boss is faust.....i`m guessing they didn`t get it....nothing has changed.....the nursing shortage is only going to get worse,if someone gets a clue ever it might changewhy should we sacrifice our health to take care of others , when no one is looking out for us....i created a phrase say 20+ years ago ---"if you don`t take care of the care takers there will be no one to take care of the sick ones" sheila spaid r.n. -----someone has to fix this uncontrolled sick scenario ,otherwise the flight of nurses will cause an unbelievable shortage -

Comment ID: 985.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Work organization/stress

Violence

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

The following 4 issues were identified at the meeting of the Advisory Board of the Midwest Center for Occupational Health and Safety, 4/13/06, Minneapolis, MN

- 1) Difficulty identifying workers and keep up with safety training due to transience and large number of non-English speakers
- 2) Lack of translated safety materials, e.g., pesticide labels, for the large number of non-English speaking workers
- 3) Safety and health of children in the fields (being watched, not working)
- 4) Theft of chemicals used to make methamphetamine causes competing risks for those entering buildings, e.g., bullet-proof vests v. respiratory protection

Comment ID: 985.02

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Small business

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Violence

Approaches

Etiological research

Training

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The following issues and research suggestions were identified at the meeting of the Advisory Board of the Midwest Center for Occupational Health and Safety, 4/13/06, Minneapolis, MN:

- 1) Safety measures are often not in place on construction sites and the education that exists is either not serious or there isn't enough of it. Contributing factors include the fact that penalties for accidental death are often built into the budget, little or no control over sub-contractors, accelerated building schedules, low employee retention (no training over time), language problems with training non-English speaking workers, and long hours, especially in small companies. Research suggestions include: 1) Use accident records over 5 years to identify "safe" and "unsafe" contractors, determine characteristics that contribute to more and less accidents 2) Compare safety records companies that work with business or trade associations with those that don't 3) Long term studies of simple interventions like targeting the critical first and last days of the work week, often don't see benefits if intervention trials are too short term
- 2) Occupational violence--no recourse when a problem occurs, reporters are penalized

Comment ID: 985.03 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

The following 4 problems were identified at the meeting of the Advisory Board of the Midwest Center for Occupational Health and Safety, 4/13/06, Minneapolis, MN:

1) Safe patient handling: Lifting is seen as the single biggest cause of hospital employee health problems, more important than employee vaccination programs or hazardous drug programs. When a patient is the product, it's harder than having an inanimate product. In industry, the motto is "if something is falling, let it fall", which can't be done with patients. There are no engineering controls that work, are affordable, and that people accept.

Comment ID: 985.03 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

2)Access to health care and access to insurance: When people don't have insurance, what should we do with them?

Comment ID: 985.03 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Violence

Approaches

Engineering and administrative control/banding

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

3)Occupational violence, especially in ERs and psych units, caused by meth patients, etc. 13% nurses assaulted every year. Lighting and cell phones reduce risk, training sometimes increases risk. What is the quality of training programs?

Comment ID: 985.03 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

4)More technologically complex patient care: healthcare workers report that individual patient care is increasingly complex and labor-intensive

Comment ID: 985.04 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Hazard identification

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

The following problems were identified at the annual meeting of the Advisory Board of the Midwest Center for Occupational Health and Safety, 4/13/06, Minneapolis, MN

1) Nanoparticles - toxicity and how to measure them

Comment ID: 985.04 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

2) Companies who "keep employees for life" are increasingly concerned with wellness and personal behavior issues, e.g., smoking, drinking, overweight

Comment ID: 985.04 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Economics

Health service delivery

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

3) Smaller companies need more help to "do the right thing" than large/well-known companies whose products may be purchased despite higher cost

Comment ID: 985.04 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

4) Worker's comp coverage of mental health is an emerging issue

Comment ID: 985.04 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

5) Lack of fiscal studies, especially long-term, to show the return on investment for safety and health promotion measures. If health and safety professionals can show a return, it's easier to get the investment from management.

Comment ID: 985.05

Categorized with the following terms:

Sectors

Services

Population

Language/culture/ethnicity

Small business

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Violence

Approaches

Etiological research

Risk assessment methods

Training

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

The following problems were identified at the annual meeting of the Advisory Board of the Midwest Center for Occupational Health and Safety, 4/13/06, Minneapolis, MN:

- 1) Increasing number of non-English speaking workers means materials must be translated; translations must be vetted by the population for grade level, country of origin (e.g., for Spanish)
- 2) Difficulty dealing with intermittent exposures - no good limits
- 3) Difficulty reaching independent contractors and integrating safety and health throughout
- 4) Distrust or lack of knowledge of OSHA
- 5) Complaints of harassment of employees by employers are increasing

Comment ID: 1097.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

International interaction

Partners

Categorized comment or partial comment:

How can NIOSH coordinate or help generate, if they don't already exist, group or regional efforts by safety labour councils to influence public policy and to put health and safety onto governments' agendas?

Note: Written comment received during a Pan American Health Organization (PAHO) meeting.

Comment ID: 1098.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

International interaction

Partners

Categorized comment or partial comment:

Smoking by health workers and patients` relatives is a big problem in health care settings in Latin America. Involuntary exposure to tobacco smoke is an occupational problem; smoke-free settings are a challenge.

Note: Written comment received during a Pan American Health Organization (PAHO) meeting.

Comment ID: 1099.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Work-site implementation/demonstration

Authoritative recommendation

International interaction

Emergency preparedness and response

Partners

Categorized comment or partial comment:

The means to prevent needlesticks exist - how can we ensure that more healthcare workers are aware of them, that governments require them, and they are used?

Note: Written comment received during a Pan American Health Organization meeting.

Comment ID: 1104.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/03/20: Good morning. Mine is not a formal presentation, rather a few questions. When I read the NIOSH web pages, I thought about it and I had some questions and wanted to present it here.

I'm on the Harvard ERC Advisory Board or Committee. I wondered, you know, how NIOSH is going to support all the ERC, you know, develop new centers for research and training in the future?

Second one is, NIOSH research agenda for the next ten years; is that for research support for outside research, I mean, you know, contracted, et cetera, or also for their own research so that, you know, in the past we have so-called agreement, a cooperative agreement from schools or public health associations and associations of medical schools. I wonder if it's still the case to support this kind of research.

Comment ID: 1104.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Indoor environment

Approaches

Exposure assessment

Personal protective equipment

Partners

Categorized comment or partial comment:

And the third one is the basic research areas, I think, some of them have been addressed by other presenters like indoor air research, exposure assessment methodologies, and also PPE affects this research. I think these are very important areas, but they don't really fall into the major industry sectors or categories.

Comment ID: 1104.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services
Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration
Economics
Marketing/dissemination
Emergency preparedness and response
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

And the last one is the small business addressed already by Scott. I think, you know, small businesses like auto body industries, they have less financial resources to support exposure control, but they also are less regulated by OSHA. So I think, you know, their concerns should be addressed as well.

Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Lowell, MA, 2006/03/20.

Comment ID: 1172.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Surveillance

Health service delivery

Partners

Categorized comment or partial comment:

I am often contacted by individuals in the manufacturing field with their concerns about health-effects of indoor air pollution such as passive smoke and animal feces. The individuals are not comfortable processing a HHE. I wish there would be a way for an outside source; such as a health department, to tip-off NIOSH to health hazards and they could investigate first by talking confidentially with employees to see if there is enough demand to perform a HHE. Fear is a huge motivator NOT to act in all of us. Health is not effectively being defended within the manufacturing sector.

Comment ID: 1190.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Input from the Professional Landcare Network (PLANET) for NIOSH's National Occupational Research Agenda

Submitted by PLANET Safety Specialist Barbara Mulhern July 20, 2006

The Professional Landcare Network (PLANET) is a trade association representing approximately 4,400 green industry service provider companies and suppliers nationwide that specialize in design/build/installation, interior landscaping, lawn care, and landscape management. Our member companies employ more than 100,000 workers.

The workers in our industry are engaged in numerous tasks that expose them to potential hazards. Among these are: the use of heavy equipment (skid-steer loaders, backhoes, etc.) in landscape installation (construction);

Comment ID: 1190.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Heat/cold

Noise/vibration

Motor vehicles

Approaches

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

the use of other powered equipment such as chain saws (which can result in vibration hazards and many other hazards); ergonomic hazards from lifting, bending, and other manual material handling activities (such as moving trees and shrubs); repetitive motion injuries (from such activities as reaching overhead to trim bushes for long periods of time); mowing-related hazards (including potential cuts, lacerations, or amputations from sharp blades; equipment overturns; eye injuries; and/or hearing loss); falls (from jumping in and out of truck beds); motor vehicle injuries (while working in highway "work zones" or when traveling to job site to job site); and hearing loss or eye injuries from other sources.

PLANET and OSHA have a strong national Alliance, and have developed a Web page that lists many of these hazards and potential solutions. I would encourage NIOSH to review this Web page at: <http://www.osha.gov/SLTC/landscaping/index.html> for more information. Below is one example of the information included on this Web page:

Potential Hazards and Possible Solutions (General)

Hazards which are of concern across the Landscape and Horticultural Industry include:

-- Cuts and Amputations (<http://www.osha.gov/SLTC/landscaping/solutions.html#machinerytools>)

- Electrical (<http://www.osha.gov/SLTC/landscaping/solutions.html#electrical>)
- Ergonomics (<http://www.osha.gov/SLTC/ergonomics/index.html>)
- Heat and Cold Stress (<http://www.osha.gov/SLTC/landscaping/solutions.html#heatcold>)
- Lifting and Awkward Postures (<http://www.osha.gov/SLTC/landscaping/solutions.html#lifting>)
- Motor Vehicles (<http://www.osha.gov/SLTC/motorvehiclesafety/index.html>)
- Noise (<http://www.osha.gov/SLTC/noisehearingconservation/index.html>)
- Pesticides and Chemicals
(<http://www.osha.gov/SLTC/landscaping/solutions.html#pesticideschemicals>)
- Slips, Trips, and Falls (<http://www.osha.gov/SLTC/landscaping/solutions.html#slipstripsfalls>)

In addition, our PLANET-OSHA Alliance identified four major hazards within our industry - strains resulting from manual material handling; motor vehicle crashes; amputations; and slip and trip injuries. For bilingual Safety Tips Sheets (English-Spanish tailgate training) we have developed on each of these hazards, please visit this Web page: <http://www.landcarenetwork.org/cms/programs/safety.html>.

Among the major areas where we would like NIOSH to focus its future research and prevention activities are: ergonomic hazards (resulting from manual material handling and from repetitive motion tasks); motor vehicle-related hazards; improved personal protective equipment (PPE) and alternative hazard prevention strategies to reduce the need for PPE; continued development of an AutoROPS for zero-turn radius mowers; noise hazards that can result in hearing loss; fall prevention (such as when working from aerial lifts); and heat and sun-related illnesses. Thank you for considering our input.

NOTE: Text entered from submission E-41.

Comment ID: 1230.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

hello :)

could you please advise me of who i could converse with regarding the long term effects of electric shock...my sister was diagnosed 8 years ago with bipolar and takes a cocktail of prescribed drugs ...she is in medium assisted accommodation and receives the care of a psychiatric team...we recently deduced that my sister`s condition may have been triggered by an electric shock at work,,,a hairdressers,,, about 15 years ago as a number of us including myself,,,my sister and a member of the care team have experienced contra indications not applicable to my sister`s diagnosis...in a recent discussion with my sister i suggested that offering herself as a case study to a medical research team might shed some light on her condition,,,which hopefully would better inform her primary healthcare team thus a more appropriate treatment plan...my sister said she would be happy to pursue this direction...we would very much appreciate your directive and consideration in this matter..thankyou

Comment ID: 1241.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Indoor environment

Approaches

Partners

Categorized comment or partial comment:

Biological agents continue to be of concern, especially in the aftermath of hurricane Katrina. Future research efforts should focus on worker protection and mold exposure assessment and remediation.

Comment ID: 1245.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Musculoskeletal disorders

Exposures

Noise/vibration

Approaches

Partners

Categorized comment or partial comment:

Whole Body Vibration and HAnd-Arm exposure - from tractors, off road vehicles, chain saws, etc

Comment ID: 1245.02

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Hearing loss

Musculoskeletal disorders

Exposures

Noise/vibration

Approaches

Partners

Categorized comment or partial comment:

1. Whole Body Vibration and HAnd-Arm exposure - from tractors, off road vehicles, chain saws, etc
2. Impulsive noise exposure from impact drills, nail guns, etc

Comment ID: 1245.03

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Noise/vibration

Approaches

Partners

Categorized comment or partial comment:

Impulsive noise exposure from stamping presses, etc

Comment ID: 1245.04

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Hearing loss

Musculoskeletal disorders

Exposures

Noise/vibration

Approaches

Partners

Categorized comment or partial comment:

1. Whole Body Vibration and HAnd-Arm exposure - from haulers, jackhammers, etc
2. Impulsive noise exposure from above

Comment ID: 1245.05

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Noise/vibration

Approaches

Partners

Categorized comment or partial comment:

Whole Body Vibration - from tractor trailers, fork lifts ferry boats, etc

Comment ID: 1337.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Reproductive

Infectious diseases

Musculoskeletal disorders

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Indoor environment

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Are illnesses **really** considered a workers' comp issue? Colds, flu, bronchitis, etc? I don't think so, even though lip-service is paid to illness. The Ohio BWC doesn't like discussing illness as a compensable condition in the workplace. How well does the US DoL report illness as compensable?

Cubicleland and other high-density offices make it easy for germs to spread. The space management practice of 'hotelling' brings germs from other places into offices; perhaps spreading to those who have less immunity to such germs. Emphasis on working "smarter" not harder usually means working longer not shorter hours. Stress leads to weaker immune system leading to illness.

Reportedly, overcrowding leads to reproductive health problems. Longer work hours and coming home from work tired is a symptom of reproductive health problems.

It's also a symptom of boredom at work. According to the Ohio BWC, boredom in factories is a workers' comp issue. What about boredom in offices? Everyone a computer programmer, such as my having to enter this into your web site, is boring. All day of this as many people are now forced to do is really boring. Not to mention eyesight problems no one wants to discuss. Carpal tunnel syndrome. Back, neck, and shoulder problems. Leg problems. Women complaining about their hips widening from having to sit too long. Joint problems in the hand and elsewhere. Employers complaining about

smoking problems (a symptom of boredom, I suspect) and weight issues (what kind of food do they serve at work?).

Then, what about those sick buildings employers deny having (County of Pierce, WA Govt, for one). What about those buildings built for fewer persons and no computers that now hold more computers than persons and greater number of persons than originally designed for? All those computers must have a negative impact on air quality. Ozone blowing on one`s body from an HP printer all day is not pleasant.

What about those buildings that do NOT provide potable drinking water to their employees? If one building served by an aquifer does NOT have potable water, do any of the buildings served by that aquifer have potable water? Can I safely use the restroom? Wash my hands? If one company has buildings served by that aquifer, then why don`t all of those buildings follow the same practices with respect to providing bottled water for employees to drink? Are soap dispensers in the restrooms really safer than a bar of soap? Is plain, potable water safer? If the drinking water tastes bad, what is an employee to do? Especially, when one hears rumors in the media about employer(s) who have polluted the Region`s aquifer.

Comment ID: 1357.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

Over my 20 years as an Employee Health Nurse, I have seen a dramatic increase in the number of overweight individuals who come to my office. Often Diabetes, joint pain, hypertension, cardiac, and respiratory problems accompany the obesity. As I walk through the halls of the hospital I observe individuals whom I've known for many years gradually gaining weight.

It's frustrating to have individuals come to my office for blood pressure checks while they continue to gain weight and de-condition due to limited physical activity. Often they request blood pressure checks following a change in medication when the medication they were on for years "no longer works".

When I suggest getting into a regular walking program that is known to impact blood pressure through weight reduction, individuals tell me hip pain or shortness of breath limit their ability to exercise. Consequently they are relying solely on medication to control blood pressure.

Obesity's economic impact on employers and the nations' health insurance is only going to escalate.

Note: The above text was entered from electronic submission E2.

Comment ID: 1358.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding
Authoritative recommendation

Partners

Categorized comment or partial comment:

Here are my thoughts on health care injury prevention research & application:

In consideration that it is not possible to manually move patients without exceeding NIOSH body stress standards to providers, due to the angles and body positions required, that nursing staff spend approximately 20% of patient care time in stressful positions, that 62 % of patients would be classified as bariatric using the body-mass index, that an estimated >80% of patient care staff reportedly work with back pain, that an estimated 60% of patient care staff reportedly fear a disabling injury from moving patients, and the Healthcare workers have the highest frequency of back injuries compared to other professions and trades, I suggest elimination or extreme reduction of manual moving of patients as a research project. Transfer the work to equipment - but maintain the person to person contact.

Study and adapt material handling techniques from other industries. The overhead patient lifts are an example of how industrial material handling methods can be adapted to health care. Electric powered bed and cart pushers are another example of how shopping cart pushers have been adapted to health care.

Create algorithms for all types of patients and movements, indicating the type of equipment to be used for the processes, including choices of equipment where possible. Promote the algorithms as standards of care, not merely suggestions.

Note: Text was entered from electronic submission E3.

Comment ID: 1359.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Training

Intervention effectiveness research

Partners

Categorized comment or partial comment:

The current situation among Day Laborers in construction is that accidents in construction are the number one cause of death among Day Laborers. Other factors that contribute to this situation are lack of instruction on equipment use and safety precautions. I would propose providing instructional programs to Day Laborers that focus on proper equipment usage and safety. Proper instruction and safety knowledge may decrease medical service utilization (although there have not been studies to prove this) which is another area that requires investigation.

Note: Text entered from electronic submission E7.

Comment ID: 1360.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

Intel Occupational Health Top Research Needs:

o Nanomaterials

-- Toxicology & Pharmacokinetics

-- Permeation & Transport - PPE Selection

-- Quantitative Analytical Techniques - Methods and Equipment

-- Control Technologies - Engineering & Administrative

Comment ID: 1360.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

o Wireless Technology

- Beyond Cell Phones - 3G Wireless Wide Area Networks
- WiFi - Wireless Local Area Networks
- WiMAX - Broadband Wireless Access Technology

Comment ID: 1360.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Partners

Categorized comment or partial comment:

o Pandemic & Fomite Control Strategies for Businesses

Comment ID: 1360.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

o Control Strategies When EHS Data Is Lacking

- Increasing number of materials with immature EHS/tox data
- Synergistic / cumulative effects of low levels of chemical exposure
- Historically we followed an ALARA principle
- Control banding and modeling - Need validation

Comment ID: 1360.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

o Emerging Micro-Scale Health Care Screening & Disease Detection Devices

-- Potential new occupational hazards posed by the combination of biotech, nanotech, and microelectronics

Comment ID: 1360.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Approaches

Training

International interaction

Partners

Categorized comment or partial comment:

o Training and education partnerships with emerging economies

-- Globally Harmonized Standard as an example

NOTE: Text entered from electronic submission E5.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services
- Wholesale and Retail Trade
- Unspecified

Population

- Youth

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Good afternoon and thank you very much for this opportunity to speak to you today. I am speaking on the issue of protecting young workers, those under the age of 18, who are our future adult workforce. I will begin with comments about youth working in all industries, and then continue with issues regarding youth working in agriculture.

While focusing on the issues of a specific industry, it is important not to lose the track of the cross-cutting issues unique to this special and vulnerable population regardless of industry sector and subgroup within it, such as immigrant workers.

When I began working at the Washington State Department of Labor and Industries (L&I) in 1991 and I was assigned to an advisory group charged with updating our non-agricultural child labor regulations. The agriculture regulations had been changed in the prior couple of years. My first question was to ask what do the data tell us about where kids are injured and possibly killed? That sent me on the path I continue today to look at the data trends beginning in 1988 to the present, in our workers' compensation program; as well as searching the literature for others doing this work. The field was fairly limited at the time. In addition, health and safety professionals did not consider the issues facing young workers typically, and those in pediatric or adolescent injury prevention did not acknowledge work as an important contributor to morbidity and mortality in those under age 18. We have made progress, but there is still much to be done.

I want to acknowledge the remarkable work that NIOSH has done to bring us where we are today regarding the body of knowledge on teen workers, both through primary research or in supporting

research by others. As a result, we can proceed with new directions in addressing causes of injuries and prevention strategies. We have identified a great deal in the patterns of injuries and where they are happening, but not necessarily the why or how to fully prevent them from happening.

My initial thought when I first began to work in this arena was "What could be more mom (or dad) and apple pie, than to keep kids in school and keep them from getting injured or killed at work? After all, their primary "job" at this point is to get a basic education to be able to have more job and career options. My next realization when I started to look at the data and the literature was dismay at how frequently they were getting injured, often severely or even killed.

I work in a regulatory arena and jurisdiction is an issue that determines where youth can and cannot work and when; and so protecting them becomes a political issue no different than for adults. However, I believe youth are different and deserve special protections by those who claim to be responsible for their well-being - all of us. Risk to youth should be addressed regardless of industry and irrespective of regulations. Youth face the same hazards as adults but are at a disadvantage to protect themselves.

Concepts about the benefits of work are often influenced by reflections from adults and their own youth; often the nostalgia includes some survival story or gruesome event that almost serves as a rite of passage. In many instances, jobs held as teens by many adults today may have had a skill-enhancing component or opportunities for promotion and career development. Our teens do not encounter the world of work in quite the same way today. Often teens want to work more hours as well, without fully understanding the consequences this may bring. Adults need to provide the guidance and protection they need and deserve. Work is certainly valuable for teens but only if it is not at the expense of their health, safety and well-being, and balanced with other equally important age-appropriate activities.

We know that there are different protections for teens depending upon which industry they are working in – in agricultural settings, teens can do far more dangerous activities and at a younger age than they can in non-agricultural settings. And on family farms there are no protections in the form of work restrictions, unlike non-agricultural family businesses.

From 1988 to the present, in Washington we have seen a decrease in the annual number of accepted workers compensation claims among youth under the age of 18, from 4,000 per year to 2,500, then to approximately 1,200 per year in the last several years. This decrease is likely attributed to changes in our regulations around 1990 and 1993 in agriculture and non-agriculture, respectively; increased outreach and education; and changes in employment patterns in youth. However as we were seeing the beginning of this decrease, we then had 3, 16-year-olds killed in one week in August of 2003. It was a serious wake-up call that we need to do more.

The patterns I have seen in Washington are similar to those in other states and national data – most of the teens working and getting injured are 16- and 17-year-olds, more are males, particularly in certain industries; proportions of injuries align with where most teens are working – retail, service, construction and agriculture. Many of these injuries occur during the first 6 months on the job. Teens under the age of 18 have been found to be injured at a rate two times higher than adults. A majority of the injuries are minor, so to speak, such as lacerations, strains and sprains, contusions, and burns. However many include amputations, concussions, dislocations, fractures, head injuries and multiple injuries – injuries with potential to have severe long-term consequences.

Like adults, most of the claims cover medical costs only – approximately 85% are for medical costs and 15% for lost work time. But to qualify for a time loss claim, the injured worker must lose a specific number of days of work; here in Washington that is 3 days, elsewhere it may be more. Therefore, we cannot compare the severity in the same way we would for adults – they do not have typical patterns of work and therefore probably do not miss sequential days of work indicating that their lost-time injuries could be more severe. They may also be missing other equally important age-appropriate activities during this time such as school, sports, music and theater classes, and other community and family activities.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services
- Wholesale and Retail Trade
- Unspecified

Population

- Youth

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

- Economics
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Research needed

-- There is little or no data on the consequences of these early work experience injuries - either in terms of their psychological impact, including their general attitudes about work and risk; the affect on future career options and potential loss of earning power; and long-term disability and associated costs. This needs further study.

- o Canada is finishing one of the first studies to look at the long-term impact of injuries among youth in relation to utilization of health care services.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services
- Wholesale and Retail Trade
- Unspecified

Population

- Youth

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

- Health service delivery

Partners

Categorized comment or partial comment:

We in Washington have an amazing database of our workers' compensation claims with the majority of Washington employers insured through the state fund managed by the Department of Labor and Industries (L&I). It is an administrative database that can point us in the right direction, but has limitations. Through the claims data alone, we cannot fully understand the circumstances that surrounded the occurrence of the injury. There is also the issue of underreporting for various reasons, or that teens may be working informally and do not come to the attention of the system when injured. My anecdotal evidence in talking to hundreds of teens over the years is that they are unaware of this right and benefit. In addition, Pediatricians and Adolescent Health Providers may not know about workers' compensation for injured youth.

Given that a large proportion of youth are uninsured in this country and may work for employers who do not provide insurance benefits, or their parents lack insurance through their jobs, workers' compensation for teens is imperative for to be able to access appropriate care for an occupational injury as soon as possible to mitigate the severity or complications. Similar to adults, there is about a 10% rejection rate of claims in our system - the reasons why injury claims filed by youth but rejected by the system, are unknown.

Research needed:

-- It is important that research be done to evaluate the utilization of the workers' compensation system by young workers, including the extent of underreporting; knowledge among teens about compensation

benefits; and awareness by primary health care providers such as pediatricians, family practice physicians, and nurse practitioners.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services
- Wholesale and Retail Trade
- Unspecified

Population

- Youth
- Other

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Gender

Boys are injured more often than girls are - why is that? Are they working in more dangerous jobs, are they taking more chances? Do they report injuries more often? One Agricultural employer stated that he has found boys to be less coordinated than girls at the same age - a classic developmental difference between boys and girls during adolescence.

-- More research is needed in this regard.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Industry

In Agriculture we see that the proportion of time loss claims is higher in Agriculture and construction than in all other industries - 21% receive time loss payments compared to the 15% mentioned earlier. We also see that younger employees have more injuries and more severe injuries in Agriculture compared to other industries, likely because they are allowed to do more dangerous work activities than in non-agriculture. There may also be special characteristics of this younger group that have not been identified for prevention.

Research needed:

-- Since 1988 we have had at least 14 fatalities that we know of - all in either agriculture or construction; all males. National data indicates that youth under age 15 have a risk of death in AG two times higher than 16- and 17-year-olds. There is a similar, if not a higher, risk of fatal injury among youth working in construction.

In the Pacific Northwest the brush-picking industry is a subset of agriculture that needs special focus. We have had multiple fatalities in the last several years in Washington due to highway accidents; one recently included a 16-year-old who was killed when thrown from a van. Many of the harvesters are from Guatemala or Mexico; it is often difficult to identify an employer who is responsible for the health and safety of these workers. We have a special emphasis program to try to address the employment issues but more research is needed to address the risk factors and interventions, but much is still unknown.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction

Population

Youth
Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Culture

Data indicate that Hispanics and other immigrant workers, particularly youth, have additional risks and vulnerabilities that may be additive. Many of these youth are working in Agriculture or construction. A recent BLS report indicates that while fatalities among non-Hispanic whites dropped during the late 1990s, work fatalities among Hispanic youth doubled; and in Agriculture, forestry and fishing, their count more than tripled. FACE investigations in recent years reveal a majority are fatalities among immigrant youth in Agriculture or construction. They are often male, and if they are foreign-born they are likely to be in the U.S. without and a parent or guardian.

-- Multiple factors may be place them at higher risk that needs further evaluation, such as language barriers, literacy, poverty, unstable living conditions, legal status, among others;

o Research of Latino immigrant youth by University of North Carolina researchers found that there was a low level of safety instruction provided to them.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Unspecified

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

Other Topics - in need of further research

The world of work continues to change and many of the protective restrictions for youth have not kept pace with the changing hazards. More research is needed to address additional activities not covered by regulations in Agriculture and non-Agriculture sectors alike. Collaboration and partnerships with industry organizations is a key element for the success of moving prevention strategies forward. Increasing the communication to those in need of the information - teens, parents, teachers, and employers - is critical to reducing injuries among this age group.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Unspecified

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Approaches

Engineering and administrative control/banding
Authoritative recommendation

Partners

Categorized comment or partial comment:

2002 NIOSH Report on the Hazardous Orders

-- At the request from USDOL's Wage and Hour Division, NIOSH evaluated the work activities prohibited by the federal child labor regulations, for 16- and 17-year olds. The evaluation was limited by the scope of the request. Further evaluation of work activities allowed by other age groups is needed. The evaluation did not include:

- o Review of the regulations for those under the age of 16 in non-agricultural jobs.
- o Review of the duties allowed for 16- and 17-year-olds in agriculture;

-- It is necessary to identify types of hazards and exposures similar to those currently prohibited that are of comparable risk, including tools and equipment regardless of industry setting, such as manufacturing, construction, and agriculture. We need more understanding of the types of powered tools - whether hand-held or fixed, that should be limited or allowed, based on specific criteria regardless of application or setting; equipment is constantly changing and specific tools cannot be updated in the regulations efficiently. These criteria would include but are not limited to their size, speed of rotations (RPM), torque produced, amount of power required and source of power; and whether or not there is access to inadvertently allow a body part to get close to the hazard.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Cancer

Reproductive

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Hazards:

-- Pesticides and other hazardous chemicals - pre-teen and adolescence is a time of major growth and development. Exposure to pesticides and other hazardous chemicals or substances like solvents, lead, asbestos, and silica, may have greater impact during this time, and add to years of cumulative exposure in some instances if begun early. Exposure limits have been determined for adult males and are likely too high for younger workers.

- o Research on the acute and long-term affects of early exposures is needed.

- o Under current national policy, farmworkers must be at least 16 years of age to mix, load and apply toxicity category I and II pesticides. We differ in Washington by prohibiting all minors from these activities. However, some categories III or IV pesticides have been associated with long-term health effects, including cancer or adverse reproductive effects and need further study. Re-entry levels that have been set for adult males and females, do not address the impact on very young workers (12- and 13-year-olds) currently allowed to do certain agricultural tasks.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

-- Violence in the workplace - assaults and homicides in retail settings - what are the relevant risk factors that require further attention, e.g., working alone or without adult supervision, late night hours, or store location?

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

-- Firefighting - restricting youth from fire-suppression activities, in particular.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

-- Hazards in the veterinary setting

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

-- Lifting restrictions for youth needs further evaluation - the musculoskeletal system is also in rapid change during this time. Cumulative trauma disorders are significant for adult workers, and research indicates many youth are incurring similar injuries, particularly back injuries, all of which has potential for long-term consequences.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Approaches

Etiological research

Engineering and administrative control/banding

Training

Partners

Categorized comment or partial comment:

Working Conditions

-- Organizational factors - how do these factors influence risk: supervisory style; work organization; pace of work and stress level; complexity of job tasks and hazards; work that is not connected to career goals; limited control or opportunity for promotion; power dynamics for young workers - supervisor/manager vs. employee; adult vs. child. Are mentors in the workplace an option to provide increased attention to new workers. This could be accomplished either by other experienced teens or adult workers and may be an option for providing guidance that does not involve a supervisor who cannot be in all places at all times, and could be less threatening to a new worker.

-- Work schedules - what are the impacts of the hours of work on health and well-being, school achievement and incidence of injuries; the hour of work needs further evaluation - how many, how early, how late; if teens are working late, how are they getting home, is driving when fatigued an issue?

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Developmental Level of Adolescents

-- Risk factors related to their developmental level needs further evaluation - work is gateway to adulthood and yet developmentally teens have physical, emotional, cognitive limitations and the workplace must accommodate them. Focus is a problem in this age group given all the new challenges and experiences they face - does pace and complexity of the job tasks and hazards create additional risk?

o There is a lack studies that evaluates physical, emotional and cognitive developmental issues with risk of injury.

-- Few studies have looked at the youngest workers - those under the age of 16; we are lacking in data on these teens in our census data and many other data sources; and also injury assessment and risk factors that may be unique to them.

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research
Personal protective equipment
Training
Intervention effectiveness research
Work-site implementation/demonstration
Marketing/dissemination
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Interventions

- Intervention studies are lacking
- Training issues, protective equipment - are they protective in this age group - why or why not?
 - o What types of training that are effective? Interactive, hands-on, web-based, peer training
 - o Reaching employer groups vs. teens themselves
 - o How useful is the involvement of community groups
- Qualitative research is needed involving focus groups and surveys with teens - to assess their attitudes toward work and workplace safety.
 - o Include studies of injured youth as well as those not yet injured
 - o Compare the perceptions of injured youth about the injury incident with the specific characteristics of the workplace setting including equipment and job duties, supervision and training, working alone or with others, etc. This is done characteristically with fatality investigations, but a similar approach can be applied for other types of injury as well.

-- Impact of early work-experience injuries (mentioned above)

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Other

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

-- Young adult workers - nothing magical happens at the age of 18 except that a teen is now considered an adult. However similar risk factors likely continue until well into the mid-20's; with the additional risk that they no longer have special protections

Comment ID: 1367.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research

Personal protective equipment

Training

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

Summary of selected items using a Public Health Approach

-- Primary Prevention

- o Qualitative research involving focus groups and surveys with teens.

- o Intervention Studies

- o Evaluation of training methods

- o Evaluation of protective equipment

-- Secondary Prevention

- o Utilization of workers' compensation

- o Access to occupational or primary care services for care of injuries

-- Tertiary Prevention

- o Research on rehabilitation needs and long-term consequences (e.g. beliefs and attitudes about work; changes in career options; disability, health care services utilization).

NOTE: Text entered from submission E1, which is an expansion of remarks made at the Seattle Town Hall meeting. Those remarks were submitted as w489.

Comment ID: 1369.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Heat/cold

Approaches

Engineering and administrative control/banding

Personal protective equipment

Authoritative recommendation

Partners

Categorized comment or partial comment:

The use of HazMat ensembles for response and drilling has increased across the nation in training drills and real or precautionary responses. The increase is largely in response to increased availability of the equipment through Homeland Security funding sources for the equipment. We have large numbers of personnel doing similar drill and response tasks now in, from what I have seen so far is a fairly limited selection of models of "A" and "B" level response suits. Across the country we have everything from all volunteer fire departments and small town police up to sophisticated and dedicated urban area HazMat units.

The application of ACGIH heat stress guidelines in such situations is not an easy thing and not always well understood or followed by many emergency entities thrust into HazMat roles. Not every response entity has trained people who can do physiological monitoring on every response or drill scene. Simpler guidelines based on a hazmat response operations is needed.

It would be great to have the physiological effects of these PPE ensembles fully characterized for personnel specifically performing typical leak stopping, diking and damming, recon and similar common hazmat response activities. I also suggest including the bomb squad blast suit ensembles as those have become much more common as well. Based on that science, seek to define clear and realistic in/out or work/rest guidelines for A and B ensembles, and provide guidance for allowance for common types of cooling vests and other heat stress aids.

NOTE: Text entered from electronic submission E10.

Comment ID: 1370.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Chemicals/liquids/particles/vapors
Radiation (ionizing and non-ionizing)

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

This e-mail is a brief message concerning occupational exposures to radon gas.

Radon gas is a known human carcinogen and impacts the lives of millions of Americans, both in their homes and while on the job. Being a naturally-occurring radioactive gas, radon is seeping into buildings in excessive amounts in nearly all parts of the US. I have attached an EPA map, which shows the radon zone designation by county. Since many states with large populations, such as Illinois, Indiana, Minnesota, Ohio, Pennsylvania, New York, New Jersey, and Virginia, have large areas designated with the highest risk, tens of millions of workers are breathing unnecessarily high levels of radon. The US EPA has set an "Action Level" of 4.0 pCi/L. This means that EPA recommends that a home is fixed if the annual average in the home is 4.0 pCi/L or above, however mitigations are recommended down to as low as 2.0 pCi/L since no level of radon is safe.

In contrast, OSHA, NRC and other Agencies have been working with outdated policies for decades which are placing workers at increased risk of developing lung cancer. The following quote was taken from an OSHA on-line publication from a December 23, 2002 letter from Richard E. Fairfax, Director, Directorate of Enforcement Programs (found here:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=24496);

"The still applicable 1971 radon-222 exposure limit for adult employees is 1 x 10⁻⁷ microcuries per milliliter (μCi/ml) [100 picocuries/liter (pCi/L)] averaged over a 40-hour workweek. However, OSHA would consider it a de minimis violation if an employer complied with the current NRC radon-222 (with

daughters present) exposure limit for adult employees of 3×10^{-8} $\mu\text{Ci}/\text{ml}$ [30 pCi/L] averaged over a year (DAC-derived air concentrations)."

How can they stand by 35 year old policies when recent research by the National Academy of Sciences, the World Health Organization, the University of Iowa, etc. have all concluded that even policies created in the late 1980s greatly underestimated the risks of radon induced lung cancer. I have attached two graphs from a recent EPA publication that shows the risks of elevated radon. Obviously residential exposure duration can be quite different than occupational exposures, but compare the statement from Richard E Fairfax's statement that 100 pCi/L is OK, to the 20 pCi/L risks from EPA's A Citizen's Guide to Radon.

I think that NORA would be doing a great public service by looking at current occupational limits for radon gas and help to create the research necessary to bring the other Agencies into the current century. With a great deal of the radon risk studies being compiled some 20+ years after the NRC and OSHA regs, they must be held accountable for ignoring the current findings.

NOTE: Text entered from submission E11. A pdf file containing the full submission, including the tables and graphs, can be found at <http://???>

Comment ID: 1372.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

I believe there is a need for research in the area of health and productivity.

Note: Text entered from electronic submission E12.

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Agricultural Research Priority Comments of
California Rural Legal Assistance Inc. and
California Rural Legal Assistance Foundation
Introductory Comments

Agriculture continues to be a major, national employer of low-wage workers. The occupational injury and death rate for farm workers is consistently high, relative to other occupations. Costs of job-related agricultural injuries for 1992 have been estimated at \$4.57 billion (Public Health Reports. May-June 2001, Volume 116). Agricultural labor is mostly non-union and is of a temporary or seasonal nature. Union and safety committees extant in other industries are virtually non-existent in the fields and provide no counter-balance to the employers and supervisors' desire to compel the greatest production possible from every worker, every day. Most farm workers have no health insurance. As a workforce, farm workers tend to be extremely vulnerable to exploitation due to limited or no formal education, illiteracy, language and cultural differences, immigration status and/or the labor gluts in some regions.

CRLA and CRLA Foundation have represented farm workers throughout California for nearly 40 years. We consistently find that farm workers complain of painful and debilitating conditions that are difficult to diagnose, difficult to treat and yet appear clearly linked to a specific work task or job, such as repetitive lifting. Other times, chronic injuries appear to result from the cumulative effects of many different work tasks or jobs. Nonetheless, symptoms are often consistent worker to worker illustrating that there are a set of injuries and illnesses directly related to the agricultural workplace that can be prevented. Further research is needed to both identify the injurious practices and determine appropriate interventions.

Specifically, we propose that research be developed and funded to address the following issues related to work place injuries and illnesses in agriculture. If you would like to discuss these comments in greater detail please contact Anne Katten, of the CRLA Foundation Pesticide and Work Safety Project at [deletion by editor for web version], or Georgina Mendoza of CRLA Inc. Agricultural Workers Health Project at [deletion by editor for web version].

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Other

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I. Methodology Considerations

Studies of Long-term Work Exposure Impacts on Farmworkers are Needed

Studies which follow populations of farm workers over time or look at past exposures to pesticides, dust and the musculoskeletal strain of work involving prolonged stooping and repeated lifting are urgently needed to examine the long term health effects of such exposure. As long as these impacts remain nebulous and unquantified, they are easier to ignore. For example, the expense of switching from scheduled applications of an old, off-patent high toxicity pesticide to newer pest control methods is easy to quantify, but data on the health impacts of continued use of the high toxicity pesticide is scarce.

Study Communities and Worker Populations Need to be Involved in Study Design

Researchers need to be aware that a study design which worked well with a farmer population will need to be reworked in order to produce reliable results from a worker population. It is important to involve focus groups of workers and their advocates in the design of such studies so that interview approaches and questions will be culturally sensitive, relevant and understandable.

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Neurological effect/mental health

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Engineering and administrative control/banding

Personal protective equipment

Intervention effectiveness research

Partners

Categorized comment or partial comment:

II. Specific Research Areas

A. Respiratory and Dermal Health Impacts to Farmworkers from Dust, Pesticide, and other Chemical Exposures and Interventions to Reduce these Exposures

NIOSH has funded much important background research in agricultural dust exposure, pesticide bio-monitoring, and farmer work exposures and health status. More research is needed to increase understanding of the immediate and long-term health effects of exposure to certain pesticides and to track the health and work exposures of farm workers. Research examining the incidence among farm workers of different types of cancer, asthma and other respiratory disorders, Parkinson's disease and other neurological disorders, and reproductive disorders, in association with pesticide and dust exposure data needs increased funding. Research is also urgently needed to evaluate the effectiveness of currently available engineering interventions to control dust and pesticide exposure, such as enclosed tractor cabs with and without pesticide filters and to develop and help implement improved controls such as modifications to soil preparation and nut harvesting machinery that will reduce the amount of dust put into the air.

Pesticide label directions and worker safety regulations allow some reentry into treated fields without respiratory protection only four hours after pesticides have been applied, but the validity of this generic inhalation reentry period has never been verified with personal air monitoring data. We recently spoke with a tractor driver who developed symptoms consistent with organophosphate poisoning while applying fertilizer in a field that had been treated six hours earlier with two organophosphate insecticides (oxydemeton-methyl and diazinon). He reported no contact with treated plants. His tractor had an enclosed cab without pesticide filters.

According to industrial hygiene hierarchy, personal protective gear should always be considered the last line of defense because it is uncomfortable, cumbersome and prone to failure, especially during active work. However, in agriculture it is frequently the main form of protection relied upon with little research into its effectiveness. Last year USEPA approved the use of disposable cotton glove liners under chemical resistant gloves to increase comfort and possibly reduce dermatitis but as far as we know, no studies have been conducted as to how hand exposure to pesticides is affected when such liners are used.

B. Sulfur

In recent years, reported pesticide application of elemental sulfur in dust or wettable powder formulations to grapes, peaches and some other crops has increased. On the positive side, sulfur is being used as a substitute for other fungicides and miticides which are probable carcinogens or reproductive toxins.

However, field workers, particularly in grapes, peaches, date palms and greenhouse grown blackberries, frequently complain that their skin and eyes burn from exposure to sulfur dust residues, particularly when it is hot. Sulfur is the leading cause of reported pesticide illnesses in California, some from field residues and some from drift between fields. Some workers have left agricultural work because they developed an allergy to sulfur. There appears to be a disconnect between these illness reports and toxicology texts which describe elemental sulfur as a mild skin and eye irritant.

Research is needed to better characterize the immediate and possible long-term health effects of elemental sulfur and oxidized sulfur compounds which are formed after sulfur is deposited on plant foliage. Research, in cooperation with pest control experts, is needed to develop interventions to reduce exposure to sulfur foliar residues and drift, including evaluating adequacy of restricted entry intervals and how rate and frequency of application and type of formulation correlate with worker complaints about eye, skin and respiratory effects.

C. Soil Fumigants

Soil fumigants, including 1,3 dichloro-propene, methyl bromide, metam sodium and chloropicrin are widely used to fumigate soil before planting certain crops including strawberries, tomatoes, onions, potatoes, carrots, peppers and sometimes in orchards and vineyards. Fumigants are all highly toxic gases or volatile liquids applied at rates up to several hundred pounds per acre. As a result, pesticide handlers, fieldworkers and agricultural communities can be heavily exposed during periods of the year when a lot of fields are being fumigated. Entire neighborhoods have experienced acute poisoning symptoms when stagnant weather conditions and unsafe application practices led to drift of metam sodium degradation products and chloropicrin (O'Malley 2004 AJIM and MMWR 8.20.04). Further research is needed to

evaluate the health status of current and former soil fumigation applicators, and fieldworkers and other residents of rural communities who have been exposed to fumigants in documented drift incidents.

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

D. Mental Health and Neurological Effects of Traumatic Workplace Accidents and Chemical Exposures and Effective Interventions

Witnessing a serious or fatal workplace accident is highly traumatic, but it is our impression that counseling or other follow-up treatment is rarely provided to agricultural workers, especially if they are short term employees. It is very difficult to obtain mental health treatment under workers' compensation.

We have repeatedly observed that workers exposed to pesticide drift or overspray in the field or to leaks of chlorine gas and other chemicals in packing sheds experience both acute and chronic health impacts. Follow-up briefings providing information on the chemicals involved, potential health effects, and steps taken to prevent future incidents seem to be rarely given by employers. Some workers report long lasting symptoms including anxiety, forgetfulness, and fatigue which affect their quality of life. These symptoms may in some cases be the combined result of neurological effects of chemical exposure and some form of post-traumatic stress. All too often, ongoing symptoms are dismissed by employers, physicians, and regulatory agencies as "just anxiety" without any provision of counseling or other mental health treatment or critical review of toxicology data. Many types of pesticides, such as, for example, pyrethroid and chloro-nicotinyl insecticides, are known to be neurotoxic when exposures are very high, but data on health effects of less extreme exposures are not well tracked. Research is needed to increase understanding of the neurological and mental health effects of traumatic workplace accidents

and chemical exposures, and to evaluate appropriate follow-up explanation, counseling and other interventions and facilitate provision of these services.

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Services

Population

Health outcomes; diseases/injuries

- Neurological effect/mental health
- Mortality

Exposures

- Work organization/stress
- Heat/cold

Approaches

- Engineering and administrative control/banding
- Intervention effectiveness research

Partners

Categorized comment or partial comment:

E. Interventions to Reduce Heat Illness

Between 1995 and 2004, Cal-OSHA investigated twenty-three work-related heat fatalities in agriculture (10), manufacturing (2), construction (9), and wild land fire fighting (2). In 2005 alone, when California experienced prolonged heat waves, Cal-OSHA investigated eight possibly heat related fatalities and concluded that five of these fatalities were related to heat exposure. Four occurred in agriculture and one in construction. Workers suffering heat illness also experience fatigue, impaired judgment and other symptoms that increase the risk of workplace accidents.

Press reports on work-related heat fatalities suggest an association between machinery-paced work, piece rate and other incentive pay systems and increased risk of heat illness which need to be investigated. While training workers in recognizing symptoms of heat illness and encouraging water drinking are widely accepted as necessary interventions, research is urgently needed to evaluate what additional interventions are vital to prevention of heat illness. Such study should include field research to evaluate the effect of access to shade during scheduled rest breaks and implementation of more frequent rest breaks, such as those recommended by the American Conference of Governmental Industrial Hygienists, on the risk of heat illness in agricultural workers. Research into development and use of practical portable shade structures for both work areas and rest areas is also needed.

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Violence

Approaches

Surveillance

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

F. Night-time Work Hazards

>From anecdotal observations by CRLA and CRLAF it appears that night-time harvesting and pesticide application are growing more common in California. Onions, blueberries and potatoes are harvested at night in Kern County, corn and tomatoes in Imperial County and the Coachella valley, garlic in Fresno, celery and raspberries in Ventura County, lettuce in Monterey County, fresh market tomatoes in Imperial, canning tomatoes in the Sacramento Valley and wine grapes by machine in at least Sonoma, Napa, and Stanislaus counties.

While heat and sun exposure are reduced at night, some other hazards are increased. These hazards include tripping and falling, eye strain due to insufficient light, poor positioning of lights casting shadows that reduce visibility, walks in the dark to unlit bathrooms and washing facilities, sexual assault, driving in the dark and/or fog to and from remote worksites on narrow roads near canals, and increased risk of exposure to pesticide drift or overspray due to poor visibility and stagnant nighttime air conditions. In addition workers report wild animals in the fields at night including bobcats, mountain lions, wild boar, snakes, skunks, wild dogs, coyotes, and rats.

Some of these hazards could be substantially reduced by providing adequate generalized illumination of the work area using suitable portable lighting. Research would be useful towards determining effective ways of providing adequate illumination of night-time field work. A worker survey of reported hazards in night-time pesticide and harvest work would be useful because Cal-OSHA and county pesticide safety

officials rarely conduct routine inspections at night and are sometimes reluctant to respond to complaints about nighttime hazards.

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

G. Work-related Musculoskeletal Disorders

Agricultural work correlates strongly with work-related musculoskeletal disorders (WMSDs), because such work requires workers to undertake high risk activities: 1) lifting and carrying heavy loads, 2) repeated and/or sustained body bending, such as stoop labor, 3) highly repetitive hand work such as pruning, picking and weeding, and 4) piece-rate, production quotas and other incentives to work quickly and forego rest breaks. Studies have shown that there is a high risk of WMSDs among field crop workers (Murphy, 2003). Further, the incidence of such injuries among nursery and vineyard workers is very high (NIOSH, 1995), and well above the rates targeted by the United States Public Service in Healthy People 2000 (AgConnections, Vol. 1, No. 4). Unfortunately, "interventions aimed at reducing musculoskeletal injuries through changing only worker behavior...have generally failed to show any statistically significant effect on injury incidence" (Id., citing NRC-IOM, 2001). As a result, workers can only take limited actions to protect themselves.

While studies show that agricultural work presents high risks for WMSDs, adequate research has not been conducted on the long-term debilitating aspects of this work. Such research is needed, in part, because thirty-six percent of farm workers have worked in agriculture ten or more years (Worker Health Chartbook, 2004). And there is a strong correlation between the number of years worked in agriculture and the percentage of workers who have experienced joint or muscle pain and/or other health conditions. (Id.) Perhaps not surprisingly, there is a steep drop-off in the ratio of workers who work in agriculture beyond age thirty-four. (Id.)

CRLA proposes that NORA commission a study of the long-term effects of WMSDs among farm workers. Does some agricultural work cause WMSD which does not resolve when the work is discontinued? Does some agricultural work cause permanent musculoskeletal injury? What types of activities and/or which types of employment cause long-term and/or permanent WMSDs? Such a study should compare farm workers with other private sector employees for factors such as type of WMSD, and age of the worker at the onset of disability and/or pain.

Specific research should be targeted at the impact of the design of tools and equipment on the incidence and severity of WMSD. The repetitive use of tools such as clippers, scissors, pruning shears and knives impacts the hands and wrists to no lesser degree than the use of a keyboard or mouse, yet far less research has gone into determining how these tools could be designed to minimize injury.

NIOSH should also continue and increase funding of studies of interventions which would limit the immediate and long-term and/or permanent effects of WMSDs, such as the California agricultural ergonomics research on interventions in the wine grape harvest (California Agriculture Vol. 60, no. 1, 2006), nursery work and tree fruit harvest.

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

H. Incidence of Reporting Injuries Compared with Incidence of Injuries

Thirty-six percent of all farm workers in the United States work on California farms (NAWS, 2005). California farms employ at least 648,000 workers. Nearly all are Hispanic; 91% were born in Mexico. (Id.) Nearly sixty percent are undocumented workers. (Id.) Almost all farm workers speak Spanish. (Id.) Fewer than ten percent speak or read English. Typically, the farm workers queried had completed six years of education. (Id.) During the twelve months prior to the study, 24% of the workers suffered from musculoskeletal pain, nearly 20% had respiratory problems, and 12% experienced skin conditions. (Id.) Twelve percent of the farm workers reported they thought they were not covered by Workers Compensation, while twenty-three percent stated they did not know if they were covered. (Id.)

The above statistics indicate there are potentially hundreds of thousands of farm workers in California who suffer work-related pain and or injury each year. There are also potentially hundreds of thousands of farm workers who are unaware of or unsure of their right to Workers' Compensation protection.

Anecdotally, CRLA is aware that many work-related illnesses and injuries go unreported to employers and insurers. There are many barriers to reporting: inability to speak or read English, inability to speak or read Spanish, fear of retribution due to immigration status, education level which correlates to low literacy, lack of awareness of availability of benefits, fear of employer retribution, fear of partial or permanent loss of employment, etc. Anecdotally, CRLA is also aware that many illnesses and injuries are aggravated by late reporting or non-reporting of the accident or condition. Repetitive motion injuries become debilitating and force the worker to withdraw from the workforce, for instance eye injuries which become infected may result in permanent loss of sight.

CRLA encourages NIOSH through NORA to commission a study to examine the rate of reporting of on-the-job injuries among farm workers. Such a study should compare the incidence of injury with the incidence of reporting injuries to the employer and/or insurer. Included should be an analysis of the significant barriers to reporting, combined with suggestions of what can be done to eliminate or alleviate those barriers. This study should also examine the relationship between delayed reporting or non-reporting of injuries and the increasing severity of the injury or condition due to delayed medical care, exacerbation from ongoing exposures and other factors.

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Surveillance

Engineering and administrative control/banding

Personal protective equipment

Intervention effectiveness research

Partners

Categorized comment or partial comment:

I. Dairy

Based on conversations with dairy workers, it is clear that certain hazards are commonly present in California dairies. For example, many workers are injured in accidents involving interactions with cows. Workers' hands and feet are broken or otherwise injured from being stepped on. Workers sustain back injuries when they are cornered in a pen by the animals, and either fall or are smashed up against a wall. Back injuries also occur when workers lift calves. We hear of faulty equipment which results in injuries, such as gates with broken latches from which animals escape, or gates that get stuck, thereby trapping the worker with the animals. Such injuries could be avoided through the implementation of policies and procedures to prevent workers from being cornered by animals and improved training.

Other commonly-occurring injuries result from slip-and-fall hazards. In some dairies, the floors are often contaminated with slippery substances, such as milk, feces, cow placenta and mud.

Dairy employees are also regularly exposed to chemical inhalants such as fly sprays, bleach and other chemicals, such as an anti-fungal powder that is mixed with water and applied to the animals' hooves. Most dairy workers we speak to tell us that they are not provided with protective equipment such as masks and eye wear.

Confined space hazards continue to exist, despite several highly-publicized fatalities several years ago caused by workers suffocating from lack of oxygen in manure pits that they were required to enter without proper equipment or other legally-required safeguards. Other life-threatening hazards include the danger of workers being crushed by containers or feed bales falling on them.

Some dairy and calf ranch workers complain that they are required to give injections to cows with hypodermic needles without being provided with gloves or other hand protection, or without appropriate training.

As smaller dairies are replaced by the mega dairies increasingly found in California's Central Valley, workers are expected to process hundreds of more cows per day. They are experiencing the same kind of production speed-ups associated with the mechanization of any job task. Studies should be conducted to determine the impact of such speed ups on the incidence and severity of acute injuries, and to determine whether there are long-term impacts.

Research is needed to assess the unique working conditions workers face in modern dairies. Focused research identifying common types of injuries among dairy workers through interviews and analysis of accident and illness reports, will provide a basis for developing interventions to prevent these injuries. Examples of interventions could include development of calf-lifting equipment, design standards for gates, appropriate protective footwear, and improved training materials and techniques for working safely around animals.

Comment ID: 1374.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Etiological research

Partners

Categorized comment or partial comment:

J. Mechanization, Industrial Farms and Production Rates

Agriculture continues to develop as an industry which relies more and more on highly expensive and efficient machinery to perform critical aspects of the harvest. Increasingly, farms and dairies are becoming larger operations while the number of workers in the barns and in the field crews decreases. The pace of work is often a function of progress or speed of a machine. In other circumstances the pace of crew production rates are set by younger workers capitalizing on a piece rate incentive. There is widespread violation of mandatory meal and rest break provisions in California agriculture. Anecdotally we see reports of increased injuries, increased susceptibility to heat stress and related illnesses when breaks are missed. Studies should be designed to determine the effect of piece rate and bonus rates on work pace and injury rate. They should also address the question of whether an enforced, regularized, break schedule will reduce musculoskeletal pain and injury and the high rate of slipping, falling and vehicle related accidents.

NOTE: Text entered from electronic submission E13. Highlights were submitted verbally and were assigned w706.

Comment ID: 1379.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

Agriculture, Forestry, and Fishing Sector

Fatal and Non-Fatal Injury and Illness Surveillance Information

(A version with tables and active links is available in [Appendix 1.](#))

The following summary of fatality, injury, and illness rates in the Agriculture, Forestry, and Fishing sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; BLS, 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-

sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 965,000 workers in the agriculture, forestry, and fishing sector in 2003 (Table A1). Workers in crop production, support activities for crop production, and animal production comprised 45%, 28%, and 14% of the sector workforce, respectively.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Fatal occupational injuries

Transportation accidents accounted for 50% of fatal occupational injuries in the agriculture, forestry, and fishing sector (the largest proportion of these involved non-highway accidents). Contact with objects and equipment accounted for 29% of fatal occupational injuries in this sector (52% involved the worker being struck by an object) (Table A3).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate within the sector of 6.93 cases/1000 full-time workers/year (Table A4). The incidence rate of sprains and strains was highest among the Forestry and Logging subsector, which had an incidence rate of 15.86 cases/1000 full-time workers/year. Amputation rates were highest in Support Activities for Crop Production (NAICS 1151).

Total nonfatal occupational injuries

The incidence rates of total nonfatal occupational injuries were highest in Cattle Ranching and Farming (NAICS 1121) and Hog and Pig Farming (NAICS 1122), which had incidence rates of 87 and 83 cases/1000 full-time workers/year, respectively (Table A5).

Within the Agriculture, Forestry, and Fishing sector, the incidence rate of traumatic injuries and disorders involving days away from work was 19.26 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 58 cases/1000 full-time workers/year (Special Request and Table A5). This suggests that the total injury rate was three-fold larger than the injury rate involving days away from work.

Nonfatal occupational injuries and illnesses involving days away from work

This incidence rate of pain (without a medical diagnosis) was highest in subsector Forestry and Logging (NAICS 113) and the industry group Fruit and Nut Farming (NAICS 1113) (Table A6). Musculoskeletal system and connective tissue disorders had an incidence rate of 0.29 cases/1000 full-time workers/year for the sector; 38% of these cases were diagnosed with tendonitis (Special Request).

Comment ID: 1379.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

Nonfatal occupational illnesses

Vegetable and Melon Farming (NAICS 1112) had an incidence rate of nonfatal occupational skin diseases and disorders of 4.60 cases/1000 full-time workers/year, which was 2.5 times larger than the sector average (Table A7).

Support Activities for Forestry (NAICS 1153) had an incidence rate of nonfatal occupational respiratory conditions of 2.37 cases/1000 full-time workers/year, which was more than 11-times larger than the sector average (Table A7).

Fruit and Nut Farming (NAICS 1113) had an incidence rate of nonfatal occupational poisonings of 1.21 cases/1000 full-time workers/year, which was more than 5 times larger than the sector average (Table A7).

The incidence rate for all other nonfatal occupational illnesses was highest in the Other Crop Farming (NAICS 1119) industry group, which had an incidence rate of 9.52 cases/1000 full-time workers/year (Table A7).

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lulich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

NOTE: Text entered from submission E4. See [Appendix 1](#) for this sector’s portion of the submission, including the tables and active links.

Comment ID: 1380.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

From the perspective of employer based Disability Case Management, I recommend that NORA add to its research agenda some of the important issues concerning the stay-at-work and return-to-work (SAW/RTW) process that are highlighted in ACOEMs report, entitled "Preventing Needless Work Disability by Helping People Stay Employed." The report is addressed to a broad audience of medical and non-medical readers and is an informative, sensible, and enlightening overview of the SAW/RTW process with both general and specific suggestions on how to improve it.

NOTE: Text entered from submission E15.

Comment ID: 1381.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

I strongly think that NORA add to it`s research issues return to work requirements and functional demands assessments Thank you

NOTE: Text entered from electronic submission E16.

Comment ID: 1382.01

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

NORA Comments 1-18-2006

Subject: Rock Bursting in Underground Metal/Nonmetal Mines

Presenter: Ted Williams, NIOSH Spokane Research Lab

Introduction: Rock bursts are the sudden, violent failure of rock in deep hard rock mines. Rock bursts pose a very significant risk of injury or death to miners working in the vicinity of the failure. The rock burst problem was one of the reasons the Spokane Research Laboratory was founded in 1951 and even though much progress has been made it is still a problem in the US, Canada, and South Africa. A large amount of research has been conducted to determine the conditions that cause them and what can be done to control them and protect the miners from them. The inter-relationship between geology and mining geometry in rock burst areas is an important area investigated by SRL researchers. Researchers at SRL have developed cemented backfill, destressing, and underhand mining to alleviate the hazards but the bursts still occur. Researchers also developed PC based in mine seismic systems to identify rock burst failure mechanisms, and an internet based seismic monitoring system for real time surveillance of seismic activity at targeted mines. The timely use of monitoring information and successful use of rock burst intervention strategies has reduced the risk to this group of miners.

Despite all this past research, rock bursts continue to create hazards for underground hard rock miners. There are currently five underground hard rock mines in the United States that have geologic and mining conditions that could result in rock bursts. In 2003 these mines employ 2,205 workers of the 11,549 workers in the Metal/Nonmetal Mining industry (19%). Other mines may also become rock burst prone as they get older and start mining deeper where stresses will be greater.

Recent advances in technology have provided researchers with new tools for investigating rock burst related phenomena. The application of advances in monitoring technology could result in new tools to assess rock burst hazards. This could lead to a better understanding of bursts and may lead to solutions that will protect miners. Strain monitoring using instrumented rock bolts and miniature data acquisition systems (Midas) has shown promise with the identification of anomalous conditions in the footwall of a burst prone stope. Successful identification of the cause of this condition could lead to ways to mitigate it and reduce miners' exposure to the hazards it creates.

Also, the recent development of low cost high speed (10 million samples per second) data loggers have made it possible to monitor high frequency electromagnetic waveforms and also ultra sonic waves to determine if either may be a precursor to rock bursts. Successful identification of a rock burst precursor could lead to an early warning system which would be used to evacuate miners prior to the burst.

Current partners in this research are:

Hecla Mining Company, Lucky Friday Mine, Mullan, Idaho Coeur Silver Valley Inc., Galena Mine, Osburn, Idaho Stillwater Mining Company, Stillwater and East Boulder mines, Nye, Montana Montana Bureau of Mines and Geologies Earthquake Studies Office, Butte, Montana Montana Tech of the University of Montana, Butte, Montana University of Memphis, Center for Earthquake Research and Information (CERI)

The rock burst work at SRL is scheduled to be terminated at the end of FY 2006. It is my opinion that NIOSH should continue this work in order to protect the safety of the 2,205 workers at the mines that are at risk to rock bursts

Note: Text entered from electronic submission E17.

Comment ID: 1384.01

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

This comment addresses the use of the real-time measurement of elemental carbon (EC) concentrations for the monitoring of diesel particulate matter (DPM) in underground mines. This method involves direct measurement of elemental carbon (EC) concentration, which is important as the Mine Safety and Health Administration (MSHA) has recently replaced the total carbon (TC) standard with an EC standard for quantifying DPM for the regulatory interim limit (MSHA 2005: Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners. Final Rule. 30 CFR Part 57). While the NIOSH 5040 is well established for EC and TC measurements in mine air, it relies on thermal analysis of filter samples that is limited to a time resolution of several hours and may take weeks to months to accomplish after sampling. The peak DPM concentration can be an order of magnitude higher than the time-integrated averages and frequent short-term exposure to extreme toxic levels may be the main reason for health damage. In addition, a high-time-resolution measurement is required to develop a "ventilation on demand" scheme that will lower the DPM level in mines in a most cost-effective manner.

The real-time EC measurement is based on an innovative photoacoustic technique (Arnott et al., 1999) that has been shown to be equivalent to the filter-based thermal/optical methods for analyses of primary diesel exhaust dominated by EC (Arnott et al., 2005). Its performance needs to be verified when applied to the challenging conditions in a mine where elevated rock and mineral dust and oil mists may interfere with EC measurements. This tool can be used to assess average and peak miner exposure to DPM under various ventilation schemes in active gold mines. Based on such measurements strategies for developing effective mine ventilation systems to protect the mineworkers can be developed.

References:

Arnott, W. P., H. Moosmüller, C. F. Rogers, T. Jin, and R. Bruch (1999). "Photoacoustic Spectrometer for Measuring Light Absorption by Aerosol: Instrument Description." *Atmos. Environ.* 33, 2845-2852.

Arnott, W. P., B. Zielinska, C. F. Rogers, J. Sagebiel, K. Park, J. Chow, H. Moosmüller, J. G. Watson, K. Kelly, D. Wagner, A. Sarofim, J. Lighty, and G. Palmer (2005). "Evaluation of 1047-nm Photoacoustic Instruments and Photoelectric Aerosol Sensors in Source-Sampling of Black Carbon Aerosol and Particle-Bound PAHs from Gasoline and Diesel Powered Vehicles." *Environ. Sci. Technol.* 39, 5398-5406.

NOTE: Text entered from submission E19.

Comment ID: 1385.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services

Population

- Language/culture/ethnicity
- Small business
- Other

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

- Work organization/stress
- Work-life issues

Approaches

- Training
- Marketing/dissemination

Partners

- Community-based organizations

Categorized comment or partial comment:

National Occupational Research Agenda Town Hall

February 21, 2006, Los Angeles

Comments from

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I want to thank the National Institute for Occupational Safety and Health (NIOSH) for convening these meetings around the country to hear input from many people and organizations about the workplace health and safety needs that should be addressed in the next 10 years of the National Occupational Research Agenda (NORA).

I represent the Occupational Health Branch in the California Department of Health Services, a non-regulatory public health program that conducts research and provides services to prevent injury and illness among California's workers. Our program was created in 1978, after exposure to dichlorobromopropane was found to cause sterility in a group of manufacturing workers despite the existence of studies showing the chemical had this effect in animals.

One of the important responsibilities of our program is to translate scientific data into practical information for employers and workers to use in creating safe and healthy workplaces. Another is to collect and summarize statistics describing worker illness and injury. As a public health agency, we are charged with investigating the causes of illness and injury and making recommendations for their prevention and control. To carry out these functions, we have the legal right to enter California workplaces, review health and safety records, and interview both employer representatives and workers.

Meeting the occupational health and safety needs of California workplaces and workers is a daunting challenge. We have over 16 million workers and over 1 million worksites that fall under OSHA jurisdiction. Some are located in large urban areas such as Los Angeles, the nine-county San Francisco Bay area, and the rapidly-growing Central Valley. Our state's large geography includes vast rural regions where many other workers are employed.

California borders both Mexico and the Pacific Rim and, as a result, large numbers of recent immigrants enter our workforce from Mexico, Central and South America, and many different Asian countries. The language, literacy, and cultural challenges of providing effective health and safety training to our workforce are enormous.

Twenty-five percent of California's workforce is employed in the private services sector, where many jobs provide low wages, long hours, significant health and safety risks, and no benefits such as health coverage. Another 15% of our workforce is in government services where the working conditions and benefits are likely to be somewhat better, but musculoskeletal disorders related to computer use are widespread, and stress due to inadequate staffing and looming layoffs takes its toll. Other important industry sectors in California include agriculture, with over half a million workers, and construction with almost 900,000 workers.

California workers are exposed to long-recognized hazards like silica in sand and gravel mining and falls on construction sites. But our state is also a center for new high-tech industries like nanotechnology and biotechnology, with a host of potential hazards that may not yet be identified or well understood.

It is extraordinarily difficult to reach the large numbers of small businesses in our state with the latest health and safety information; over 87% of California firms employ fewer than 20 workers. Like other states across the country, we are seeing changes in the nature of work that include fewer regular, full-time permanent jobs with benefits and, instead, more use of contract and temporary jobs, where health and safety is often not a priority.

Given these challenges, the Occupational Health Branch has to make difficult decisions about where to focus our limited resources. One of our priorities is to identify and address the unique concerns of low-wage, immigrant, and underserved workers. Under this focus, we have, for example:

- Collaborated with others to develop safer workstations to reduce musculoskeletal disorders in Asian and Latino garment workers;

- Provided educational seminars and materials statewide to improve the quality of safety training in construction (“BuildSafe California”);
- Investigated deaths among Latino and other workers in Los Angeles County; and
- Promoted the creation of the Working Immigrant Safety and Health (WISH) Coalition, a unique network of community-based organizations and others who are concerned about these workers and their communities.

Our program has a long history of collaborating with NIOSH, public health departments in other states, and many other organizations on these projects. We are one of 13 states currently funded by NIOSH for occupational health surveillance and prevention activities, with a particular emphasis on work-related asthma and pesticide illness. NIOSH funding has played a crucial role in enabling our program to track many types of injuries and illness, to investigate worksites and formulate recommendations for prevention, and to carry out special projects to address health and safety problems in high-risk industries and occupations.

We recommend that NIOSH consider the following priorities for the next decade of NORA:

1. Place special attention on supporting research and other activities that will improve working conditions for low-wage, immigrant, and underserved workers.

These workers are found in large numbers in the services sector, as well as in other sectors that are high-hazard and significant in California, including agriculture and construction. NIOSH should support and promote efforts that:

- Determine the most effective ways to provide health and safety information and training that is appropriate to the languages, cultures, and literacy levels in the workforce;
- Develop effective interventions for preventing and reducing musculoskeletal disorders, a major contributor to workers’ compensation costs and cause of lost work days and disability (often unreported and uncompensated);
- Disseminate available information that can be used to improve working conditions (i.e., hazard information, research findings, best practices), particularly to reach large numbers of small businesses and their diverse workers;
- Involve partnerships between occupational health professionals/researchers and community-based or other organizations that have special access to these workers and knowledge of their needs; and
- Determine how best to address health and safety within the context of other important problems and issues these workers face (e.g., language barriers, poverty, working long hours and/or multiple jobs, limited education, lack of access to health care and/or permanent employment, exploitation, other life stressors).

Comment ID: 1385.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

State Public Health Departments

Categorized comment or partial comment:

2. Enhance and expand partnerships between NIOSH and state public health departments for conducting occupational injury and illness surveillance and intervention activities, and to assist in translating research findings into safer workplace practices (NIOSH's Research to Practice initiative, or R2P).

We work closely with many NIOSH staff who understand that state-based programs are uniquely positioned to carry out these efforts; for example, we:

- Have legal right of access to workplaces to carry out public health investigations;
- Have statutory access to data sources (e.g., California's Doctor's First Reports of Occupational Injury or Illness and electronic Workers' Compensation Information System) for conducting epidemiologic analysis and "sentinel event" case follow-up investigations;
- Are part of the state's public health infrastructure, with useful ties to colleagues in communicable and chronic disease control, environmental health, family health, and health services delivery;
- Have existing relationships with local partners including trade associations, unions, community-based organizations, health professional organizations, and local health departments;
- Have a long history of collaborating with other states, NIOSH, and the Council of State and Territorial Epidemiologists (CSTE) to share information and experience, and to promote a growing network of state-based programs to prevent occupational injury and illness.

NIOSH support, collaboration, and technical assistance have been critical to many of these state-based activities. We have been successful in encouraging more states to expand their efforts in this important area of public health. More states are gaining expertise in doing this work and are able to identify important state priorities that need to be addressed, propose well-conceived research efforts, and write competitive grant applications. Therefore, we recommend that NIOSH:

- Increase the total amount of funding for activities conducted by state public health departments;
- Provide enhanced funding for projects that involve developing and implementing intervention projects;
- Support proposed partnerships that allow states to work with stakeholder groups to address health and safety issues identified in a participatory group process (such as the BuildSafe California construction industry training effort funded under the NIOSH Core Surveillance cooperative agreement); and
- Partner with states on efforts that involve widespread dissemination of research findings and adoption of the best health and safety practices in our states' workplaces.

We look forward to working with NIOSH and others in creating new opportunities and approaches for promoting workplace health and safety in California over the second decade of NORA. Thank you again for the opportunity to offer these comments.

NOTE: Text entered from submission E20. This is an expansion of comments made at a Town Hall meeting; those comments were assigned docket number w760.

Comment ID: 1396.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Surveillance

Etiological research

Exposure assessment

Training

Health service delivery

Partners

Categorized comment or partial comment:

NORA PUBLIC HEARING

Public Testimony

January 17, 2006 Town Hall Meeting

Seattle, Washington

I'm Paul Gunderson, a farmer whose operation straddles the Continental Divide, and who serves on the Advisory Board, High Plains Intermountain Center for Agricultural Health and Safety. If you and I were to read the book entitled "Through the Looking Glass and What Alice Found There" by Lewis Carroll, we would discover the Red Queen running frantically just to stay abreast of circumstances. This futile race is suggestive of the evolutionary forces that keep both pathogens and their targets alive. I postulate that such is the nature of infectious zoonoses which are ubiquitous in agricultural settings. Changes in both climatic conditions and agronomic and husbandry practice have permanently altered human exposures to zoonoses within the North American agricultural worksite. And, demographic change in the agricultural workforce in many regions of the United States has also altered perception of risk by individual workers due to life experiences from abroad which are different from generations of domestic American farmers, growers, and ranchers. The emergence of *B. anthracis* as an infectious bacterium in cattle, cattle handlers, pen riders, and veterinarians on the northern high plains in the summer of 2005 is but one example of a worksite risk perpetrated by both (1) a change from cool and dry weather to a warmer moist climate, and (2) change in agricultural technologies which incentivize biographic diaspora,

workforce interaction with domestic livestock, and the emerging concentration of livestock enterprises. Other examples might include *Coxiella burnetti* (Q fever), numerous hantaviruses, campylobacteriosis, swine brucellosis, and T fever (cat scratch disease). Most high plains states will report 100 or more cases of campylobacteriosis each year to the CDC; all typically occur within human populations exposed through work tasks to domestic agricultural livestock.

Because these infectious diseases occur within populations exposed to agricultural risk, they are likely to go unrecognized and unreported in this nation's disease reporting networks. This occurs because (1) presenting symptoms are often similar to other prevalent sequelae, (2) agricultural workers are culturally conditioned to avoid primary medical care, (3) rural clinicians may not possess resources or clinical acumen capable of detection, (4) patient triage among rural clinicians may be poorly orchestrated or non-existent, and (5) non-recognition of clinical significance and presenting symptomatology by exposed working populations renders the rural medical care system impotent. As a nation we can do much better.

NIOSH is in a unique and favored position to promote resurgence of our nation's capability to detect and interdict infectious zoonotic disease. NIOSH could encourage its funded agricultural centers to focus added resources on (1) targeted local surveillance within selected high-risk agricultural settings which would serve to elucidate host characteristics and transmission modalities, (2) development of additional laboratory capability, and (3) development and field-testing of educational materials and strategies for use within working agricultural populations, including veterinarians. Additionally, NIOSH itself needs to hold on to its present laboratory capability as well as its occupational hygiene capacity so that it stands ready to assist state public health departments, local public health agencies, and local medical facilities and veterinarians in interdicting zoonotic disease, preventing its spread, and identifying opportunities for its prevention at local agricultural work sites. Included could be (1) development of new laboratory and rapid field-based detection technologies and assays, (2) additional state-level and regional laboratory certification assurance, and (3) development and distribution of training materials for laboratory technologists.

NOTE: Text entered from submission E8. Similar information was provided as verbal comments at the Seattle Town Hall meeting and were given docket number w496.

Comment ID: 1538.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Exposures of children (as well as the elderly) on agricultural operations and associated injuries and consequences. Agricultural operations are unlike other workplaces, given the fact that the very young and elderly -- in addition to the typical aged work force is subjected daily to numerous and extraordinary exposures that place them at great risk. Resulting injuries also result in a great burden to the overall operation. Through several major research efforts, this is evident as a major problem.

Comment ID: 1538.02

Categorized with the following terms:

Sectors

Services
Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Violence

Approaches

Etiological research
Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Violence in the workplace is a major cause of occupational mortality and morbidity. It is also a major problem that may vary in the manner in which it is manifested among occupations, and by types of worksites. Only limited analytical research has been conducted, to date, to identify specific risk factors that can be used as a basis for appropriate development of interventions.

Comment ID: 1996.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Radon in the workplace is a health risk that should be addressed on a national scale.

Comment ID: 1997.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Mortality

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Radon in the workplace is a serious issue. Thousands of Americans die each year from radon induced lung cancer in their home and workplaces. Occupational limits for radon exposure that are much more health protective than that of OSHA's current limits should be explored.

Comment ID: 1999.01

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Cancer

Mortality

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Exposure assessment

Partners

American Association of Radon Scientists; EPA

Categorized comment or partial comment:

I strongly encourage NIOSH to examine the workplace exposure of a wide variety of workers to radon and radon decay products. Residential exposure is responsible for about 21,000 lung cancer deaths per year in the U.S. Other than underground miners, we have either no or insufficient exposure data for other workers such as those in water plants, fish hatcheries, phosphate plants, utility and subway tunnels, oil refineries, and those who work in spaces in ground contact (plumbers, heating service personnel, radon mitigators). I encourage NIOSH to work with the American Association of Radon Scientists and Technologists and EPA on this issue. Thank you.

Wallace O Dorsey Jr

Radon-Ease, Inc

Comment ID: 2002.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Too many fees to do what made America great and enjoy her freedoms.

Comment ID: 2002.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Radon in the workplace is a serious issue. Lung Cancer survival rate is poor and Radon is the second leading cause of Lung Cancer. 22,000 deaths a year attributed. We worry and spend about too many things that claim just a few lives but ignore the ones that kill thousands? Don't understand the risk vs reward to what we put our efforts towards.

Comment ID: 2002.03

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Industry makes money off the backs of their workers they need to be forced to have safety their number one concern and not their number 167th behind what they ate for breakfast. Unions did a lot for safety and they get a bad rap in Kansas but they had their interests right in most cases.

Comment ID: 2008.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Authoritative recommendation

Partners

OSHA

Categorized comment or partial comment:

Radon in the Workplace, The OSHA Ionizing Radiation Regulations

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INTRODUCTION

The Occupational Safety and Health Administration (OSHA) is the federal agency responsible for the safety of American workers. Their overall mission is to save lives, prevent injuries, and protect the American workforce. The vast majority of American workers are covered by the Occupational Safety and Health Act of 1970. One specific part of the OSHA mission is to protect the American workforce from unnecessary exposure to ionizing radiation, and as it relates to this paper the radioactive gas Radon-222. Due to the fact that the OSHA ionizing radiation regulations have not been updated since their inception in 1970, some confusion has arisen as to what is the applicable limiting exposure value for Rn-222 in the workplace.

The Act: To assure safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions; by providing for research, information, education, and training in the field of occupational safety and health; and for other purposes.

The primary duty under the Act: Each employer shall furnish to each of his employees employment and a place of employment, which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.

What's covered under the Act: OSHA covers all radiation sources not regulated by the U.S. Atomic Energy Act of 1954. This would include X-ray equipment, accelerators, accelerator-produced materials, electron microscopes, betatrons, and some naturally occurring radioactive materials.

Who's covered under the Act: This Act shall apply with respect to employment in a workplace in a state - Section 4 Applicability of this Act. OSHA covers the private sector in States that do not have an approved OSHA plan. OSHA also covers federal workers except some Department of Defense workers. There are approximately 6.5 million workplaces covered by Act.

Who's not covered under the Act: Miners, construction workers covered under 29CFR1926, and State and local workers in the 26 states that have not entered into an agreement with OSHA to enforce their regulations. Pennsylvania is an example of one state that has not entered into an agreement with OSHA, and therefore its state and local government employees may be covered by the Pennsylvania Department of Labor and Industry, local codes, or nothing at all.

State OSHA Programs: OSHA encourages States to develop and operate their own job safety and health programs. There are currently 22 States and jurisdictions operating complete State plans, covering both private sector and State and local government employees: Alaska, Arizona, California, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Washington, and Wyoming. There are four States, which cover public employees only; Connecticut, New Jersey, New York, and Virgin Islands. Under these State plans OSHA relinquishes its authority to the States to cover occupational safety and health matters. If an employee finds a health and safety hazard they would bring their complaint directly to the State. In States without an OSHA Program, OSHA is the responsible agency for workplace health and safety issues.

What is an Occupational Illness: Any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. Included are acute and chronic illnesses or diseases that may be caused by inhalation, absorption, ingestion, or direct contact with toxic substances or harmful agents.

Occupational Exposure: It should be pointed out that the term "occupational" is used to describe two different groups of workers by the Nuclear Regulatory Commission (NRC) and OSHA. NRC regulates exposures to "persons licensed", who are potentially exposed to radiation as part of their jobs, such as nuclear power plant workers or medical personnel. NRC occupational exposure is specifically from licensed material. This type of occupational exposure does not include exposure to natural background radiation. The January 27, 1987 Federal Register helps to explain this type of worker. OSHA regulates exposure to "employees." These people may be exposed to natural background as part of their jobs, with the most likely source of that natural background radiation being Rn-222.

Ionizing Radiation under the Act: The ionizing radiation standard was issued in 1971. In 1996 OSHA re-designated the standard as 29 CFR 1910.1096, which is also the current designation. OSHA references Nuclear Regulatory Commission regulations as found in 10 CFR 20. The ionizing radiation regulation can be found at www.osha.gov, under Laws and Regulations select Standards, then select Part 1910 (Occupational Safety and Health Standard), then scroll down to 1910.1096 (Ionizing Radiation).

Now we must make a major distinction that is possibly the cause of some confusion. When OSHA issued their Ionizing Radiation Standard in 1971, they referenced 10 CFR 20 (NRC Regulations). They obviously

had to reference the NRC regulations in place at that time, which was the 1969 version of 10 CFR 20. The NRC revised their 10 CFR Part 20 regulations in 1991. The problem that arises is that individuals looking at the OSHA Ionizing Radiation Regulations today find no mention that OSHA is referencing NRC regulations and Tables that are over 30 years old, and in fact now are different then they were in 1969. The table 1 below shows the differences of the NRC Appendix B Tables from 1969 to 2003.

Table 1, 10 CFR 20, Appendix B, Limits for Radon-222

	1969	2003		
	Table I	Table II	Table 1	Table 2
	Column 1	Column 1	Column 3	Column 1
	MPC (μCi/ml)	MPC (μCi/ml)	DAC (μCi/ml)	Air (μCi/ml)
Rn-222	1E-7	3E-9	3E-8	1E-10
Rn-222 (pCi/L)	100	3	30	0.1

Note: 1970 Table I concerns occupational exposure and Table II concerns effluent releases similarly, in 2003 Table 1 concerns occupational exposure and Table 2 concerns effluent releases. The effluent columns are concerned with the assessment and control of dose to the public. The NRC updated the 100 pCi/L MPC to the 30 pCi/L DAC in the 1979 CFR. The Table 1, Column 3, 2003 ed. also expresses the limit for Rn-222 plus daughters as 0.33 WL.

From the above Table it can be easily seen how someone would use the most current Table I value (2003) and come up with 30 pCi/L (3E-8 μCi/ml) for the Rn-222 value to use to define an “airborne radioactivity area”, or 25 percent of that value, 7.5 pCi/L, also to define an “airborne radioactivity area.” This seems to be where a 1993 Radon News Digest article on “Radon in the Workplace” misunderstood the regulations. Not only did Radon News Digest make this mistake but OSHA also made the same mistake! In a letter to Mr. Richard A. Schreiber of the Georgia Radon Program, in which they were requesting OSHA interpretation of 29 CFR 1910.1096, OSHA responds in part “an airborne radioactivity area would exist in an area where an employee worked for 40 hours per week and the radon-222 concentration in the area exceeded 7.5 picocuries per liter.” Subsequently, OSHA caught their mistake and will edit this plus two other letters and provide the correct information. The mistake continues to propagate itself in the literature. A paper in the 1996 International Radon Symposium by an author from the National Institute of Occupational Safety and Health (NIOSH) quotes the “...PEL of 0.33 wl (30 pCi/L) based on 8-hour per day exposure throughout the work year ...” AARST was also led into believing that the workplace radon concentration of 7.5 pCi/L (25% of 30 pCi/L) was the value for defining an “airborne radioactivity area”. Finally, OSHA again makes the mistake in their Sampling and Analytical Methods, Method #ID 208, where they quote “OSHA PEL of 30 pCi/L (10 CFR part 20, App. B)”. Not only did the above references use the incorrect value, but some of them also seem to be using it in the wrong context. Some seem to be confusing posting requirements with exposure limits. See “Posting Requirements” and Exposure Limits” below.

In support of using the 1969 10 CFR 20 Table, Richard E. Fairfax, Director, Directorate of Enforcement Programs, OSHA writes in a December 23, 2002 letter to the Department of the Army “Case law supports the interpretation that the original version of a referenced federal regulation is the enforceable

regulation. Therefore, the 1969 version of Appendix B to 10 CFR Part 20 that was referenced in the original OSHA ionizing radiation standard in 1971 is enforceable.”

More confusion arises from the fact that one Federal agency (OSHA) references another Federal agencies (NRC) regulations, and the two agencies deal with different groups of people. OSHA regulates the employer for the health and safety of the employee, and NRC regulates the licensee for the health and safety of the workforce and the general public. As already noted OSHA ionizing radiation regulations point to 10 CFR 20, NRC regulations. Now, there is one major conflicting problem! The scope of 10 CFR 20 applies to persons licensed by the Nuclear Regulatory Commission to receive, possess, use, transfer, or dispose of byproduct, source, or special nuclear material ... The limits in this part (10 CFR 20) do not apply to doses due to background radiation ...

Based upon the above considerations, it would seem that naturally emanating Rn-222 would be excluded from Government regulation. Most general public employers do not have licenses for or posses NRC regulated material, and the agent of concern (radon) is due to natural background radiation, which (strictly interpreted) 10CFR20 does not apply to. However, all is not lost!

In 1989 Patricia Clark, Acting Director of OSHA Compliance Programs wrote a letter providing interpretation for the standard for ionizing radiation, 29 CFR 1910.1096. In that letter she wrote “An employer possesses radioactive material and comes under the scope of 29 CFR 1910.1096 if there are artificially enhanced concentrations of environmental radon-222 in the workplace. If environmental radon-222 concentrations have not been artificially enhanced, they are very much lower than permissible exposure limits (PEL). Accordingly, only artificially enhanced concentrations of environmental radon-222 would be sufficiently high that provisions of 29 CFR 1910.1096 would go into effect. The most common places for significant artificial enhancement of radon-222 concentrations to occur are inside of buildings or other types of enclosures constructed on or in the ground.”

Interestingly, OSHA even considers the employer to “posses” the Rn-222 if the presence of the Rn-222 in a structure controlled by the employer exposes employees to hazardous concentrations of airborne radiation as set forth in the standard. If that were the case then 29 CFR 1910.1096 would apply. This places a further liability on the employer.

An additional letter from Ruth McCully, OSHA Director Office of Health Compliance Assistance, dated October 6, 1992 further helps clarify the radon issue. She writes, “29 CFR 1910.1096 covers Naturally Occurring Radioactive Material (NORM). Accordingly, the definition of airborne radioactive area applies to areas that contain airborne NORM.”

Thus it would appear that Rn-222 is indeed “covered” by OSHA regulations, as indeed it is.

Who does the testing: It is the responsibility of the employer to do the testing. As stated in 1910.1096 (d)(1) “Every employer shall make such surveys as may be necessary for him to comply with the provisions in this section. Survey means an evaluation of the radiation hazards incident to the production, use, release, disposal, or presence of radioactive materials or other sources of radiation under a specific set of conditions. When appropriate, such evaluation includes a physical survey of the location of materials and equipment, and measurements of levels of radiation or concentrations of radioactive material present.”

What does one say to an employer who says ‘I didn’t know I was supposed to test!’ According to Assistant Secretary for OSHA Gerard Scannell (1991) “an employer who knows, or could have known

with the exercise of reasonable diligence of the existence of artificially enhanced concentrations of environmental Rn-222 in its workplace, must conduct a survey as described above.”

Mr. Scannell in a 1991 letter to Senator John McCain clarified that “an employer could know of a potential hazard with the exercise of reasonable diligence if the media has reported excessive radon exposure in the area the workplace is located.”

How is the testing done: The OSHA Technical Manual, Section III, Chapter 2, Indoor Air Quality Investigation says “a rapid, easy-to-use screening method for measuring radon gas concentrations is available from the Salt Lake Technical Center.” This method is listed as ID-208, and in fact is the electret ion chamber method. OSHA then goes on to quote from the EPA Citizen’s Guide To Radon and says that screening samples less than 4 pCi/L probably do not require follow-up, and screening samples greater than 4 pCi/L should have follow-up measurements performed.

The standard in 29 CFR 1910.1096 defines three types of restricted areas that must be identified and have their boundaries demarcated with special warning signs. They are “radiation area,” high radiation area,” and airborne radioactive area.”

Restricted area means any area access to which is controlled by the employer for purposes of protection of individuals from exposure to radiation or radioactive materials. The OSHA regulation does not define restricted area in terms of exposure to airborne radioactive materials, therefore, areas that do not qualify as “unrestricted areas” are “restricted areas.” Based on the definition below of unrestricted area this would imply that any work area which had Rn-222 concentrations greater than 3 pCi/L would be considered a restricted area.

Unrestricted area means any area access to which is not controlled by the employer for purposes of protection of individuals from exposure to radiation or radioactive materials.

Patricia Clark goes on to say that an “unrestricted area for airborne radioactive materials are areas where concentrations do not exceed the limits specified in Table 2 of Appendix B to 10 CFR 20. Table 2 (1970 edition) shows a value for Rn-222 of $3E-9$ μ Ci/ml, which equates to 3 pCi/L. This concentration may be averaged over a period of one year.

Radiation area means any area, accessible to personnel, in which there exists radiation at such levels that a major portion of the body could receive in any 1 hour a dose in excess of 5 millirem, or in any 5 consecutive days a dose in excess of 100 millirem.

High radiation area means any area, accessible to personnel, in which there exists radiation at such levels that a major portion of the body could receive in any one hour a dose in excess of 100 millirems.

The radiation area and the high radiation area are concerned with external exposure and will not be discussed further in this paper since we are concerned with the inhalation exposure from radon and daughters.

Posting Requirements

Airborne radioactivity area means any room, enclosure, or operating area in which airborne radioactive materials, composed wholly or partly of radioactive material, exist in concentrations in excess of the amounts specified in column 1 of Table 1 of Appendix B to 10 CFR Part 20, 1970 edition (100 pCi/L)

Or

Any room, enclosure, or operating area in which airborne radioactive materials exist in concentrations which, averaged over the number of hours in any week during which individuals are in the area, exceed 25 percent of the amounts specified in column 1 of Table 1 of Appendix B to 10 CFR Part 20.

Please be aware that the above two paragraphs are concerned with posting requirements for airborne radioactivity areas. If either one of the above two situations arise then the area must be posted, "Caution, Airborne Radioactivity Area." The two paragraphs differ in that the first paragraph has no mention of individuals, and it uses the limiting value as found in Appendix B. The second paragraph introduces individuals into the work area and because of this reduces the Appendix B limiting value to 25% of the limiting value (25 pCi/L). The second paragraph has no mention of employee time in the area. Technically, if employees were in the room for one hour and the average Rn-222 concentration over that one hour was greater than 25 pCi/L, then the room must be posted.

Therefore, if one placed a continuous monitor in an area, occupied by the workforce for 40 hours per week and the average concentration for those 40 hours was greater than 25 pCi/L you would have an airborne radioactive area and all of the implications that go with it, that is, employee monitoring, restricted access by the public, and the area would also have to be posted with a sign bearing the radiation caution symbol and the words "Caution, Airborne Radioactivity Area."

Exposure Limits

There is only one OSHA Rn-222 exposure limit and that is found in 10 CFR 20, Appendix B, Table 1, Column 1, and that value is $1E-7$ mCi/ml or 100 pCi/L. This exposure limit is specified for 40 hours in any workweek of 7 consecutive days, and applies to exposure in a restricted area (see definition page 5). OSHA apparently set this limit based on Federal Radiation Council guidance to the President in December 27, 1968, and U.S. Department of Labor hearings on Radiation Standards for Mining under the Walsh-Healey Public Contracts Act, November 20 and 21, 1968. This guidance said that occupational exposure to radon daughters in underground uranium mines be controlled so that no individual miner receive an exposure greater than 12 WLM per year, and that exposures should be kept as far below these values as practicable. The guidance went on to say that the uranium mining industry should continue to strive to meet the anticipated 4 WLM standard that would go into effect on January 1, 1971. Note: The 100 pCi/L OSHA maximum permissible concentration results in an exposure of 12 WLM/yr (See Appendix E).

If an employer has a work area that is occupied by their employees for 40 hours per week and the Rn-222 concentration is greater than 100 pCi/L, then the employer must either reduce the number of hours worked in the area or introduce engineering controls to reduce the concentrations. If the area is occupied it would also need to meet the posting requirements. If the number of hours worked in an area are less than 40 hours the limit specified in Appendix B may be proportionally increased, and if the number of hours worked are greater than 40 hours, the limit shall be decreased proportionally. For instance, if individuals were only in the work area for 20 hours the Rn-222 exposure limit would now be 200 pCi/L.

OSHA Permissible Exposure Limits (PEL): PELs are set to protect workers against the health effects of exposure to hazardous substances. PELs are regulatory limits on the amount or concentration of a substance in the air. PELs are based on an 8-hour time weighted average exposure.

There are permissible exposure limits for about 500 substances. These lists are found in 29CFR1910.1000, Tables Z-1, Z-2, and Z-3, "Limits for Air Contaminants". Radon-222 is not found in these tables. The OSHA, Radon-222 PEL is actually the NRC Maximum Permissible Concentration (MPC), which is found in 10CFR20, part 20, appendix B, 1970 ed. This value as listed in Appendix B is $1\text{E-}7$ $\mu\text{Ci/ml}$ or 100 pCi/L for 40 hours per week.

Understanding 10CFR20, Appendix B: Appendix B, Table 1 lists activities (μCi) and concentrations ($\mu\text{Ci/ml}$) of radionuclides necessary to keep worker radiation doses below the occupational exposure limits of 5 rem whole body or 50 rem to an organ or tissue. Values are listed for both ingestion and inhalation. We will concern ourselves with the inhalation values. Column 2 lists the inhalation annual limit of intake (ALI), which is the annual intake of a given radionuclide that would result in a committed effective dose equivalent of 5 rem or a committed dose equivalent of 50 rems to an organ or tissue. For Rn-222 with its daughters present the current NRC ALI is 4 WLM. Column 3 lists the inhalation derived air concentration (DAC), which are limits intended to control chronic occupational exposures. The DAC for Rn-222 with its daughters present is 0.33 WL or at 100% equilibrium 30 pCi/L (10 CFR 20, 2003 edition). The DAC value is based on a 2000-hour work year.

The DAC and the ALI are related. The DAC (in $\mu\text{Ci/ml}$) = $\text{ALI}(\text{in } \mu\text{Ci})/2.4\text{E}9 \text{ ml}$, or put another way the DAC is the concentration of radionuclide in air, which if breathed for a work-year (2000 hrs) would result in the intake of one ALI. In terms of Rn-222 this would mean that in an environment with 30 pCi/L (DAC) for 2000-hours per year, one would accumulate 4 WLM (ALI) of exposure, which would produce a 5 rem whole body or 50 rem lung dose. For comparison purposes, if exposed to the average ambient radon concentration (~ 0.3 pCi/L) one would accumulate 0.2 WLM of exposure per year. See Appendix D.

Over the years a very broad range of occupational dose limits for radon exposures have been presented, values have ranged from less than 1 WLM/yr to greater than 20 WLM/yr. In 1967 the Environmental Protection Agency (EPA) used a value of 12 WLM/yr. In 1969 they put forth 4 WLM/yr on a trial basis, and then on July 1, 1971 they made the 4 WLM/yr final for miners. This reduction in exposure limits was based on earlier studies of uranium miners showing increased lung cancer incidence. This recommendation by EPA was also extended to other Federal agencies in 1971. See Appendix G.

The EPA recommends 4.0 pCi/L of radon-222 as its action level for mitigation in residences and schools; EPA has no guidance that applies directly to the workplace. The EPA guideline is not an occupational safety and health standard and does not carry the weight of law.

OSHA is considering revising its radiation protection standards in the near future. OSHA has also entered into an agreement with the Health Physics Society to provide consultation services regarding radiation safety matters. It would certainly appear that the OSHA ionizing radiation regulations require an update. In particular as they relate to Rn-222 exposure in the workplace, these standards need to clearly cover occupational exposure to naturally emanating Rn-222 and be brought more in line with current radiation safety regulations and guidelines.

Conclusions

The OSHA ionizing radiation regulations, 29 CFR 1910.1096 are in need of revision to bring them in line with the most current information on radiation health effects and exposures in the workplace.

If normalized to 100% equilibrium (100 pCi/L equals 1 WL), a continuous exposure in the workplace (2000 hrs/yr), at the OSHA exposure limit of 100 pCi/L results in a cumulative exposure of 12 WLM/yr.,

compared to a continuous exposure in the home environment (6570 hrs/yr), at the EPA guideline of 4 pCi/L resulting in a cumulative exposure of 1.5 WLM/yr. Thus, the current OSHA Rn-222 workplace limit results in an exposure over six times greater (12 WLM Vs. 1.5 WLM) than the current EPA guideline of 4.0 pCi/L. See Appendix F.

President Ronald Reagan in a 1987 memorandum gave recommendations for numerous federal agencies, including OSHA to update previous regulations for the protection of workers exposed to ionizing radiation. This has yet to be accomplished.

Many authors and agencies over the past 10 years or so have mistakenly used the incorrect, although more conservative, limiting value for Rn-222 as found in post-1978 10 CFR 20 editions, Appendix B, and have confused Posting Requirements with Exposure Limits.

If the employer, with the exercise of reasonable diligence, knows or could have known about the existence of artificially enhanced concentrations of environmental Rn-222 they must conduct a survey.

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Appendix A, OSHA Rn-222 Exposure Limit

Appendix B, Table1, Column 1 1E-7 mCi/ml (100 pCi/L)

Appendix B, OSHA Posting Requirements

Airborne Radioactivity Area

Unoccupied Room or Area 100 pCi/L

Occupied Room or Area 25 pCi/L

Appendix C, Radiation Areas

Unrestricted Area < 3 pCi/L

Radiation Area > 5 mrem/hr External >3.6 pCi/L

High Radiation Area >100 mrem/hr External >150 pCi/L

Note: The picocurie/liter values for radiation area, and high radiation area are derived values and not specifically applicable to these areas.

Appendix D

DAC to ALI

Rn-222 DAC equals 0.33 WL or at 100% equilibrium 30 pCi/L

Rn-222 ALI equals 4 WLM per year

Therefore: $\{(0.33 \text{ wl}) (2000 \text{ hrs/yr})\} / 170 \text{ hrs per month} = 3.88 \text{ wlm or } \sim 4 \text{ wlm}$

ALI to Committed Dose Equivalent (CDE)

Therefore: $(4 \text{ wlm}) (0.6 \text{ rad/wlm}) = 2.4 \text{ rad}$

$(2.4 \text{ rad}) (20) = 48 \text{ rem or } \sim 50 \text{ rem to TB region of lung}$

Appendix E

Maximum Permissible Concentration to WLM

Assume 100% equilibrium ratio and 2000 hours/year exposure.

OSHA MPC equals 100 pCi/L or 1WL, therefore

$\{(1 \text{ WL}) (2000 \text{ hrs/yr})\} / 170 \text{ working hours per month} = 11.76 \text{ or } \sim 12 \text{ WLM/yr}$

Appendix F

Work Exposure verse Home Exposure

Work: Assume (OSHA Limit) 100 pCi/L = 1WL, and 2000 hours/yr worked

$\{(1 \text{ WL}) (2000 \text{ hrs/yr})\} / 170 \text{ hrs/month} = 11.76 \text{ WLM } \sim 12 \text{ WLM}$

Home: Assume (EPA Guideline) 4 pCi/L = 0.04 WL, and 6570 hours/ yr at home

$\{(0.04 \text{ WL}) (6570 \text{ hrs/yr})\} / 170 \text{ hrs/month} = 1.54 \text{ WLM}$

Appendix G

A Brief History of the Rn-222 Occupational Limits

Much of the Federal guidance given below was based on studies starting in the early 50's of uranium mines on the Colorado Plateau. The U.S. Public Health Service, primarily led by Duncan Holaday and his colleagues were the first group to raise concern about the potential health effects from radon daughter exposure in the mines. There was already evidence coming from the "European Experience" where increased lung cancer rates were seen in the miners. However, there was great reluctance by the miners to take radon seriously, they were making good money. The mine operators were also reluctant to disturb operations. However, in spite of the reluctance, the Public Health Service was able to start getting into mines to take samples and also have physical exams performed on many of the miners. It was too early yet to see any malignancies in the miners, however, the air samples were certainly alarming. One sample at a working face in a Utah mine showed 26,900 pCi/L, another at the entrance incline was 14,000 pCi/L. These samples are compared to what was seen in some German and Czechoslovakian mines with 1,000 and 1,500 pCi/L, respectively. It was becoming obvious that something had to be done. The Public Health Service estimated that a maximum allowable concentration of 100 pCi/L of radon would be safe in a mine. This was also the European standard. The only radiation standards at the time were those established by the NCRP in 1940. Finally, Dr. John Harley at the Health and Safety Laboratory found that it was not the radon but the radon daughters that were the significant health concern. It would be up to the Atomic Energy Commission to set the standard, see below.

December 1968 the Federal Radiation Council (FRC) submitted three memorandums to the President concerning radiation protection guidance for Federal agencies. The recommendations contained in the memorandums were based on FRC Report No. 8, "Guidance for the control of radiation hazards in uranium mining", September 1967.

The first memorandum was published in the Federal Register on August 1, 1967. The FRC considered exposure guidance of 36, 12, and 4 WLM per year. Based on a balance between risks to miners and exposure control capability in the mines they choose the 12 WLM per year limit.

The second memorandum was published in the Federal Register on January 15, 1969. In this memorandum the FRC gave guidance to Federal agencies concerning underground uranium mining. They put forth eight recommendations, two of which are most important to this discussion. 1) Occupational exposure to radon daughters in underground mines shall not exceed 12 WLM in any consecutive 12-month period, and 2) The uranium mining industry is urged to continue to lower exposures so that the anticipated 4 WLM per year standard can be attained by January 1, 1971.

A very significant study from NIOSH by Lundin, et. al., 1971 provided very conclusive evidence that there was a statistically significant excess of respiratory cancer observed in white uranium miners at cumulative exposures down to and including the 120-359 WLM range. Furthermore, it was concluded this excess respiratory cancer was due to radon daughter exposure. This report would be significant in setting the new 4 WLM standard.

In the May 25, 1971 Federal Register the Environmental Protection Agency (EPA) provided further guidance to Federal agencies concerning underground mining of uranium ore. They concluded that 4 WLM per year was technically feasible, and that the 4 WLM standard would not have a severe impact on the uranium mining community, and that a standard greater than 4 WLM would probably result in dosages greater than those permitted for other occupational exposure situations. This recommendation of 4 WLM per year was approved by the President and published in January 15, 1969 Federal Register, and was to become effective January 1, 1971. This date was later extended to July 1, 1971.

Based upon the May 25, 1971 Federal Register announcement by EPA of the 4 WLM/yr standard public comments were received. The EPA responded to those comments as published in the July 9, 1971 Federal Register and concluded that no change would be made to the 4 WLM/yr standard.

In the June 24, 1974 Federal Register the Atomic Energy Commission (AEC) considered an occupational concentration value for Rn-222 daughters in their Table 1, Appendix B. The limit for Rn-222 would be replaced by a limit for the daughters since they are the major health hazard. This change would bring the limit to 4 WLM/yr as recommended by the EPA, which was about 1/3 of the current 10 CFR 20 value. This change was in conformance with the ICRP Publication 2, "Report of Committee II on Permissible Dose for Internal Radiation", published in 1959, which recommended a limit on Rn-222 of 3E-8 mCi/ml (30 pCi/L) with daughters present. NCRP also recommended the same limit in their NBS Handbook 69, 1959.

The AEC considered (June 24, 1974 Federal Register) expressing the Rn-222 daughters concentration in terms of working levels but rejected this because it would add a new unit to the table and add confusion. It was therefore proposed and amended that the current Appendix B, Table 1 limit for Rn-222 be deleted and a new line for Rn-222 daughters be added beneath the Rn-222 line. The Rn-222 daughters limiting value would be 7E-8 mCi/ml (70 pCi/L). This limit is based on a one-week average. A Rn-222 value of 3E-8 mCi/ml (30 pCi/L) appears under Table II, Column 1.

As published in the October 31, 1975 Federal Register, the AEC decides to express both radon and its daughters in conventional ways. Thus the Federal Register announcement of June 24, 1974 was amended to show Rn-222 concentration limit of 3E-8 mCi/ml (30 pCi/L), under Table 1. A footnote gives alternate limit of 1/3 WL for daughters. This amendment becomes effective January 29, 1976.

The Nuclear Regulatory Commission (NRC) changed the averaging period for the Rn-222 limit from one week to one year in the July 7, 1978 Federal Register.

The Rn-222 limit of 30 pCi/L (0.33 WL) that became effective on January 29, 1976 did not appear in the NRC, 10 CFR 20 Appendix B table regulations until the 1979 edition. Prior to that it had been 100 pCi/L.

Comment ID: 2016.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

There have been numerous studies regarding health effects of radon and miners. There is a need to determine radon exposure in the general work place. It is not necessary to work in an underground facility to be exposed to radon.

Comment ID: 2021.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Risk assessment methods

Authoritative recommendation

Partners

Categorized comment or partial comment:

Radon exposure is a significant problem for workers in this industry. Radon is a gas which leads to lung cancer, and comes ultimately from uranium in the earth's crust. This is a problem for people in their homes, and is even more of a problem for people who work in underground space. More research is needed into this area to determine "safe" levels of exposure, if any, to come up with a real standard and a requirement for employers to protect employees.

Comment ID: 2108.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Radon is a serious problem and here in WY we have NO regulations governing Radon in any way. It is VITALLY IMPORTANT that Radon be addressed in the workplace as EVERYONE works somewhere; ie. daycare, schools, factories, office buildings, etc. Right now I am breathing Radon in my office building as I type this message. Please put more teeth and resources into Radon testing, mitigation, regulation, education, etc.

Thank you.

Comment ID: 2413.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Indoor environment

Approaches

Partners

Categorized comment or partial comment:

How built environments put at risk populations.

Comment ID: 2413.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

lessons learned and emergency response could be studied through the analysis of patterns, similar to the great effects of the butterfly effect. Small differences may be found, and provoke great differences in the prevention and anticipation of incidents, like avoiding repetition and provoking dynamic changes in existing parameters for design, preparedness, and its relation to human error.

Comment ID: 2413.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Etiological research

Partners

Categorized comment or partial comment:

The impact in human vision and its relation to the design of scanners and laser equipment and the constant exposure of humans to them. Human factors considering emotional paradigms and conceptions, height, angle of vision and angle of equipment relation, may need further studies, probably leading to training in areas not yet considered.

Comment ID: 2413.02

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Study through the analysis of pastterns new aproaches outcomes assessment.

Comment ID: 2539.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Immune disease

Dermal disease

Infectious diseases

Exposures

Approaches

Personal protective equipment

Partners

Categorized comment or partial comment:

i would like others in nursing and healthcare to know about the allergies that can be associated with wearing gloves. i was an er nurse who developed systemic mold infection and then systemic reaction to mold (the occlusive nature of the gloves produced mold with my sweat which caused a systemic reaction). i am on my 4th year of allergy injections and had to change my job and i am working in a call center. My immune system is very low as i now have low t and b cells. There are more to allergies than just latex. It was a difficult situation, also because i had to hire a lawyer. The hospital was not helpful or supportive.. thanks pat e roscoe, bsn, rn

Comment ID: 2556.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Cardiovascular disease

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I would like to know if any study has been done on chronic low-level carbon monoxide poisoning? I have lost four jobs and have to refuse work in other settings because of an occupational-environmental-type illness that has given me varied symptoms creating real health concerns since relating the difficulty to air in October of 2002. I have not been able to find a doctor who would acknowledge the cause of my illness or at least admit that the continuing problems are a result of the CO exposure after stating that initially I was so exposed. My case is extremely important to the health care system because it proves a very real connection between low-level long term CO exposure and numerous illnesses-diabetes, chronic back pain, heart problems, etc. It would seem to me that with the current environmental issues this CO problem should be revealed so that doctors and labour board people could no longer pretend ignorance. Thankyou.

Comment ID: 2568.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

On-site Chair Massage. We develop a program for companies and business to integrate chair massage to their wellness program or to set-up a new program as a way to reduce stress in the workplace. Work Stress has become a dominant factor in our workplace and it affects all of us. Work stress can lead to poor health and even injury. Our program is a very attractive and affordable one for any company or business, and the results are very notable.

Comment ID: 2600.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Immune disease
Respiratory disease

Exposures

Approaches

Etiological research
Exposure assessment
Engineering and administrative control/banding
Authoritative recommendation

Partners

Categorized comment or partial comment:

DATE: March 1, 2006

TO: John Howard, M.D.

Director, National Institute for Occupational Safety and Health

FROM: Muriel Dando, President

Human Ecology Action League, Inc. (HEAL)

RE: National Occupational Research Agenda (NORA)

Thank you for the opportunity to contribute to the National Occupational Research Agenda.

We urgently recommend that NORA undertake research to investigate work-related asthma in nurses and teachers, to identify workplace exposures related to asthma in nurses and teachers, and to recommend ways to reduce or eliminate these exposures.

Nurses and teachers are of critical importance to the nation, as they are entrusted with the well being of our most vulnerable citizens - the sick, and children. The Department of Labor anticipates a dramatic increase in demand for workers in both professions in the near future, yet current data indicate that worker turnover is high in both professions. We believe that work-related asthma may be playing a role in worker turnover in nurses and teachers, and that preventing workplace asthma exacerbations could help increase worker retention and productivity in both fields.

Our concern about the workplace health of nurses and teachers arises from the purpose and goals of the Human Ecology Action League, Inc. (HEAL). HEAL is a national nonprofit education and information organization concerned about the health effects of environmental exposures, particularly low-level exposures common in daily life and in many workplaces. One of the oldest environment and health organizations in the country, HEAL is an independent organization, funded solely by membership fees and donations. While HEAL has a primary responsibility to serve its own members, it also has an important responsibility to educate and inform the general public.

We have received reports from nurses and teachers about workplace conditions that they believe are harmful to their respiratory health. As the attached report illustrates, this perception is widespread in both professions. We believe that there is enough evidence to warrant a vigorous and extensive research effort to uncover the extent and nature of the problem of work-related asthma in nurses and teachers, to identify contributing factors that undermine respiratory health in these workers, and to recommend effective means of mitigating or eliminating these factors.

We hope that you will consider including this issue in the NORA agenda.

Note: The text above was entered from the letter embedded in submission E51. The full report is available in [Appendix 9](#).

Comment ID: 2720.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

The interim fall protection STD 3-0.1A needs to be reviewed and modified to reflect the present work practices and materials being used. Asking framers to set trusses and second floor joists from ladders is an alternative but is it really safe? Additional work and research needs to be conducted on temporary anchor points during the framing process and other residential construction tasks such as building decks, installing siding, and other tasks requiring work above 10 feet. When can one tie off of trusses? Does installing an anchor point on a wood frame meet the 5000 lb anchor point requirements? These are issues that have had no research conducted. How do you expect workers to tie off if there is no anchor point.

Comment ID: 2720.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Authoritative recommendation

Marketing/dissemination

Partners

Categorized comment or partial comment:

More outreach programs are needed for the small contractors. Residential construction is conducted by many small contractors with less than 10 employees and most of them are hispanic. Communication issues is a great problem. How do you convince sub contractors that are piece workers to work safely and spend money on equipment that is going to slow them down? Guides that help small contractors develop their safety program and communicate to their workers the need to work safely is lacking. To top if off the residency status of many workers makes it more difficult to assure them that they have a right to a safe work place. They are afraid to speak up when asked to do unsafe tasks.

The training materials and classes need to be accesible to all that are doing the work. There are great resources on the internet but most of the small contractors do not use computers. They rely on verbal and written communication. Training Materials should include pictures with symbols.

Focus groups should review existing work practices and evaluate if they meet OSHA requirements. Specific regulations focusing on residential construction need to be developed and implemented.

Comment ID: 2890.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Due to the high rate of infectious diseases that patients contract in hospitals, nursing homes, rehabilitation centers, etc., cleanliness, sterilization, disinfection and washing of the hands of nurses and doctors as they go from one patient to another, is of the utmost importance.

My question is: Do hospitals and other health facilities actually hire enough workers to clean, disinfect, sterilize, patient's rooms and bathrooms? Seems years ago, patients rooms and bathrooms were cleaner and cleaned more often. As the years go by, it appears that these rooms are not kept as clean, no matter which state you may be in.

Also years ago, many things in the patient's room were made of stainless steel. Now there is so much plastic and wood. These items are more porous and can retain bacteria. I also believe that for each new patient, the divider curtains around the beds should be freshly cleaned. And food should be served on China-style dishes and cups that can be sterilized properly with stainless steel food covers instead of plastic.

Nowadays patients are given booties to put on their feet and wear them to go to the bathroom or walk down the facility's hallway or take the elevator or stairs to other locations of the facility and then they go back to their room and into their bed with the same booties on their feet. Many germs are brought right into their own bed.

The poor nurses have so much paper work to do and it makes them always in a hurry when attending their patients that they don't always take the time to wash their hands between touching other patients.

Maybe some of these observations can be of help.

Comment ID: 2979.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

I am a research assistant with the Rehabilitation Research Design and Disability (R-2D2) Center at the University of Wisconsin-Milwaukee. We are conducting research on falls risk factors and trying to further explore the variables that few have previously investigated. Has NORA considered the effects of bifocal use on falling?

Comment ID: 3521.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Manufacturing

Population

Health outcomes; diseases/injuries

Infectious diseases
Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors
Radiation (ionizing and non-ionizing)

Approaches

Engineering and administrative control/banding
Training
Marketing/dissemination

Partners

Categorized comment or partial comment:

January 15, 2006

To Whom It May Concern:

I am writing as a Chemistry professor at Heritage University (Toppenish, Washington), a researcher focusing on alternative (primarily non-food) uses of agriculture, and a member of El Proyecto Bienestar (a partnership among the University of Washington, the Yakima Valley Farm Workers Clinic, the Northwest Communities' Education Center, and Heritage University dedicated to protecting the health and well-being of local agricultural workers and their families).

For several years, my students (90-percent of whom are Hispanic or Native American) and I have been making and testing biodiesel fuels, ethanol, producer gas, pelletized solid fuels, biolubricants, polymers, composite materials, specialty papers, inks and wood stains, skin creams and cosmetics, nutritional supplements, baking ingredients, animal feeds, soil amendments, and other products (more than two-dozen items in all) derived from agricultural byproducts discharged from local industrial operations.

To date, we have been accident- and injury-free during the conduct of this work; since we observe the proper safety and environmental procedures.

My concern regards the implications of scaling-up these technologies and moving them out of the laboratory environment (where skilled students and faculty use proper protective gear and training to

ensure the safe handling and management of chemically and biologically active materials and equipment) into the field.

I am supportive of efforts to expand the scope of agriculture to address our nation's energy, materials, chemical, nutritional, and pharmaceutical needs. These measures could lead to a substantial improvement in the availability and affordability of these items and create related jobs and businesses in economically depressed areas while reducing our dependence on foreign sources and minimizing the adverse environmental impacts of current practices.

These measures could also lead to a substantial increase in the number of chemical, biological, electrical, mechanical, and perhaps radiological risks faced by agricultural workers and their communities, to the extent that the commercial deployment of these new technologies proceeds in a modular, distributed fashion (i.e., close to the farm in order to reduce the costs of transporting low-value materials).

Among these risks are toxic substances (e.g., methanol, carbon monoxide, methoxides), flammable substances (e.g., methane, ethanol, hexanes), biological substances (e.g., many micro-organisms, plants, and their substrates that are new to commercial agriculture and have different characteristics and properties), electrical components (e.g., inverters, switch gear, transformers, network interconnects), mechanical components (e.g., shredders, mixers, pelletizers, gasifiers), and possibly radiation sources (e.g., gamma-rays and e-beams for sterilizing, pre-conditioning, or reacting biomaterials).

Accordingly, I urge that - in anticipation of these new directions in agriculture - communication, education, and training programs (in English and Spanish) be developed, based on the best available research and understanding of these risks and incorporating the best available detection and control technologies, and disseminated to ensure that these enterprises can proceed without exacerbating the risks of injury and illness already faced by our agricultural workers and their families.

Thank you for your consideration of this important matter. I would be pleased to respond to any related comments or questions.

Sincerely,

Eric Leber

NOTE: Text entered from submission E-21.

Comment ID: 3522.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cardiovascular disease
Neurological effect/mental health
Immune disease
Musculoskeletal disorders
Traumatic injuries
Mortality

Exposures

Cardiovascular disease
Work organization/stress
Work-life issues

Approaches

Etiological research
Engineering and administrative control/banding
Intervention effectiveness research

Partners

Categorized comment or partial comment:

National Occupational Research Agenda

Seattle Town Meeting: January 17, 2006

Psychosocial Factors affecting Worker Health and Safety

Thank you for providing us with this opportunity to address an issue that has a profound effect on workers in this country. That issue is occupational stress, a hazard that is present in one form or another in virtually every workplace in America.

The Problem

The adverse effects of stress have been well documented in the literature. These effects include an array of psychological conditions (e.g., depression, anxiety, sleep disturbances) and physiological responses (e.g., cardiovascular, gastrointestinal, musculoskeletal disorders as well as impaired immune functioning); for example, one study found that exposure to even a month of high levels of job stress dramatically increased an individual's susceptibility to common upper respiratory viral infections (Cohen

et al, 1998); and another identified a direct relationship between low worker control and poor health (Schaubroeck et al, 2001). Inordinate workplace stress may lead to work performance decrements, decreased attention/concentration, increased distractibility, increased muscle tension, and poor judgment. The results of stress are lowered productivity, burnout and increased risk for accidents (Ghosh, Bhattacharjee, Chau, 2004; Knardahl, 2005; Miranda et al, 2005; Simpson et al, 2004). In more extreme cases, exposure to workplace stressors may be a risk factor for violent acts such as homicide, suicide or other forms of assault to self or others.

What is Known

The following headlines from a Wall Street Journal demonstrates the prevalence and concern among business professionals about the problem of occupational stress:

Can Workplace Stress Get Worse?

Incidents of Desk Rage Disrupt America's Offices

At Verizon Call Centers, Stress is Seldom on Hold

Impossible Expectations and Unfulfilling Work Stress Managers, Too

Seeking the new Slimmed-Down Workday: 9 to 5

What were once considered normal hours are luxury for burnt-out employees

Extreme Job Stress: Survivors' Tales

Occupational stress is ubiquitous; causes of stress are multifactorial and difficult to quantify; and occupational stress is costly.

Occupational stress is ubiquitous. Studies suggest that close to half of workers view their jobs as somewhat or extremely stressful; and the majority feels that their jobs have become more stressful in recent years (Daniels, 2004; NIOSH, 1999). In one study, about half of the respondents indicated that job stress adversely affected their health, their personal relationships and their job performance.

Causes of stress are multifactorial and difficult to quantify. There are numerous factors that contribute to occupational stress such as increased workload, declining job satisfaction, unsafe working conditions and management/leadership styles. Worker stress levels are related to the structure of work, the organizational culture and climate, and interpersonal relationships at work.

And lastly, occupational stress is costly. Claims for stress-related conditions are the most expensive claims in the workers' compensation system on a per claim basis. Other costs related to stressful working conditions include increased absenteeism rates, on the job injuries, tardiness, increased health insurance costs, workplace malfeasance and higher worker turnover.

What Needs to be Done

It is increasingly clear that although psychosocial hazards may be more nebulous and less tangible than other categories of workplace hazards, they nevertheless exert a pervasive influence on the health and safety of American workers. There are no quick fixes for the multitude of stressors experienced in the workplace. Indeed, recent strategic advances in our understanding of occupational stress must continue and even be accelerated. Despite the number of studies that have effectively documented the causes and adverse effects of occupational stress, there is still a great deal of uncertainty and confusion about

the “nature and definition of stress, the evidence linking working conditions to health (and safety) and the breadth of problems attributed to stress” (Daniels, 2004). While much has been accomplished since NIOSH first identified occupational stress as one of its top ten priorities, there is still much work to be done.

The conditions that lead to adverse health and safety outcomes are deeply embedded in the climate and culture of organizations; and unfortunately, competition and near-sighted economic priorities often lead to unhealthy and unsafe compromises. Organizations are constantly dealing with competing priorities, and sometimes a choice must be made between short term profit and worker safety. We need to continue in our efforts to understand how work-related stress affects workers and to also determine what factors cause the greatest burden; and more importantly, we need to develop and test interventions to ameliorate the conditions that lead to adverse stress responses that affect workers, their families and our communities.

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Submitted by

Mary K. Salazar, EdD, RN, FAAN

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University of Washington School of Nursing

Department of Psychosocial and Community Health

Box 357263

NOTE: Text entered from submission E-22, which is an expansion of verbal comments: w474.

Comment ID: 3535.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Exposure assessment

Health service delivery

Partners

Categorized comment or partial comment:

I recommend that NORA add to its research agenda some of the important issues concerning the stay-at-work and return-to-work (SAW/RTW) process that are highlighted in the attached report, entitled "Preventing Needless Work Disability by Helping People Stay Employed." The report is addressed to a broad audience of medical and non-medical readers and is an informative, sensible, and enlightening overview of the SAW/RTW process with both general and specific suggestions on how to improve it.

As one specific example, I particularly recommend that NORA fund research to improve the accuracy, reliability, and practical everyday availability and usefulness of methods by which work capacity is estimated as well as the functional demands of jobs are described, as called for in Section IV of the paper, entitled "Invest in System and Infrastructure Improvements."

This report was developed by the American College of Occupational & Environmental Medicine's College's Stay at Work and Return to Work Process Improvement Committee. At its October 27, 2005 meeting in Chicago, ACOEM's Board of Directors approved it and announced its availability to members with the following comment: "At a later date, shorter versions of this document will be developed as ACOEM position papers and will be specifically directed to different audiences. However, because of the importance of this topic, the 34-page paper is being made available to the membership as a committee report."

The first part of the document describes the stay at work/return to work (SAW/RTW) process, how it works and how it parallels other related processes. The second half discusses factors that lead to needless work disability and what can be done about them. Sixteen sections containing specific recommendations are grouped under four general recommendations:

--I Adopt a disability prevention model.

--II Address behavioral and circumstantial realities that create and prolong work disability.

--III Acknowledge the powerful contribution that motivation makes to outcomes and make changes that improve incentive alignment.

--IV Invest in system and infrastructure improvements.

The most important areas needing more study and research are discussed in Section IV concerning the need for investments in system and infrastructure improvements.

I chaired the committee that wrote the report, and will be happy to answer any questions you may have.

Cordially,

Jennifer Christian, MD, MPH

President and Chief Medical Officer

Webility Corporation

95 Woodridge Road

Wayland, MA 01778-3624

NOTE: Text entered from submission E-24. Attached report is available in [Appendix 10](#).

Comment ID: 3544.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Dear NORA,

Dr. Christian`s advice regarding the Stay at Work / Return to Work is right on! The process of disability management is critically important to the nation. The evidence is clear that important improvements can be achieved. NIOSH can provide important tools to advantage this work.

More generally, NORA should fund much more work that will improve processes of clinical practice of occupational medicine; this strategy will create better outcome much more effectively than basic research on the nuances of toxicity- related OEM problems, most of which has been adequately studied and most of which are no longer important clinical problem of current practice.

Generally, Medicine is moving toward a redesign of the health care system that will make much greater use of digital health information systems to:

- 1) create processes and tools that make skilled OEM practitioners (who are in short supply) more efficient
- 2) detect variation and use that variation to improve quality
- 3) involve the patient more in their own care
- 4) refocus OEM practice on prevention

5) allow greater collaboration between economic stakeholders and different professional groups in managing cases and root causes

I am hopeful that NIOSH will help OEM be a leader in these important directions.

Best,

George Anstadt MD FACPM FACOEM

Past President, ACOEM

NOTE: Text entered from submission E-14. "Dr. Christian`s advice" mentioned above can be found in submission E-24 or W-3535.

Comment ID: 3546.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Etiological research

Health service delivery

Partners

Categorized comment or partial comment:

To Whom It May Concern:

I am writing to support further research into Stay at Work / Return to work. I am currently working with Transitional Work and Case Management at various levels in various organizations. Ohio has given grants to companies to begin Transitional Work Programs. I personally have seen the benefits to both workers and employers = Transitional Work is truly a win-win proposition! Our highly paid professional athletes benefit from "stay at work" programs. They are gradually and carefully re-conditioned to do their sport. Why can't the American worker receive the same benefit and concern? One only has to watch a factory worker do his job for a day, and consider the physical demands of the job to realize the parallels with the injured athlete and how important it is to not allow that worker to "de-condition". Research should be done on re-injury rates with stay at work programs or return to work programs vs. off work to immediate full duty policies. I hope your organization looks at the high cost of disability in today's workplace, and chooses to allocate funding for research into this topic. Thank you for your consideration of this important matter.

Sincerely,

Pamela Frigy, RN, BSN, COHN-S

Certified Occupational Health Nurse

Ohio Certified Transitional Work Developer

Case Manager/Consultant

NOTE: Text entered from submission E-25.

Comment ID: 3547.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Exposure assessment

Health service delivery

Partners

Categorized comment or partial comment:

SAW/RTW Process deserves a place on the NORA agenda

I recommend that NORA add to its research agenda some of the important issues concerning the stay-at-work and return-to-work (SAW/RTW) process that are highlighted in the attached report, entitled "Preventing Needless Work Disability by Helping People Stay Employed." The report is addressed to a broad audience of medical and non-medical readers and is an informative, sensible, and enlightening overview of the SAW/RTW process with both general and specific suggestions on how to improve it.

As one specific example, I particularly recommend that NORA fund research to improve the accuracy, reliability, and practical everyday availability and usefulness of methods by which work capacity is estimated as well as the functional demands of jobs are described, as called for in Section IV of the paper, entitled "Invest in

System and Infrastructure Improvements."

This report was developed by the American College of Occupational & Environmental Medicine's College's Stay at Work and Return to Work Process Improvement Committee. At its October 27, 2005 meeting in Chicago, ACOEM's Board of Directors approved it and announced its availability to members with the following comment: "At a later date, shorter versions of this document will be developed as ACOEM position papers and will be specifically directed to different audiences. However, because of the importance of this topic, the 34-page paper is being made available to the membership as a committee report."

The first part of the document describes the stay at work/return to work (SAW/RTW) process, how it works and how it parallels other related processes. The second half discusses factors that lead to

needless work disability and what can be done about them. Sixteen sections containing specific recommendations are grouped under four general recommendations:

--I Adopt a disability prevention model.

--II Address behavioral and circumstantial realities that create and prolong work disability.

--III Acknowledge the powerful contribution that motivation makes to outcomes and make changes that improve incentive alignment.

--IV Invest in system and infrastructure improvements.

The most important areas needing more study and research are discussed in Section IV concerning the need for investments in system and infrastructure improvements.

I chaired the committee that developed the report, and will be happy to answer any questions you may have.

Cordially,

Tim Pinsky, DO, MPH

Best Med Consultants, PA

55 E. Route 70, Ste. 3

Marlton, NJ 08053

NOTE: Text entered from submission E-26.

Editor`s note: No report was attached to this submission, but the same report was provided with submission E-24, W-3535.

Comment ID: 3549.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research

Partners

Categorized comment or partial comment:

I would like to see additional research on the use of patient lift equipment, lift policies and teams in preventing injuries in health care workers.

I work as a nurse practitioner in Employee Health at El Camino Hospital in Mountain View, CA and oversee the Patient Lift Injury Prevention Program.

I received my master`s degree in Occupational Health through NIOSH-sponsored ERC at UCSF and PhD at UC Berkeley in Health Services Research and Policy Analysis. I would be interested in working collaboratively with NIOSH and other hospitals and educational institutions on a grant to study this topic.

Thank you for this opportunity,

Sincerely,

Beverly Nuchols, RN-C, OHNP, MS, PhD, COHN-S El Camino Hospital, Employee Health 2500 Grand Rd.
P.O. box 7025 Mountain View, CA 94039

NOTE: Text entered from submission E-34.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

The Center to Protect Workers' Rights

8484 Georgia Ave, Suite 1000, Silver Spring, MD 20910

Comments on NIOSH NORA 2 Town Hall Meeting on Construction

Chicago, IL

December 19, 2005

The Center to Protect Workers' Rights (CPWR) is a non-profit research institute affiliated with the Building and Construction Trades Department, AFL-CIO. CPWR is a committed partner with NIOSH in advancing research on the prevention of occupational injuries and illness in construction, and is supportive of most of the research goals as currently proposed. Since 1990, CPWR and an affiliated consortium of university researchers have been actively engaged in conducting construction occupational safety and health research in partnership with NIOSH. Research to support evidence-based decisions for controlling or eliminating risks on construction sites is our principal criterion in evaluating the proposed goals. We appreciate the ongoing opportunities for input into the NIOSH goals setting process as it relates to construction, and encourage NIOSH to consider the following comments:

1. Clarify Differences Between PART Performance Metrics, NORA2 Research Priorities, and Management Systems such as Sector Councils

NIOSH should develop a lead paragraph or section which clearly distinguishes: (1) the NORA2 research and injury and illness prevention priorities; (2) PART performance measures/metrics which are proxies for but do not reflect the full scope of NIOSH research priorities; and, (3) NIOSH management/organizational systems for development and continuous adjustment of research and prevention priorities such as the proposed construction sector councils and NIOSH construction steering committee. These PART metrics provide reasonable but simplified proxies for NIOSH research performance, for consideration by the Office of Management and Budget (OMB). The current PART

draft may give the impression that these represent the anticipated outcomes for all NIOSH research and services.

NIOSH should reconsider the value of fixed time frames for some of these initiatives. Management systems such as the industry councils can take several years to develop and once put in place should be continuously improved rather than identified as 10-year strategic goals. Initiating a new management system every decade is a poor use of resources. Management and organizational structures should be established with the expectation that they will continue indefinitely with incremental improvement. PART performance metrics should be reviewed at least annually but are required to include strategic (10+ year), intermediate (3 to 5 years) and annual goals. Research priorities should change based largely on scientific and public health progress. High priority research objectives will remain high priority until our knowledge in that area advances, or surveillance or objective evidence indicates that other occupational health priorities should be given preference.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

2. Evidence/Surveillance Based Research Priorities

Defining the quality and limitations of baseline surveillance data, and the magnitude of misdiagnosis, misclassification, and under-reporting of occupational injury and illness should be a NIOSH priority. Surveillance should be more closely integrated into ongoing injury and illness prevention intervention research.

A basic principal of occupational public health practice is to focus on high-risk populations and tasks, in order to maximize the health benefit given limited funds and personnel. NIOSH should clearly state that the NORA2 industry sector councils are not intended to result in equal emphasis or equal funds across all sectors, and will continue to follow good public health practice by allocating funds and prioritize efforts based on which research and interventions are likely to result in the greatest public health impact. This may result in very limited resources being applied to some sectors, unless NIOSH receives increased total funding. Construction and several other sectors (agriculture, fishing, lumber, mining) face disproportionately high risks compared to the general working population. Equal expenditures and effort in each of the eight industry sector councils and cross-sector councils proposed in NORA2, would have the effect of decreasing the value of NIOSH activities. Rather than equal distribution, allocation of resources should be based on best available scientific evidence. Dr Janie Gittleman will discuss construction surveillance priorities later this afternoon.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

3. Hierarchy of Controls

A basic principal of occupational public health practice for industrial hygiene is the hierarchy of controls. NIOSH should recognize and formally consider the hierarchy of controls in the research and R2P goal-setting process. Given limited applied research resources, research to evaluate efficacy of interventions should lead to a long term strategy emphasizing re-design to eliminate recognized hazards or provide engineering controls, in preference to personal protective equipment (PPE), except where other control options are not feasible. This is addressed to some extent with the crosscutting effort related to engineering controls. However, PPE is likely to continue to be the most common control action in the construction industry for decades to come. Near term research must focus on evaluating the efficacy of engineering controls, and comparable PPE options, for high-risk construction tasks. NIOSH NPPTL has important regulatory and research responsibilities related to PPE. A NIOSH management priority should be to improve the integration of research teams involved in PPE, engineering control evaluations, and intervention effectiveness research. Currently these efforts are rarely coordinated even among NIOSH intramural researchers.

NIOSH should also plan for long term intramural and extramural research capacity. While intervention research and research to practice are current NIOSH priorities, NIOSH human resources continue emphasize surveillance. Although NIOSH has significant engineering expertise targeting mining operations, continuing effort and resources must be allocated for expanding these efforts as they relate to construction. NIOSH should also recognize that descriptive engineering evaluation, field testing, and incremental product or process development do not fit well within its existing processes for reviewing and awarding extramural/intramural research, even though critical in moving research into practice.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Capacity building

Partners

Categorized comment or partial comment:

4. Professional Resources and Training

NIOSH and its extramural research and education centers play a critical role in training professionals in occupational medicine and nursing, industrial hygiene, and safety. There should be performance metrics related to the expansion and sustainability of the occupational safety and health professional workforce. An assessment of training among construction safety personnel would suggest that construction is currently poorly served by these existing education systems. Existing university-based safety engineering programs are extremely limited and most have minimal faculty research. Given the small size of construction employers (80% have fewer than 10 employees), para-professional training and other innovative approaches should be considered. NIOSH should have as an objective an assessment of unique professional and para-professional training needs in construction, perhaps including initiatives targeting civil and mechanical engineering, government contracting and procurement officers, architecture and design, as well as the more traditional safety and health professionals. This should also recognize that most skill training in the construction sector continues to be provided by joint labor management multi-employer apprenticeship and training programs, which train new workers, journeymen, stewards and foremen.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research

Partners

Categorized comment or partial comment:

5. Emphasis on R2P and Intervention Research

CPWR strongly supports NIOSH's increased emphasis on intervention effectiveness and dissemination research. While NIOSH has emphasized initiatives to move research results into practice in the workplace (R2P), research evaluating the efficacy of specific interventions in the construction workplace remains fragmented in NORA2 priorities on communication and dissemination, small business assistance and outreach, and others. Intramural and extramural funding mechanisms should be evaluated to consider their effectiveness in identifying and prioritizing proposals for development, dissemination, or practical field-testing of exposure controls. Rarely do proposals include funding for systematically moving the product of research initiatives into the work place to prevent injury and illness. Current review mechanisms support development of new generalizable knowledge, but are ill-suited for moving those research results into practice. While the peer review process effectively identified research priorities, this process does not adequately prioritize proposals for engineering development or dissemination of specific control options. For example, research evaluating balance and visual cues should be low priority, even if research results may allow workers to reduce fatal falls a few percent, because redesign of the structure and existing fall arrest and prevention systems can reduce fatal falls to zero. Similarly, research on human air bags should be lower priority than research on fall arrest anchorage points or other engineering controls because of the hierarchy of controls, because current prototypes fail to address head injury (the primary cause of death in fatal construction falls). Organization of work in construction, which is characterized by contractual shifting of risk, makes it unlikely that such complex PPE would be selected, purchased, maintained, and used in a manner such that it would work when needed. Prioritization of R2P projects, including engineering development and dissemination proposals, should take into consideration factors that are different than if the same proposal were reviewed by NIH as basic research.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Authoritative recommendation

Partners

Categorized comment or partial comment:

6. Expanded public policy and regulatory analysis and recommendations

Cross sector emphasis on "Authoritative Recommendations Development" is an important focus where NIOSH should consider not only recommended exposure limits, but also evaluation of other public health policy alternatives. NIOSH is given an important mandate in the Occupational Safety and Health Act, which includes conducting research and making evidence-based recommendations to OSHA for consideration in regulatory rulemaking. NIOSH should have performance goals related to OSHA policy evaluation and providing OSHA with recommendations where health and safety risks are identified which threaten the public health in US workplaces, identifying key research deficiencies, and updating those recommendations as the underlying science advances.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Training
- Intervention effectiveness research
- Capacity building

Partners

Categorized comment or partial comment:

7. Evaluation of Education/Training Injury and Illness Prevention Interventions

NIOSH should include a cross-sector program related to evaluation of training interventions. Although it is well recognized that training plays a central role in prevention of injuries and illness, methods and research quantifying this effect is extremely limited. NIOSH should also assess its human resources with the expertise to conduct research in health education and training evaluation. This should extend beyond NIOSH's traditional emphasis on post-graduate students, and consider training, licensing, certification, apprenticeship, etc.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

8. Economic and Social/Organizational Incentives and Costs

The NIOSH coordinated emphasis area on economics is described as "exploring the economic conditions that influence the incidence and severity of occupational injury or illness." This should be expanded to consider the institutional structures that lead to certain economic incentive structures and incentives or barriers to adoption of specific efficacious control measures. This goes beyond the issues of work hours and stress. It requires an understanding of how construction sector institutions function, contract and bidding/specification practices, and how decisions are made in various parts of the construction industry. It is well accepted that costs and institutional incentive structures and market forces play key roles in determining the success of interventions to prevent injuries. This should also consider management systems and liability issues. Small businesses, which dominate the construction industry, face different economic circumstances than multinational corporations. Dissemination of interventions requires not only an understanding of costs, but also mechanisms for shifting costs and liability to society, workers, taxpayers, and other employers. Unionized work sites provide distinctly different organizational and incentive structures, as do informal sector day laborers. Focusing on improving the man-machine interface for use of a high-risk tool is of little value if you have no knowledge of how purchasing decisions are made and what economic pressures drive those decisions.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

9. Dermal Injury/Disease

The cross-sector program on "Immune, Dermal and Infectious Disease" should also deal with dermal injury by caustics such as Portland cement, or acids. Construction workers suffer high rates of contact dermatitis and caustic burns from wet cement, in addition to allergic dermatitis.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

10. Exposure Assessment

We encourage NIOSH to consider an increased focus on task-based exposures and statistical evaluation of infrequent peak exposures, which present specific challenges in construction. These construction concerns are not mentioned in the description of this coordinated emphasis area. As continuous manufacturing processes decline in the US, task and batch-processes contribute an increasing fraction of occupational exposures.

Comment ID: 3551.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research
Engineering and administrative control/banding
Work-site implementation/demonstration
Authoritative recommendation
Emergency preparedness and response

Partners

federal and state agencies

Categorized comment or partial comment:

11. Government Construction

We encourage NIOSH to consider research to practice opportunities in partnership with other federal and state agencies, perhaps as part of the "Authoritative Recommendations Development" cross-sector program. Government is a major client of construction services, and with appropriate partnerships would provide valuable research access to worksites for R2P and intervention initiatives. Government safety practices often lag far behind the best performers in the private sector. NIOSH is in a unique position to conduct research, access and evaluate epidemiological data, make recommendations for injury prevention, and move research results into practice on government owned sites. NIOSH should have as a priority the formation of such interagency partnerships and development of R2P research initiatives on these projects.

I would like to thank NIOSH for this opportunity to comment, and look forward to continued cooperation with NIOSH in the conduct of research to prevent occupational injuries and diseases among construction workers.

NOTE: Text entered from submission E-39. This is an expansion of verbal comments presented at the NORA Town Hall meeting in Chicago, which were submitted as W-312.

Comment ID: 3552.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Small business

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Engineering and administrative control/banding

Authoritative recommendation

Health service delivery

Partners

Categorized comment or partial comment:

I would like to see NIOSH take a proactive approach to hard metal lung disease. I am aware of 2 cases from one small company here in Lorain County. I have tried to work with this company to prevent more cases, but I have little support from regulations and federal agencies. I have talked with other occupational medicine colleagues with similar experiences. Both individuals have severe lung disease; one had to have a lung trnsplant to survive, and both are severely disabled by their hard metal lung disease. We not only need basic research on the cause and mechanisms of this disease but also we need clear medical surveillance recommendations and detailed engineering controls and ventilation recommendations for industry. The small company in my area has few resources and does not see that they can do much more, particularly when their cobalt and tungsten carbide air levels ae within OSHA regulations.

Hard metal disease is a good example of a severe disease with a small attack rate and poor prognosis. Chronic beryllium disease is another example. Substitution would obviously be the best solution to preventing disease. But, as this is not a viable option at present, we need to aggressively pursue better industry control measures, personal protection of workers and comprehensive surveillance programs. - Kathleen Fagan, MD, MPH, Medical Director, Occupational Health Program, Community Health Partners, Lorain OH

NOTE: Text entered from submission E-40.

Comment ID: 3555.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Docket NIOSH-047

Robert A. Taft Laboratories (C-34)

4676 Columbia Parkway

Cincinnati, OH 45226

Re: Input for NORA: Fatigue Countermeasures Research

Sir/Ma'am:

In this paper I will highlight the growing problem of fatigue as a major contributor to workplace accidents, impaired performance, and poor health. I will advocate for fatigue countermeasures research to be a priority on the National Occupational Research Agenda.

We now live in a society that prides itself on 24-hour-operations. Ever since the first electric light bulb was switched on in the late 1800's and night was transformed into day, Americans have stayed awake longer and slept less. According to a 2005 National Sleep Foundation poll, most adult Americans now report sleeping on average 6.8 hours per weeknight, which sleep researchers tell us is at least one hour less than they actually need.(1,2) Sleep is too often viewed as a luxury, instead of as a physical necessity, for which there really is no substitute. As a result, many Americans are chronically sleep-deprived, tired, and subject to impaired performance during their waking hours at work. Despite this fact, we know surprisingly little about the long-term health effects of the chronic sleep deprivation that pervades our society, especially in our working population.

Americans have not only changed how much they sleep, but they also have changed when they sleep. Six to eight million Americans are night shift workers, whose work environments are out-of-sync with their internal circadian rhythms.(2) What few sleep studies have been performed on night shift workers have shown that these workers never really adapt to their disrupted sleep-wake schedules. They are working when their bodies would have them sleep. We do know that many night shift workers do not maintain their daily sleep patterns on their days off. In addition, they typically get less sleep than day-workers, and the sleep they do get is of poorer quality.(3) Even if they could maintain a regular sleep-wake schedule, most shift workers rotate regularly to different schedules before their bodies can adapt to the previous shift. As a result, these workers are susceptible to chronic fatigue which can degrade their performance and contribute to workplace mishaps.

Unfortunately, fatigue is difficult to measure objectively. There is no biomarker for it. This fact may be one reason that fatigue is under-recognized as a major contributor to workplace mishaps. Another is that fatigue is more often an indirect cause of mishaps and thus less immediately obvious. For example, the Exxon Valdez oil spill in 1989, the near meltdown at Three Mile Island (as well as at Chernobyl), and the explosion of the Space Shuttle Challenger all have highly publicized direct causes. However, accident investigations later determined that all were associated with significant fatigue-related lapses in judgment.(3) Long, irregular work hours were factors contributing to the fatigue.

Research into fatigue countermeasures can help to maintain job performance and enhance occupational safety and health. Several strategies have shown promise and should be considered for further research. These strategies include the use of bright artificial light in the workplace and/or melatonin supplements to help the worker adjust to new schedules, proper shift-work schedules that either do not rotate or rotate in a clockwise manner to accommodate circadian factors, authorized "strategic" napping to counteract performance decline from sleep deprivation, wellness programs that educate supervisors and workers on circadian issues and proper sleep hygiene, and as a last resort better stimulants such as modafanil (recently FDA approved for shift-work sleep disorder).(3)

Current thinking in occupational safety and injury prevention acknowledges that human error is inevitable but that, rather than blaming the operator, the focus should be on designing devices that can better accommodate the operator. Recent prevention efforts have thus tended to focus less on the human factor and more on engineering and administrative controls. In contrast, fatigue countermeasures focus on both the worker (e.g., improved sleep hygiene) and the engineering/administrative controls (e.g., designing shift work schedules that are more in-sync with circadian factors). As a result, I believe that funding fatigue countermeasures research will benefit both the worker and the employer. The worker will be healthier and safer on the job, as well as more productive for his employer.

Respectfully,

Allan Ward, M.D.
MPH Candidate in Occupational Health
Harvard School of Public Health

References:

1. National Sleep Foundation, 2005 Sleep in America Poll, <http://www.sleepfoundation.org>, p.7.
2. Lambert C. Deep into Sleep. Harvard Magazine, Jul-Aug 2005, pp. 25-33.
3. Caldwell, J. A. and Caldwell, J. L. Air Crew Fatigue: Causes, Consequences, and Countermeasures, symposium lecture presented at the 76th Annual Scientific Meeting of the Aerospace Medical Association, May 2005.

NOTE: Text entered from submission E-42.

Comment ID: 3556.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding
Personal protective equipment
Authoritative recommendation

Partners

Oncology Nursing Society

Categorized comment or partial comment:

ONCOLOGY NURSING SOCIETY

125 Enterprise Drive w Pittsburgh, PA 15275-1214

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E-mail: customer.service@ons.org

January 20, 2006

Docket NIOSH-047

Robert A. Taft Laboratories (C-34)

4676 Columbia Parkway

Cincinnati, OH 45226

Re: National Occupational Research Agenda, Health Care and Social Assistance Sector Grouping

To Whom It May Concern:

On behalf of the Oncology Nursing Society (ONS) - the largest professional oncology group in the United States composed of more than 33,000 nurses and other health professionals who are dedicated to

ensuring and advancing access to quality care for all individuals affected by cancer - we are writing to express our appreciation at the opportunity to submit comments and suggestions to the National Occupational Research Agenda (NORA). Our comments will focus on matters relevant to the Health Care and Social Assistance Sector Grouping as the Society is the world's largest professional organization of healthcare workers involved in the direct delivery of care to individuals with cancer.

Issues related to chemical exposures in the workplace are a principal concern of the Society as oncology nurses maintain responsibility for the admixing and administration of chemotherapy; many types of chemotherapy are highly toxic and could pose serious health and safety risks to the individuals responsible for handling these drugs. The potential hazards posed by chemical exposures in the healthcare workplace affect millions of workers; in oncology, the groups affected include nurses, physicians, pharmacists, social workers, laboratory technicians, physician assistants, nurse assistants, etc. The availability and application of new information about risk and hazard reduction in the practice of oncology has the potential to have a positive impact on tens of thousands of health professionals and other members of the cancer care delivery team. As such, the Society believes that the new NORA should prioritize issues related to chemical exposure in the workplace, particularly for health professionals delivering direct care to patients.

ONS and Workplace Safety

ONS has a long history of advocacy and education for its members related to protecting healthcare workers. Each year the Society collects and analyzes data about cancer nursing trends and ONS member needs. Information is compiled from a variety of surveys, needs assessments, member comments, and other sources and used to develop an annual "Education Blueprint." Workplace safety - defined by the Society as maintaining the health, well being, and physical safety of health care providers as they provide services in any health care setting - was a top tier area of interest and concern for oncology nurses in 2005. Similarly, in 2004, in response to a NIOSH alert, member concerns, and recent studies showing that safe handling precautions were not consistent, ONS launched a new strategic educational course aimed at protecting healthcare workers. The objectives for this comprehensive course included: the ability to define hazardous drugs, describe the potential health risks of handling hazardous drugs in oncology nursing practice, and identify the appropriate personal protective equipment needed for safe handling of hazardous drugs during preparation, administration, disposal, and spill containment. ONS also offers the publication *Chemotherapy and Biotherapy Guidelines and Recommendations for Practice* that covers basic safe handling issues and procedures.

Occupational Risks of Chemotherapy Warrant Renewed Attention and Response

Information about the occupational risks of chemotherapy and other hazardous drugs has been available for more than 20 years. Early studies documented the risks of healthcare workers' exposure to chemotherapy. Fourteen studies since 1992 have reported hazardous drug residue on work surfaces in pharmacies and drug administration areas. This provides evidence for the continued risk for healthcare worker exposure. The most recently published documents by American Society of Health-System Pharmacists, the National Institute for Occupational Safety and Health (NIOSH), and ONS discuss the limitations of the current guidelines. Among them:

- Biological safety cabinets (BSCs) provide imperfect protection against hazardous drug exposure.
- Routine handling activities can result in contamination of the worker and work environment.

- There is frequent and persistent contamination of the environment where hazardous drugs are handled.
- Dermal absorption of hazardous drugs as a result of contaminated surfaces is another potential route of exposure.
- Failure to use personal protective equipment can result in inadvertent contamination of clothing.
- Workers who are not directly involved in activities related to hazardous drug handling are at risk for exposure.

With very few exceptions, the technology of controlling chemical exposures in healthcare has not advanced since the Occupational Safety and Health Administration (OSHA) published its first recommendations in 1986. With the passage of a 20 year period that saw the advent of new drugs that bring potentially new exposure-based health risks and threats, changes in drug admixture and administration, and other cancer care delivery changes, ONS believes the time is well overdue for the development and implementation of new engineering controls, better personal protective equipment, and improved work practices to protect the tens of thousands of nurses who handle hazardous drugs on a daily basis.

Conclusion

ONS maintains that the nation's oncology nurses should not have to put their health and safety at-risk as they deliver life-saving therapies to others. While health professional societies such as ONS can do much to educate and train their members regarding safe practices, to ensure maximum risk-reduction and the promotion of the safest workplace environments possible, the Society believes the federal government must take a leadership role. Much-needed improvements in workplace risk-reduction and health promotion practices only will be identified with a coordinated research effort, led by NIOSH vis-à-vis NORA. ONS urges NIOSH and other stakeholders involved in the creation of the new NORA to prioritize the issue of chemical exposures in the workplace as it plans the agenda for scientific research that will prevent work-related illnesses for the healthcare sector.

ONS welcomes the opportunity to collaborate in a public-private partnership to take action to protect healthcare workers – and patients – and improve workplace safety overall. Please know that we stand ready to work with NIOSH and other stakeholders as the new NORA is developed and implemented. We commend NIOSH for providing this opportunity for public comment and appreciate consideration of our views. ONS maintains its long-standing commitment to ensuring that the delivery of quality cancer care is provided in environments that are safe for all involved in both the receipt and delivery of cancer care.

Should you or your staff have any questions, please contact us, or our ONS Health Policy Associate in Washington, DC, Ilisa Halpern (202/230-5145, ihalpern@gcd.com). Thank you again for your consideration of our views.

Respectfully submitted,

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NOTE: Text entered from submission E-43.

Comment ID: 3558.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Small business

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Surveillance

Engineering and administrative control/banding

Intervention effectiveness research

Authoritative recommendation

Partners

university Extension

Categorized comment or partial comment:

Date: January 16th, 2006

To: <NIOCINDOCKET@cdc.gov> Docket NOISH -047

RA Taft Laboratories (C-34) 4676 Columbia Parkway, Cincinnati OH 45226

RE: Docket NIOSH 047:

Comment about the national occupational research agenda for the Agriculture, Fishing and Forestry Sectors at the Seattle WA Town Hall NORA meeting, January 17th, 2006

A research agenda for the Agriculture, Fishing and Forestry sectors could benefit by carefully considering:

1. previous work that's been accomplished to develop a research agenda for agriculture, (see Endnote i)
2. previous critical scientific reviews of existing agricultural safety and health research, (see Endnote ii)

3. previous work that describes agriculture's current health and safety problems, (see Endnote iii) it's unique problems versus other industries, (see Endnote iv) and evidence about the changing nature of the industry. (see Endnote v)

Special consideration should be given to

1. intervention evaluation research in general (see Endnote vi)
2. interventions addressing agricultural technologies that couple safety and profits (see Endnote vii)
3. interventions that address agricultural musculoskeletal injuries and stoop labor (see Endnote viii),
4. interventions to develop and encourage adoption of engineering controls for evident farm work hazards, (see Endnote ix)
5. interventions that rely on university Extension (see Endnote x),
6. interventions that address noise-induced hearing loss in agriculture, a largely preventable disorder affecting much of the workforce, (see Endnote xi)
7. measures to improve injury and disease surveillance so as to capture the levels of case ascertainment and injury detail typical in other US industries. (see Endnote xii)

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ENDNOTES:

i. A number of research and practice "agendas" for improving agricultural occupational health and safety have already been published with detailed, specific recommendations (e.g. Petrea, 2003; Donham and Storm, 2002; Fathallah et al., 2006; Merchant et al., 1989). In addition, research agendas have been published by NIOSH NORA groups with implications for agriculture (e.g. National Occupational Research Agenda for Musculoskeletal Disorders 2001-117, Traumatic Occupational Injury Research Needs and Priorities 1998-134, Prevention of Musculoskeletal Disorders for Children and Adolescents Working in Agriculture 2004-119).

ii. A number of serious, scientific critiques of current efforts have also been published (e.g. Hartling et al., 2004; DeRoo and Rautaiinen, 2000; Kennedy et al., 1995). Excerpts include:

De Roo and Rautiainen, 2000: reviewed published evaluations of farm safety interventions. Out of 118 papers examined, 25 were selected for the review. Some of the points made in the review included:

-- "There is a need for more rigorous evaluation of farm safety intervention programs. Suggested study design improvements include randomization of study subjects when appropriate, use of control groups and the objective measurement of outcomes such as behavior change and injury incidence."

-- In some cases, farm injury prevention "...programs have been in place over 20 years with little or no evaluation to determine their effectiveness."

-- "Without the results from well-conducted evaluations, farm communities have little evidence that the time, effort and money spent on programs are making a difference in reducing injuries ...".

-- "The results of epidemiologic studies of farm injury risk factors..." (have) "...found no statistically significant difference in the incidence of injuries among farmers who had ever participated in any type of safety training program compared to those who did not."

-- "Although (farm safety audit) studies relied on unverified self-reported outcomes, their results were suggestive that a farm 'walkabout' was useful in helping some families recognize and modify environmental hazards, even without the assistance of an expert."

-- One unusual study (Lundqvist, 1999) in the review provided small subsidies for farmer adoption of work equipment modifications that improved profitability as well as work safety. A retrospective evaluation of 164 dairy and beef farms that served as their own controls determined that there was a "22% decrease in the injury rate, 29% decrease in musculoskeletal disorders, (and a) 16% decrease in work time."

Hartling et al., 2004: The review in Pediatrics provides an extensive, detailed critique of current agricultural safety research. A lengthier version of the critique is available in the final report submitted by the same authors to Safe Kids Canada available from William Pickett by email (Pickett et al., 2003). Excerpts from this final report follow:

Few studies of engineering controls (p. 6 and p. vi): "Engineering controls have great potential to be effective in preventing farm injuries, but only if they are voluntarily accepted and adopted by farmers...We did not identify any studies meeting our criteria that evaluated the effectiveness of regulatory or engineering approaches to farm injury control."

Educational approaches are inadequate (p. vii): "Educational initiatives are important but appear to be insufficient to eliminate recurrent injury control problems."

Interventions need to focus on farm managers (p. vii): "There is a need to develop and evaluate targeted prevention initiative that are aimed at the responsible authorities. These are generally farm owner-operators."

Study methods lack rigor (p.e493 and e494, col. 2): "Overall, there is a paucity of controlled studies evaluating the effectiveness of interventions aimed at the prevention of childhood farm injuries...Irrespective of study type, there was a lack of methodologic rigor in many studies. Recurrent weaknesses were related to issues of confounding, statistical power, and generalizability. Few observational studies adequately controlled for potential confounders, reducing our confidence that the results reflect the interventions in question. Few studies reported a calculation for sample size or statistical power. Without such information, we were unable to determine whether the studies were large enough to detect important effects. Findings indicating a positive intervention effect might have been missed. The external validity (generalizability) of studies was also generally poor, which makes the application of results in the planning of injury control interventions challenging. The majority of studies evaluated short term process outcomes (e.g. knowledge acquisition or changes in attitudes or behavior). Few studies evaluated injury occurrence. The timing of outcome assessment was also less than optimal. Outcomes were typically measured immediately or shortly after the intervention was delivered. It would be useful to determine the long-term effects of these interventions. Moreover, studies did not distinguish between programs directed at youths who work on farms and children who live and play around the farm worksite."

Public funding of research needs to be better focused on effective results (p. 20): "There has been a substantial injection of public funds in recent years to address the childhood farm injury problem... Given this investment, the lack of new knowledge that has been forthcoming is striking. There is a great list of these projects, some of which are chronicled in this review, but very few publications of high caliber. This could reflect the fact that many of these projects are still in progress, but it could also reflect the need for rigorous standards for the funding of these projects. The general lack of a final product is disconcerting"

iii. Reviews of agriculture's health and hazard situation include Frank et al., 2004; McCurdy and Carroll, 2000; Murphy, 1992.

iv. The historic, effective absence of traditional OSHA regulatory enforcement for most operations in production agriculture places farm managers at a competitive disadvantage and contributes to a remarkably high, yet often avoidable, toll of injuries and disease for the production agriculture workforce (e.g. Frank et al., 2004; Petrea, 2003; Donham and Storm, 2002; Fathallah et al., 2006). The most direct activities that could reduce agricultural workforce safety and health problems all involve changing this state of affairs so that all work operations in the agricultural sector are subject to the same (where advisable) OSHA regulatory provisions that other US industries abide by. There is scientific support for the prevention benefits of traditional safety and health regulation as a means of preventing

injury and illness among children, youth and adults in agriculture. However, at present, historic, path-dependent trends and the lack of an overwhelming political consensus, along with the industry's heterogeneity and the sheer numbers of small operations where new regulatory enforcement would be required prevent this kind of change. In the absence of well-enforced OSHA regulatory efforts that cover operations of all sizes and control the wide range of hazards presented in agriculture, all other measures are extremely poor substitutes. Still, given the extremely dire state of affairs in agriculture, where the rates of fatal and nonfatal injuries and certain occupational diseases lead or rank high among all other US industries, even "half measures" warrant serious consideration.

v. Emerging developments, including trends among producers and consumers as well as the diffusion and adoption of technologies continue to reshape this industry. For example:

1. More conventional producers are shifting to organic methods, encouraged by both non-profit and government programs to make the conversion. A county in Iowa even gives a sizable tax break now to farmers who convert. University Extension is now teaching organic methods in most Midwest states. This trend is different than 10 years ago, when there was a greater split between organic and conventional, and the organic farmers tended to be new to agriculture. The conventional grower who shifts to organic will have to do more hand labor than before, and manage larger crews to do this labor (DeLate, 2004; USDA, 2003).

2. With more urban and suburban dwellers moving to the country, agriculture production methods are suddenly of interest to the new neighbors who want some control over what they see and smell, such as manure management issues. Agriculture producers and newcomers have to come to terms over land use issues in ways they never needed to before (Sooby, 2003).

3. More intense growing, like hoophouse production for off season vegetables and earlier fruit (Lehnert, 2005).

4. In landscaping work: more intense installations that make the outside an expansion of the house, for example outdoor party rooms with fireplace and grills, ponds, backyard studios or play areas, areas meant for morning coffee and newspaper, areas lit up at night, and lots of stone work to create these areas. All of this requires more hand labor than the earlier simpler landscape designs of a broad lawn and a few evergreens planted at the house foundation. People are getting more sophisticated in what they want from their landscape, and they have the money to pay for it (Konya, 2005).

5. More agritourism, more farms adding an agritourism or entertainment "agritainment" component to their crop production. This means that larger numbers of the general public are visiting farms, and it also means that on those farms there are larger potential health hazards and risks. The farmers have to learn stricter food safety measures, and also have to learn crowd control and risk prevention, for example with petting zoos and wagon rides (Che et al., 2005; Anonymous, 2005).

vi. The NIOSH Community Partners for Healthy Farming grant program has been supporting innovative research to practice projects for over ten years. For reviews of this program, see (Ehlers and Palermo, 2005; 1999).

Two NIOSH publications have been devoted to intervention evaluation (Guide to Evaluating the Effectiveness of Strategies for Preventing Work Injuries 2001-119, Does It Really Work: How to Evaluate Health and Safety Changes in the Workplace 2004-135).

Specific intervention recommendations in an editorial by Chapman, 2000 included:

-- "Pay great attention to the bottom line. For example, experience with soil and water conservation efforts in agriculture has provided evidence that individual firms very often require a clear profit incentive (in the absence of a strong monetary penalty) before shifts toward prevention and problem-solving occur industry-wide."

-- "Prove that it works, repeatedly, and they will come. For example, workplace health promotion programs were in much the same state as production agriculture injury prevention efforts 20 years ago. Federal funding for intervention effectiveness research in health promotion that emphasized fairly rigorous evaluation requirements (e.g. control groups, objective outcomes, interventions that moved beyond mere training to workplace and work policy modifications coupled with careful evaluation of program costs and benefits) have pushed this area to the point where `what works` is almost a formula and `how to do it` and `how to evaluate it` are becoming familiar and relatively reliable in producing the desired results. Workplace health promotion efforts are widely employed and valued by many managers in firms of all types and sizes today. Although we may argue that they have an easier row to hoe than agricultural health and safety, the tide seems to be running their way."

-- "Move beyond training individuals to act safety around hazards. For example, success in many public injury prevention campaigns turned the corner when a concerted effort was made to move from traditional safety education toward intervention efforts that identified and began to systematically eliminate hazards with workable alternatives. From infant cribs to aspirin containers, passive vehicle restraints to more forgiving playground equipment and surfaces, the case has been clearly made that environmental modifications are the preferred option because they work, largely because they do not rely on repeated vigilance and action by individuals."

vii. Interventions in agriculture that seek to modify traditional practices can be successful and worthwhile endeavors provided that they recognize and build on:

1. the effective absence of effective regulation and the primary concern of farm managers (profitability);
2. the traditional fiscal conservatism and risk avoidance of small operation managers the requires interventions to promote safer, more profitable practices for five years or longer before significant numbers of managers will begin to adopt a "better practice."

Two NIOSH extramural grant programs have made inroads in these directions: the Agricultural Safety Promotion Systems projects in the early 1990s (Hard et al., 1992; 1995), and the Community Partners for Healthy Farming projects (1995 to the present) (Ehlers and Palermo, 1999; 2005).

The abstract from Ehlers and Palermo, 2005 follows:

"ABSTRACT. The purpose of the Community Partners for Healthy Farming Intervention

Research (CPHF-IR) program is to implement and evaluate existing or new interventions for reduction of agriculture-related injuries, hazards, and illnesses. Objectives include the development of active partnerships between experienced researchers, communities, workers, managers, agricultural organizations, agribusinesses, and other stakeholders. Specific intervention projects were selected by the competitive review process in response to a request for proposals. The second series of projects (funded 2000-2003) targeted: improved ergonomics for handling grapes (CA) and for small-scale berry growers (WI, IA, MI, MN), engineering controls (KY, VA, SC) and training (IN) related to tractors, private-sector financial incentives for safety (IA, NE), and reducing eye injuries in Latino farmworkers (IL, MI, FL).

Partners have provided their unique resources for accessing the target population, planning, implementation, dissemination, and evaluation. They have produced useful engineering controls, educational and motivational tools, and helped build infrastructure for promoting agricultural health as essential to sustainable agriculture. Additional outcomes have included: increased interest among participants in collaborating in further research, the feasibility of Latino lay health advisors as active partners in research, and the value of process evaluation of a partnership to enhance intervention sustainability. NIOSH is utilizing the model created for Simple Solutions: Ergonomics for Farm Workers, a document related to earlier CPHF-IR projects, for a comparable document for construction in both English and Spanish. This program has confirmed that such partnerships can produce not only sustainable interventions but also products and models with the potential to expand farther geographically than originally anticipated and even into other sectors, e.g., for primary prevention among healthcare workers and adolescents, and to introduce public health in social studies and language classes."

Comment ID: 3558.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction
Mining

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Surveillance
Etiological research
Exposure assessment
Engineering and administrative control/banding
Intervention effectiveness research

Partners

Categorized comment or partial comment:

viii. For example, the text and recommendations from the executive summary in (Fatallah et al., 2006) follow:

Executive Summary

"Stooped postures have probably been with us since the first human ancestors began walking upright. In the modern world, it might appear that stooped postures are confined to work in developing countries or less mechanized workplaces. However, nothing could be further from the truth. Stooped postures are commonly found in agricultural, construction, mining, and other workplaces all around the world. Stooped postures are common wherever physical work is undertaken. Further, work requiring stooped postures is strongly associated with high incidence of low back disorders (LBDs).

Nonetheless, the terms `stooped` or `squatting` postures are not commonly found in ergonomics studies or literature. These facts taken together led to the questions that stimulated this conference of experts:

- (1) what do we know about the scope of stooped postures in the workplace;
- (2) what scientific basis is there for understanding the effects of stooped postures; and
- (3) what do we know about strategies for controlling stooped postures?

Speakers at this conference made clear that the problem of stooped and squatting postures in the workplace is global in scope and widespread in many industries. Further, evidence presented made clear that stooped postures are commonly associated with work that has a high incidence of LBDs. Nonetheless, stooped postures have been little studied as a primary risk factor for LBDs. Most attention on risk factors for LBDs has been focused on manual materials handling and whole-body vibration. Stoop (sustained bending of the spine) has been largely neglected. In part, this may be due to the lack of an accepted definition of stooped or squatting postures. As this conference ended, we accepted the following as initial working descriptions: a stooped posture can be defined as 'a bending forward and down from the waist and/or mid-back while maintaining relatively straight legs'; squatting can be described as a 'bending of the knees so that the buttocks rest on or near the heels'.

The full scope of the problem is not well reflected in occupational injury data because current reporting methods do not examine the relatedness of an injury to stooped and squatting work postures. Workers' Compensation programs focus more on delivering benefits than prevention efforts, and claims data collection is driven by injury (an 'event') rather than cumulative trauma. Reducing the incidence of work-related LBDs in these jobs will require a new focus on identifying and describing stooped and squatting postures as specific LBD risk factors in the workplace.

Biomechanical research shows that high spinal compression forces occur in stooped postures, and that sustained or repeated flexion of the spine may disturb the neuromuscular stability of the lower back and increase the risk of fatigue, leaving the back more vulnerable to injury. What is missing (as is the case with many ergonomics risk factors) is definitive etiology demonstrating the causal role and mechanisms linking stooped postures with MSDs.

While there is considerable epidemiological evidence associating working in stooped, kneeling and squatting postures to LBDs, it is mostly focused on those postures in combination with other risk factors such as bending or twisting or heavy loads. The literature combining stooped, squatting or kneeling postures with load handling shows rapid and severe spinal damage. There is much less in the literature regarding the health effects of these postures in an unloaded situation.

Kneeling and squatting are often seen as alternatives to stooping; as a way to work at low levels without bending the back as much. In agriculture and construction, workers often resort to stooping because it demands less energy expenditure than the alternatives, and they can exert higher force and have increased mobility than when kneeling or squatting. There is good biomechanical reason to view these postures as significant contributors to MSDs of the knee and low back. There are generally few studies of knee injuries associated with these postures, and conclusive, causal studies are still lacking. Efforts to improve jobs should reduce overall risk factors, rather than just shift the strain from one part of the body to another.

Determining which controls are available as interventions to the problem of stooped work is challenging for the industries of concern, especially agriculture, construction, and mining, because they have tremendous variation in their workplace environments. Four classes of interventions were discussed at the Conference, and successful interventions in all these areas were presented:

1. Reduce or Eliminate the Need to Stoop or Squat (e.g., raised planting beds, Portable tables or carts, Lifting aids and handles)

2. Mechanical Worker Protection or Worker Aids (e.g., devices for kneeling, prone workstations, and load transfer devices)

3. Mechanical Assists to Allow the Employee to Work in a Standing Position (e.g., tool extensions, mechanical harvesting, roofing equipment)

4. Administrative Controls (e.g., programmed breaks, reducing the number of working hours, or hiring more workers during peak periods to reduce the demands on the individual worker).

However, intervention experts were unanimous in noting that interventions must be task and situation specific to be both adoptable and effective. This means that few interventions can be expected to travel un-adapted between jobs or tasks. In order to improve our understanding of the relationship of stooped, squatting and kneeling postures and MSDs and their prevention we must increase and improve research focused on these risk factors. A necessary first step will require differentiation by the research community between stooped posture and stooped work by determining at what exposure level assuming a flexed posture becomes `stooped work`, and establishing a consensus definition of stooped work (e.g., work below knees > 40% of time).

Secondly, there is a need to develop practical and objective measures of exposure to stooped work (degree of bending, duration, frequency) and refine the epidemiological case definition of outcome (symptoms, physical findings, diagnoses) for a deeper focus on the effects of stooped work.

To seriously begin to improve our understanding of the etiology and causal relationship between stooped and squatting postures and MSDs we need to increase our understanding of the biomechanics of the spine and the lower extremities in these positions. There is a need for research studies designed to evaluate the effects of these postures on tissue responses under various conditions and loading patterns. Research is required to understand how the intervertebral disc, the meniscus of the knee, and other passive tissues respond to repetitive versus static loading. Such research may point the way to understanding the relationship of degrees of postural stress and disease and, similarly, how much postural relief is needed or useful in preventing disease. Epidemiology and biomechanics provide much of the basis for understanding the effects of working in stooped and squatting postures, and the knowledge gained from such study needs to be incorporated into the case definition of stooped work, and in job design criteria that take into account the tissue fatigue generated by static postures.

Finally, there is need for an improved system of intervention research that both disseminates the evaluation of alternative strategic approaches in different workplaces and also supports the development of workplace specific adaptations of known approaches. Interventions which are not both acceptable to workers and employers and which fit the work system without serious detriment to productivity will not be widely adopted. Development of such interventions is neither an automatic nor guaranteed result of publication of research results or successful demonstrations in other industries.

Suggestions for improving prevention of musculoskeletal disorders caused by stooping, squatting or kneeling postures.

A. Suggestions for assessing high risk jobs

1. Evaluate the effectiveness of different methods of risk assessment attention to predictive ability and field utility.

B. Suggestions for surveillance research

1. Develop a national registry of musculoskeletal hazards and health outcomes.
2. Add supplements to existing surveillance systems for stooped and kneeling postures.
3. Conduct surveys in high risk industries (agriculture, construction, mining).
4. Determine the number of workers exposed and what jobs they are doing.
5. Record the exposure in identified jobs: time in stooped and squatting, by `zones` of mild, moderate, and severe positions
6. Identify the specific job or task elements requiring stooped postures, and why.
7. Conduct cross-sectional and longitudinal studies to develop and validate a list of high risk jobs and significant health outcomes

C. Suggestions for intervention research

1. Develop new partnerships with agencies, academia and industry to support intervention research focused on stooped and kneeling work, including national and regional partnerships focused on industry- or task- specific applications
2. Increase the number and range of intervention research underway
3. Encourage higher-quality intervention evaluations using randomized trials, quasi-experimental designs and blended evaluations
4. Document and broaden the dissemination of successful/ proven interventions.

D. Suggestions for etiological research

1. Conduct studies to improve understanding of specific biomechanical stresses and musculoskeletal disorder development during stooped and kneeling postures
2. Develop and evaluate improved standards and methods for assessing exposure, health outcomes and other etiological factors for stooped and kneeling work.
3. Conduct population, clinical and laboratory studies to evaluate the short-term impacts of different types of exposure to working in stooped or kneeling postures on musculoskeletal disorder development and early indicators of such disorders.
4. Conduct population, clinical and laboratory studies to evaluate the long-term impacts of different types of exposure to working in stooped or kneeling postures on musculoskeletal disorder development and early indicators of such disorders."

Comment ID: 3558.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Partners

university Extension

Categorized comment or partial comment:

ix. see Chapman et al., 2003 for an example of an intervention that promoted engineering controls to reduce traumatic injury hazards in the dairy industry, see Chapman et al., 2004 for an example of an intervention that promoted engineering controls to reduce musculoskeletal injury hazards in the fresh market vegetable production industry. Additional RFAs that emphasize engineering research/interventions could help promote this type of work.

x. see Bean, 2005.

Comment ID: 3558.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Small business

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Etiological research

Exposure assessment

Engineering and administrative control/banding

Personal protective equipment

Intervention effectiveness research

Capacity building

Health service delivery

Partners

Categorized comment or partial comment:

xi. text and recommendations from McCullagh, 2002 include: "Research to date indicates that farmers experience accelerated hearing loss compared to non-farmers, that loss progresses with age, that onset of loss occurs early in life, and that the damage follows a pattern consistent with noise-induced hearing loss..."

1. Expand the Scope of Research

"Several important areas of inquiry were not addressed in the extant research. There is a need to further investigate farm noise hazards, their spectral characteristics, and the relative contribution of various sources of noise to NIHL. Improved methods of noise exposure measurement in the farm setting will be necessary to produce meaningful studies. In response to engineering modifications to produce quiet farm equipment, new research is called for that investigates the short- and long-term effectiveness of these engineering modifications on noise levels in the farm work environment, and on hearing ability of their users.

More research is also needed to find ways for farmers to detect and reduce noise hazards, and to accomplish their maintenance engineering role in ways that minimize noise exposure for operators.

More research will be needed to identify common ototoxic chemicals used in farming, and methods of eliminating, replacing, or protecting workers from them. There is a need for more prospective studies of hearing ability in order to explain the natural history of NIHL in the farming population, and for studies that explore the reasons for low use of hearing protectors among farmers."

2. Use Improved Research Methods

"Future progress in intervention research will be advanced with use of improved research designs. Future studies employing larger samples and controls for multiple threats (e.g., temporary threshold shift, conductive loss, patency of the external canal) may contribute to an explanation of the contribution of non-occupational noise exposure to farmers' NIHL. Use of consistent definitions of variables (such as farmer, noise, and hearing protector use) will facilitate comparisons across studies. Improved methods of noise exposure measurement in the farm setting will be necessary to produce meaningful studies. An increased number of intervention studies using quasi- or true experimental designs will enhance the ability to infer causal relationships. Studies are most informative that use designs that compare the outcomes and costs of alternative programs, such as comparing an innovative prevention program to a "standard" program currently in use."

3. Examine Effectiveness of Intervention Programs

"There is an obvious deficiency in the number of intervention studies showing ways to reduce and eliminate hearing loss among this population. Research is needed to compare costs, benefits, and feasibility of multiple intervention strategies, including engineering, education, and policy development.

There is evidence that using a theory-based approach in intervention programs will yield benefits to the program, including strengthening program justification, promoting effective and efficient use of resources, improving accountability, and assisting in establishing professional accountability (D'Onofrio, 1992, as cited in McKenzie and Smeltzer, 1997). Intervention studies that employ a theory-based approach will augment what is already known about these health protective behaviors, and will facilitate future research."

4. Invest in the Agricultural Research Infrastructure

"Recent public outrage toward the injury and fatality statistics for the population, together with increases in NIOSH funding, have resulted in encouraging improvements in the volume and quality of farmer hearing health research. However, occupational health research is marked by multiple challenges, including difficulties in obtaining equivalent comparison groups, measuring outcomes over time, and avoiding selection bias. With the farm population, these challenges become even greater due to the geographic dispersion of program participants, independent ownership of multiple small enterprises, and strong individualism among workers. Other complicating factors include seasonal variations in work, intermittent noise exposures, variations associated with geography, crop type, production size, and farmer role (i.e., manager, part-time employed, full-time employed, and non-paid farm worker) (Murphy, 1992).

A well-developed research infrastructure will be needed to overcome these challenges. There is a need for interagency collaboration in funding and conducting research, including agribusiness; farm groups; local, state, and federal government agencies; and academic institutions.

The problem of NIHL is illustrative of the need for a multidisciplinary approach to farm health and safety. Because the problem of farm-related noise is amenable to engineering, administrative, and

behavioral interventions, a comprehensive farm-based hearing preservation program will require efforts that exceed the skills of any single discipline. Collaborative approaches using multidisciplinary teams of researchers with input from community stakeholders are necessary. Including the disciplines of nursing, industrial hygiene, audiology, occupational medicine, safety engineering, Cooperative Extension, farm groups and others should result in enhanced program effectiveness.

There has been a recent shift in the field of farm health and safety from an industrial model toward a public health model (Murphy, 1992). Agricultural health and safety has historically employed an industrial safety and health approach to the control of occupational hazards on the farm. These approaches typically included the "three E's" (engineering, education, and enforcement), human factors engineering, and behavioral management methods such as McGregor's Theory X (McGregor, 1967). However, agriculture is characterized by a larger number of diverse, independently owned and operated, non-hierarchical establishments than industry (Murphy, 1992). Because of these characteristics, there is less control over work forces, work environments, and workplaces than in industry, making the industrial health and safety models less effective in the agricultural setting. The slower decline in agricultural injury rates in comparison to other industries may serve as evidence of the need to approach agricultural health and safety from new perspectives (Kelsey, 1994).

The public health approach, on the other hand, involves applying comprehensive strategies to reduce illness, injury, and early death. These approaches, including epidemiology and behavior change, are more consistent with the unregulated, diverse, and family-based nature of most farming enterprises. Public health also reframes lifestyle and occupational injury and health problems as social concerns, similar to the problems of drinking and driving, and control of the spread of HIV (Murphy, 1992).

While the public health approach shows promise for improved health outcomes for this worker group, it requires certain elements, including adequate financial resources, a surveillance system, a body of epidemiologic data, and a cadre of public health professionals trained in the specialized health and safety needs and methods of this worker group (Merchant et al., 1989). There is a need to increase support to agricultural health and safety field workers and early-career researchers in academia in their production of high-quality research."

5. Develop Culturally Sensitive Interventions

"Many intervention activities that may be effective in other worker groups may not be useful among farmers due to the unique characteristics of farm work life. For example, corporate safety and health programs, regulatory requirements, workers' compensation policies, engineering controls, and loss-control programs are not available to most farmers (Murphy, 1992). Health professionals may find they will rely more on innovations in voluntary consensus standards and educational programs. For example, educational programs may want to increase their focus on the personal, social, and economic costs of hearing loss, including reduced quality of life, impaired communication, diminished work effectiveness, lost productivity, increased injuries, and expenses for hearing aids (NIOSH, 1996a). Furthermore, intervention studies should accommodate farmers' fiscal and time restrictions, limited access to providers, limited insurance coverage, dynamics of the farming industry, and farm practices of the target group.

Farmers generally lack the benefits of a work-based hearing conservation program. As a result, most farmers do not receive regular audiograms, education about noise hazards, or ready access to a variety of protection devices (Axelsson and Clark, 1995). There is a need for research addressing the

development of hearing health delivery systems for farmers, including provider education and improved access to preventive services."

6. Focus Resources on Highest-Risk Groups

"The changing demographics of farm workers implies a need for new research directions. The impact of off-farm employment on farmers' preventive behavior and hearing loss is an unexplored issue. Epidemiologic studies should include the full spectrum of farm workers, including women, seasonal workers, children, and recreational farmers. Development of systems of classification of exposure by farm operation, geographic region, and crop type may assist researchers in identifying groups of farmers at highest risk for hearing loss, and help in prioritizing limited resources."

Comment ID: 3558.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

xii. DOL and NIOSH should coordinate the development of a comprehensive national nonfatal injury surveillance system comparable to the Census of Fatal Injuries (see Petrea, 2003, p 8.). Some improvements in surveillance can be accomplished with only fairly modest modifications of existing systems. For example, in Petrea, 2003, p 29 "Include occupational injury and illness reporting, with location of injury, as a supplement to the annual National Health Interview Survey as an interim step until a mechanism to offset data omissions within current Bureau of Labor Statistics-based surveys can be implemented."

NOTE: Text entered from submission E-44.

Comment ID: 3560.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

I hope research on levels of brominated flame retardants in workers exposed to PBDEs, HxBDD, and others will begin in 2006. Such work has not yet been done in the USA.

Hopefully also health studies will follow these exposure studies.

PBDEs are similar to PCBs and have gone from not detected in blood from USA population in 1973 to the highest in the world by several orders of magnitude compared to Europe. European levels are believed higher than levels in persons living in less developed countries.

Sincerely,

Arnold Schecter, MD, MPH

Professor of Environmental Sciences

Univ. of Texas School of Public Health, Dallas

NOTE: Text entered from submission E-48.

Comment ID: 3561.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Mining

Population

Health outcomes; diseases/injuries

- Cancer
- Dermal disease

Exposures

- Chemicals/liquids/particles/vapors
- Radiation (ionizing and non-ionizing)

Approaches

- Etiological research
- Health service delivery

Partners

Categorized comment or partial comment:

From: Scott P. DeWeese

Sent: Wednesday, December 07, 2005 3:46 PM

To: Soderholm, Sid

Subject: RE: Dermal Exposure Research Program/reply

Importance: High

Dear Dr. Soderholm,

You have my permission to forward my e-mail to you anyone you like. I have some other data that may be of interest as well-on the larger topic of skin cancer screening. I just wish there was more of an appreciation for the kind of risks UV and chemical exposures pose for outdoor workers today (surely for the risks they pose for skin cancer within industry). MSHA does not even require any kind of monitoring or testing for skin cancer exposures for miners exposed to arsenic-even though NIOSH says its a good idea to do it. NIOSH can't compel industry to do anything. They are not a regulatory agency.

It is my firm belief, that there has to be an "incentive" built in to this process somehow to move industry to embrace this idea further. Even if you come up with great, new and compelling evidence with regard

to dermatological exposures that might warrant this type of screening-without a "driver" once again I fear the impact of your research on the individual worker and his health will be minimal. Nobody wants to spend money on healthcare if they can avoid it, I understand that-but if we can show there is a financial benefit in reducing the risk and long term exposures to the health of the outdoor (or exposed) worker and make that case to industry (ultimately through lower health premiums) then we may really have something that will force a change in the way this issue is addressed today....

I forwarded a copy of your note to me to the CEO of my company for his comment and review. I am honored to even be asked to be associated with your NORA Sector Research Council, but I am sure there is someone eminently better suited (and qualified) than I within my company who could be a more valuable contributor for you. Skin Check will take your offer seriously, and for my part I shall remain available to assist you in any way I can. I for one-believe that what you are about to embark on is both valuable and important to the health of the American worker.

With Kind Regards,

Scott P. DeWeese

Vice President

Skin Check Mobile

From: Soderholm, Sid Sent: Wednesday, December 07, 2005 9:08 AM

To: Scott P. DeWeese

Subject: RE: Dermal Exposure Research Program

I will share your E-mail with others in NIOSH who are particularly interested in the oil production industry or in occupational skin diseases.

If you give me your permission, I will forward your E-mail to the NORA Docket Office (NIOCINDOCKET@cdc.gov). That way, your comments and documents can be included in the information to be considered by the NORA Sector Research Councils in setting occupational safety and health research priorities in the oil and gas production industry. In addition, your input will be useful to other NORA Sector Research Councils that are considering hazards to the skin.

If you would like to volunteer to be considered as a member of a NORA Sector Research Council or to be a reviewer of their draft documents, please let me know. In that case, receiving a brief CV would be helpful.

In any case, I hope you have or will subscribe to the NIOSH eNews (<http://www.cdc.gov/niosh/enews/>) and/or will visit the NORA website occasionally (<http://www.cdc.gov/niosh/nora/>) to keep up on developments in NORA and NIOSH.

Let me know if you need additional information.

Thank you for your interest in NORA!

Sidney C. Soderholm, PhD
NORA Coordinator
NIOSH/OD, Room 733G
200 Independence Ave., SW
Washington, DC 20201
<http://www.cdc.gov/niosh/nora>

-----Original Message-----

From: Scott P. DeWeese
Sent: Friday, December 02, 2005 6:37 PM
To: Soderholm, Sid
Subject: Re: Dermal Exposure Research Program

Dear Mr. Soderholm,

I note with interest the that The National Institute for Occupational Safety and Health (NIOSH) and approximately 500 external partners have created the National Occupational Research Agenda (NORA). As Director of the Dermal Exposure Research Program. I note that the overall goal of the program is to promote the development of improved NIOSH policies and recommendations for identifying and controlling dermal overexposures. I think we can help.

Skin Check Mobile is the only mobile skin cancer screening "clinic" in the US. We go onsite to where the worker is exposed using trained skin cancer specialists and the latest digital dermoscopy. We typically look for lesions and melonomas-because that has the most resonance with the public and employers. We work with the oil and mining industries now in evaluating chemical and UV exposures (see copies of several studies regarding worker exposure in the oil industry) and I don't see much of a stretch in getting involved with your group-as we bring the something to the table that no one else in the US is doing.

Let me know if you see any value in our services. I have enclosed a link to our website. Check out the tab that says Industrial Mobile Services @ <http://www.skincheckus.com/>

I look forward to hearing from you.

Sincerely,

Scott P. DeWeese
Vice President
Skin Check Mobile

NOTE: The following text was entered from Attachment 1:
Cancer Causes Control. 1997 May;8(3):444-72.

Cancer risk from occupational and environmental exposure to polycyclic aromatic hydrocarbons.

Boffetta P, Jourenkova N, Gustavsson P.

Unit of Environmental Cancer Epidemiology, International Agency for Research on Cancer, Lyon, France.

Epidemiologic evidence on the relationship between polycyclic aromatic hydrocarbons (PAH) and cancer is reviewed. High occupational exposure to PAHs occurs in several industries and occupations. Covered here are aluminum production, coal gasification, coke production, iron and steel foundries, tar distillation, shale oil extraction, wood impregnation, roofing, road paving, carbon black production, carbon electrode production, chimney sweeping, and calcium carbide production. In addition, workers exposed to diesel engine exhaust in the transport industry and in related occupations are exposed to PAHs and nitro-PAHs. Heavy exposure to PAHs entails a substantial risk of lung, skin, and bladder cancer, which is not likely to be due to other carcinogenic exposures present in the same industries. The lung seems to be the major target organ of PAH carcinogenicity and increased risk is present in most of the industries and occupations listed above. An increased risk of skin cancer follows high dermal exposure. An increase in bladder cancer risk is found mainly in industries with high exposure to PAHs from coal tars and pitches. Increased risks have been reported for other organs, namely the larynx and the kidney; the available evidence, however, is inconclusive. The results of studies addressing environmental PAH exposure are consistent with these conclusions.

Publication Types:

- Review
- Review, Tutorial

PMID: 9498904 [PubMed - indexed for MEDLINE]

Petroleum mineral oil refining and evaluation of cancer hazard.

Mackerer CR, Griffis LC, Grabowski Jr JS, Reitman FA.

C and C Consulting in Toxicology, Pennington, New Jersey, USA.

Petroleum base oils (petroleum mineral oils) are manufactured from crude oils by vacuum distillation to produce several distillates and a residual oil that are then further refined. Aromatics including alkylated polycyclic aromatic compounds (PAC) are undesirable constituents of base oils because they are deleterious to product performance and are potentially carcinogenic. In modern base oil refining, aromatics are reduced by solvent extraction, catalytic hydrotreating, or hydrocracking. Chronic exposure to poorly refined base oils has the potential to cause skin cancer.

NOTE: The following text was entered from Attachment 2:

[What do we know about chemical hazards in offshore work?]

[Article in Norwegian]

Moen BE, Steinsvag K, Braveit M.

Seksjon for arbeidsmedisin, Institutt for samfunnsmedisinske fag, Universitetet i Bergen, 5018 Bergen.
bente.moen@isf.uib.no

BACKGROUND: Norway has been an oil-producing nation for more than thirty years and a large number of Norwegians have been or are working on oil rigs. There are several chemical substances present on the oil platforms, and these factors may influence workers' health. **MATERIAL AND METHODS:** The international literature on offshore chemical exposure and health is summarised. **RESULTS:** The most important groups of chemical substances used on oil rigs are described: crude oil, production chemicals, asbestos and drilling chemicals. Different types of exposure during maintenance work are described as well. Very few exposure data are published. Acute, irritative health effects from chemical exposure are described, as well as chronic health effects like skin disorders and cancer. These workers seem to have a higher risk, that may be related to benzene exposure, of developing acute myelogenous leukemia. **INTERPRETATION:** Physicians who are treating patients working in the oil industry are advised to be aware of possible adverse health effects from the work environment on the rigs. Further exposure studies and research in this area are highly recommended, as the literature is scarce.

Ann Occup Hyg. 2003 Apr;47(3):201-10.

Overview and characteristics of some occupational exposures and health risks on offshore oil and gas installations.

Gardner R.

Offshore Division, Hazardous Industries Directorate, Health & Safety Executive, Merton House, Stanley Road, Bootle, Merseyside L20 3DL, UK.

This review considers the nature, and recognition and control, of health risks in the offshore oil and gas industry from the occupational hygiene point of view. Particular attention is given to the changes in the nature of exposure and control of inhalation risks from substances hazardous to health in the UK sector, but other risks (e.g. dermatitis, noise and vibration) are also considered. The amount of published information on exposure to these hazards in the sector, or indeed on long-term health outcomes of working offshore, is limited. The approach taken to occupational health and hygiene in the sector has to be set in the context of the challenge of working in a remote and hostile environment where attention to safety and the need for emergency response to acute, rather than chronic, medical events are vital. However, changes in attitudes towards occupational health in the sector, legislation, the impact of environmental protection requirements and technology have all contributed to increasing the attention given to assessment and control of chemical and physical hazards. The health risks and benefits associated with the abandonment of installations, the application of new technologies, recovery of oil from ever deeper waters, lower staffing levels, environmental changes, the ageing workforce and the recognition of exposure patterns needing further attention/control (sequential multiple exposures, smaller workforce, peak/short-term exposures, etc.) are other current and future occupational hygiene challenges.

NOTE: Text entered from submission E-50.

Comment ID: 3577.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Surveillance

Exposure assessment

Partners

Categorized comment or partial comment:

Dr. Norbert Hankin from EPA will be attending the NORA symposium, and wants to use the attached table to demonstrate the extent of non-ionizing radiation exposure in workplaces. Since the table comes from my research, I am entering it into the NORA record myself, so Dr. Hankin can refer to it in his remarks.

NOTE: Text entered from submission E-49. See the attached table in [Appendix 11](#).

Comment ID: 3578.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

Dear Docket Clerk: Attached please find my comments that were intended to be presented at the Town Meeting on December 5, 2005; unfortunately I had to cancel my presentation, and instead submit these written comments. My submission relates to nanotechnology, which fits most closely in the "Manufacturing" sector.

Thank you very much for the opportunity to submit these comments.

Kenneth R. Meade

NOTE: The text in the attachment follows:

Wilmer Cutler Wilmer Hale and Dorr LLP

Kenneth R. Meade

The Willard Office Building

1455 Pennsylvania Ave., N.W.

Washington, DC 20004

THE IMPORTANCE OF FILLING

RESEARCH GAPS FOR NANOTECHNOLOGY

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

Docket NIOSH - 047

Town Hall Meeting on the National Occupational Research Agenda

College Park, Maryland

December 5, 2005

Comments of Kenneth R. Meade

Wilmer Cutler Pickering Hale and Dorr LLP

Good morning. My name is Ken Meade, and I am a partner in the Washington DC office of the law firm Wilmer Cutler Pickering Hale and Dorr. First I would like to thank NIOSH for hosting these town meetings and providing the opportunity for public input on the National Occupational Research Agenda. While there are many areas where scientific research is needed to prevent work-related injuries, illnesses and death, I would like to focus on the importance of the ongoing National Nanotechnology Initiative, and specifically the Nanotechnology and Health and Safety Research Program.

We represent clients in many sectors that are involved in the development of nanotechnology, from investors to research and development institutions and startup companies to manufacturers and secondary processors of nanomaterials. If you talk to people in each of these sectors they are united in their belief that nanotechnology is critical to the future of manufacturing, both here and around the world. In addition, all would agree that minimizing workplace exposure to nanoparticles should be a priority.

In our experience, however, there is also universal agreement that we simply do not currently have an answer to two of the most fundamental questions that are asked in the pursuit of these goals: (a) are there practicable methods to measure or assess workplace exposure to nanoparticles in a specific scenario, and (b) are there practicable methods or equipment that may be effective in minimizing exposure in that same scenario.

There are many institutions and organizations that are spending a tremendous amount of time, effort and money studying myriad issues involving nanotechnology, but we believe that nanotechnology must continue to be a priority area for further NIOSH scientific research. Studies have shown that worldwide government investment in nanotechnology increased almost ten fold from 1997 to the 2003 level of \$3 billion, and some have predicted that by the year 2012 the global impact of nanotechnology-related products will exceed \$1 trillion. Thus, it is not surprising that there are so many applications that are being studied, or that so many institutions, organizations and companies are pursuing the development of nanotechnology. It is critical for the success of these global efforts that we learn as much as possible, as quickly as possible, about potential workplace exposure, and that we develop, again as quickly as possible, effective and practicable methods for reducing such exposure.

There is much discussion and emphasis on studying the toxicology of nano substances. While we believe that this research is also necessary and fully support continued efforts in this area, from discussions with our clients and others involved in the various aspects of nanotechnology research and

manufacturing we believe that the industry is starved for information to fill the rather large knowledge gaps that currently exist with respect to workplace exposure.

With respect to the issue of measurement, there is a critical need for more research into the development of new and improved methods and strategies that can provide effective and reliable assessment of exposure to nanoparticles. There are so many different applications in which nanomaterials are handled, studied, manufactured and processed, and each presents its own challenge in terms of how to determine whether there are releases of nanoparticles and, if so, how to measure potential exposure in the workplace B whether such exposure is through inhalation, dermal contact, or ingestion. It is also critical to recognize that workplace exposures can occur farther down the production chain than just at the research, development and manufacturing stages. The so-called secondary processing of nanomaterials, or materials that contain nanomaterials, can involve cutting, sanding, or other machining that may create occupational exposure to nanoparticles, and these potential exposure scenarios must be considered as part of the overall study of measurement metrics.

The issue of reducing workplace exposure to nanomaterials is similarly in need of much more study. There are a wide variety of potential strategies for reducing workplace exposure that need to be evaluated for their effectiveness, both alone and in tandem with other strategies. While research in this area obviously depends in part on the success of efforts to develop appropriate methods for measuring nanoparticles in the workplace, research should not be delayed or postponed while we wait for measurement methods. Research needs to focus on evaluating all potential strategies, from equipment such as filtration systems or PPE to various work practices to strategies for maximizing ventilation efficiency. In addition, research must not focus solely on control strategies for addressing inhalation of nanoparticles; control strategies for reducing exposure via dermal contact as well as ingestion must also be evaluated.

In conclusion, we strongly support the National Nanotechnology Initiative, and NIOSH's commitment to partnering with the many national and international public agencies and institutions, as well as private organizations, that are involved in the ongoing effort to address workplace exposure issues and challenges presented by this new technology. Given the important role that nanotechnology and nanomaterials plays and will continue to play in the worldwide economy, it is critical that this area of study be given very high priority in the context of the ongoing planning for NORA and the identification of areas where research dollars and efforts can have the greatest impact on workplace safety.

Thank you again for the opportunity to provide our perspective on this important issue.

NOTE: Text entered from submission E-47.

Comment ID: 3579.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Neurological effect/mental health

Immune disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

January 23, 2006

John Howard, M.D.

National Institute for Occupational Safety and Health (NIOSH)

Hubert H. Humphrey Bldg.

200 Independence Ave., SW

Room 715H

Washington, DC 20201

Dear Dr. Howard,

I am writing today to ask NIOSH to include a study on worker exposure to polybrominated diphenyl ethers (PBDEs) in the National Occupational Research Agenda (NORA).

In the modern era, dangerous chemicals have regularly been produced and widely distributed before scientists could discover hazards to human health and the environment. The problem arises from inadequate testing and regulation of industrial chemicals. Dozens of examples exist, from DDT, a pesticide that nearly caused the extinction of bald eagles, to PCBs, an industrial insulating chemical that

caused developmental problems in exposed humans. Both of these chemicals have become global contaminants, persisting in our environment despite being banned in the United States. Both can still be found in our bodies to this day. Over the last five years, scientists have uncovered yet another emerging threat to human health. The central figure in this new story is a group of chemicals known as polybrominated diphenyl ethers (PBDEs), or toxic flame retardants. Widely used in foams, fabrics, and plastics to delay the spread of fire, these chemicals can now be found practically everywhere scientists look. Despite the claims of the chemical industry, evidence continues to accumulate that PBDEs threaten human health:

-- Industry stated that flame retardants would not escape from treated products into the environment. Scientists have found them in rapidly increasing amounts in all parts of the world, from the blubber of harbor seals and polar bears to the blood and breast milk of humans. In particular, women's breast milk and breast tissue in America contain some of the highest levels of PBDEs found anywhere.

-- Industry assured the public that the chemicals were non-toxic, yet scientific studies have shown that exposure to toxic flame retardants during critical windows of development can interrupt brain development in mice, permanently impairing learning and movement.

-- Toxic flame retardants also have been linked to disruption of thyroid function, cancer, immune system harm, and reproductive system damage.

-- Contamination levels in humans have grown rapidly to the point where little margin of safety exists. Flame retardants found in some American mothers and fetuses are approaching the levels shown to impair learning and behavior in laboratory studies.

-- Some subset of the population likely already carries PBDEs at levels that could be harmful to fetal development.

PBDEs are persistent, bio-accumulative, and harmful. They persist for long periods of time both in the environment and in our bodies and travel through a variety of media, including air and water. They bio-accumulate, meaning they find their way into the bodies of humans. These chemicals are also toxic and may be harmful to human and ecological health.

Manufacturers of common household products routinely add PBDEs to plastics, fabrics, and foam in order to delay the spread of fire and improve product safety. The chemical industry produces and sells three different mixtures of PBDEs: Deca, Octa, and Penta. In 2001, more than 66 million pounds of PBDEs were used in North America.

Despite the growing evidence of the health threats posed by this class of chemicals, only Sweden has yet conducted an occupational health study. We urge NIOSH to study which workers may be exposed, how much exposure can be decreased, and what the health consequences are of workers and general population exposure.

Sincerely,

Luke Metzger

Advocate, Texas Public Interest Research Group (TexPIRG)

700 West Avenue

Austin, Texas 78701

NOTE: Text entered from submission E-23.

Comment ID: 3580.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

As it has been established that disability has a greater morbidity and mortality for the same disease process than those who are at work, it would be a significant public benefit to develop sound processes and procedures to promote work and stay at work. I would like to recommend that NORA add to its research agenda some of the important issues concerning the stay-at-work and return-to-work (SAW/RTW) process that are highlighted in the report, entitled "Preventing Needless Work Disability by Helping People Stay Employed." The report developed by ACOEM is addressed to a broad audience of medical and non-medical readers and is an informative, sensible, and enlightening overview of the SAW/RTW process with both general and specific suggestions on how to improve it.

NOTE: Text entered from submission E-29.

Comment ID: 3582.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

We also are supportive of AFSCME's pandemic flu OSHA petition, and we are nearing the home stretch of a CalOSHA Airborne Infectious Disease Standard that at this point is actually quite good.

SEIU's California based H&S Rep John Mehring can provide anyone who is interested with more details on how it is proceeding.

NOTE: Text entered from submission E-31.

Comment ID: 3583.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Immune disease

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Hazard identification

Partners

Categorized comment or partial comment:

Your address was forwarded to me as an organisation becoming interested in environmental EM health issues.

I have been involved in work on electromagnetic interactions with living systems for the past 30 years.

I am attaching my bibliography which may contain something of use for you. Sincerely, Cyril Smith.

NOTE: The following text was entered from the attachment:

Bibliography on Electrical Hypersensitivity and Water Phenomena

Cyril W. Smith,

Honorary Senior Lecturer (Retired),

School of Acoustics and Electronics,

University of Salford, Salford M5 4WT, England.

Presentations at:

International Annual Symposia on "Man and His Environment in Health and Disease" held in Dallas, Texas,

Smith CW, Al-Hashmi SAR, Choy RYS, and Monro JA. Preliminary Investigations into the Use of Ion-Bombardment Treatments to Improve the Acceptability of Fabrics for Allergy Patients. 4th. Intl. Symp. on "Man and His Environment in Health and Disease", Dallas Texas, February 27- March 2, 1986*.

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[*Audio Tapes from: Professional Audio Recording, 2300 Foothill Blvd. #409, La Verne, CA 91750, U.S.A.]

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Institute for Complementary Medicine Newsletter, February 2004: journal@icmedicine.co.uk

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Publications 2005

Smith C.W. 1. "Electromagnetic Sensitivity and the ANS. 2. ANS Involvement in Chemical and Electromagnetic Sensitivities. 23rd. Annual Symposium on Man and His Environment, June 9-12, 2005. Syllabus pp 162-194.

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Smith CW. Frequencies in Homoeopathy and Acupuncture. In: Improving the Success of Homoeopathy – 5. "A Global Perspective". Intl. Conf. Royal London Homoeopathic Hospital, 26-27 January 2006. Programme – Poster Abstracts - pp154-155.

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NOTE: Text entered from submission E-33.

Comment ID: 3585.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance
- Manufacturing
- Services
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Immune disease
- Dermal disease
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Work-life issues

Approaches

- Etiological research
- Exposure assessment
- Engineering and administrative control/banding
- Health service delivery

Partners

Categorized comment or partial comment:

Docket NIOSH-047
Robert A. Taft Laboratories (C-34)
4676 Columbia Parkway
Cincinnati, OH 45226

Thank you for this opportunity for the American Latex Allergy Association, A.L.E.R.T., Inc. to participate in the public meeting to develop the National Occupational Research Agenda (NORA). Unfortunately we are unable to attend the meeting on March 13,2006 to present our testimony in person. We would like to submit the attached information as written testimony.

Sincerely,

Marsha
Marsha S. Smith, RDH,BS
President and Co-founder
American Latex Allergy Association, A.L.E.R.T., Inc.

NOTE: The following text was entered from the attachment:

American Latex Allergy Association
A.L.E.R.T., Inc.
P.O. Box 198
Slinger, WI 53086
1-888-972-5378
alert@latexallergyresources.org

March 12, 2006

Docket NIOSH-047
Robert A. Taft Laboratories (C-34)
4676 Columbia Parkway
Cincinnati, OH 45226

John Howard, M.D.
Director, NIOSH
200 Independence Avenue, S.W.
Room 715-H, HHH Building
Washington, D.C. 20201

RE: National Occupational Research Agenda (NORA)

Dear Dr. Howard,

Thank you for this opportunity for the American Latex Allergy Association, A.L.E.R.T., Inc. to participate in the public meeting to develop the National Occupational Research Agenda (NORA). Unfortunately we are unable to attend this meeting to present our testimony in person. We would like to submit the following information as written testimony.

The current statistics for people sensitized to natural rubber latex (NRL) are broken down by risk groups and are as follows:

- 8-17% of health care workers
- Up to 68% of children with spina bifida (related to frequent surgeries - anyone who has multiple surgeries is at risk)
- Less than 1% of the general population in the U.S. (about 3 million people)

During the past 10 years significant strides have been made to address the many occupational health issues related to natural rubber latex allergy (NRL).

Unfortunately, there still remain many areas where attention is so desperately needed.

The American Latex Allergy Association website www.latexallergyresources.org receives over 6,000 visits per month and we receive over 400 calls and e-mails every month that bring our attention to the continued issues of natural rubber latex allergy (NRL).

The following are excerpts from actual e-mails we received in the last year.

"My daughter has spina bifida and has a latex allergy. She's considering going into cosmetology - particularly doing nails at the local technical school. Could you tell me if there's a latex problem with that profession?"

"Hello, I am interested in updating our latex policy at my hospital. Our current screening tool is very general and requires all patients with any sort of reaction to latex to be isolated. Do you have a more detailed screening tool to help classify patients between contact and airborne allergies? Do you have any sample latex policies for hospitals to use?"

--- One of the main factors contributing to the inability of latex allergic individuals to return to work is occupational asthma. According to the American Academy of Asthma Allergy and Immunology "up to 15% of adult asthma cases in the United States have job-related factors, and it accounts for approximately 24.5 million missed work days annually." Latex allergy is included in the listing of job related risk factors. (AAAAI Press release: Reducing exposure can reduce symptoms of occupational asthma: 1/05/2006). Additionally, two articles that recently addressed this issue are Latex Allergy and Occupational Asthma in Health Care Workers: Adverse Outcomes, Sania Amr; Mary E. Bollinger Environ Health Perspect. 112(3):378-381, 2004 concludes "special attention should be given to the patient's work and home environments, because timely control of exposure is important to minimize further damage and long term adverse effects." Grand Rounds: Latex-Induced Occupational Asthma in a Surgical Pathologist Judith Green-McKenzie; Debra Hudes, Environ Health Perspect. 2005;113(7):888-893 a 43 year old surgical pathologist with latex allergy was unable to continue working. The article states "The provision of a latex-safe environment was explored with the hospital administration and deemed not feasible at that time. A full-faced dual cartridge respirator was recommended and tried in consultation with a certified industrial hygienist. However, it interfered with the patient's ability to communicate, and he was unable to tolerate wearing it for an 8-hr day. We felt that he was at risk for potentially fatal anaphylaxis, as well as irreversible and impending structural damage to his lungs, given his long history of exposure and disease severity."

Continued research is needed to address the issues of Latex Allergy related Occupational Asthma.

--- Many feel that the risk of natural rubber latex allergy in health care workers is gone. We are still being contacted by health care workers experiencing new allergic reactions, many of them are as severe as those seen 10 years ago. The following is an excerpt from an e-mail:

"I have just recently been denied a position at a hospital because of a latex allergy. Is this legal? It seems like some sort of discrimination? Please let me know. Also, I am wondering if there are many hospitals out there that have this policy Thanks,"

--- Diagnosis of latex allergy is still controversial due to the lack of a reliable (FDA approved) skin prick test reagent. The RAST tests currently available have 25% false negative results. Diagnosis currently is made based on a thorough health history. Not having a definitive diagnostic test very often makes the diagnosis controversial. Here is an excerpt from an email:

"I have been a nurse for 15 years, and about 14 years ago, I noticed that each time I went to work, I broke out in hives. I even had to be sent to the ER by my supervisor. At that time, I had read an article about latex allergy. The strange thing was, that prior to becoming a nurse, I had noticed that when I blew up or played with a balloon, used a condom or chewed gum, I seem to have a reaction. I saw my dermatologist and he diagnosed me as latex allergy. I required surgery 2 years ago, and they demanded

a blood test in spite of the diagnosis from my dermatologist. I agreed. The test came back negative. They said you are not latex allergy. I since then have received a diagnosis of skin cancer, and had to see a specialist from the ----- Clinic. I discussed this with him, and he said, by all means I should be considered a latex allergy patient."

--- There are restaurant workers handling food wearing latex gloves, these individuals are at risk for developing latex allergy.

The following is an excerpt from e-mails:

A chef from Washington who is unable to work in her profession writes: "The use of latex gloves is as prevalent in the Food Service industry as it is in the medical professions...It is with mixed emotions to have found ALERT. Sad to know, and believe me, I know the pain and suffering everyone affected with latex allergy copes with, and relieved to know that I am not alone and over reacting to what I fear is a life threatening risk that is being overlooked."

--- There have not been any studies addressing the protein levels of these non- medical grade latex gloves that are routinely worn. In addition, this also poses a risk to individuals with latex allergy eating food prepared by individuals wearing latex gloves.

--- Many non-health care workers are now routinely wearing latex gloves as part of their job. Examples of this are: auto mechanics, food handlers, beauticians, grocery store employees, toll booth takers...

"Hello,

My name is ----. I am an automotive technician and I use latex and or nitrile disposable gloves every day at work. I have been using them for the past 7 years with no incident or allergic reaction what so ever.

Recently within the past 3 months or so, I seem to be "allergic" to both types of gloves (latex and nitrile). My hands seem to get itchy after wearing them. It stops bothering me when I stop wearing them.

Can you recommend a particular type and brand of glove that is not latex or nitrile that I can try, and where I can purchase them?

Thank you for your cooperation,"

--- Day care workers are routinely wearing latex gloves for diaper changing. According to the 2002 Census statistics 2, 335,000 children were enrolled in day care. There currently are not statistics to document how many of those children are exposed to natural rubber latex (NRL) on a daily basis. We are seeing an increasing number of children being diagnosed with natural rubber latex allergy (NRL). Research needs to be done to determine the risk to both the employee (day care worker) and the children who may be repeatedly exposed to natural rubber latex (NRL).

--- There are thousands of products that are manufactured that contain latex. This may pose a risk to the employees in the manufacturing process as well as the consumer using the products. Consumer products containing natural rubber latex (NRL) are not labeled. Research is needed to know if the manufacturing process is a risk to employees and if the products produced are a potential risk to already sensitized natural rubber latex (NRL) individuals. Here is an excerpt from a few emails:

"Are there universal labels that can be applied to products to state `latex-free`? "

"I am trying to gather information on whether the latex used in adhesives for food packaging seals could pose a threat for people with latex allergies. In particular, if someone licked the product off the packaging material, and have latex allergens, could this pose a threat, and how serious a threat?

Any information on this issue would be greatly appreciated."

"My wife tests 2 out of 4 on a RAST test for latex allergy, which heightened my awareness of how ubiquitous latex is in our society. I had noticed for years that there was a "scum" on the inside of lids from cans of fruits and vegetables. Most recently, I visited the ----- website and to my amazement they use latex in the cans in a machine called a "seamer" to help seal the lid to the can. If - (manufacturer)- does it, do all canned food processors? And what about overseas processors? I am alarmed at the potential for there to be latex in every can of food consumed by the American public. As the signature association for the latex allergy problem, I am passing this information to you in the hopes that you will investigate and determine that it is a non-issue, advise people who have latex allergy to avoid canned foods through the media, or compel canned food processors to change their process. Any information that you have on this subject to date would be appreciated. Thank you in advance."

--- There still is not treatment for natural rubber latex allergy (NRL). Avoidance is still the only recommended treatment. Medications to manage the symptoms are utilized, but are not a treatment for the latex allergy itself. Research into immunotherapy needs to be continued.

--- The role vigilance plays in the issue of natural rubber latex allergy (NRL) can not be overstated. All involved professions, organizations and agencies must remain vigilant to there rolls in the many complex issues of natural rubber latex allergy (NRL).

Thank you for the last 10 years of having Natural Rubber Latex Allergy (NRL) on the research agenda. Please consider these important issues and keep Natural Rubber Latex Allergy (NRL) on NORA's agenda for the future.

If you need further explanations we would be happy to provide more information.

Sincerely,

Sue Lockwood

Marsha S. Smith

Sue Lockwood, CST
Executive Director and Co-founder
American Latex Allergy Association
PO BOX 198
Slinger, WI 53086
262-677-9707
e-mail: alert@latexallergyresources.org
www.latexallergyresources.org

Marsha S. Smith, RDH, BS
President and Co-founder

NOTE: Text entered from submission E-35.

Comment ID: 3586.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Immune disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Partners

Categorized comment or partial comment:

I apologize for not making the meeting today - but an unexpected emergency came up. Below are the comments that I intended to provide to the committee. I hope it is not too late for inclusion in your discussions.

Testimony NORA Town Hall Meeting

March 13, 2006

Anna Gilmore Hall,

Executive Director

Health Care Without Harm

Good morning

I am here this morning giving comments from HCWH and as a Registered Nurse. HCWH is an international coalition of 500 organizations in 42 countries. Our mission is to transform the health care industry worldwide, without compromising patient safety or care, so that is ecologically sustainable and no longer a source of harm to the public health, people who work within health care and the environment.

Introduction. Between May 2005 and January 2006, we conducted an on line survey to explore the relationship between a nurse's health and on-the-job exposures to chemicals, drugs and other harmful

agents. 1,452 nurses completed the survey designed by the Environmental Working Group (EWG), American Nurses Association, University of Maryland, School of Nursing and Healthcare Without Harm.

The survey was designed for three purposes:

- to serve as an outreach and education tool to nurses not already engaged in the environmental health movement,
- to provide preliminary research findings that may indicate the need for further research on particular aspects of nurses' chemical exposures and health outcomes,
- to provide potential content to generate media interest in Nurses Week, May 2006.

Currently, we are analyzing the data within these completed surveys to identify health and exposure relationships that may merit further study.

-- Total number of surveys completed: 1,452

-- Current job category for survey respondents: Registered nurse (RN) (1,091 responses); Advance practice registered nurse (APRN) (190 responses); Licensed practical nurse or other healthcare professional (171 responses).

-- Current state of residence: Nurses from 50 different states and Washington, DC responded to the survey.

-- Job history: Information was collected on history of nursing positions held by respondents, including years of employment in each position, major practice area, and type of facility where employed.

-- Chemical and radiation exposures: Information was collected on eight exposure categories (including cleansing and disinfection products, specialty healthcare chemicals, radiation, anesthetic gases, and others), and nine specific chemicals or relevant medical devices within those categories.

-- Health outcomes for survey respondent: Information was collected for 20 major health outcome categories and year of diagnosis for each, ranging from primary cancer to infertility to osteoporosis, as well as for 55 individual cancer sites or types. These outcomes also included miscarriage, medically necessary abortions, and Latex sensitivity.

-- Health outcomes for each of the respondents' children: Information was collected on the same health outcomes outlined above.

-- Opinion survey - environmental health: Information was collected on survey respondent reactions to statements concerning the importance of chemical exposures in health outcomes and the emphasis placed by their facility on environmental health and safety.

Plan for data analysis. Data analysis will be conducted in three phases, the first an exploratory phase to identify overall response content and gross relationships between health condition, exposure, and years and type of employment; the second a manual review of individual data records for particular health outcomes or exposures of interest; and the third a follow-up phase to explore in further detail relationships of interest identified in phases one and two. We can adjust for age, smoking, and alcohol consumption if needed, for some of these analyses.

Phase one – initial data exploration. This phase of analysis will likely include, but not be restricted to, the following analyses:

-- Survey response rates (and totals) by geographic region, nursing title, major practice area, level of education, and years of practice. These rates will serve to guide segmentation of data during subsequent analyses of correlations between employment, exposure, and health factors.

-- Summary analysis of the responses to the "Environmental Health Statements" section of the survey, which requests information on how the respondent perceives the influence of chemical exposures on health and the emphasis placed on environmental health and safety at their facility.

-- Comparison of background rates of health problems in the general population, versus rates seen among survey respondents. Note that we believe the pool of survey respondents may be biased toward those with health problems, so comparisons against background rates are for informational purposes only, to guide potential further research. The outcomes we will investigate include:

1. Health outcomes of survey respondent: 20 major health outcome categories, ranging from primary cancer to infertility to osteoporosis, as well for as 55 individual cancer sites or types. These 20 also include miscarriage, medically necessary abortion, and Latex sensitivity.

2. Health outcomes of survey respondents' children (as above).

-- Relationships between health outcomes and employment history. We will explore relationships between health outcomes and job history, including total years employed as nurse, nurse title (e.g., RN or APRN), and nurse practice area. Health outcomes for both the respondent and their children will be considered. For these analyses, we do not expect a bias among respondents – we would assume that a health affected nurse in one practice area would be as likely to respond to the survey as a health affected nurse in another practice area.

-- Relationships between health outcomes and exposure history for survey respondent and children. We will explore relationships between the exposure history of the respondent, and the health outcomes of the respondent and their children, including preliminary assessments of reported disease or health condition rates relative to each exposure category, chemical, or relevant medical device. These assessments will also account for the duration of employment in jobs related to the relevant exposures, if appropriate based on initial analyses.

Phase two – manual review of individual data records. In this phase of analysis we will manually review data records associated with individuals who reported unusual diseases or unusual numbers of diseases, for themselves or their children. We will search for any factors in the survey responses that may be linked to these reported conditions and that may not have been identified in the Phase one analyses.

We will also manually review the survey responses for those nurses who completed the detailed shift-specific exposure survey, documenting the products, chemicals, and devices used over one shift. A manual review of this data will guide decisions on how or if it is used in further statistical analysis in Phase three.

Phase three – follow-up analyses. In this phase of analysis, we will further explore additional statistical relationships in the data as needed and as guided by our findings in Phases one and two. Examples might include detailed segmentation by job history or exposure factors compared against rates of a particular disease outcome or aggregated disease rates. The final analyses to be included in this phase will be determined after the first two phases of analysis are complete.

Conclusion:

While we are pleased to be able to do this kind of informal data gathering, it is clear by the initial response to the survey, that this is a major concern of nurses. As we continue to face an expanding nursing shortage, and increasing hazards in the health care work place, it is imperative that the health care industry and the government do everything we can do ensure that the workplace becomes safer for nurses and other health care professionals.

At this time, our analysis is not complete, however, it is clear that further research is necessary, We urge NIOSH and OSHA to expand your research and explore these issues for nurses and other nursing personnel. As soon as our analysis is complete we will be presenting the information in May during National Nurses Week and will be happy to provide our findings with you.

Thank you for the opportunity to present this morning.

NOTE: Text entered from submission E-36.

Comment ID: 3587.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities
Unspecified

Population

Other

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles

Approaches

Engineering and administrative control/banding
International interaction

Partners

Categorized comment or partial comment:

Comments at NORA March 13 Town Hall Washington DC

I want to speak to the benefit of collaborations with global partners in NORA (employers, workers, governments, public health, researchers, etc) for the benefit of both US workers and workers internationally, but particularly in developing countries.

Global Collaborations is a priority at NIOSH and is one of the Cross-cutting programs to support the Sector Program activities. The Sector structure of this second decade of NORA brings us new opportunities to ensure health and safety of workers if we are wise in seeing the possibilities.

I will give an example of an international initiative in existence for 10 years that has missed the problem of workers and the opportunities that workplaces provide to tackle problems. This is the Global Road Safety initiative, for which a UN General Assembly resolution was approved in December 2005.

I participated for NIOSH in February in a meeting sponsored by the World Bank/USAID/CDC/NAS/DOT, where it became apparent that the excellent Global Road Safety Initiative of WHO/World Bank/UN has not understood the importance of worker health and safety issues. (Priorities are still helmets, seat belts, etc. for the general public.)

It is time to advance recognition and attention to the problems of workers on roads and the opportunities in use of workplaces for action. For example, all multinational companies want to keep their workers safe while traveling on roads, and all manufacturing multinationals use trucks on the roads in other countries. Thus, there seems to be benefit in including the global road safety in the NORA Transport Sector and in the NORA Manufacturing Sector. Actions by multinationals and international unions and NGOs in developing countries would advance road safety in all countries, particularly as partnerships with international development agencies are possible.

Another worker aspect ignored to date is that the global road safety initiative needs to plan for and address those unintended consequences experienced by workers who carry out road safety initiatives. India is noting the very high incidence of silicosis (other problems as well) from stone crushing operations to build MILLIONS of miles of roads that are part of the effort to improve road safety.

Another function of Global Collaborations for all NORA sectors will also be to share good practices found elsewhere (EU Agency has 178 documents, for example, at http://europe.osha.eu.int/OSHA/search_rss?SearchableText=Road+Safety).

I want to encourage NIOSH and all of us to think about global partnerships to improve the lives of US workers and workers everywhere.

Marilyn A. Fingerhut, Ph.D

March 13, 2006

NOTE: Text entered from submission E-37. This is an expansion of verbal comments W-677.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Subject: Comment on NORA from Am Public Health Association

Please accept the following comments about NORA II from the American Public Health Association.

If you have any questions regarding this submission, please do not hesitate to contact me at... or via email.

Celeste Monforton, MPH

Senior Research Associate

Dept of Environmental & Occupational Health School of Public Health & Health Services The George Washington University 2100 M Street NW, Ste 203

Washington, DC 20037

NOTE: The following text was entered from the attachment:

APHA

March 30, 2006

John Howard, MD

Director

National Institute for Occupational Safety and Health

c/o Robert A. Taft Laboratories (C-34)

4676 Columbia Parkway

Cincinnati, OH 45226

RE: Docket NIOSH-047

Dear Director Howard and NIOSH Staff:

In response to the National Institute for Occupational Safety and Health's (NIOSH) call for public commentary on the second National Occupational Research Agenda (NORA II), the American Public Health Association (APHA) would like to submit comments and recommendations on behalf of its

membership. APHA is the oldest and largest organization of public health professionals in the world, representing more than 50,000 members from over 50 occupations of public health. Within APHA, occupational health and safety policy resolutions and policy are developed with input from the Occupational Health and Safety Section, whose 1000+ members include occupational health specialists, union organizers, occupational hygienists, safety professionals, health care providers, nurses, physicians, educators, administrators, epidemiologists, and attorneys. APHA has a strong history of expressing support for NIOSH, having passed numerous policy resolutions expressing support for NIOSH's leadership role in occupational safety and health.

APHA supports NIOSH's efforts to prioritize its occupational safety and health activities and funding with a second research agenda. NIOSH fulfills an important function within the Centers for Disease Control and Prevention, that of sponsoring, promoting, and conducting scientific research, surveillance, intervention and other activities aimed at improving workplace safety and health for all American workers. APHA appreciates the opportunity to participate in the development of NORA II by submitting the following comments.

1. Comments on the proposed sector-based approach.

APHA supports the development of a research agenda to guide and prioritize NIOSH's work. However, we urge NIOSH to expand the formal scope of NORA II beyond sector-based goals, objectives and action plans. The sector-based approach will allow NIOSH to identify important physical and other risk factors for injury and illness within industry groupings. However, we feel strongly that fundamental public health activities, e.g., surveillance, special focuses on priority populations, attention to new and emerging hazards etc., should also be given equal consideration as potential priority areas for NORA II. Many of NIOSH's important functions are not confined to industry-sector specific activities. In addition, the importance of these functions argue against their eventual determination by a "cross-sector research council." Rather, development of NORA II should include explicit identification of such topics and inclusion in NORA as focus areas in addition to, or instead of, sector-specific topics. Below are specific examples of topics that cross industry sectors, that we believe merit consideration as NORA priority areas.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

2. Specific recommendations for cross-sector research priorities

Strengthen surveillance of work-related injury and illness

Surveillance is often the basis for the appropriate targeting of interventions. NIOSH should strengthen the surveillance systems for identification and recording of cases of work-related illness and injury, in order to work toward a goal of comprehensive national surveillance of work-related conditions. Gaps in the surveillance systems for occupational disease are well-documented. Surveillance of non-fatal occupational injuries is not adequate for determining the extent and distribution of injuries to American workers. New and innovative means of collecting this needed data, including efforts to establish population-based data collection, should form part of any national agenda for occupational health research and activities. For example, NIOSH should work with other agencies to facilitate occupational health surveillance through current national health surveillance systems (i.e., surveys such as NHIS), expanding the occupational variables collected by well-established, ongoing national health surveys. Investigation into reporting practices (i.e., underreporting) and the validity of estimates of work-related injury rates is equally important, as the biases in current data collection methods are widely acknowledged.

Conduct hazard surveillance

Reliable data on the prevalence of workplace exposures and the number of workers exposed to potential health hazards is needed to prioritize occupational health and safety research and activities.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Hazard identification

Marketing/dissemination

Partners

Categorized comment or partial comment:

Conduct hazard cataloging

An available database of hazards and relevant literature is an important tool for health and safety practitioners and researchers. NIOSH should maintain the Registry of Toxic Effects of Chemical Substances (RTECS), a database of known toxic substances and the concentration at which toxicity is known to occur.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Hazard identification

Exposure assessment

Partners

Categorized comment or partial comment:

Strengthen Health Hazard Evaluations

NIOSH should increase its conduct of Health Hazard Evaluations (HHE), investigations to determine toxicity of materials at concentrations used or found in the workplace, which are explicitly defined in the law to provide a mechanism to investigate emerging hazards. These investigations also present opportunities to reveal previously unrecognized, emerging occupational health hazards. Workplaces and job tasks continue to change throughout all industries making expert assessment of new hazards essential. Further, HHEs provide an unparalleled service to American worksites and workers when faced with challenging exposures that are not easily characterized.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Conduct research to support standard-setting activities of the Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health Administration (MSHA)

NIOSH's "criteria for a recommended standard" documents are important for the support of OSHA's and MSHA's activities to protect the health of workers. APHA urges NIOSH to consider annual or frequent publication of criteria documents, and to prioritize research activities that provide needed evidence for new standards.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Older

Language/culture/ethnicity

Disability

Other

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Focus on priority populations

Demographic, workplace and economic trends point to the continued and increasing employment of distinct sub-groups of workers, such as young and older workers, immigrants, women, and persons with disabilities. The ever-changing profile of the U.S. workforce presents significant need to address work-related factors that result in disparate risks for occupational injury and illness. For example, young workers continue to experience higher rates of on-the-job injuries than all workers combined, while older workers re-entering the workforce have special vulnerabilities as they perform in new occupations. Additionally, many of the most dangerous jobs are typically filled by recent immigrants resulting in more severe health consequences that often go untreated. Because these sub-groups of workers largely participate in the parttime and contingent workforce, attention should also be paid to the effects of temporary, unstable employment. NIOSH, through NORA II, must continue taking leadership in guiding efforts to advance research on the unique needs of these groups of workers.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Work-site implementation/demonstration
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Fund and conduct intervention research

NORA II should include a focus on the investigation of methods to reduce occupational exposures and prevent adverse outcomes. Whenever possible, these interventions should be implemented to demonstrate utility across multiple industry sectors. Lessons learned from the first NORA can inform this research.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Focus on meaningful research to practice

Focus on the transfer and translation of research findings, technologies, and information into highly effective prevention practices and products which are adopted in the workplace.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

academic and labor communities

Categorized comment or partial comment:

Encourage innovative research methodology, design, and approaches

NORA II should encourage the development and use of innovative methods, techniques, and approaches for researching and solving occupational safety and health problems. Examples include international projects, mixed method investigations (combined quantitative/qualitative studies), participatory action research, and advanced hierarchical regression modeling. Collaboration with academic and labor communities would help to disseminate and promote such innovative research among a variety of work settings.

Hazards that cross industry sectors

Hazards prevalent across industry sectors, particularly those that have been underinvestigated are in danger of being neglected within a sector approach. Several such important hazards are discussed below.

-- New and emerging hazards

NIOSH should have the capacity to respond to important, new issues in occupational safety and health. We suggest that NORA II include language that allows NIOSH to prioritize emerging threats to worker safety and health, such as those introduced by new technologies or shifts in work organization practices. Again, the HHE format should be considered as a tool to investigate potential new threats to worker health.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Other

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

-- Work organization

The nature and organization of many jobs have changed dramatically in recent history and continue to change. Increasing use of temporary and contingent labor, work hours, overtime, and job security are among the variety of factors that may act as risk factors for adverse health outcomes in many industries.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Hazard identification

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

-- Industry-wide low-level exposures

While workplace exposure to some substances have decreased dramatically since the passage of the OSH Act, workers today are exposed to unstudied combinations of hazards present at lower levels. Industry-wide studies on the effect of chronic low-level exposures to industrial materials, processes, and stressors are needed, in part to adequately inform regulatory decision-making and standard-setting.

Comment ID: 4369.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

labor and community groups, e.g., Committees on Occupational Safety and Health

Categorized comment or partial comment:

3. Recommendations for approaches to funding

Build capacity within NIOSH partners

Cross-disciplinary work is increasingly important as occupational health and safety experts and researchers attempt to meet the needs of a diverse workforce in a changing economy. To most effectively protect the needs of the nation's workers, occupational safety and health expertise must be cultivated within related disciplines. Fostering the development of occupational health capacity within NIOSH partners, including those partners with networks into priority working populations, will enhance NIOSH's ability to improve worker safety and health.

Encourage community-based and collaborative work

Community-based work builds occupational safety and health capacity that workers can readily access. Funding of labor and community groups (e.g., Committees on Occupational Safety and Health) and of collaborative projects with academic entities can result in innovative research that reaches workers and their families at the community level.

4. Need for expanded funding of occupational safety and health research

NIOSH is the only federal agency that provides significant funding research into etiology of work-related injury and illness, estimation of rates of work-related outcomes through surveillance, the effectiveness of intervention programs and other research activities aimed at providing for safe workplaces. In a time of rapidly changing workplace technology, an unprecedented number of chemical products in use in the workplace, and changing work organization, funding of NIOSH activities and priorities has never been more important. APHA strongly supports maximum funding of those activities identified by NORA II as

priorities areas for NIOSH`s work in the prevention of work-related injuries and illnesses to the nation`s workers.

We appreciate the opportunity to provide our views to NIOSH.

Sincerely,

Rachel Rubin, MD, MPH

Chair

Occupational Health and Safety Section

NOTE: Text entered from submission E-27.

Comment ID: 4370.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Comments re: docket number NIOSH-047

Ladies and Gentlemen:

I wish to comment on the apparent decision both to remove any consideration of electromagnetic field effects from the agenda of concerns about safety in the work place and, more crucially, to remove from NIOSH any expertise that can evaluate whether future concerns are worthy of attention. While standards now exist that apply and seem according to current science to cover well the immediate effects of exposure to low- and high-frequency fields-primarily electric shock injuries at low frequencies and thermally-related injuries, including burns, at higher ones-the standards note that they do not cover any possible long-term effects of lower-intensity fields. Such long-term effects have not been confirmed scientifically, but as the standard-setting groups note, they also have not been well-studied, particularly for high frequencies and various modulation patterns. They do not seem severe; otherwise they would likely have already been identified. However, electromagnetic field-emitting devices are becoming increasingly common in all parts of the workplace.

While many of the workplace field-generating sources expose the general public, either in the same workplace as workers or because they are also used both at, the worker is much more likely to experience the fields for a longer period and often, due either to his/her position with respect to the device or to the use of heavier-duty equipment, at a higher intensity.

Therefore, NIOSH will continue to require expertise to be able to evaluate the unique areas of exposure experienced by workers as the scientific literature on effects of exposure evolves. Furthermore, NIOSH's mission should include work to determine accurately the extent of workers' exposure as new applications are introduced and devices for old ones are refined. In addition, other agencies' funding of research into the effects of lower-level exposure is presently decreasing, so NIOSH's role in monitoring and ensuring that research continues into suspected effects on workers will be increasingly important.

Using NORA's "sector-based approach," one can easily identify a few examples of current, emerging or possible field-emitting devices used by workers for each. In all areas, workers will increasingly use wireless communication devices, including cell phones and wireless computer networking systems, and computers, including laptops where some field-generating parts, though their field intensities decrease quickly with distance, are often very close to parts of the body. One should also recall that any electric current creates a magnetic field and that heavier currents create stronger ones in the machine and also in the electric cables. Battery-operated devices are usually low-voltage and high-current; some that require voltages step up the battery voltage with internally-generated high frequencies. Both motors, especially poorly-maintained ones that spark internally, and modern semiconductor-based device controllers can create large amounts of higher frequencies in addition to the basic 60 Hz.

Comment ID: 4370.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Agriculture, Forestry & Fishing: GPS gear, communications devices, portable computers, injectable animal radio identification tags, ground-penetrating radar, machinery using electric motors (including diesel-electric traction), portable hand-held battery-powered tools

Comment ID: 4370.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Mining : GPS gear, ground-penetrating radar and related devices, various sorts of communication gear, large and small electrically-powered machinery, including traction machinery; computerized measurement and recording devices and network links.

Comment ID: 4370.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Construction : Communication devices, measuring devices, stationary and portable power tools, including battery-operated ones, diesel-electric heavy machinery.

Comment ID: 4370.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Manufacturing : Light and heavy machinery of all types which often have drive motors located close to the operator`s station, the well-known RF sealing and heating devices and electric metallurgical furnaces, quality-control test devices, continuous process measuring sensors, inventory control devices, communication devices, computer-based process control, recording, or communication systems and their network links.

Comment ID: 4370.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Wholesale and Retail Trade : Computerized inventory control, order-picking, anti-theft, and point-of-sale devices and their networks, motorized stock-handling equipment, RF tracking devices, electric and diesel-electric traction, etc.

Comment ID: 4370.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Transportation, Warehousing & Utilities: In addition to uses under "wholesale and retail trade," vehicle tracking and communication systems, diesel-electric and all-electric traction systems, aspects of electric power utilities, and the many motor-driven and information-gathering and handling systems of other utilities.

Comment ID: 4370.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Services and Healthcare & Social Assistance:: Communication devices and systems, computer-based systems, and networks are absolutely central to both of these areas.

Thank you for your consideration.

Ben Greenebaum

Editor, "Bioelectromagnetics" (scholarly journal published by John Wiley & Sons on behalf of the Bioelectromagnetics Society) Vice President, Bioelectromagnetics Society

Affiliations for identification only; please note that I am writing as an individual and not as a representative of the university, the Society or the journal.

Ben Greenebaum

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Box 2000, 900 Wood Road; Kenosha WI 53141-2000, USA

NOTE: Text entered from submission E-28.

Comment ID: 4372.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

RI Committee on Occupational Safety and Health

RICOSH remarks for National Institute for Occupational Safety and Health (NIOSH) Town Hall Meeting, 3/20/06 Lowell, MA to provide input for the National Occupational Research Agenda (NORA).

NIOSH recommended standard on infectious disease - An Idea Whose Time Has Come?

NIOSH develops recommendations for workplace safety and health standards under both the Occupational safety and Health act (29 USC 1900) and the Mine safety and health act (30 USC 80).

NIOSH criteria documents are designed to pull together current scientific and critically reviewed information on a particular hazard and then offer a comprehensive worker protection standard that includes control measures and methods, exposure limits, medical surveillance, training and recordkeeping.

These can often morph into enforceable OSHA standards (though the lag time from NIOSH recommendations to OSHA standard rule can be considerable).

NIOSH has produced criteria documents in three broad categories.

- Safety and health standard for hazardous agents
- Safety and health standard for physical hazards
- Safety and health standard for specific industries, work processes and work environments.

Infection Control Policy

We are here proposing as part of the NIOSH NORA ten year plan that NIOSH develop a comprehensive criteria document on infection disease control in the workplace. A range of infectious or communicable diseases has emerged in recent years as unique workplace hazards: TB, SARS, hemorrhagic fevers, and, the potential for pandemic flu. Nosocomial transmission of SARS was often associated with noncompliance with the basic level of infection control precautions (standard precautions). In addition, numerous studies have documented the lack of compliance with hand hygiene, a major component of standard precautions.

Since the range of infectious or communicable agents is endless an agent specific standard would not be efficient. An infection control plan will shift target and focus depending on the characteristics of the infectious agent - its virulence, transmission mode (air, bodyfluids, surfaces), attack rates (in different age groups), vaccine protection (if any), susceptibility to medication, and response to other treatments. However, there are certain generic features or thematic principles all infection control programs need to address:

- criteria for a "case"
- criteria for exposure
- isolation practices and standard and contact precautions
- respiratory protection policy (airborne and droplet exposures)
- management of patient/ client
- standard environmental/engineering controls
- role of vaccines and meds and related therapies (e.g. drugs that interrupt mediators of sepsis, e.g.)
- principles of post exposure treatment.

Previous NIOSH publication 88-91900 "Guidelines for Protecting the safety and Health of Health Care Workers" while valuable in its time is out of date especially in the realm of infectious disease control. In addition several authoritative documents exist which can guide NIOSH in formulating a comprehensive standard.

- CDC, Guideline for infection control in health care personnel, 1998
- International Society for Infectious diseases, A Guide to Infection Control in the Hospital (2004)
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James Celenza Dir.

RI Committee on Occupational Safety and Health

741 Westminster st. Providence RI 02903

NOTE: Text entered from attachment to submission E-32.

Comment ID: 4373.01

Categorized with the following terms:

Sectors

Construction
Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries
Mortality

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment
Training
Authoritative recommendation

Partners

Skyjack and the Aerial Work Platform industry

Categorized comment or partial comment:

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March 13, 2006

Good morning Ladies and Gentlemen.

My name is Brad Boehler and I am pleased to be invited to speak to you today about the need for further collaborative research efforts involving the Aerial Work Platform industry and the National Institute for Occupational Safety and Health.

I am the Director of Product Safety for Skyjack, a manufacturer of Aerial Work Platforms, and likely the largest producer of scissor lifts in the world. As well, I am here to speak to you as a representative of the industry as a whole. I am a committee member of a number of standards committees relating to aerial lifts. These include the American National Standards Institute (ANSI) A92 Aerial Platforms Main Committee and various A92 sub-committees, the US Technical Advisory Group to ISO Technical Committee 214 Elevating Work Platforms, and the Canadian Standards Association (CSA) B354 Elevating Work Platforms Technical Committee. I am also a contributing member of various industry associations

including the International Powered Access Federation (IPAF) and Aerial Work Platform Training (AWPT). The latter is a North American subsidiary of IPAF and is dedicated to standardizing the training of aerial work platform operators throughout North America. Skyjack is an AWPT training centre, and I am a registered AWPT Operator Instructor. Further, I have presented papers regarding safety and standards within the industry at both Aerial Platform Safety Conferences to be held to date.

As a result of my participation in these committees and groups, I regularly meet with representatives from other manufacturers, regulators, equipment owners, end users and safety professionals. Some of the basis for my comments, result from the points of concern expressed at these various meetings. Other portions are my own thoughts and opinions based upon my own examination of; and experience within the industry.

Studies of accident data, such as "Deaths in construction related to personnel lifts, 1992-1999" by Michael McCann of The Center to Protect Workers' Rights, indicate that aerial lifts are associated with nearly 4% of all construction related deaths during the period of the study. Recommendations of Mr. McCann include: "following OSHA regulations, wearing personal fall protection equipment, adequate maintenance, inspection before use, and training on the model of lift used."

Aerial Work Platforms are designed and produced as tools to place workers and their materials at height in order to perform tasks. Placing individuals above any support surface, regardless of method, is inherently dangerous, and ultimately a great responsibility. I believe that any manufacturer of aerial lifts understands their responsibility to safeguard the user, and these producers are actively pursuing methods to create machines that are practical and safe for use. However, although extremely important, the design and manufacture of Aerial Work Platforms is just the first step in ensuring the safety of the worker using this equipment. For a worker about to be placed at elevation, many other factors are involved in the safe completion of their assigned tasks at height.

-- Their lifting equipment must be the proper type for the jobsite conditions. For example it must be able to travel and elevate on a particular the jobsite terrain, it must be of sufficient elevating height and load capacity for the task.

-- The equipment must be properly maintained and ready for safe use. Unfortunately, regular maintenance is not a priority on the many jobsites. In fact, in some cases, safety devices are deliberately overridden, as they are deemed to hinder productivity. A proper, pre-use inspection could eliminate many poorly maintained lifts from immediate placement into service.

-- And, the operator must be properly trained.

I cannot emphasize the training requirement enough, as a properly trained operator is able to ensure that the equipment they are about to use is in an adequate state of repair for safe use, that it is the appropriate tool for their task, and that the surrounding environment is acceptable for safe use of that lift. With complete and competent training, an operator will understand that staying within accepted limits increases the likelihood that they may go home uninjured that evening.

Currently, the industry is struggling with various issues, some of which derive, to an extent, from the lack of clarity within the regulations as laid out by the Occupational Safety and Health Administration (OSHA). One such example is the use of fall protection on scissor lifts. OSHA defines scissor lifts as mobile scaffolds, although many interpret this incorrectly and group them with Aerial Lifts. As mobile scaffolds, a guardrail system is the required method of fall protection. However, some manufacturers,

owners, users and safety professionals still require the use of a harness and lanyard. The fall protection question is additionally convoluted when the question is asked whether or not the fall protection should be in the form of restraint or arrest.

Skyjack and I have entered into a collaborative effort with NIOSH. Dr. Christopher Pan and his team in Morgantown, West Virginia continue to work on a project, entitled "Fall Prevention for Aerial Lifts in the Construction Industry" and have thus far completed physical testing of a scissor lift, and has found that the subject lift does far exceed the requirements set out in the ANSI standards for stability. Human subject testing has determined the amount of force that a worker can actually impart to the lift while performing various tasks. The preliminary data indicates that the maximum force exerted is close to the 100 lbs (445N) specified in ANSI standard. This collaboration has been of great benefit to the manufacturer, the scientific community and the industry as a whole, and I will endorse and support the continuation of this initiative in any way I can.

How can NIOSH continue to help the Aerial Work Platform industry to create the safest at height environment for workers? The current project needs to continue with the completion and validation of a computer simulation of a generic scissor lift. Data already collected will be used to ensure that the virtual lift reacts in the same manner as it's physical counterpart. As well, actual, in use, construction site data, could be collected to confirm the laboratory findings. This model can then be placed into various scenarios to find the true limits of the unit, and determine if there are any areas where improvements can be made. My belief is that we will find that the lifts, if used within the parameters set forth by the manufacturer's are safe, and that we are correct to concentrate on training operators to know and stay within these guidelines for their own safety. Evaluation of the requirements and effectiveness of this operator training could also be another NIOSH research project.

Continuing research could also attempt to clarify the use of fall protection within scissor lifts specifically. Studies could be performed to determine whether lanyards and harnesses are the appropriate fall protection device in any given situation and if so, what type should be used. Other testing could be undertaken to determine the consequences of an arrested fall on a typical scissor lift anchorage system.

In conclusion, my personal goal is to ensure the safe use Aerial Work Platforms. There are a variety of different approaches to pursue to achieve this, one of which is having some of the brightest and best researchers investigate various methods of mitigating the hazards associated with elevating personnel. Skyjack and the Aerial Work Platform industry will cooperate and collaborate with NIOSH wherever possible to pursue this goal. Ultimately, "Education in Elevation" will create a safer workplace for everyone performing tasks at height using an Aerial Work Platform.

Thank you for your kind attention.

Brad Boehler, P.Eng, Director, Product Safety & Quality Assurance

NOTE: Text entered from attachment for submission E-38. This is an expansion of comments made at a Town Hall meeting; those comments were assigned docket number w665.

Comment ID: 4374.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities
Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Approaches

Partners

Tom Walsh - Safety Cost Improvement, LLC

Categorized comment or partial comment:

To: National Occupational Research Agenda (NORA) - Industry Focused Town Hall Meetings Schedule:
Dec 5, 2005, College Park, MD

From: Tom Walsh - Safety Cost Improvement, LLC

Re: Research Proposal - Transportation & Warehousing - NIOSH 047

Attachment: BIO/Resume

Recommendation for further Research:

The correlation between Employee Injury Rates (both DART and OSHA recordable) and Total Lost Workdays and the Employee Relations Index Data, which companies use to measure and reflect the employee/management relations harmony, trust and employee perception of control over the safety of their work environment.

Preface:

Over my 35 years as a Safety manager, Human Resources manager, general manager and member of multiple safety advisory boards, I have observed that most of the research has focused on Facility/Equipment design and Work Process/Behavior and very little on what I refer to as the "3rd leg of a 3 legged stool"- employee perception and attitude. My past research has indicated to me that measuring these "employee management relations perceptions and behaviors," and then implementing

joint management/employee interventions does enable, support and yield the desired outcome, which is fewer injuries and less lost workdays per event.

Perhaps because much of the research and initiatives have come from those with engineering and employee training backgrounds, we as a community have focused on primarily on these two legs from viewpoint of these disciplines. Achieving the balance of this "three legged safety stool" is a precarious effort of the art and science of management design. We can improve our outcomes if we invest more research into the 3rd supportive leg of an effective safe work process.

Past Research Data:

While working to improve the employee safety for a large transportation company I began to have statistical correlations examined between OSHA, Lost Time Rates and our company's annual confidential Employee Relations Index (ERI). This ERI was a measure of employee management relations.

Within the 80 questions of the full ERI survey there were a series of 10 questions that had been identified by the prior Corporate Safety manager by identifying those questions which had a statistical correlation to high or low injury rates for work groups.

These discrete questions were then extracted and are referred to as a "Health and Safety Factor Index" (HSFI). The responses were then used for conducting small, follow-up, focus group discussions to with management and hourly employees to work towards improving cooperative efforts and partnering in joint safety initiatives.

I had the ERI data for each of 1700 work group composed of thousands of employees, compared to the OSHA and Lost Time Injury Frequency of these same work groups that make up our thousands of employees. To summarize we found that the Work Groups with the highest ERI scores had achieved the lowest injury frequencies. Work groups with improving ERI scores had improved injury frequencies compared year to year.

Finally we found that Work Groups with the lowest ERI scores had the highest or worst injury frequencies. Anecdotally, we also observed and found that as we moved key successful "people" managers as measured by the ERI from one building to another that injury rates reflected their arrival. So also we found the contrary for less effective managers.

Effective Management Interventions Based upon the Research:

Once we had this data we were also able to look at the more specific question responses and then inform and coach managers regarding the sort of management behaviors which resulted in the best or improved injury rate. We were able to identify which managers to place in facilities with work groups that needed safety improvement. We also determined that the individual and group sense of employee of participation in and control over their environment resulted in improving injury rates.

The injury rates improved over 40 percent in 5 years and lost time days were reduced eventually by the same or greater percent. They have continued these improvements.

In fact it is my experience that these interventions were as effective as, or more effective than some major financially monumental, work automation investments we made over the same time period. These automations may have lowered aerobic energy rates and fatigue but they were no more effective in reducing injury rates than other facilities that did not have such automations.

Future Research:

Based upon this significant, real world, "pilot research" and results, I recommend that NORA and NIOSH further research this area. I am interested in assisting and participating in this research process. I believe that this research can be applied and extrapolated to other industry sectors with similar benefits. The data responses are not collected by individual, but by job category and location so individual privacy issues. I do not see a barrier to research.

Other organizations both with union employees and non-union work forces do conduct similar Employee Relations Surveys, but may not ask the most appropriate questions that can be used as a Health & Safety Factor Index (HSFI). They do present early opportunities to do this research cost effectively.

NOTE: Text entered from attachment to submission E-46.

Comment ID: 4567.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Advancing an Occupational Health Agenda for Farmworkers

The National Institute of Occupational Safety and Health (NIOSH) is the only agency that can adequately address the occupational health and safety of migrant and seasonal farmworkers in the United States. If NIOSH places priority on applied research designed to yield practical results for this population, researchers will be responsive to that lead.

The National Agricultural Workers Survey (NAWS), is the only national information source addressing this population. It reported that 62% of farmworkers live in poverty and they represent almost half (42%) of the population employed in seasonal agricultural work. (ref. 3) Spanish was reported as the native language for 81% of farmworkers. Forty-four percent reported that they could not speak English and 53% could not read English "at all". The average individual income of farmworkers was between \$10,000 and \$12,499 with a total family income averaging between \$15,000 and \$17,499. Fifty two percent of workers reported that they would not be covered by workers` compensation for a work-related illness or injury and only 23% percent said they were covered by health insurance. (ref. 3)

Culturally appropriate interventions are needed for all Spanish speaking, farmworkers. (ref. 22, 23, 24) In my years working with migrant educators the potential avenue for occupational health and safety curricula is an avenue to reach young farmworkers` programs. This partnership approach is demonstrating the building capacity for promoting occupational health and safety education and to develop sustainable programs that are workable and effective. In my experience, many agricultural employers welcome partnerships with researchers. They are willing to collaborate to find out what practices work better to prevent occupational diseases and injuries among their workforce. These types

of collaborations are a genuine opportunity for researchers, for employers and for NIOSH, but they will be much more likely to occur if NIOSH specifies these types of projects in their calls for research.

The National Occupational Research Agenda (NORA) recognizes that no single organization has the resources necessary to conduct occupational safety and health research to adequately serve the needs of the diverse workforce in the U.S. Partnerships and coordination addressing the scarcity of bilingual resources in occupational health and safety research are required to determine the efficacy of intervention techniques and strategies. The research initiatives set forth in NORA should be applauded, but they could be strengthened through integration of a specific call for applied collaborative research projects targeting Spanish speaking farmworkers.

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Note: This information was submitted on paper and is an expansion of verbal comments, which were assigned w516.

Comment ID: 4568.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Work-site implementation/demonstration

Economics

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Lisa Brosseau, University of Minnesota

Small Business Health and Safety

I'd like to talk today about a sector of the economy unlikely to receive adequate representation at these hearings. Small and medium sized businesses are very important to the U.S. economy. There are approximately 6.5 million business establishments with fewer than 100 employees in the U.S., employing approximately 97 million workers. Many of these small business establishments have significant health and safety hazards. In the manufacturing sector, businesses with 50-250 employees generally have the highest injury rates when compared to their smaller and larger counterparts.

Some of the reasons for higher hazards, exposures and injury rates are obvious - health and safety requires time money and specialized expertise. Small business owners have limited resources and generally their staff have minimal background in health and safety.

I have met and worked with a lot of owners of small businesses in the past decade. All of them say that health and safety is important to them, but admit they are not always sure what is required or the reasons underlying requirements. Many of them are not convinced that the things health and safety professionals recommend will add value to their business.

In my opinion, NIOSH needs to put more emphasis on helping small business owners make the connection between health and safety and business productivity. Some of the things we need to make this possible include:

1. Simple, easy-to-use, valid measures of health and safety. For example, personal samples are generally not affordable, often do not provide a representative picture of exposures that are frequently changing, and are not applicable to many types of hazards. We need measures that are applicable to a wide range of hazards that can be implemented by anyone with a minimal amount of training.
2. Easily understandable methods for connecting health and safety improvements with both health and safety outcomes AND business outcomes. In other words, we need to be able to demonstrate that improving health and safety will lead to fewer injuries and illnesses as well as higher productivity and lower costs.
3. Methods for translating and communicating highly technical information to simple, easy-to-use advice and solutions. I believe there is much we could apply from health communication in other public health arenas.
4. Identify the few key activities that will ensure high levels of health and safety. For example, we talk a lot about management commitment and employee participation, but do we know what these things really are and can we measure them?

In addition, I think that NIOSH needs to work on finding ways to combine environmental and occupational health problems and solutions, so we are not simply transferring exposures from the community to employees. In addition, small business owners do not think of these as separate issues.

The most important target of any research in small businesses must be at the management level, since this is where the resources reside, the policies are made and enforced, and the training is initiated. NIOSH should focus on helping business owners and managers make their workplaces safer by improving their processes, eliminating hazards, and using engineering controls wherever necessary. While we need to build employee skills, I believe that the type of skills employees need are in recognizing hazards, developing solutions and communicating with their supervisors and managers to encourage the necessary improvements. We need to convince small business owners that their employees are their best resource.

Thank you.

Note: This information was submitted on paper as an expansion of verbal comments, which were assigned w299.

Comment ID: 4569.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Transportation, Warehousing and Utilities
- Unspecified

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Cancer
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Etiological research
- Intervention effectiveness research
- Work-site implementation/demonstration
- Emergency preparedness and response

Partners

Categorized comment or partial comment:

NIOSH Testimony

January 23, 2006

My name is David Coultas. I am a pulmonary physician and chairman of medicine and physician-in-chief at the University of Texas Health Center at Tyler. As a pulmonary physician and epidemiological researcher I have had a longstanding interest in occupational and environmental lung diseases, health disparities, and prevention of chronic lung diseases. Thus, my comments today regarding the second decade of the National Occupational Research Agenda concern occupational lung diseases.

During my training as a pulmonary physician over 20 years ago my perspective on occupational lung diseases was largely limited to the classic dust-induced lung diseases from inorganic dusts including asbestosis, silicosis, and coal workers pneumoconiosis and organic dusts such as farmers` lung. Subsequently my knowledge about occupational lung diseases was greatly influenced my clinical and research work with miners in New Mexico and Colorado. Over the past 20 years we have learned that many more workplace exposures are associated with a much wider range of acute and chronic lung

diseases. Occupational exposures are associated with non-malignant diseases such as asthma, chronic obstructive pulmonary disease (COPD), and "idiopathic" interstitial pneumonias, and malignant respiratory diseases.

Chronic airflow obstruction from asthma and COPD has huge public health and economic impacts in the US and a substantial proportion of morbidity from CAO is attributed to work-related exposures. Of the over 16 million adults with asthma in the US up to 33% or over 5 million are estimated to have work-related asthma, either caused or worsened by exposures at work. And of the 12 million persons with COPD growing evidence over the past 10 years strongly suggests that up to 25% or about 3 million cases of COPD may be attributed to workplace exposures. In addition, of all the causes of death in the US such as heart disease, stroke, and cancer, COPD is the only one with a rising rate of mortality.

While these estimates for the number of persons affected by CAO from workplace exposures are large, these numbers probably underestimate the true number of affected because asthma and COPD are frequently under-diagnosed. Furthermore, the proportion of persons with CAO affected by workplace exposures varies between racial and ethnic groups estimated at 22% among whites, 23% among African Americans, and 50% among Mexican Americans. A wide variety of workplaces have been associated with an increased risk for chronic airflow obstruction including the armed forces, rubber, plastics and leather manufacturing, utilities, textile product manufacturing, construction, metal and automobile manufacturing, food product manufacturing, and agriculture.

While the chronic fibrotic lung diseases including asbestosis, silicosis, and coal workers' pneumoconiosis are among the classic occupational lung diseases there is growing evidence that other fibrotic lung diseases may also be associated with other occupational and environmental exposures. For example, the "idiopathic" interstitial pneumonias, or chronic pneumonias with no known cause, may in fact result from a wide variety of occupational and environmental exposures including farming, metal and wood dust exposure, silica, and cigarette smoking. In a meta-analysis I conducted of six case-control studies of idiopathic pulmonary fibrosis also known as IPF, the population-attributable risk for cigarette smoking is estimated at 49% and 20% for farming. While the idiopathic interstitial pneumonias are not as common as asthma and COPD, there is no effective therapy for IPF, and this evidence suggests that there may be an opportunity for prevention.

Similarly, effective treatment for lung cancer is very limited and prevention offers the greatest hope. Nearly 60 agents found in a wide variety of workplaces are established or suspected human carcinogens including environmental tobacco smoke. While the vast majority of lung cancer may be attributed to cigarette smoking, established causes of lung cancer among nonsmokers include asbestos, radon, and environmental tobacco smoke. Estimates from various studies on the proportion of lung cancer attributed to workplace exposures have ranged from 5% to 35%, and it is estimated that in the US over 16,000 lung cancer deaths result from occupational exposures.

In summary, we have strong evidence that combined, chronic respiratory diseases from workplace exposures in the US result in a substantial public health burden. Moreover, workplace exposures that cause respiratory diseases disproportionately affects non-white and lower socioeconomic populations who have traditionally been overexposed in hazardous industries such as agriculture, demolition, textile and other manufacturing industries. While these diseases are largely preventable through various methods available to control exposures, little work has been conducted on prevention. The exposures I have referred to are complex including mixed dusts and fumes, and often combined with cigarette

smoke. Better understanding of how these complex exposures cause disease may guide future prevention efforts. In the near future our opportunities for prevention may be expanded further as research is conducted to examine genetic variation that likely contributes in part to differences in susceptibility to occupational and environmental exposures. Research over the past several decades has dramatically advanced our understanding about the scope and impact of occupational lung diseases, but large gaps remain in our knowledge, particularly about prevention and ongoing research in this arena needs to be a priority in the National Occupational Research Agenda.

Thank you for the opportunity to present.

Note: This information was submitted on paper as an expansion of verbal comments, which were assigned w527.

Comment ID: 4570.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Violence

Approaches

Partners

Categorized comment or partial comment:

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Compiled by Ann Malecha

Note: A table summarizing each of the studies listed above is presented in [Appendix 12](#). Verbal comments by the same submitter were assigned w545.

Comment ID: 4571.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services
Unspecified

Population

Language/culture/ethnicity
Other

Health outcomes; diseases/injuries

Cardiovascular disease
Immune disease
Musculoskeletal disorders

Exposures

Cardiovascular disease
Work organization/stress
Work-life issues

Approaches

Etiological research
Engineering and administrative control/banding
Intervention effectiveness research

Partners

Categorized comment or partial comment:

Research Priorities for the Second Decade of NORA

December 19, 2005

Chicago, Illinois

Presentation by

Patricia McGovern, PhD, Associate Professor

University of Minnesota School of Public Health and the Midwest Center for Occupational Health and Safety

Purpose: to recommend that NIOSH include work organization as a NORA research priority

1. Background

In the first decade of NORA "work-organization" was identified as a research priority. This term covered issues such as the hours, schedules, and job design factors associated with employee health. Continued research on these issues is needed, with particular attention to the dual role many employees have tending to work and family commitments.

How many people are affected by these issues?

Data from the USDOL for 2003 reveal the following (ref. 1) Among married couple families with children ages 6- 17 years, 67% have both partners in the labor force, and among those with children under 6 years, 53% have both partners in the workforce. Among families maintained by single mothers with children ages 6- 17 years, 77% are in the labor force, and among those with children under 6 years, 64% are in the workforce.

This work-family stress is particularly acute among female employees who traditionally shoulder more of the daily child care and home responsibilities as documented in time studies in the US.

Why emphasize these issues for women, don't men also have work-family commitments?

Yes, men also face these challenges. However, findings from two national studies of time use revealed women and men's paid labor time has become more similar than their housework time.(ref. 2-3) Moreover, the nature of home responsibilities differed by gender with implications for paid work. Men spent more time on activities that are discretionary in terms of scheduling (e.g.. home and lawn maintenance and financial management) while women spent more time on non-discretionary activities (e.g., meal preparation and child care). Thus women's home responsibilities have a greater potential for conflicting with paid work, as such tasks are not always easily rescheduled. These trends are likely to be exacerbated by the recent trend of increasing annual work hours reported for the US relative to other wealthy industrialized countries.(ref 4)

Americans work about 200-400 more hours per year than workers in France, Germany, Norway, Sweden or Denmark. This translates into 5- 10 more weeks per year. The magnitude of work hours highlights the stresses many families face trying to balance work and home commitments.

But how do work hours and role conflict affect health?

Studies from Sweden have documented that role conflicts and work overload are reflected in women's elevated stress at work and at home, which may induce symptoms of cardiovascular, musculoskeletal and immune system disorders with implications for long term health.(ref. 5-10) Lundberg and colleagues report that female workers employed full-time have a greater total workload and experience more stress and role conflicts than men.(ref. 10) The gender difference increases with the number of children. The difference between men and women's total workload increased to 20 hours per week in families with three or more children. Women's total workload approached 90 hours per week.

What does this mean in real world terms?

My example comes from one of my former research staff, I'll call Jane, who works two part-time jobs. She recently had a two-week spell where either one or both of her children were sick. Her one year old had diarrhea for 10 days and her 3 year old ran a temperature, had a respiratory infection and pink eye. Her day care did not accept the children because of appropriate policies on infection control.

What did it mean for Jane? First she called her mother who drove 3 hours to come baby sit on day one. Jane then identified a sick child care service which promised to send someone for day two. At 6:30 am

on day two the service called to cancel. Next she called a babysitting service. They sent someone in the nick of time for her to make to an important meeting. And so it went, with Jane putting together a patchwork of childcare services so she could show up to work each morning. During this period she rarely slept more than 4 hours a night due to her children's nighttime awakenings. Jane developed a respiratory infection, and by the end of the 10 days, spoke of quitting one of her jobs if things didn't get better soon as her fatigue and stress were getting to be too much.

So what does work have to do with it? Aren't these problems the result of personal choices that Jane and her family need to deal with?

The point of the story is that one of her part-time jobs is more flexible than the other. It allows her to work at home when needed to balance work and family. At that job there is also social support from coworkers who are young mothers. One of the jobs also provides her a lot of autonomy, so that she can work with her supervisor to help set the week's priorities and workflow. These are all work factors that help her address the inevitable conflicts of paid work and family.

This story focuses on a woman who is well educated and middle income. She has a supportive husband and a mother who lives within driving distance. One of her two jobs is flexible. Now imagine a single mother with limited financial resources, no mother in the area, an inflexible job(s) or unsupportive supervisor. What is the potential for role conflict and strain? Might it influence her health over time? What job factors might serve as protective factors for her health?

So what work is needed?

Debate exists on how best to model the health effects of work-family conflict. While most investigators agree that work can interfere with family function (e.g., excessive work hours spilling over onto family time) and family can interfere with work (e.g., the story of Jane), few studies have examined both types of conflict in relation to health. Research is needed to identify the effects of work-family conflict on the health of employees with children, and in particular, to identify those work factors which can be modified to enhance health and productivity.

But don't we know a lot about job stress already?

Yes, we do. For example, early research on job stress and strain revealed that the lack of autonomy, under use of skills, and lack of recognition of accomplishments were associated with specific occupations that employ high concentrations of women (e.g., clerical work). (ref. 11-14) Karasek's demand and control model of job stress (ref. 16-18) has been used extensively to document that job strain results in adverse health effects such as cardiovascular and musculoskeletal symptoms, impairment of the immune system and mental strain. However, studies (ref. 18-19) recommend that this model be modified, particularly for workers in the service industry (more commonly women) to identify patterns of associations for health.

Moreover, in a study I have underway on women's health upon return to work after childbirth, preliminary findings suggest that Karasek's model does not apply to these women, although other factors such as perceived job stress, total workload (hours of paid and unpaid work) and job flexibility had significant effects on women's general mental health and/or postpartum depression in the first 18 months after childbirth. Moreover, workplace support had a strong, positive effect on women's health.

So what else needs to be done? Our work suggests a continued need for research investigating the effect of work hours and schedules, job stress, job flexibility and workplace supports on work-family

conflict and health, particularly in women with children from a variety of racial and ethnic backgrounds and income groups. As risk factors are identified for various subgroups, workplace factors that enhance health and productivity can be identified and tested in intervention studies.

What about NIOSH's desire to organize research by industries and occupations?

While women in all industries and occupations likely face these issues, Census 2000 tells us that 36% of women work in management, professional and related occupations, 18% in service occupations, and 37% in sales and office occupations. (ref. 20) Moreover, the 10 occupations that employ the most women are secretaries and administrative assistants, teachers, registered nurses, cashiers, retail salespersons, bookkeeping/accounting, nurse aides, customer service representatives, childcare workers and waitresses. (ref. 20)

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Note: This information was submitted on paper as an expansion of verbal comments, which were assigned w306.

Comment ID: 4572.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Surveillance

Exposure assessment

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Health service delivery

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Nancy Menzel, PhD, RN

Summary of Research Gaps and Needs for Further Research

Pathogenesis of WMSDs in nurses

-- Biomarkers of musculoskeletal damage from manual handling

-- How early in career trajectory (from admission to nursing school to practicing at the bedside) do symptoms begin?

-- What is the length of time from early pathogenesis to disablement/reporting injury?

Exposure Assessment

-- Improved ways to assess whether nurses are using safe patient handling equipment available at their worksites

-- Improved ways to capture nurses' total manual handling burden, including burden not related to patients (such as pushing equipment)

-- Ways to capture manual handling exposures in nursing students

Under-reporting of WMSDs

-- Reasons why nurses working with MSD pain do not report workers` comp injuries

-- The factors that prompt a nurse to report a WMSD

Contributions of psychosocial factors to WMSDs in nurses

-- Whether psychosocial factors an independent, moderator, or mediator variable in producing WMSDs

-- Whether interventions aimed at reducing psychosocial risk factors reduce WMSDs once physical hazards are controlled

Patient handling technology

-- Engineering solutions for turning patients from side to side

-- Elimination of having to reposition a patient to put a sling under them for full body lifts

Adoption of technology

-- Best practices for changing practice so that nurses use safe patient handling technology

-- Most effective ways to promote employer investment in safe patient handling and movement program and technology

Relationship WMSDs to quality of care and patient safety

-- Relationship between quality of patient care and WMSDs in caregivers

-- Relationship between patient safety and nurse safety

Note: This information was submitted on paper as an expansion of verbal comments, which were assigned w553.

Comment ID: 4573.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

Lisa A Pompeii Ph. D, The University of Texas

NORA Town Hall Meeting

January 23, 2006

Return to Work Issues Among Nurses` Aides

I received a career development award (KO1 OH07996-01) from the National Institute for Occupational Safety and Health (NIOSH) in October 2003. This study, titled "Back Pain and Work Disability Among Health Care Workers", has been the primary focus of my research over the past two years. The main purpose of this cohort study is to examine risk factors for occupational back pain (OBP), and to examine the impact of work disability resulting from OBP among nurses and nurses` aides at Duke University Medical Center (DUMC). Information in the occupational health literature about nurses and nurses` aides largely consists of studies that have analyzed these two occupations together, portraying them as being very similar when, in fact, they are not. As a result, aspects of the nurses` aide job that may contribute to disparities in their health have not received adequate attention. At DUMC, African-American women hold more than half of the nurses` aide jobs, while holding only 14% of the registered and license practical nursing jobs which is consistent with national labor trends (BLS, 2002). Nurses` aides are paid less, they perform more lifting, bending, twisting in their job (Videman et al., 1984), are at greater risk for OBP (Engkvist et al., 2000), lose more time away from work from these injuries (BLS, 2002), and have fewer options for job transfer or change in the event of an injury compared to nurses.

The reporting structure within a typical nursing unit places nurses' aides at the bottom, possibly making it difficult for them to negotiate for lighter work assignments or restricted work duty when returning to work after reporting OBP. They may fear retribution or job loss if they refuse to perform work duties that are difficult, placing them at risk for further injury. Disparities in health already exist among nurses' aides with regard to their significantly higher rates of OBP compared to the general workforce, but they are at risk for further health disparities if they incur additional injuries and/or lose their job and the benefits of employment because of these injuries.

Work as a Basis for Health Disparities

Health disparities related to race, ethnicity, socioeconomic status and gender have been highlighted in the literature, with factors such as education, access to quality medical care, and the availability to health insurance considered as possible explanations for these disparities. However, some have argued that work should be considered "explicitly" as a potential explanation for health disparities (Lipscomb, R01 ES10939-05, Work and Health Disparities). Individuals can benefit considerably from employment since it usually offers financial gain, health insurance and retirement benefits, and psychosocial support. However, some work groups may endure hazardous working conditions so that they can receive these benefits, placing them at risk for injuries and illness, and ultimately losing these benefits if they can no longer work. Historically, employers in the U.S. have sought to reduce labor costs by hiring workers from less advantaged groups, notably women and racial minorities, who are perceived as willing to accept lower pay and poorer working conditions (Levine 1989). Relative to European (white) Americans, African-Americans have more difficulty finding work, and when employed, are more likely to hold jobs that pay less and are of lower quality (Tomoskovic-Devey. 1993). The U.S. labor force remains profoundly segregated by race and gender, such that men, women, whites, and African-Americans frequently perform distinct functions and receive different levels of salary and benefits (Tomascovic-Devey, 1993). In the past, African-Americans in particular were openly selected for unpleasant, "dirty" jobs, which were regarded as unsuitable for other workers (Baron 1983). Some of these discriminatory practices have had documented adverse health consequences, including silicosis (Cherniak, 1986) and cancer (Davis et al., 1995). More recently, researchers have observed higher occupational injury rates among African-Americans (Robinson, 1990), in addition to higher fatality rates due to workplace injuries compared to whites (Robinson, 1997; Loomis and Richardson, 1998).

DUMC Nurses' Aides and OBP

At DUMC inpatient nurses (n = 3,241) and nurses' aides (n = 709) make up 32% of the DUMC workforce with African-American women holding more than half (52%, n = 367) of the nurses' aide jobs compared to 14% (n = 471) of the registered and license practical nursing jobs. From 1997 through 2001: there were a total of 621 OBP cases reported among nurses (n = 443) and nurses' aides (n = 178). Nurses' aides and nurses had the second and third highest rates of OBP claims, respectively, preceded only by skilled craft workers. However, the rate of OBP among nurses' aides [8.43 per 100 Full-Time Equivalents (FTE)] was more than twice that for nurses (3.98 per 100 FTE). Among female nurses' aides only, African-American women had higher rates of OBP (9.3 per 100 FTE) compared to their white female colleagues (7.8 per 100 FTE). With regard to the impact of these injuries, a higher proportion resulted in lost (20% vs. 12%) and/or restricted workdays (56% vs. 42%) for nurses' aides compared to nurses, respectively.

Workers who sustain OBP have been found to be less likely to return-to-work, or have delayed return if their jobs involve high physical work demands (Dasinger et al., 1999; Krause et al., 2001). Return-to-

work strategies including modified work (also referred to as restricted duty) and physical rehabilitation have been noted to facilitate injured workers to remain at work in a protected work environment or to return more quickly (Tate et al., 1999) improving long-term employment outcomes (Daly, 1996). However, focus group conducted as part of a questionnaire pilot test for this study revealed differences in experiences with how nurses and nurses' aides returned to work post OBP. A group of DUMC African-American nurses' aides indicated that although they had received prescribed work restrictions from their physician, their jobs had not been appropriately modified to match those restrictions. They expressed feelings of frustration about having to manage a heavy workload while trying to recover from their injury, as well as feeling afraid that they would re-injure their backs. Poor staffing of nurses' aides on some floors contributed to some feeling that they had no one to help them with their work, forcing them to ignore their work restrictions. In addition, they did not feel comfortable talking to their managers about their need for a lighter work assignment and did not believe that their managers were willing to help. In contrast, a group of white registered nurses indicated that they felt that their jobs had been adequately adjusted and that they received considerable support from their coworkers. They also indicated that if their work assignments were too heavy, they were able to negotiate with their supervisor or charge nurse to reduce their workload. Evidence of racial and gender differences with regard to return-to-work experiences was reported by Strunin and Boden (2000) who noted that post workplace injury, minorities and women were less likely to be allowed back into the workforce and were less likely to be offered assistance in their return which is consistent with our pilot data.

Although both nurses and nurses' aides are at risk for OBP (Choi et al., 1996), the impact of this type of injury could be detrimental to the health of nurses' aides. When the same nursing groups at DUMC were asked "Has your back pain ever made you feel like you should not work, but you went to work anyway?" the nurses' aides unanimously indicated that they felt this way and went to work anyway because they could not afford to take time off of work, while the group of nurses informed us that they did not feel like they had to go to work when in pain. When already injured nurses' aides are "going to work anyway" they are placing themselves at risk for further injury, and possible job displacement if the re-injury prevents them from being able to work. Unlike nurses, nurses' aides have no place for advancement or promotion in their jobs. At DUMC new clinical nurses have the opportunity to advance through four stages of clinical nursing (accompanied with financial incentives), as well as the opportunity to transfer out of floor nursing into management or research. If nurses' aides were no longer able to do their job because of a back injury they sustained at work, they would have to either change professions or terminate their employment. Studies that have examined the impact of displaced workers observed that displaced women lose a greater proportion of pre-injury earnings than men and are less likely to acquire new skills after being displaced (Jacobson et al., 1993).

Future Research

Research is needed to examine the impact of work disability among nurses' aides who sustain a work-related back injury. These workers are particularly vulnerable to significant injury and possible job loss. Because their experiences of return-to-work appear to be different from that of other health care workers, injury prevention strategies, as well as return-to-work strategies will need to be tailored specifically for this occupational group.

Future studies need to be interventional where researchers test various types of return-to-work strategies among nurses' aides. These studies need to involve multiple hospital/nursing home sites in order to examine various settings, as well as to obtain adequate sample size.

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Note: This information was submitted on paper as an expansion of verbal comments, which were assigned w547.

Comment ID: 4574.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

December 19, 2005

Town hall meeting - Construction

National Institute of Occupational Health

National Occupational Research agenda

University of Illinois

Topic: Reduce Construction workers fatalities and injuries with falls to a lower level.

Good Day to you all.

I am pleased to have been given this opportunity to speak today on a topic that I have seen personally and heard of from many friends, coworkers and other craft's families to have been devastated from.

My name is John P. Shine Sr. I have been in my trade, Pipecoverers, since 1973. I have worked for Local 17's Apprentice Program since 1987. I have been very involved with safety training, program development and research.

When I worked in the field as a helper, apprentice, journeymen and foremen, I worked around, saw, and heard about, many falls and the resulting injuries. I, at first, thought that this was the chance you took, to be paid. As I went along from, job to job, I noticed that the foreman and companies were interested to keep this problem to a minimum. These were, are motivated people. People would, could and did get hurt. These people said there is a better way.

I have since then, been teaching fall protection and prevention at our Apprentice school. One day at work, when I was in the field, I saw a painter fall from a height. He had no fall protection on at all, it was not used then. I will not go into the details here but his family should have never gotten that phone call, that day. There was a better way to do his job, that day.

I know there are better ways to protect workers. I had a young apprentice fall at work from a scaffold and another young man about to come in to the apprentice program fall from a pipe rack at work. These both, were terrible waste of excellent young man, who would have been a credit to our union. These are but a few stories, I hear about at work. I listen to workers in class and give their stories back to my membership who attends our SMARTMARK(copyrighted) program on Construction site Safety training and my apprentice classes. The incidences, I speak of, come from them, as well as my own experiences.

When we reduce this injury and fatality rate, we can keep smart, productive and interested people on the jobsite, building the facilities, ON BUDGET, the RIGHT WAY, THE FIRST TIME.

There are many directions this study can go and each should be addressed;

1. Training is for every one, workers, safety directors, supervisors, superintendents, estimators and owners. Each one in this process, needs to know what the other is doing and if they are doing it correctly. I think, as I go through the other issues, this will become evident as to why it is important.
2. Anchorage points are a big issue. You would be surprised to hear and see what is done. What workers are told to do? Some of it does not make sense. Electrical conduit, light fixtures. How does a worker anchor to a 5,000 pound anchorage point when no one knows or will tell them what constitutes a 5,000 pound anchor? Try to get an answer. This might put more fun in your day. Is it a 4 inch steel pipe sitting on a concrete beam? Could it be a 3 inch electrical conduit? Do not even think of a light fixture conduit. What do I do, as a worker, when there is nothing of substance to attach to? DO I put on a show and wrap the lanyard around the ceiling joist to make the safety guy happy! If I don't, I might get laid off for not following the safety rules. It might not make sense but you might do it any way. If I do say something, all I am doing is COMPLAINING. I might lose my job as a trouble maker. He asks too many questions. There are also some other issues, people express as tripping hazards, such as lanyards hanging down around their ankles.
3. The next issue could be pre-planning at the engineering stages. Anchorage points have been put in place during the erection of floors ad ceiling and left in place for future use. This has been successful on jobs lately. This will put the anchorage point above the workers heads, where they should be. This also minimizes the pendulum effect if people fall and minimizes swinging into, in place items.
4. Inconsistency of regulations such as, the OSHA standard has two different heights that we work from. One is 6 feet for falls but 10 feet for scaffolds. How about inconsistency of one facility to another. One site goes to an extreme of having you in a harness on a six foot ladder while another site lets you walk around on beams 40 feet in the air with nothing but a smile. This leads into construction companies can not compete on an even field if one is safety conscious like the ones I deal with and others don't not care. The bad ones are willing to take a chance on your life and will push the workers to get out their or lose a wage paying job. Let`s get these workers and all companies on the same playing field so the government is also, not paying for these needless injuries through Medicare, when these workers don`t have health insurance. I am not even talking about Lawsuits that can be avoided if company`s and supervisor do what can be done to prevent these types of problems

5. Lack of knowledge of what equipment is proper, for the job at hand. There are many different type harnesses that can be used. One type doesn't do it all. The various trades have harness types, they use on a regular basis. This does not mean that every job is the same. I have already spoken of anchorage so I won't go in to this again. Let everyone know what happens to some one when their body hits a solid object. They might pay more attention to this problem of length of lanyards. I feel that when people do not know about an issue, they are afraid of what could happen. When people become informed, they understand how to deal with it. Good solutions can become a normal answer to an every day problem. I saw this when we started to training people for asbestos abatement.

As an example, in 1988, I heard that no one would do all this stuff, required in the new OSHA standard for asbestos. As time went on we not only did the first requirements but had three rewrites that made it even safer for all. It can be done, you just have to prove that it is economical to be safety conscious. I can prove this. We could look at the workmen comp rates then and now and see the difference. The mod rates for insurance went down dramatically.

6. Lack of rescue planning for Suspended scaffold. What happens if some one falls from a great height and needs to be brought down from this same height? We need to make sure that there are people who understand this idea. When the accident happens is not the time to start thinking of how to get them down from the height. I have story's that curl your hair.

7. Ladders. The use of ladders on job sites is an issue that can not be over looked. When everyone is using the various types step, straight and platform to get done what they have been tasked to do, it is a huge job for the company and foremen to be sure that the right one is used for the job at hand. Not every job has the correct type and length for what needs to be done. Some of you here today have done things at home with ladders, that you said "Whao", what was I thinking, when you were on solid ground again. This issue needs to be addressed.

8. Lastly, I would like to go back to where I started, my first issue that I spoke on, TRAINING. I have made my living at it since 1987. I will not say that I am the world's greatest trainer, Far from it, but I know the issues. This type of safety training is not done enough. It is done quickly, to say that it was done, in some incidences. I work very hard at what I do. I can not site examples of people using their training and not getting hurt. This would be impossible. I can tell that people tell me of what could have happened, if they did not think ahead of time, of the possibility's that could happen. I believe if you train from past happenings, you show the result of no preparation. Workers then understand the need to think of, how to avoid problems. We also need retraining. There is all types of retraining formal and informal. Any one here today knows it takes repetition to get it in our own heads.

9. We also here have to make sure that all construction companies, have to do the same thing. I work for companies that want to make sure they keep their employees safe. A well trained worker with his or her craft and some one who works in a manner that is on the job, not home injured gets the job done on time on budget and a head of schedule. This is what we as Union people and Contractors strive for. When everyone goes home uninjured, we also do not put a burden on our government for help when Medicare has to pick up a bill to help these people get better, at the hospital. I have insurance at work. I am very fortunate that I work for contractor who help pay our medical insurance, Not every one is that lucky. Let's get everyone on the same playing field.

10. Thank you for letting me speak here today.

Note: This information was submitted on paper as an expansion of verbal comments, which were assigned w314.

Comment ID: 4575.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

National Occupational Research Agenda (NORA)

Town Meeting Houston, January 23, 2006

Texas Nurses Association Testimony

Prepared by: Stephanie Tabone MSN, RN

Director of Practice

As a representative of the Texas Nurses Association, I would like to thank you for the opportunity to provide input into the future research agenda for occupational health and safety in the area of health care.

Registered nurses constitute the largest health care occupation group in the country. Then NIOSH director Linda Rosenstock testified before Congress in 2000 that nursing personnel have one of the highest job related injury rates of any occupation, and she related in that same testimony that the rate of injury for RNs was greater than that of workers in construction and agriculture. In fact, construction and agricultural work is safer now than it was a decade ago according to your own website - a fact that is not the case in health care. Moreover, characterization of the nursing profession by the Bureau of Labor Statistics lists hazards that include acquisition of infectious disease, exposure to chemicals, back and other ergonomic injuries, shocks from electrical equipment, and hazards posed by compressed gases not to mention emotional strain from close contact with critically ill patients.

The statistics and characterizations of the work of nurses reinforce the perception that providing patient care is hazardous and that nursing is undesirable work. Because RNs make up such a large component of health care delivery systems, hazards to nurses in the workplace constitute a serious public health

concern. This is true; not only in terms of real injury, but in their potential to impact the capacity of the health care system to deliver essential services to those whose health is compromised. It is also the case that most hazards that accompany the delivery of patient care are preventable, or at least can be mitigated by improving safety processes.

Texas Nurses Association would like to commend NIOSH for its research in the area of health care and in particular for resulting guidance in the areas of violence prevention and recent guidelines for lifting in long term care settings. This work has enabled the Texas Nurses Association to advocate for, and get enacted, legislation that requires nurses and health care organizations to work together to develop policies that decrease the incidence of ergonomic injuries and violence in the workplace. Such policies benefit not only the nurse providing patient care but also increase the safety of patients. Safe patient handling initiatives decrease injuries that cause harm to patients and result in increasing the cost of care, while violence prevention has the compassionate outcome of helping to limit persons, in moments of crisis, of hurting themselves or others. Evidence based guidance and best practices provide essential components when nurses seek to improve the delivery of care.

The need for continuing research in health care in the area of workplace safety cannot be overstated. As the population ages the need for provision of care is projected to increase while the number of persons available to deliver that care is projected to decrease. It is essential for us to develop safety processes that increase the desirability of nursing as a profession by eliminating, to the extent possible, unsafe practices in all delivery settings as well as identifying ways that an aging health care workforce can continue to deliver care safely.

To this end, the American Nurses Association and the Texas Nurses Association have set out talking points for the continuation of research in those areas that have the potential for the greatest impact on safety improvement in our profession. As we review how each of these issues impact the nursing profession, we must remember that those things that are unsafe for nurses have an equal and sometimes more profound impact on the health of those for whom we provide care. Exposure to hazards such as falls, chemicals, infectious disease, or omissions of care as the result of fatigue hurt not only nurses but their patients.

Safe Patient Handling

-- According to the Bureau of Labor Statistics (BLS) in 2004 nurses had 8,810 reported work-related musculoskeletal disorders (MSDs) which resulted in an average of 7 days away from work

-- This was the 9th highest rated profession in this category of injuries, behind such heavy lifting professions as stock and material movers, janitors, and construction laborers, and ahead of professions such as carpenters and maids and housekeepers

-- Research to prevent back and other MSDs needs to promote nursing education and training in the use of assistive equipment and patient-handling devices

-- Research needs to be done on reshaping federal and state ergonomics policy to highlight the ways technology-oriented, safe-patient-handling techniques benefit patients and the nursing workforce

Comment ID: 4575.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Neurological effect/mental health

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Health service delivery

Partners

Categorized comment or partial comment:

Chemical Exposures

-- RNs are routinely exposed to a variety of hazardous chemicals, including some drugs, chemicals used in hospital labs, and chemicals used for hospital cleaning and sterilization purposes

-- Many of these have been associated with both acute and long term health effects (e.g. reproductive, respiratory irritation and asthma; eye and skin irritation; nausea; headache; difficulty in concentration; and even cancer)

-- Research needs include examination of health effects, employee surveillance, and other efforts to protect nurses

Comment ID: 4575.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Musculoskeletal disorders

Traumatic injuries

Exposures

Infectious agents

Work organization/stress

Work-life issues

Approaches

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Worker Fatigue

-- Available research shows that overtime and extended work shifts for nurses is associated with increased risk of smoking; alcohol use; risk for back, neck and shoulder disorders; vehicular accidents; and increased exposure to biological hazards.

-- A recent IOM report states that effects of fatigue include; slowed reaction time, lapses of attention to detail, errors of omission, compromised problem solving, reduced motivation, and decreased energy for successful completion of required tasks

-- Further research is needed to evaluate overtime and extended work shifts and their relationship to productivity, quality and safety provided in hospitals and the incidence of work place accidents, injuries and stress-related illnesses among nurses.

-- Further research is also needed to evaluate implications of extended/overtime work on health status of health care workers

-- Research needs to be done on reshaping federal and state policy that will limit the ability of employers to mandate overtime

Comment ID: 4575.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

Bloodborne Pathogen (BBP) Exposure

-- The EPINet data sharing network reports that in 2003 health care workers had 1,708 needlesticks or other sharps injuries, and 524 other exposures to blood or body fluids among 48 participating healthcare facilities

-- Research is needed on the human factors and work practices of RNs related to safe handling of sharp devices and compliance with other measures to protect them from BBP exposures

-- Further research is needed on facility-wide policies to promote worker compliance with safety practices

-- Further research and development of safety engineered devices is needed

Respiratory Protection

-- Research needs to be done on ensuring that federal and state pandemic planning policies include the use of N-95 filtering disposable respirators, to be annually fit-tested, rather than the use of surgical masks. Surgical masks protect the patient from the wearer. The N-95 respirator protects the wearer by providing a seal to keep the wearer from exposure to the infectious agent.

Comment ID: 4575.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Violence

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Workplace Violence

-- BLS reports that in 2004 among persons working in healthcare and social assistance there were 11,790 (or 10.7 per 10,000 full time workers) work place assaults, and 19 were killed by homicide on the job

-- Among all American workers, health care and social service workers have the highest rates of non-fatal assault injuries in the workplace

-- Further research is needed on development of preventive interventions of violence towards health care workers, and intervention effectiveness

Texas Nurses Association would like to thank you again for the opportunity to provide input into the planning for the national research agenda in workplace safety. NIOSH research continues to complement and strengthen the efforts of Texas Nurses Association in our efforts to improve the safety of care in all health care settings.

Note: This information was submitted on paper as an expansion of verbal comments, which were assigned w551.

Comment ID: 4576.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Cardiovascular disease
Hearing loss
Musculoskeletal disorders
Respiratory disease
Traumatic injuries
Mortality

Exposures

Chemicals/liquids/particles/vapors
Cardiovascular disease
Work organization/stress
Noise/vibration
Motor vehicles

Approaches

Engineering and administrative control/banding
Training
Intervention effectiveness research

Partners

Categorized comment or partial comment:

NIOSH National Occupational Research Agenda
Town Hall Meeting
University of Illinois at Chicago
School of Public Health
Chicago, Illinois
December 19, 2005

Statement of the International Brotherhood of Teamsters
Presented by Michael W. Watson, CIH

Good afternoon and thank you for the opportunity to address the committee regarding the NIOSH National Occupational Research Agenda (NORA) for construction sector issues. My name is Michael Watson and I am a representative of the Safety and Health Department, International Brotherhood of

Teamsters. The IBT represents more than 1.4 million workers in the United States of America. Our Building Material and Construction Trade Division is comprised of approximately 102,000 building material supply and construction members who may be impacted by decisions regarding the Agenda.

According to data published by the Bureau of Labor Statistics (BLS) for 2003, construction sector transportation and material moving drivers experienced 5,800 nonfatal occupational injuries and illnesses involving days away from work. These drivers perform work in highway and steel construction; water, sewer and, utility line construction; heavy construction and excavation work; ready-mixed concrete; refuse; and construction material and pipeline transportation.

With regard to fatal occupational injuries, according to the Census of Fatal Occupational Injuries (CFOI) data for 2004, the construction industry sector recorded 1,224 fatal work injuries, the most of any industry sector. A recent paper funded by NIOSH titled "Dump Truck-Related Deaths in Construction" reported that between 1992 and 2001, a total of 482 dump truck-related fatalities occurred. The Center to Protect Workers' Rights (CPWR) published a study in 2001 titled "Trends in Work-Related Death and Injury Rates among U.S. Construction Workers, 1992-98." According to the study, the fatality rate among truck drivers was consistently higher than the fatality rate for all of construction.

The Teamsters Union urges NIOSH to continue research into diesel and combustion particulate exposure. General wellness issues such as hypertension, weight-induced diabetes, and heart disease, and the use of tobacco products and caffeine is of increasing concern to the Teamsters Union. The adverse health effects of extended work cycles and chronic fatigue should be examined as well. Drivers are faced with constant monitoring using technologies such as GPS, which is an enormous change from the historical autonomy that drivers once enjoyed. NIOSH should examine the stress and other psychological effects of electronic monitoring in this industry.

The Teamsters Union is particularly concerned with injuries and fatalities resulting from highway accidents and struck-by in the heavy and highway construction and excavation subsectors; musculoskeletal injuries and disorders among construction drivers; noise-induced hearing loss (NIHL) among construction drivers; and crystalline silica exposure among ready-mixed concrete drivers. The Teamsters Union supports the inclusion of these issues in the NIOSH Construction Program's Draft Strategic and Intermediate Goals and Performance Measures. It is the Teamsters Union's position that these issues should be included in the Agenda as well. The Teamsters Union is also very concerned about whole-body vibration among construction drivers. Whole-body vibration is primarily responsible for intervertebral disc degeneration, lower back pain, and muscle fatigue. The importance of addressing these issues cannot be overstated. NIOSH should continue to explore prevention strategies for highway accidents. According to data supplied by NIOSH and the National Highway Traffic Safety Administration (NHTSA) lost wages and benefits for crash victims reached \$61 billion in 2000. Costs to employers due to the loss or absence of employees from work because of highway accidents reached \$4.6 billion more. Musculoskeletal disorders and injuries and NIHL cost employers and state workers' compensation programs billions more every year.

In addition to the intermediate goals proposed by NIOSH to address these issues, it is imperative that a training component be included as well. Education is a powerful tool, especially when dealing with preventable hazards. Drivers should receive better and more thorough driver education which is specifically tailored to the driving tasks that they perform. This driver education could also include components which specifically address the importance of seat belt use, proper lifting and lowering

practices, hearing conservation training, or other hazards present at the worksite. NIOSH should perform research on the most effective training techniques for educating this particular group of workers.

Of course, funding for research and education is the backbone of any initiative which seeks to implement change in an industry as dangerous and diverse as construction. Employers and Unions alike cannot and should not bear the entire cost of making sweeping changes to make our industry safer. New technologies in vehicle safety (i.e. sonar, radar, and video technologies) need to be investigated. New truck and heavy equipment design should be investigated in order to make trucks and heavy equipment more "driver friendly" and "ergonomically safe." NIOSH and other government agencies, including NIEHS, need to continue to fund this research and education if we are truly going to get at the very core of the issues.

Thank you for the opportunity to testify about these issues.

Note: This information was submitted on paper as an expansion of verbal comments, which were assigned w318.

Comment ID: 4577.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Sir:

To reduce motorists speeding in road construction work zones, would motorists drive differently (ie, slower) if the drivers were aware that hitting a worker is not just an accident, but could be a homicide? As a manner of death, such might be classified as a homicide on a death certificate.

Similarly, would drivers behave differently if drivers knew that driving while distracted (such as driving while using a cell phone) might result in a homicide, rather than just an unfortunate accident?

Thank you.

Note: Text entered from an E-mail received by the NORA Coordinator on 3 April 2007.

Comment ID: 4578.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Immune disease

Infectious diseases

Exposures

Indoor environment

Work-life issues

Approaches

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

Verbal Comment 2006/12/06 (English Translation follows):

Buenas tardes. Quiero presentar específicamente tres áreas que entiendo que necesitan ser atendidas. No porque no se hayan atendido del todo, sino porque hay cosas que hay que revisar, modificar. La primera de ellas es el área de los edificios enfermos. Desde la década--desde antes de los ochenta, estamos trabajando en el área de edificios enfermos. Hay bastante investigación realizada en Estados Unidos, en Europa, sobre esto, sin embargo, la investigación en áreas tropicales es mínima.

Sabemos que el comportamiento, pues de muchos microorganismos en áreas tropicales es distinto y entendemos que hace falta mayor énfasis en este particular. Además, entendemos que en esta misma línea, el área de ácaros en--del polvo, que resultan ser más alérgenos en muchas ocasiones que los hongos, es un área que necesita mayor atención. Específicamente el área de metodologías adecuadas para poder mostrear específicamente esto, este tipo de microorganismo. Pues requiere una mayor atención ya que los métodos que existen, pues no son muy certeros, ni son, pues muy adecuados.

Dentro del área--de esta misma área, un factor que es un tanto problemático, es que desconocemos realmente los ambientes de donde viven los trabajadores. En un estudio--en un pequeño estudio que estuvimos realizando comparando las muestreos microbiológicos en los cuartos de las personas, con los muestreos microbiológicos realizados en estructuras, que encontramos que en el área de los cuartos, donde la gente duerme los conteos microbiológicos eran mucho más altos que en las áreas de edificios.

Así que eso necesita mucha atención, porque presenta el problema de dónde se está enfermando el trabajador, se enferma realmente en su área de trabajo o la enfermedad viene desde su casa. En el área de riesgos y concesiones, es un área que entendemos que está--que necesita una mayor atención. Realmente NIOSH ha estado trabajando el área en conjunto con la American Psychological Association, con énfasis mayor en el área de estrés laboral. Sin embargo entendemos que hay otras áreas como violencia en el lugar de trabajo, drogas en el lugar de trabajo. El área de discriminación en el lugar de trabajo, que se convierte en un factor difícil de manejar en muchas ocasiones. Necesita una atención mayor enfocándose desde la perspectiva del profesional de la salud ocupacional y no del psicólogo. Somos los profesionales de la salud ocupacional los que en muchas ocasiones damos la cara primero en este tipo de problemas y muchas veces no tenemos recurso para trabajarlo.

Tan es así que las escuelas graduadas de Salud y Seguridad Ocupacional, muy pocas tienen cursos que se enfocan en el área de riesgos psicosociales. Yo creo que esto es un área que en la perspectiva de la salud ocupacional necesita con urgencia una revisión, inclusive, a nivel curricular en las escuelas graduadas de Salud y Seguridad Ocupacional.

Por último, un área que no se ha atendido, ha sido el área de currículos en las escuelas. Recientemente estuvimos trabajando con el desarrollo de un currículo enfocado en la salud y seguridad ocupacional para educación pre-escolar. Y por qué para educación pre-escolar, si los niños no están trabajando, los valores comienzan desde esa edad. Y es ahí el mejor momento que tenemos para enseñarle al ser humano, en este caso los niños, sobre los valores y sobre respetar reglas, leyes que tenemos sobre salud y seguridad ocupacional. En la literatura no encontramos prácticamente nada enfocado en esta área.

Sin embargo, ya la agencia de Protección Ambiental Federal, tiene currículo completamente desarrollado sobre el área ambiental. Yo creo que esta área es una área que tenemos que trabajar y crear currículo donde se promuevan en el niño los valores en la seguridad y en la protección de la salud. Buenas tardes.

(ENGLISH TRANSLATION)

Good afternoon. I want to present three specific areas that I understand need to be addressed. Not because they haven't been attended to as a whole, but because there are things that have to be revised, modified. The first of these is the area of diseased buildings. From the decade--from before the eighties we are working in the area of diseased buildings. There is plenty investigation done in the United States, in Europe about this. Nonetheless the investigation in tropical areas is minimal.

We know that the behavior of many microorganisms in tropical areas is different and we understand that a major emphasis is needed in this particular. We also understand that in this same line, the area of dust mites which are more allergens in many occasions than the fungus, is an area that needs major attention, specifically the area of adequate methodology to demonstrate this specifically, this type of microorganism. This requires a major attention since the methods that exist are not very certain, nor are they very adequate.

Within the area--of this same area, a factor that is problematic is that we really do not know the ambients where the workers live. In a study--a small study that we made comparing the microbiological samples in the person's rooms with the microbiological made in structures, we found that in the area of the rooms where the people sleep the microbiological readings are much higher than in the areas of buildings.

Thus that needs much more attention because it presents the problem of where the worker is becoming sick. Does he really become sick in his work area or does the disease come from his house. In the area of risks and concessions this is an area that we understand is--that it needs major attention.

Comment ID: 4578.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Traumatic injuries

Mortality

Exposures

Work organization/stress

Violence

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Actually NIOSH has been working in the area together with the American Psychological Association with major emphasis in the area of labor stress. Nevertheless we understand that there are other areas such as violence in the work area, drugs in the work area, the area of discrimination in the work area which becomes a difficult factor to manage on many occasions needs a major attention focusing from the perspective of the occupation health professional and not of the psychologist. It is the occupational health professionals the ones who on many occasions have to first face this type of problem and many times we have no resources to work with this.

This is such that the graduate schools of Health and Occupational Safety, very few have courses that focus in the area of psychosocial risks. I believe that this is an area that from the perspective of occupational health needs urgently a revision, including a curricular level in the graduate schools of Health and Occupational Safety.

Comment ID: 4578.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Training

Partners

Categorized comment or partial comment:

Lastly one area that has not been attended to is the area of curriculum in the schools. Recently we were working with the development of a curriculum focused in the occupational health and safety for pre-school education. And why for pre-school education if the children are not working? Our values start from that age. And that is the best moment that we have to teach the human being, in this case the children about values and about respecting rules, laws that we have about occupational health and safety. In the literature we find practically nothing focused on this area.

Nevertheless, the agency of Federal Environmental Protection has a curriculum completely developed about the environmental area. I believe that this area is one area that we have to work on and create a curriculum where it is promoted in the children the values of safety and in the protection of health.
Good afternoon.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06

Comment ID: 4579.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer
- Cardiovascular disease
- Immune disease
- Dermal disease
- Respiratory disease

Exposures

- Cardiovascular disease
- Heat/cold
- Radiation (ionizing and non-ionizing)
- Indoor environment

Approaches

- Hazard identification
- Etiological research
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/12/06: Good afternoon, everybody. I'm glad to be here, my name is Ilene Garner of the University of Virgin Islands. And I won the Safety in Paradise Program in the Virgin Islands. I'd like to spend the next few moments with you and I did have the power point presentation but I'm going to march through and keep on time. I will make it available if anyone wants to see actually the beautiful pictures of the Virgin Islands, which I brought with me.

So, I will continue on the program, the program that we have in the Virgin Islands is called "Safety in Paradise". And I would like just to spend a little bit of time talking about the U.S. Virgin Islands and where we are and why it is important that safety in paradise is a matter of place. And then I'd like to talk a little bit about some environment of challenges that I believe we have that are unique to environment. And like to finish up with our proposing some recommended research topics.

So, the U.S. Virgin Islands is located eighteen degrees North latitude between Miami and Venezuela. That presents some very interesting things for us, we're four small insular islands with a population of only a hundred and sixteen thousand. But the average temperature is eighty-five degrees Fahrenheit year round. We also have a very a corrosive kind of environment because of the salt sea and sand. The tropical climate provides us with high heat and humidity, like I said, year round.

We also have intense solar radiation all day long, because we are very close to the Ecuador. The high humidity and limited air circulation can cause some very interesting safety and health issues. We have significant historic structures that were built without air conditioning and were built with types of materials, that if you could see my pictures, you could see wall mildew.

The primary industries there are towards tourism and hospitality, construction and the marine industry. So workers are required to be outside in significant amount of time in the sun. Some of the problems that workers can--they encounter because of there's this heat stress, the effects of the heart and the risk of dehydration. In addition, intense prolonged exposure to solar rays can cause skin cancer, eye damage and further injuries. There are also very interesting things upon equipment that can happen as well, because of this environment. For example, polemic degradation which can loose the strength of safety apparadis in gear, you also have bathing in reaching a lot of sun, so you think the sun is red, because orange, if you think it's green, it becomes blue. So, those are kinds of things that you have to consider.

Also workers can have a full sense of security about the integrity of the equipment. For example, iron products corrode much faster in that kind of environment. The tense site of strength then goes down, specially in objects made of iron. Also iron objects have magnetic--that have magnetic properties, magnetic materials, can also loose their magnetic properties as a result of rust. And also their electrical conductivity, will degrade.

Workers are also exposed because of the high heat of humidity and the moist environment which causes a lot of mildew and mold in many of our buildings. So, workers are exposed to mold and mildew quite often. So we have issues surrounding mold infections, allergic reactions and obviously degraded air quality in the buildings, because of this mold and mildew. Which you cannot see often times, because in between walls and ceilings that they are just not in apparent, people start getting sick and you just don't know why.

Also mold can in very extreme instances could promote wood rote and that's another thing you need to be concerned about, specially because workers have a lot of scaffolding on our buildings. And they think that the scaffolding is working well and if you have nails, for example, in that scaffolding that are in stainless steel, guess what? They'll start to lyed.

Some of the health and safety issues that touch the perimeter, prolong the effects of high heat and humidity on workers. And it's really not established, I mean, I know we've done some research for heat stress, but I don't think we've done it enough. And I don't think we'd looked in environments such as ours, where it's hot all year round. Not just in the summer.

There is a lack of federal standards for my prospective for airborne concentrations of mold and a long term effects of mold exposure on workers. In addition and maybe again, I'm wrong, I don't see very many guidelines from workers who are close to solar rays under very long periods of time. Some of the recommended research areas vary in guidelines for worker rest regulance and solar exposure guidelines.

The relationship of material degradation due to sun, sea salt and sand is something that I think would be very good recommended area.

And the last one, are the effects of prolonged exposure to mold and mildew. And this would be done to develop guidelines for declaring a building unsafe to occupy by workers. So, Safety in Paradise, really is a matter of place. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4580.01

Categorized with the following terms:

Sectors

Manufacturing
Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding
Capacity building

Partners

Categorized comment or partial comment:

Verbal Comment 2006/12/06 (English Translation follows):

Este es Samuel Rodríguez del Recinto Universitario de Mayaguez, de la Universidad de Puerto Rico. Haré la presentación sobre una de las alianzas que tenemos, la alianza con la Puerto Rico OSHA, el departamento de Ingeniería, específicamente. Y como tenemos siete minutitos, pues voy a ir rapidito. Así que me perdonan. Primeramente, como parte de la alianza que tiene el departamento de Ingeniería Química con Puerto Rico OSHA, pues está la parte de revisión de currículo. Obviamente, queremos mantener lo fundamentos de ingeniería química, que siempre han sido importante en el departamento. También se está tratando de mejorar la comunicación de nuestros estudiantes y la ética de ingeniería también.

Y finalmente, lo que nos trae aquí hoy, la parte de incorporar los conceptos de seguridad a procesos químicos, ya la práctica de ingeniería química, especialmente con los estudiantes que se gradúan de nuestro recinto.

Entre las actividades del departamento, pues el programa de PHT comenzó en el 2000, hay aproximadamente como un total de diez millones de dólares en "research" en el departamento. Y entre la parte de innovación y en la educación, está este tipo de alianza, donde queremos llevar la salud y seguridad a través del currículo de Ingeniería Química específicamente. Estamos con la Ingeniería Química y en muchos aspectos de la seguridad, ya que los procesos químicos pueden ser sumamente peligrosos. Desde el 2003, se está trabajando en esta estrategia, la alianza fue poco después, pero ya en 2003 se comenzó a trabajar en un curso de "Chemical Process Safety", que se comenzó a dar por primera vez en el semestre--en el segundo semestre del 2004.

Y entonces se comenzaron en el 2004 las conversaciones para llegar a toda la alianza. Ya en el 2005, fue cogiendo forma y hubo aprobaciones por parte de la OSHA--Puerto Rico OSHA para perseguir este tipo de alianza. Y en octubre del 2005, finalmente, se logró la firma de la alianza entre el departamento de Ingeniería Química del colegio de Mayagüez y Puerto Rico OSHA. Como parte de las actividades que se han hecho, pues se han dado dos seminarios ya, a la comunidad en general, una fue en abril y una en noviembre.

Nos estamos reuniendos--nos hemos reunidos "quartely" y ahora estamos reuniéndonos mensualmente para llevar a cabo un plan de acción. Entre los aspectos más importantes de la alianza, pues está revisar el currículo para incluir los aspectos de salud y seguridad. Se da los cursos de "Chemical Process Safety", que ya se hizo. También se está tratando de lograr--llevar los conceptos de salud y seguridad a través de todo el currículo, de distintos cursos de ingeniería química, que van a estar estableciendo los aspectos de salud y seguridad aplicables a esa área de ingeniería química.

Se han dado--se sigue dando adiestramiento, según les mencioné. Se han dado--también se está dando--de promover la participación de los estudiantes, para ir a varios seminarios de la Puerto Rico OSHA allá en el colegio. Y no solamente de "Process Safety", sino de "Lab Safety" y otros estándares y los estudiantes han participado activamente. También uno de los propósitos es lograr diseminar esta información a través de la comunidad para que se sepa que ese tipo de alianza puede ser muy exitosa al momento de ser electa.

También conferencias como éstas y otras conferencias como la de ingeniería química, que se dio recientemente en Dorado, también hemos participado. También vamos a estar este próximo año, vamos a estar adiestrando inspectores de la Puerto Rico OSHA, en los aspectos de "Chemical Process Safety", importante para sus inspecciones en la industria química. El "expertis" del departamento se va a utilizar para que ellos entiendan mejor cómo es que se--identificar programas de "Process Safety".

De nuevo, los cursos nuevos se van a estar estableciendo, ya se estableció el de "Chemical Process Safety". Luego un curso de "safety and health" general, que también se va a establecer. Así que esta información vamos a seguir diseminándola y vamos a seguir participando del quórum como este. Las actividades futuras, para terminar, tenemos que nos vamos a estar reuniendo mensualmente, el departamento va a desarrollar cambios en el currículo. Se va a adiestrar inspectores de la OSHA y vamos a estar sometiendo una propuesta de OSHA & Science Foundation, para expandir la propuesta ocupacional y educacional. Eso es todo y muchas gracias.

(ENGLISH TRANSLATION)

This is Samuel Rodríguez from the University of Mayagüez Campus of the University of Puerto Rico. I will make a presentation about one of the alliances that we have, the alliance with the Puerto Rico OSHA, the Department of Engineering specifically. And since we have seven minutes, well I'll go a little fast. So forgive me. First of all as part of the alliance that Department of Chemical Engineering has with Puerto Rico OSHA, there is the part of revision of curriculum. Obviously we want to maintain the fundament of chemical engineering which has always been important in the department. We are also trying to improve the communication of our students and the ethics of engineering also.

Finally what brings us here today, the part of incorporating the concepts of safety and chemical processes, already the practice of chemical engineering, specially with the students who graduate from our campus.

Within the activities of the department the program of PHT started in 2000. There are approximately about a total of ten million dollars in research in the department. And between the part of innovation and in education this type of alliance where we want to take health and safety through the curriculum of Chemical Engineering specifically we are in Chemical Engineering and in many aspects with the safety, since the chemical processes can be very dangerous.

Since 2003 there has been work on this strategy, the alliance came a little after. But in 2003 there started work on the course "Chemical Process Safety" which started for the first time in the semester--in the second semester of 2004.

And then there started in 2004 the conversations to arrive at an alliance. Then in 2005 it started taking form and there were approvals on the part of OSHA--Puerto Rico OSHA to follow up on this type of alliance. And in October 2005, finally an alliance was achieved between the Department of Chemical Engineering of the Mayaguez Campus and Puerto Rico OSHA. As part of the activities carried out there have been two seminars to the community in general, one was in April and one was in November.

We are meeting--we have met quarterly and now we are meeting monthly to bring about a plan of action. Within the most important aspects of the alliance there is to revise the curriculum to include the aspects of health and safety. Courses are given of Chemical Process Safety, which was already given. Also there is work trying to achieve--take the concepts of health and safety through the whole curriculum of different courses of chemical engineering which are going to establishing the aspects of health and safety applicable to that area of chemical engineering.

There have been given--there continues to be training, as I mentioned. There have been given and also continue to be given promotion to the participation of the students to go to various seminars of the Puerto Rico OSHA there in the college. And not only of "Process Safety", but to "Lab Safety" and other standards and the students have participated actively. Also one of the purposes is to disseminate this information through the community so that it is known that this type of alliance can be successful at the moment of it being elected.

Also conferences such as these and other conferences such as the one of chemical engineering which was given recently in Dorado, we have also participated in it. We will also be this next year, we will be training inspectors of the Puerto Rico OSHA in the aspects of Chemical Process Safety which are important for the inspections in the chemical industry. The expertise of the department will be utilized so that they better understand how it is—to identify programs of Process Safety.

Again, the new courses will be established. It has already been established the one of Chemical Process Safety. Then a course of general safety and health which will also be established. Thus this information we will continue to disseminate and we will continue to participate in quorums such as this one. The future activities, we will be meeting monthly. The department will develop changes in the curriculum. Inspectors will be trained in the OSHA and we will be submitting a proposal of OSHA & Science Foundation so as to expand the occupational and educational proposal. That is all and thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4581.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/12/06 (English translation follows):

Buenas tardes. Mi nombre es Carlos Guillermo Ortiz, presidente de la ILA, Local 1575. La ILA es una asociación internacional de trabajadores en el frente portuario que tenemos que ver con la carga y descarga de los barcos. Quiero también reconocer las personas que me acompañan, al señor Carlos Santiago Lugo, es director del área de distrito del departamento de Trabajo Federal, de horas y salarios. Y el señor Francisco Díaz Morales, vicepresidente de la ILA, Local 1575 y de la unión que dirijo.

Quiero dar las gracias al director de OSHA Federal aquí en Puerto Rico, al señor José Carpena, por la invitación que me extendió. Y al señor Teodoro Rovira, oficial inspector de esta agencia. Quiero darle inmensamente las gracias por la gran ayuda que nos han dado en el frente portuario. Quiero hablarle--hacer un resumen de los distintos inconvenientes que hemos tenido, pero que de alguna manera u otra pues estos dos caballeros nos han ayudado grandemente aquí en Puerto Rico.

El área de nosotros es bien compleja, es un área inmensamente grande, pero se conoce como que es tierra de nadie, ya que mientras muchos duermen, nosotros estamos trabajando en la carga y descarga de los barcos. Quiero mayormente hablarles de lo que es la seguridad y la salud en el frente portuario. Nosotros en la carga y descarga, hay veces que estamos expuestos a distintos químicos.

Queremos hacer también la recomendación de que OSHA al podernos realmente ayudar en esta carga y descarga de los barcos con químicos extraños que no nos dicen realmente que es lo que se--contienen. Se pueda también de alguna manera u otra fomentar que esas personas que han sido expuestas, pues puedan de alguna manera u otra ser atendidos o ser--se pueda someter alguna clase de estudios. Bien ligerito, me gustaría también que en las investigaciones mayormente que se hacen aquí en Puerto Rico,

entiendo que la reglamentación de alguna manera u otra se debe de esculcar y tratar de poner a tono con las necesidades regionales en sí que estamos teniendo.

Uno de los problemas bien básicos, ya que el tiempo es muy limitado, que tenemos es en el carreo de esos vagones. Esos vagones cuando bajan, no estamos hablando de libras, estamos hablando de toneladas y cuando bajan, en esa prisa de la carga y descarga, pues se intenta de que sean movidos en las áreas de los patios, como se le llama o las carreteras internas sin cerrar unos "locks". Ya que en otras áreas se permite que se puedan mover, pero se utiliza lo que se conoce los "flat bed", que son unas plataformas que nosotros aquí en esta área, pues no la tenemos para que sea de alguna manera u otra trasladado.

Quiero también que se le de seguimiento mediante a las penalidades que se encuentran, verdad. No voy a revelar el nombre de la compañía en la cual se encontraron distintas penalidades, pero sí puedo decir que fueron veinticinco penalidades que fueron serias y cuatro que fueron repetitivas. Y que actualmente esa investigación comenzó para el mes de abril y concluyó, más o menos, para octubre trece y actualmente ya el "deadline" que tenían para hacer esas mejoras o hacer esos arreglos terminaron para noviembre trece. Y actualmente, pues no se ha continuado, no se le ha dado seguimiento en sí y de alguna manera u otra, todavía seguimos siendo expuestos.

También las grúas, esas grúas que trabajan en los barcos, aquí la carga mecanizada, comenzó en 1958 y todavía tenemos grúas de los años '62, '63. Y lo que estamos en sí es solicitando de que de alguna manera u otra, esas investigaciones que se hicieron, se pueda de alguna manera u otra ser más agresivos conjunto con nosotros, porque nosotros también tenemos comité de seguridad interna en nuestro contrato. Para que de alguna manera u otra se pueda dar seguimiento a lo que estamos siendo expuestos. El tiempo es bien limitado, pues estoy haciendo un resumen porque sé que muchas de las cosas, si hubiera lo de preguntas y respuestas, pues me tendría que entonces preguntar que quiero decir con los "twin locks" o qué quiero decir cuando una persona se expone a - Distintos vocablos realmente que tenemos nosotros. Sí, me gozo de que estoy siendo partícipe y se me dio la oportunidad también de exponer los distintos riesgos que nosotros estamos pasando. Y que de alguna manera u otra yo estoy en la mejor también disposición de cooperar en todo lo que sea.

Yo llevo con la Unión ILA, treinta y tres años, así que por lo visto, pues si los dejo, pues no aparento la edad, pero comencé allí a las diecisiete años. Le agradezco mucho la oportunidad que me dieron y exhorto a que OSHA siga continuando en ese trabajo titánico. Y que le de la oportunidad también a OSHA a que aumente ese personal de inspectores, que yo sé que el señor Carpena necesita para que continúe haciendo un excelente trabajo.

Quiero decir que lo felicito, señor Carpena y en el señor Rovira tienen tremendo inspector allí, gracias.

(ENGLISH TRANSLATION)

Good afternoon. My name is Carlos Ortiz, president of the ILA Local 1575. ILA is an international association of workers in the ports that have to do with loading and unloading of ships. I want also to introduce the persons who accompany me, Mr. Carlos Santiago Lugo, director of the area of district of the Federal Labor Department, of hours and salaries. And Mr. Francisco Díaz Morales, vice president of the ILA, Local 1575 and of the union that I direct.

I want to thank the director of Federal OSHA here in Puerto Rico, to Mr. José Carpena for the invitation that he extended to me and to Mr. Teodoro Rovira, official inspector of this agency. I want to give

immense thanks for the great help they have given us in the area of the ports. I want to speak to you-- make a summary of the different inconveniences we have had, but that in one way or another these two gentlemen have greatly helped us here in Puerto Rico.

Our area is very complex, it is an immensely large area which is known that while many sleep we are working on the loading and unloading of the ships. I want to speak to you of what is the safety and health on the waterfront. We in the loading and unloading are sometimes exposed to different chemicals.

We want to also make the recommendation of OSHA to be able to really help us in this loading and unloading of the ships with strange chemicals which do not tell us really what it is they contain. It can also in some way or another encourage that those persons that have been exposed, that they can in some way or another be attended or be--that some kind of study can be submitted.

Very quickly, I would also like in the investigations that are done here in Puerto Rico--I understand that the reglamentation in one way or another should be studies and try to put in tune with the regional necessities that we are having.

One of the basic problems, since time is very limited, is the moving of those freight vans, ("vagones"). Those freight vans when they come down, we are not talking about pounds, we are talking of tonnage and when they come down in the rush of loading and unloading well, they try that they be moved in the areas of "patios" which is how it is said of the internal roads without closing some locks. Since in other areas it is permitted that they can be moved, but is used what is known as "flat bed" which are platforms that we here in this area do not have so that it be one way or another transferred.

I want also that there be followed up on the penalties that are found. I won't reveal the name of the company in which are found different penalties, but I can say that there were twenty-five penalties that were serious and four that were repetitive. And that actually that investigation started on October thirteen and actually already the deadline they had for making the improvements or make those repairs ended on November thirteen. And actually well, it has not been continued, no follow up has been done and in one way or another we still continue to be exposed.

Also the cranes, those cranes that work on the ships, here the loading is mecanized. It started in 1958 and we still have cranes from the years '62, '63. And what we are requesting is that in one way or another, those investigations that were done it can in one way or another be more aggressive along with us because we also have an internal security committee in our contract so that in one way or another it can be given follow up to what we are being exposed.

The time is very limited and I am doing a summary because I know that many of the things, if there were questions and answers then I would have to be asked what I want to say with the twin locks or what I want to say when a person is exposed to - different terms that we have. Yes, I enjoy participating and to be given the opportunity also to express the different risks that we are going through and that in one way or another I am in the best disposition of cooperating in whatever it may be.

I have been with the ILA Union thirty-three years, so I may not appear my age but I started at seventeen years old. I appreciate very much the opportunity given to me and I exhort OSHA to continue in that titanic labor. And also to give the opportunity to OSHA to increase the inspector personnel I know that Mr. Carpena needs to continue doing an excellent job.

I want to say that I congratulate you Mr. Carpena and in Mr. Rovira you have a wonderful inspector there. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4582.01

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Work organization/stress

Approaches

Partners

Categorized comment or partial comment:

Verbal Comments 2006/12/06 (English translation follows):

Buenas tardes. Good afternoon. My name is Miguel Rubio, I'm president of the Puerto Rico Chapter of the American Society Safety Engineers, ASSE. I want to thank OSHA, the Federal Counsel and NIOSH for this opportunity to share my thoughts related to one of the biggest problems as safety professional, we're facing primarily in the construction industry.

And referring to the increase number of series accidentes, including fatalities involving excavations, scaffolding and trenching. I would start saying that probably in the last two or three years, we have seen an increase in the number of serious accidents in the construction business. Probably eight months ago, a scaffold totally collapsed killing two workers. About four or six months ago, there was a crew making an excavation, I believe in the west coast, when the same collapsed and one of the workers was buried in, dying minutes later.

It is common to listen, what or written news to find out that a worker has died or has been killed from a fall from heights. As safety professionals we have thought about potential group causes for these accidents. It is not a secret that a construction industry comprises a series of serious hazards and it's considered as a high risk industry. However, in my opinion, the increase number of these fatalities is going out of control.

Some people could say that there is not sufficient number of safety inspectors, involve the employers to watch their own people or from the government for conducting regular inspections to identify the risk. It is true that we still have a series of employers in that industry that do not spend resources and when I mean resources, we mean human and monetary for providing the necessary training for those workers to be safe at their work.

Some of these companies believe that spending resources in training goals against their benefit for at least two reasons, training cost money and also delayed projects. I want to stretch that out the efforts led by the government and some of the main companies of the Island for being offering training in this and other safety training. Some of the companies are developing curriculum, specially for the construction contract workers and are dedicating their professional to teach these courses. Some of the courses are equivalent to the ten hours course, inclusive in some cases, is the same OSHA sponsor ten hours course.

However, my concern goes beyond training. I am a believer that many of these accidents are associated with the series of shortcuts taken by employees, which in my opinion is a cultural thing. I have seen many times workers with a harness placed and with the lanyard hooked to the same bearing, rather to the light line or to the anchor point. Other occasions we have discussed with some of these workers and the answer is, it takes much time to put on or it's too complicated, excetera, etcetera.

On the other hand we can continue doing our inspections, this is like PPE, I mean, when the worker see the inspector, they follow safety rules, but once the inspector leaves the premises, they go back to the old safety behaviors. We can go even further, we can post fines and penalties to both employers and workers, but since the magnitud of the sames are so insignificants, they do not mind to pay the fine and continue following the learned behaviors.

As safety professionals we can focus on training and show the workers the standards. We can tell the workers how to raise a scaffold, how to become a competent person. Also we can explain and educate workers on the proper method for trenching an excavation. We can continue spending time and efforts in teaching the 1926 and the 1910 standards. We can spend hours and hours dedicated to let them know that whenever we work in areas with potential for falls, are six feet or higher or four feet in general industries, we need some kind of fall protection system. As a matter of fact, yesterday we were teaching a competent person course in a pharmaceutical plant. And we went out to the field and looked for some scaffolds that had been erected and so applied by a competent person. And we were surprised the amount of issues that we were able to identified, because they were not really following the proper standards.

However, there is one thing that really worried me and it's that we cannot teach these employees behaviors. This is probably a psicological issue or perhaps a sociological issue. As a matter of fact, one of the other speakers have identified these as a cultural attitude of our latin country versus, you know, imposing regulation and enforcement.

Why are workers taking risk, what motivates them to take shortcuts and miss to protect their own safety and life? Are there other things that as a technical professional, can we use and follow to ensure a better working place? This is not a mixed situation in Puerto Rico, inclusive some colleagues believe that this is a fenomenum observed in latin-american countries.

I would like to investigate the behavioral and motivational regions behind these years of unsafe acts that have caused so many serious accidents. My intention is not only to cover workers in Puerto Rico, but this increasing number of latin american workers that are rapidly occupying positions among the working population in the United States. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4583.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work-life issues

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comments 2006/12/06 (English translation follows):

Buenas tardes, mi nombre es Erlinda González. Y hoy me encuentro aquí representando al Colegio de Ingenieros y Agrimensores de Puerto Rico. A pesar de que también soy una empleada de la industria farmacéutica por los últimos veinticinco años. Y quisiera compartir con ustedes una situación que entiendo yo que nuestra cultura en cierta manera nos está imponiendo al patrono. Y que de alguna manera necesitamos ayuda para poderla manejar.

Actualmente en Puerto Rico, el sesenta y dos por ciento de nuestra población está sobrepeso. Y el sobrepeso trae un montón de problemas musculo-esqueletal, que nada tiene que ver con el ambiente ocupacional. Pero que lamentablemente nuestro ambiente de trabajo, con los requerimientos del registro en los 'logs' de enfermedades ocupacionales, en la manera en que están definidas, nos ataca y básicamente nos obliga a reportarla como ocupacional cuando entendemos que la mayoría de los casos, no tiene nada que ver con el ambiente de trabajo.

En la industria hacemos 'N' gestiones con los doctores y las enfermeras y el personal de seguridad para ayudar a los empleados en programas de manejo de peso. En programas de ejercicio, se le paga el gimnasio, se le provee el gimnasio, se le proveen un montón de facilidades para ayudar a bajar de peso, porque entendemos que ese sobrepeso es una de las razones principales por sus lesiones. Pero no hay manera de obligarlos, es algo voluntario y al no poder obligar al empleado a hacer este programa para mejorar su salud personal, nos está impactando grandemente en las lesiones musculo-esqueletales y en el ausentismo en el ambiente de trabajo.

Y de alguna manera, nos gustaría ver cómo nos podemos ayudar o estableciendo criterios o maneras de cómo el patrono puede establecer programas de auto-ayuda con el personal para el manejo de peso. O

como podemos revisar estos requerimientos de registros de lesiones musculo-esqueletales en el 'log' de OSHA. Muchas gracias.

(ENGLISH TRANSLATION)

Good afternoon. My name is Erlinda González. And today I am here representing the College of Engineers and Agronomists of Puerto Rico, despite the fact I am also an employee of the pharmaceutical industry for the last twenty-five years. I would like to share with you a situation that I understand our culture in a certain manner is imposing on the employer and in some way we need to help in order to manage this.

Actually in Puerto Rico sixty-two percent of our population is overweight. And this overweight brings many muscular skeletal problems that have nothing to do with occupational environment. But unfortunately our work environment with the requirements of register in logs of occupation disease in the way they are defined does attack and basically it obliges us to report as occupational when we understand that the majority of the cases have nothing to do with work environment.

In the industry we make "N" gestures with the doctors and nurses and the safety personnel to help the employees in programs of weight management. In exercise programs the gym is paid for, the gym is provided, many facilities are provided to help in losing weight because we understand that obesity is one of the principal reasons for injuries. But there is no way to obligate them, it is something voluntary and in not obligating the employee do do this program and improve personal health, we are being greatly impacted in the muscular skeletal injuries and in absenteeism in the work place.

Thus in some way we would like to see how we can help each other establishing criteria or ways of how the employer can establish programs of self-help with the personnel for the management of weight. Or how we can revise these requirements of registry of muscular skeletal injuries in the OSHA log. Thank you very much.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4584.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

Verbal Comments 2006/12/06:

Good afternoon. I come in representation of the Society of Professionals of Prevention of Accidents of Puerto Rico, specifically as part of an alliance that we have with OSHA. I wish to indicate that with me is also our president, Ms. Carmen Vázquez.

We have a very interesting subject which is a preoccupation we have and our board as well has been evaluating this and it is the following: the importance of having good industrial hygienists able to analyze the process and knowledge of developing good strategies of sampling and evaluation of qualitative and quantitative in the health area of occupational health for the effective protection of our workers. We have been noticing that the university curriculum are graduating students that go to the field to jobs of industrial engineers and they really do not have the knowledge that is required to be able to execute this profession.

We should be giving them the necessary tools so that these professionals of industrial engineering can execute these strategies in an effective manner. In a manner that they avoid their employers and monetary penalties be imposed. And not only that, but that they also be the effective form so they can protect those workers. In the case, you all know for example, I worked with Puerto Rico OSHA, what is now known as Puerto Rico OSHA since it was OSHO. And I am also an industrial engineer.

There things are different because of course there are a number of strategies that are studied in the OSHA Institute. And if we go to Sal Lake City to the laboratories they do teach there about these three strategies. And we are in the field, in the practice, but not with these industrial engineers that we know are being recruited and only with a short course or they don't really have the strategies at all.

In Puerto Rico right now there does not exist in the universities that they have this type of competition. Yes, there are many masters which our curriculum recommends that they be realized. I am also a professor of various universities and we understand that we are seeing these failures. We are

recommending that these curriculum be revised and enlarged so that there be included good practices for them to make their effective analysis of the process and proper and adequate action be taken so that the final plan of action be an effective one.

We are also recommending and we support that these industries that are not listening here today can promote that students be recruited in their work place so that the practice be a real one, that they have a real work place.

We as an organization and a society are also asking those companies--we think we can prepare a campaign for those companies that are going to scrap some type of equipment, technical, monitoring and the rest that they remember we are a non-profit entity. We want to be involved in some way to also take this education and we want to know if there is anyone that can help us to develop a campaign to ask that those equipments that can be donated we are available to accept them.

We are going to do as the Banco Popular campaign is doing which solicits musical instruments so that music can be continued and encouraged. We want this profession be one that the person can really practice in an effective manner.

Thus we say thanks in the name of the Society of Professionals of Prevention of Accidents and to the Puerto Rico Federal Safety and Health Council for allowing us to be here. And to NORA, thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4585.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Chemicals/liquids/particles/vapors

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Verbal comments 2006/12/06:

Good afternoon. In representation of the Aqueducts & Sewers Authority and the executive president, Mr. Jorge Rodríguez, we are very thankful for the invitation to this conference.

I wish to make a brief introduction which concurs with Professor Jorge Ramos in that many of the accidents had by the employees do not occur in the work area and I will bring two examples. Number one arises--I receive a case of a co-worker who registers a condition of allergies in contact with the asphalt fumes. And I investigate and this employee had previously been declared totally disabled by the State Insurance Fund and the employer had not been informed of his condition. The case was not in the work place and he still alleged it.

Number two, an employee who alleges an emotional condition due to a problem with the supervisor. It is investigated and it was in another place that the alleged emotional condition occurred and it was not in the work place. But what bring us here are two points, first the cases of alumina in the Aqueducts & Sewers Authority. Now we have a case for obvious reasons the name is not mentioned, that has been incurring around four hundred thousand to five hundred thousand dollars in the State Insurance Fund in costs for this employee.

It was investigated in the Department of Health and various agencies and I also did an investigation and it results that he was working with another employer exposed to toxic materials, alleged toxins. And the Authority never worked with this type of toxins. In the first place, the Fund does not relate the case but as we all know there is another, the Industrial Commission. It is appealed in the Commission and there the Commission gives total protection of the law to these employees.

But the situation of alumina by the year 2005 there had been thirty cases registered for which we requested professional advice to the Medical Sciences Campus for evaluation. This was requested based on analysis data from laboratories that the employees took from their private doctors, which are over the levels of exceeding ten miligrams.

One curious data was that all indicated having the supposed exposure between 1989 and 2000, but it was not until 2004 that they all decided to report the State Insurance Fund which originates this chain of claims from a subscriber of the Authority. Another curious data was that three employees indicated they had taken Maalox, an antacid with a high content of alumina. And before going to the Fund they drank a bottle of alumina and when the analysis were made obviously the volumen was high.

It is indicated that during a visit to the clinic of the State Insurance Fund it was heard when one patient said to another to drink a lot of antacid so that the level of alumina would be high in the tests. On verifying who they were it resulted to be an employee of the group from Cayay. And only in the regions of the Authority where they only indicated contamination with alumina it was in the region of Cayey, not in any other region of the Aqueducts & Sewers Authority.

The aluminium is excreted through the body through the urine in an average time of ninety days. Thus, the hypothesis that there could be an exposure through the use of the urine is discarded. It is indicated that they have said there exists the possibility that they are contaminated on having tanks of chlorine in the truck and tied with chains, since the paint of aluminum of the tank comes off and it forms an aerosol of aluminum. They made and there have been made all investigations since the Authority is not authorizing the alumina and we are receiving other cases.

That is why in my hypothesis that there are many, but not to say all, many of the cases that are alleging contamination are from other places or from their house and not from the Aqueducts & Sewers Authority.

Another petition that is being made is of Hepatitis C. There are some other co-workers that are alleging contamination with Hepatitis C and the contamination is through sex or blood transfusions. And they are alleging that the contact with dirty waters from sewers they are being contaminated with Hepatitis C, for which we are asking also some help on this point.

There is another situation also that is very important that obviously is a risk that cannot be corrected, it is a matter of negotiation and it is that the employees of Aqueducts & Sewers Authority have two years when they can be reported to the Fund, collecting full pay for each case. There are employees that have three, four and five cases which multiplied by two can be ten years without working collecting their salary. And this is one of the situations that I have been pointing out to correct that to bring down the work related accidents.

And the risk, one of the major risks that we have is this negotiation that was done, that we have one employee who registers one case, he is discharged from treatment today and the following week he registers another one.

And once again, congratulations, many thanks for the attention and God Bless. Good afternoon, very many thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4586.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Risk assessment methods

Partners

Categorized comment or partial comment:

Verbal Comment 2006/12/06 (English translation follows):

Muy buenas tardes. Muchas gracias por esta oportunidad. Con el propósito de contribuir en la anticipación, prevención, litigación de condiciones y situaciones que afectan áreas ocupacionales. Y la distinción entre condiciones ambientales y lo que se atribuye como error humano. Y para un mejor entendimiento en relación a los aspectos antes mencionados, propongo la investigación, utilizando un modelo estocástico dinámico, basado en el estudio y análisis de patrones obtenidos de datos, como estadísticas de histogramas.

El objetivo es el diseño de estrategias para anticipar eventos y proyectar situaciones futuras. En otras palabras, estar preparados. Si dentro de la--por ejemplo, si dentro de la teoría del caos, se puede encontrar el punto donde se detectan patrones, así mismo con este evaluo se espera que se faciliten esos patrones para un desarrollo dinámico en la conceptualización de programas educacionales y entrenamientos acertijos en la búsqueda de un estado de excelencia en salud y seguridad ocupacional. Por ejemplo, este tipo de modelo se podría utilizar en diferentes situaciones y preocupaciones que se han planteado hoy en la tarde. Por ejemplo, yo traigo a colación, que se puede investigar igualmente la relación entre los niveles de ansiedad y afecto en propensión de accidentes y productividad, luego del 911.

Eso es un área que sí afecta por todo lo que es el área ocupacional. Eso es todo lo que tengo que decir por hoy, muchas gracias por su atención.

(ENGLISH TRANSLATION)

Good afternoon. Many thanks for this opportunity. With the purpose of contributing in the anticipation, prevention, litigation of conditions and situations that affect occupational areas and the distinction between environment conditions and what is attributed to human error. And for a better

understanding with relation to the aspects mentioned before I propose the investigation utilizing a model of dynamic estocastic based on the study and analysis of patterns obtained from data like statistics and histograms.

The objective is to design strategies to anticipate events and project future situations. In other words, to be prepared. For example, if in the theory of chaos it can be found the point from where to detect patterns the same as in this evaluation it is expected that other patterns are facilitated for a dynamic development in the conceptualization of educational programs and trainings in the search for a state of excellence in occupational health and safety.

For example, this type of model could be used in different situations and preoccupations that have been presented this afternoon. For example, I bring that it can be investigated the relation between the levels of anxiety and affect in propensity of accidents and productivity after 9/11.

That is an area that does affect in the whole occupational area. That is all that I have to say today. Many thanks for your attention.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4587.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Wholesale and Retail Trade
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

- Surveillance

Partners

Categorized comment or partial comment:

Verbal Comment 2006/12/06 (English translation follows):

Buenas tardes. Mi nombre es Rosa Rosario, Ingeniero Ocupacional e Investigadora Social de la Universidad de Puerto Rico, Recinto de Cayey. Gracias por invitarnos a esta actividad.

Durante la tarde de hoy nuestro equipo de trabajo, compuesto por el doctor Enríque López, que es Geógrafo y Estadístico y la profesora Iris Figueroa, Ingeniero Industrial y ésta servidora, estaremos presentando unos temas de investigación que son de principal interés dada a la población que sirve nuestra institución.

Como pueden ver la Universidad de Puerto Rico en Cayey, sirve a once municipios de la Isla, para una población estimada de cuatrocientos sesenta y siete mil trescientos treinta y nueve habitantes. A través del instituto de investigaciones intra-disciplinarias, se ha logrado un 'Grant', que es está permitiendo el desarrollo de la infraestructura de investigación de la universidad. Uno de los temas de particular interés para los investigadores del instituto, es el estado de salud de la población trabajadora que reside en esta región, obviamente, a los once municipios.

Según el censo del año 2000, se estima que la población empleada de dieciseis años o más, residente en la región, asciende a ciento seis mil ciento ochenta y cuatro trabajadores. La mayoría de ellos trabaja para la industria privada o el gobierno. Sin embargo, hay un número importante de trabajadores con negocio propio o trabajando sin paga para familiares, que es de particular interés para nuestros investigadores. Las industrias de la manufactura y el comercio, son las principales fuentes de empleo en la región. Esto coincide, verdad, con lo que había presentado OSHA, en término de las industrias de particular interés para la agenda nacional.

Dado que no tenemos datos que evidencien cual es el estado de salud, ni cuales son las necesidades de los trabajadores residentes de la zona, proponemos en primera instancia un estudio socio-demográfico y de salud de nuestros trabajadores. Y el propósito de este estudio sería explorar que existen diferencias con género e industria en el perfil de nuestra fuerza trabajadora. Los tópicos de interés para el estudio incluyen, características socio-demográficas, datos relacionado a la ocupación, como por ejemplo, industria ocupación actual y/o ocupación usual, necesidad de y uso de equipo de protección personal. Enfermedades y lesiones de mayor prevalencia, uso de sustancias como por ejemplo, alcohol, tabaco y otras drogas.

Acceso a servicios preventivos y de salud y productividad aceptada por el estado de salud del trabajador, incluyendo el componente sico-social. Porque es importante este tipo de estudio, bueno, información obtenida a través del estudio, nos serviría para monitorear el estado de salud de nuestros trabajadores. A la misma vez que proveerá evidencia científica necesaria en la formulación de preguntas de investigación. Y en la documentación de propuestas y agendas de investigaciones.

(ENGLISH TRANSLATION)

Good afternoon. My name is Rosa Rosario, Occupational Engineer and Social Investigador of the University of Puerto Rico, Cayey Campus. Thank you for inviting us to this activity.

During this afternoon our staff composed by Dr. Enrique López, Geologist and Statistical and Professor Iris Figueroa, Industrial Engineer and myself will be presenting some subjects of investigation that are of principal interest to the population that our institute serves.

As can be seen the University of Puerto Rico in Cayey serves eleven municipalities on the island for an estimated population of four hundred sixty seven thousand three hundred thirty nine inhabitants. Through the institute of investigations intra disciplinary there has been achieved a Grant that is permitting the development of the infrastructure of investigation of the university. One of the subjects of particular interest for the investigators of the institute is the health condition of the population of workers that resides in this region, obviously of the eleven municipalities.

According to the census of the year 2000 it is estimated that the population employed of sixteen years old or more residing in the region comes to one hundred six thousand one hundred eighty four workers. The majority of them work for the private industry or the government. But there are an important number of workers with privately owned enterprise working without pay for family members which is of great interest for our investigators. The manufacturing industry and commerce are principal employers in the region. This coincides with what has been presented by OSHA in terms of the industries of particular interest for the national agenda.

Due that we do not have data evidencing what is the health condition nor which are the needs of the workers residing in the zone, we propose in first place a socio-demographic study and of the health of our workers. And the purpose of this study would be to explore if there exists differences with manner and industry in the profile of our work force. The topics of interest for the study include socio-demographic characteristics, data related to occupation, like for example the actual occupational industry and/or usual occupation, the need for use of equipment for personal protection, diseases and injuries of prevalence, use of substances like for example, alcohol, tobacco and other drugs.

Also access to preventive services and for health and accepted productivity for the health condition of the worker, including the psycho-social component. Because it is important this type of study,

information obtained through the study, it would serve to monitor the health condition of our workers. At the same time it would provide scientific evidence necessary for the formulation of questions of investigation and in the documentation of proposals and agendas of investigations.

Comment ID: 4587.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Small business

Health outcomes; diseases/injuries

Immune disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

(English translation follows)

Un sub-grupo de interés dentro de la fuerza trabajadora, residentes en la región servida por UPR Cayey, son las trabajadoras de los salones de bellezas. Estas son las mujeres, verdad, que pintan cabello, arreglan cabello, pero particularmente las mujeres que trabajan las uñas de acrílico. Como parte de su trabajo, estas mujeres pueden estar expuestas a sustancias que pudieran estar relacionadas a un incremento en el riesgo de asma y otras enfermedades respiratorias.

Como pueden ver en esta gráfica, en Puerto Rico, el asma es una de las enfermedades de mayor prevalencia entre los adultos. Aquí podemos ver que ocupa la quinta posición en el grupo de cuarenta y cinco a sesenta y cuatro años. Según la literatura científica, la ocurrencia de asma puede estar relacionada a o agravada por exposiciones en el área de trabajo. De hecho, las exposiciones en el área de trabajo han sido implicada en la búsqueda de explicaciones a elevadas frecuencias de casos de asma entre adultos. Existen sobre trescientos cincuenta agentes asociados al comienzo y/o exacerbación del asma.

Porque es importante este tipo de estudios, bueno, las trabajadoras de salones de bellezas están expuestas a diferentes agentes asociados al asma. Este estudio nos permitiría alcanzar una población y en su mayoría auto-empleadas y que no ha sido estudiada previamente. De hecho, no se recopilan datos, verdad, en términos de salud de estas poblaciones que son auto-empleadas.

Y los objetivos de este estudio serían describir las condiciones de trabajo en los salones de bellezas, evaluar la prevalencia y los factores de riesgos para asma entre las trabajadoras de salones de belleza y

evaluar las exposiciones a productos como parte del trabajo. Como ya les mencioné, el Instituto de Investigaciones Interdisciplinarias está desarrollando una infraestructura de investigación en una región de Puerto Rico, que no ha sido estudiada debidamente.

Así que nosotros, epidemiólogos, estadísticos, profesionales de la salud pública, psicología, etcétera, nos estamos dando a la tarea de documentar y desarrollar unas agendas de investigación que nos permita servir a aquella población, verdad, que es nuestra razón de ser. Y es la región servida por la Universidad de Puerto Rico en Cayey, muchas gracias.

(ENGLISH TRANSLATION)

A sub-group of interest within the work force are residents in the region served by UPR Cayey are the workers in beauty salons. These are the women who dye hair, style hair but particularly the women who work with acrylic nails. As part of their work these women can be exposed to substances that could be related to an increment in the risk of asthma and other respiratory diseases.

As can be seen in this graphic, in Puerto Rico asthma is one of the diseases of major prevalence in adults. Here we can see that it occupies the fifth position in the group of forty-five and sixty-four years of age. According to the scientific literature the occurrence of asthma can be related to or aggravated by exposition in the work area. The expositions in the work area have been implicated in the search of explanations of elevated frequencies of cases of asthma in adults. There exist over three hundred agents associated to the beginning and/or exacerbation of asthma.

Why is this type of study important? Well, the beauty salon workers are exposed to different agents associated with asthma. This study would allow us to reach the population and in its majority self-employed that have not been studied previously. In fact, there are no data in terms of the health of this population that are self-employed.

And the objectives of this study would be to describe the work conditions in the beauty salons, evaluate the prevalence and the risk factors for asthma among the workers of beauty salons and evaluate the exposure to products as part of their work. As I already mentioned the Institute of Interdisciplinary Investigations is developing an infrastructure of investigation in one region of Puerto Rico that has not been studied properly.

So that we, epidemiologists, statisticals, public health professionals, psychologists, etcetera, are working towards documenting and developing agendas of investigation that will permit us to serve that population which is our reason for being. And it is the region served by the University of Puerto Rico in Cayey. Many thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4588.01

Categorized with the following terms:

Sectors

- Manufacturing
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

Approaches

- Engineering and administrative control/banding
- Personal protective equipment
- Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comment 2006/12/06 (English translation follows):

Mi nombre es Roland González, ex-inspector del programa estatal de OSHA y soy Gerente de Proyecto y de Recursos Humanos de la Autoridad del Distrito del Centro de Convenciones. Lo que voy a compartir con ustedes mayormente lo que pasó allí en el Centro de Convenciones, donde tengo unas preocupaciones o 'concerns' con referencia a lo que como está escrito, los 'steel erection', donde tuve mis dificultades, tuve que trabajarlo de una forma en pro del empleado y tuve que más o menos que inventármela. Y es con referencia de que el estándar establece como una persona competente aquella persona que tiene los conocimientos para reconocer los riesgos. Y que tenga la autoridad para corregirlo. Pero dentro del estándar establece de que la persona competente va a ser la persona que va a evaluar si se requiere estabilizar o no se quiere estabilizar una columna o una viga.

Realmente, yo como ingeniero industrial y maestría en Recursos Humanos, jamás y nunca me voy a tomar esa decisión de si se requiere o no se requiere estabilizar una columna de vigas. Qué yo hice, utilicé a mis inspectores y utilicé a mi gente que saben de esto. Ellos me tienen que certificar a mí, si se requería o no se requería entonces estabilizar esa columna, pero como está escrito aquí en el estándar, dice que es la persona competente. En mi opinión, debería ser 'a qualified person', la persona cualificada.

Porque sí dice, que una persona cualificada tiene que tener ese conocimiento, ya sea por su grado de universitario, por su experiencia, que sabe sobre lo que se puede hacer o sobre la montura de una estructura de acero. Más adelante el estándar establece sobre otras responsabilidades a la persona

competente con referencia a la montura del acero, si se requiere o no se requiere dos pernos o más y muchas otras cosas con referencia a la estabilidad de la estructura. 'Hello', yo no soy ingeniero de estructura, jamás yo iba a tomar esa decisión y sí era la persona competente del proyecto. Era el 'safety officer' del proyecto.

Por lo tanto, qué yo hice, me la tuve que arreglar con los verdaderos inspectores, la gente que saben de esto para que ellos me certificaran a mí que sí entraba, que estaba estable, estabilizada, las columnas y las vigas. Sin embargo, más adelante se dice de que se tiene que hacer acorde con el ingeniero del proyecto estructural. Pues mi gente, si hay que hacerlo de esa forma, quien es la mejor persona para poder hacer esto así, el ingeniero estructural del proyecto, que está ahí día a día verificando y chequeando que se hagan las cosas bien.

Gracias a Dios, el Centro de Convenciones se hizo y ninguna columna, ninguna viga se ha caído, no pasó nada de eso. Más sin embargo, recientemente tuvimos un accidente, una fatalidad en el Natatorio a causa de que una viga se cayó sobre una persona. Y el caso tuve que trabajarlo. Donde hubo una discreción--discrepancia entre dos ingenieros estructurales profesionales, donde uno decía, uno así y uno así no, de que no se caía y el otro decía, que sí, que sí se caía. En cual de los dos creemos, son dos profesionales de esto.

Por lo tanto, la estabilidad de una estructura de acero no debería de depender de una persona competente, sino una persona cualificada para que se sepa como se va a trabajar esto. Adicional a esto, otro 'concern' u otra preocupación que tengo, es con referencia a lo de 'fall protection', la protección contra caídas. Dice aquí que después de quince pies, usted va a proteger todos los empleados, pero si es conector va a ser después de los treinta pies. Se requiere, sí, que lo utilicen después de quince pies, pero tiene que entonces amarrarse después de los treinta pies. No puedo hacer--aceptar esto, porque significa que un conector se cae de veintiocho pies, va a rebotar o va a ser algo y no va a pasar nada. No creo, si se cae de veintiocho pies o veintinueve pies, puede ocurrir una muerte fácilmente.

Por lo tanto, yo sé que es difícil la estructura de acero, es difícil moverse a través de las vigas, se requiere cierta libertad de movimiento, pero ese momento se restringe a cuarenta, cincuenta pies, porque no a quince, porque no a veinte. Eso era una de mis preocupaciones referente a esto. Y otra cosa es que un estudiante cuando doy clases en la Universidad Interamericana y en Mayagüez, veo a que muchas veces el estudiante pregunta, porque hay tantas medidas para la protección contra caídas. Cuatro pies con dos plataformas, seis pies con doble "E", que la superficie de construcción, diez pies con los andamios, quince pies, pie derecho, como acabo de decir los conectores. Estas medidas y estas cosas, como quiera es 'fall protection'. Es como quiere protección contra caídas, porque vamos a complicarle las cosas, simplifiquémoslo. Yo cojo una recomendación y tú me dices quizás que ponga de cuatro a ocho, si son--o un equipo de control de ingeniería. Y después de ocho pies se utiliza algún sistema de protección contra caídas.

Porque he visto que han obligado a empleados dentro de una farmacéutica y eso, hacer que se pongan un arnez, pero se cae, se fastidia. Por lo tanto, yo entiendo de que debe darse más simple, más fácil. Es más fácil memorizar las cosas y tener una medida estándar para cualquier tipo de protección contra caídas, porque es caídas. Si tú me dices que de quince pies o mejor dicho, me dices de seis pies tengo que proteger y a diez pies no tengo que proteger, no me hace sentido, de verdad. Debemos de proteger a estos empleados, debemos de simplificar esto, de que no importa de qué alto se encuentre, si está sobre cuatro, ocho, debemos establecer que hay que proteger al empleado. Eso es todo, gracias.

(ENGLISH TRANSLATION)

My name is Roland González, ex-inspector of the state program of OSHA and I am Project and Human Resources Manager of the District Authority of the Convention Center. What I am going to share with you mainly is what happened in the Convention Center where I have some concerns with reference to what is written, the steel erection where I had some difficulties. I had to work them in a way in pro of the employee and I had to more or less intervene. And it is with reference that the standard establishes how a competent person, that person that has knowledge to recognize the risks and that has the authority to correct it. But the standard establishes that the competent person will be the person who will evaluate if we want to stabilize or not to stabilize a column or beam.

Really, I as an industrial engineer with master in Human Resources and will never take that decision of if it's required or not required to stabilize a column of beams. What did I do? I used my inspectors and utilized my people who know about that. They have to certify to me if it is required or not to stabilize that column. But as it is written here in the standard it says that it has to be the competent person. In my opinion, it should be a qualified person, the qualified person.

Because it says that a qualified person has to have that knowledge be it by university grade, by experience, that knows about what can be done or about the building of a steel structure. Further on the standard establishes about other responsibilities to the competent person with reference to the building of the steel, if it is required or not two bolts or much more things with reference to the stability of the structure. Hello, I am not a structural engineer, I would never take that decision and yes the competent person of the project, it was the safety officer of the project.

Thus, what did I do? I had to arrange with the real inspectors, the people who know about this that they certify to me that it would go in, that it was stable, stabilized the columns and the beams. Nevertheless, further on it says that it has to be done in accord with the structural project engineer. So my people yes it has to be done that way. Who is the best person to do this that way, the structural project engineer who is there day by day verifying and checking that things be done well.

Thank God, the Convention Center was built and no column, no beam has fallen, nothing like that happened. Nevertheless, we recently had an accident, a fatality in the Natatory caused by a beam that fell on a person. And I had to deal with the case. Where there was a discrepancy between two professional structural engineers where one said one this way and one this way not that it would not fall and the other one said yes that it would fall, which of the two do we believe, they are two professionals about this.

Thus, the stability of a structure of steel should not depend on one competent person, but on a qualified person so that we know how this is going to be worked. In addition another concern or preoccupation that I have is in reference to fall protection. It says here that after fifteen feet you will protect all employees but if it is connecting it will be after thirty feet. It is required yes, that it be utilized after fifteen feet but it has to be tied after thirty feet. I cannot accept this because it signifies that a connector falls from twenty-eight feet it will rebound, it will do something or nothing will happen. I don't believe--if it falls from twenty-eight feet or twenty-nine feet there can be a death easily.

Thus, I know it is difficult with a steel structure, it is difficult to move within the beams, a certain liberty of movement is required. But that moment is restricted to forty, fifty feet, why not at fifteen, why not at twenty. That was one of my concerns regarding this. And another thing is that a student when I give

class in the Inter-American University and at Mayaguez, I see that many times the student asks why there are so many measures for the protection against falls. Four feet with two platforms, six feet with double E, that the construction surface, ten feet with the scaffolding, fifteen feet, right foot as I just said, the connectors. These measures and these things is fall protection. It is a protection against falls, why are we going to complicate things, let's simplify. I take a recommendation and you tell me perhaps to put four to eight if it is an engineering equipment control. And after eight feet use some system of protection against falls.

I have seen that employees have been forced within the pharmaceuticals that make them wear a harness but they fall, they are hurt. Thus I understand it should be more simple, easier. It is easier to memorize things and have a standard measure for any type of protection against falls, because it is falls. If you tell me that from fifteen feet or more, you tell me from six feet I have to protect and at ten feet I don't have to protect it doesn't make sense to me. We should protect those employees, we should simplify this that it is not important from what height it is found, if it is over four, eight, we should establish that there must be protection of the employee. That is all, thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4589.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

Verbal Comment 2006/12/06 (English translation follows):

Buenas tardes, Roberto Rosado. Estudiante de Maestría de la Universidad del Sagrado Corazón. En el proceso de trabajo, de que soy presidente de los Enfermeros Ocupacionales del Colegio Profesional de la Enfermería. Especialista en manejo de incapacidad y representante de reclamaciones de incapacidad para el Seguro Social en forma independiente.

Consciente en el aumento de casos de reclamaciones por incapacidad permanente y solicitud del Seguro Social, es mi presentación. El cual se menciona como intervención de profesionales de la Enfermería ante el manejo de casos de incapacidad del Seguro Social. Reconociendo que el éxito de los programas de rehabilitación e incapacidad depende de programas estructurados en compromiso gerencial, objetivos específicos y compromisos del equipo de salud y seguridad. Quiero mencionar que los procesos de reclamación del Seguro Social en su etapa inicial tardan de seis a ocho meses, una decisión. Si el caso es denegado, pues se considera de cuatro a seis meses en espera y de no ser aprobado, pues el caso se ve ante una vista ante un juez, dieciocho meses después de haber solicitado la reclamación.

En análisis del caso, investigamos posibles causas, identificamos causa, establecemos un compromiso del empleado o reclamante de la reclamación, o sea, valga la renundancia. El equipo de trabajo en el área ocupacional, pues está enfermería, médicos, el gerente de producción y supervisor en Recursos Humanos trabajando en equipo. En la parte ocupacional, Seguro Social, el representante va enfocado a analizar el caso, establecer si este caso es posible para un programa de rehabilitación y regresarlo al ambiente laboral. De lo contrario, establecer un nivel de incapacidad y llevarlo a una solicitud de Seguro Social por incapacidad. La clave para el manejo de incapacidad es analisis del caso, la entrevista del reclamante, reconocer las necesidades. Referir o recomendar, clarificar derechos del empleado para referirlo al Fondo del Seguro del Estado, Sinot, programas de vales o incapacidad a largo plazo.

Seguimiento frecuente de los casos, asuntos pendientes, evaluaciones por médicos especialistas en las condiciones. Evaluación de incapacidad funcional, emocional, determinar la incapacidad, que sea permanente. Las limitaciones tienen que estar por escrito, se evalúa si el empleado puede hacer el mismo trabajo, pudiera hacer otro tipo de trabajo. Para que tengan una idea, en el caso de las mujeres, se establece si no puede hacer sus ocho horas que hacía anteriormente, si pudiese hacer cuatro horas sentada en un escritorio contestando un teléfono. En el caso del hombre, estar cuatro horas en un garaje de gasolina, teniendo empleo mientras hay clientes y si no hay clientes, pues solamente se va a limitar a observar.

Además se evalúan las consecuencias y otras condiciones que se tienen, se hace unas comunicaciones con los profesionales de la salud de la comunidad, de manera de tener un banco de recurso o referido. Las limitaciones tienen que estar en un documento adecuado, detallada, que no se contradiga, que el empleado no pueda hacer su trabajo, pero puede hacer uno distinto. O que pueda ser en términos de limitaciones más de tres horas, si puede hacer cuatro horas, pues puede hacer un part-time.

Se clarifican las dudas con el médico, de información que ha documentado. Si son permanentes, pues se procede a hacer la reclamación por incapacidad o si son temporeras, pues entonces se refiere a un programa de rehabilitación. Los referidos a los médicos para seguimiento, la importancia de los estudios de radiología y especializados, pues van a obviamente, a validar el diagnóstico, a validar la queja del paciente. Recertificar una condición, si hay una mejoría o la condición es progresiva. La entrevista va a reconocer la realidad del caso, conocer las emociones de la persona y conocer los intereses del cliente. Que es lo que él quiere, regresar al ambiente laboral o quiere unas comisiones que va a una incapacidad.

Reconocer si es candidato a rehabilitarse, obviamente, y la rehabilitación nos va a ayudar en la posición de ocupaciones por su referencia, en el caso del Fondo. Las no ocupacionales, pues referidas a médicos o médicos especialistas. En la rehabilitación hay que promover la integración familiar en este proceso y en el lugar de trabajo. Se evalúa la condición de acuerdo a la evidencia médica, además se discuten las probabilidades del caso. Un caso que no tiene probabilidad de aprobación, pues entonces se le menciona que su oportunidad para el área de la rehabilitación.

La realidad actual, casos que con condiciones limitantes, pueden ser delegados por un manejo inadecuado. Las condiciones pueden existir, pero si no existe una evidencia de tratamiento en el caso, es denegado. La intervención tardía en manejo de casos en el lugar de trabajo, genera más reclamaciones. La integración de los servicios por referidos en ocasiones es controlada. Se reclama una incapacidad u orientación en la etapa de crisis limitando las oportunidades de regreso al trabajo.

En mi trabajo, mi aportación a estos programas, pues soy el primer representante con experiencia en Enfermería Ocupacional. Se representa el caso ante un juez administrativo del Seguro Social, al cliente se le ayuda en el proceso de rehabilitación y por lo regular, si está en etapas tempranas, pues regresa al ambiente laboral. En mi experiencia, un noventa por ciento de los casos sometidos ante el tribunal del Seguro Social, han sido aprobados en los cinco años de práctica que tengo como agente independiente.

El conocimiento clínico y ocupacional permite tener empatía con los reclamantes. Se realizan referidos para llenar las necesidades del mismo. Cual es el beneficio de estos servicios de la comunidad, pues recomendación a tratamiento, regreso al trabajo, dependiendo del caso. Evaluación objetiva aplicando conocimientos del área ocupacional, la medicina tradicional y concepto de mediación durante el proceso. Condiciones o problemas frecuentes para reclamaciones de incapacidad, pues son las

musculares o el trauma de trabajo repetitivo, trastornos emocionales secundarios a condiciones físicas y los respiratorios, los casos de asma. Condiciones secundarias a la--como consecuencia de una primaria, pues disfunciones sexuales en ambos sexos, más reconocido en la mujer, dado el caso de que el hombre inventa otros argumentos para este tipo de problemas que tiene.

En términos de aportación, las expectativas profesionales mediante el ofrecimiento de educación continua, motivar a otros profesionales a desarrollar programas como el que yo trabajo, que sean efectivos. Ayudar en los casos posibles con la intervención en una etapa temprana, transcribir al reclamante una evaluación justa y razonable. Aportar conocimiento en el área de manejo de casos de incapacidad a profesional de la salud en el área ocupacional. Gracias por su atención, pasen buen día, feliz Navidad.

(ENGLISH TRANSLATION)

Good afternoon. Roberto Rosado, a masters student of the Sacred Heart University. In the work process I am president of Occupational Nurses of the Professional College of Nursing, specialists in the management of disability and representative of claims of disability for the Social Security in the independent form.

Conscious of the increase of cases of claims for permanent disability and requests for Social Security this is my presentation, which is mentioned as intervention of professionals of Nursing before the management of cases of disability of Social Security. Recognizing that the success of the programs of rehabilitation and incapacity depends on the structured programs in management commitment, specific objectives and commitment of the health and safety staff.

I want to mention that the process of claims of Social Security in its initial stage are delayed from six to eight months for a decision. If the case is denied then consider that four to six months waiting and if not approved, then the case is seen before a hearing before a judge, eighteen months after having requested this claim.

In analysis of the case we investigate possible causes, we identify cause, we establish a commitment of the employee or claimant of the claim, thus the redundancy. The work staff in the occupational area, there is nursing, doctors, the production manager and supervisor in Human Resources working in a group. In the occupational part, Social Security, the representative focuses on analyzing the case, establish if the case is possible for a program of rehabilitation and return him to the work environment. On the contrary it establishes a level of incapacity and take him to a request for Social Security due to disability. The code for management of disability is analysis of the case, the claimant's interview, recognize the needs. Refer or recommend, clarify employee rights to refer him to Fondo Del Seguro Del Estado, SINOT, value programs or incapacity in the long run.

Frequent follow up of the cases, pending matters, evaluations of specialist doctors in the conditions. Evaluation of functional incapacity, emotional, determine the incapacity, if it is permanent. The limitations have to be in written form. It is evaluated if the employee can do the same work, could do other type of work.

So that you have an idea, in the case of women it is established if they cannot do the eight hours that they did previously, if they could do four hours sitting at a desk answering the phone. In the case of men, to be four hours in a gasoline station having employment while there are clients or not any clients, he would only be limited to observing.

Also evaluated are the consequences and other conditions that are present, communications are made with the professionals of the health in the community, so that to have a bank of resources or referrals. The limitations have to be in an adequate document in detail, that do not contradict, that the employee cannot do his work, but can do another different one. Or that it can be in terms of limitations of more than three hours, if he can do four hours, then he can do a part-time.

These doubts are clarified with the doctor, from information documented by him. If they are permanent then they proceed to make the claim due to disability or if they are temporary then they are referred to programs of rehabilitation. The referrals to the doctors for follow up, the importance of the studies of radiology and specialists will obviously validate the the diagnosis, validate the patient's complaint. Recertify a condition if there is an improvement or the condition is progressive. The interview will recognize the reality of the case, recognize the emotions of the person and recognize the interests of the client. What is it that he wants, return to the work environment or does he want a commission that lead to an incapacity.

To recognize if he is a candidate for rehabilitation obviously and the rehabilitation will help us in the position of occupations by reference in the case of the Fund. The non-occupational referred to doctors or specialists. In the rehabilitation there has to be a family integration in this process and in the work place. The condition is evaluated according to the medical evidence, also probabilities are discussed of the case. One case that does not have probability of being approved, then it is mentioned about the opportunity in the area of rehabilitation.

The actual reality of cases with limiting conditions can be delegated by an inadequate management. The conditions can exist but if there does not exist an evidence of treatment in the case, it is denied. The delayed intervention in management of cases in the work place generates more claims. The integration of services by referrals on occasion is controlled. An incapacity is claimed or orientation in the critical stage limiting and opportunities of returning to work.

In my work, my contribution in these programs is I am the first representative with experience in Occupational Nursing. The case is represented before an administrative judge of Social Security. The client is helped in the process of rehabilitation and usually if he is in an early stage he returns to the work environment. In my experience ninety percent of the cases submitted before the tribunal of Social Security have been approved en the five years of practice that I have as indepent agent.

The clinical and occupational knowledge permits us to have empathy with the claimants. Referrals are made to fill the needs of the same. What is the benefit of these services of the community? Well, recommendation to treatment, return to work, depending on the case. Objective evaluation applying knowledge and concept of mediation during the process. Conditions or frequent problems for claims of incapacity are the muscular or the trauma of repetitive work, secondary emotional problems to physical conditions and the respiratory ones, the cases of asthma. And secondary conditions as a consequence of the primary well, sexual dysfunction in both sexes mostly recognized in the woman given the case that the man invents other arguments for this type of problem that he has.

In terms of contribution the professional expectations through the offers of continued education motivates other professionals to develop programs like the one that I work, that can be effective. To help in the possible cases with the intervention in an early stage to transact to the claimant a just and reasonable evaluation and to contribute knowledge in the area of management of cases of disability to health professionals in the occupational area. Thank you for your attention, have a happy Christmas.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4590.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comments 2006/12/06:

Good afternoon. My name is Madeline Jordan and I work at the San Juan National Historic Site. The site covers Fort San Felipe del Morro, approximately three miles of wall and Fort San Cristobal and El Cañuelo. In the National Park Service safety for visitors and employees cover under directors orders Fifty--"A", OWCP, "B", employee safety and, "C", risk management for the public.

The safety of the visitor as you can see, historically has been mainly at the operating unit in response to it. Directors are over fifty-six steps in any direction, emphasize on prevention this still related, while ensure a proper response capability. While recognizing the computing concerns of the cause and the safety, it restricts the services ability to eliminate hazards. The service will be trying to protect human lifes which is a major and provides an injury free visit, doing so as in the concentrate of the organic act resources.

Park resources are not only a visitor attraction, but they are potentially hazards. Within the San Juan National Historic Site, well, lightly represent a hazard for visitors and employees safety, through statistics. We have changed the scene which is the little top at the center box that we have adjusted them and we have complied. Tripping hazards are eloged for our visitors and our employees, these areas we cannot change, however, we have ramps all over the ports, they do represents hazards for visitors, specially where is deep, they become very--on this particular one, we had one suit that went on to the District Court and it was in failure of the National Park Service. This specific one, we had so many falls that we had--actually we had all integrity of the Culture Patrimone and we had--just in this area. We also had tripping hazard on falling steps, visitors climbed on the fence which are instructions that you can see on your right hand and your left side. On the cannon and bridges I think we haven't had any visitors falling from them, they are forty feet down.

The means of public safety concerns have to be made in the discriptions of the superintendent and, acomplished the following nine areas to address. Public safety, where we have all of them except the San Juan National Historic Site. MPS cleaning of the sections of the histories of structures done with cannons and specifically in this area between Fort San Cristobal and Fort El Morro, we have a specific concern about the scaffolding on the regulations and we have opted to stop using hanging scaffolding on these areas. And we use machines on the other areas. This is a very dangerous and hazard, the historic structures that they- - So, remember that when you go to the National Park, they have--are in hazards not only for the visitors, but for our employees. Thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4591.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Verbal Comment 2006/12/06 (English translation follows):

Hola, buenas tardes a todos y a todas. Y gracias por la oportunidad de podernos expresar acerca de algo que nos preocupa bastante con relación a la formación de seguridad ocupacional concretamente en el campo no formal, en el campo del 'Outreach Program'. Recientemente nos hemos estado dando cuenta de que llegan personas que aspiran a tomar los cursos de 'trainer' con nosotros. Que revelan una falta de formación básica, no solamente ya en los estándares, sino incluso en el dominio básico de los conceptos de OSHA.

Por ejemplo, tenemos personas que llegan y nos piden que quieren tomar las quinientas horas de OSHA. O sea, eso se le puede perdonar, por ejemplo, a una persona que se está iniciando, pero una persona que--no es una persona que aspira ser un increíble 'trainer', después de cuatro días. También nos preocupa, por ejemplo, el uso que hacen algunas empresas de formación, que incorporan el tema de la seguridad y la salud ocupacional a su ofrecimiento, con frases como por ejemplo, que el curso es certificado por OSHA. Como puede certificar un curso que no le corresponde, que no es de OSHA.

También sabemos que algunos documentos que nos presentan algunos aspirantes al 'training' de 'trainer', son dudosos. Por ejemplo, en el nombre donde supuestamente va la persona acreedora de esa tarjeta de OSHA, pues vemos que ha sido manipulada, que ha sido quizás removido el nombre y ha sido puesto otro nombre encima. También en los documentos que por ejemplo se nos presentan, como prueba de que esa persona tiene una experiencia mínima de cinco años como oficial de seguridad y salud ocupacional de una empresa, cuando nos revela cosas en el dialogo que establecemos con ellos, que se delatan así mismo, de que en realidad no tienen mucha experiencia.

En fin, yo creo que es muy importante que desde OSHA, en NIOSH, nos ayuden a aclarar un poco del ambiente enrarecido que se ha formado recientemente. O sea, por lo menos a nosotros no nos lo--lo estábamos detectando recientemente en todo lo que es un programa de 'outreach'. También hemos sabido, por ejemplo, de instructores autorizados por OSHA para el programa de 'outreach', que firman

tarjetas y sabemos porque las personas que han asistido a esos cursos, nos dice que los que firman las tarjetas no han sido los que lo han instruido. Luego aquí estamos empezando a ver que hay gente que son instructores autorizados, que subcontratan la formación, su trabajo a otras personas que no están autorizadas, que hacen la formación, que ve tú a ver cómo la hacen. Y luego un instructor autorizado firma esas tarjetas.

En fin, yo creo que para muchas personas empresarias han descubierto el tema de la seguridad y la salud ocupacional como otra fuente de ingresos. Y se están simplemente haciendo una 'chapuza', como decimos aquí vulgarmente. Y creo que esto repercute, bueno, en la imagen de OSHA, en la imagen de todas las personas que seriamente estamos involucradas en este quehacer. Y más trágicamente en la salud y la seguridad de nuestros trabajadores en Puerto Rico.

Les quiero anunciar que también en OSHA Training Center, que tenemos un programa de radio que está a la disposición de todos. Que tiene un consejo asesor, que están invitados todos, que nos reunimos con relativa frecuencia, cada tres o cuatro meses para sugerir temas. Y recursos para esos programas y que estamos siempre reclutando porque nos gustaría tener la mayor participación de todos los concernidos. Eso es todo, muchas gracias a los representantes de NIOSH, que han venido aquí para escuchar nuestras opiniones.

(ENGLISH TRANSLATION)

Hello, good afternoon to everyone and thanks for the opportunity to express ourselves about something that worries us with relation to the formation of occupation safety concretely in the informal area, in the area of the Outreach Program. Recently we have been noticing that people arrive who aspire to take the trainer courses with us who reveal a lack of basic formation not only in the standards but also in the basic understanding of the concepts of OSHA.

We also know that some documents that are presented to us by those aspiring to the training of trainer are doubtful. For example, in the name where the person of that card from OSHA should be, well we see that it has been manipulated, that the name has been possibly removed and there has been put another name on top. Also in the documents that are presented to us for example, as proof that the person has a minimum experience of five years as safety official and occupational health of a company, they reveal things in the dialogue that we have with them, they reveal themselves that in reality they do not have much experience.

Finally, I believe it is very important that OSHA, in NIOSH they help us to clear up the environment that has been formed recently. At least to us we do not like--we were detecting this recently in all the program of outreach that they sign cards and we know that the persons who have attended those courses, they tell us that the ones who sign the cards have not been the ones who have instructed them. Then we are starting to see that the persons who are authorized instructors that they sub-contract the formation, their work to other persons who are not authorized, who do the formation, and let's see how it is that they do it. And later an authorized instructor signs those cards.

Finally I believe that many company persons have discovered the subject of safety and occupational health as another form of income. And they are simply making a "chapuza" as we say here. And I believe this reflects on the image of OSHA, on the image of all the persons who are seriously involved in this and more tragically in the health and safety of our workers in Puerto Rico.

I want to announce that also in OSHA Training Center we have a radio program which is at the disposition of everyone. That it has an advising council, that you are all invited, that we meet with relative frequency every three or four months to follow up on subjects. And there are resources for those programs and we are always recruiting because we would like to have a major participation from all concerned. That is all and many thanks to the representatives of NIOSH who have come here to listen to our opinions.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4592.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Hearing loss

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Verbal Comments 2006/12/06 (English translation follows):

Buenas tardes a todos. Nosotros como parte del Recinto de Ciencias Médicas, la Escuela Graduada de Salud Pública, en particular el departamento de Salud Ambiental, trajimos algunas inquietudes e ideas y algunos tópicos potenciales para investigación, tanto de laboratorio como aplicada que entendemos sea de trascendencia para nuestra Isla.

Entrando de frente a ellos es que una de las cosas bastante importantes o temas bien importantes sería la caracterización de la interacción entre ruido y químicos ototóxicos, es decir químicos que interactúan con el ruido, aumentando la probabilidad de desarrollo de pérdida auditiva. En el aspecto ocupacional en particular, estaríamos hablando de exposición a solventes orgánicos como en las imprentas, en las empresas que hacen lavado a seco de ropa.

Y un problema mayor que nos afecta es cuando tenemos monóxido de carbono presente en el ambiente. Todos acá, que vivimos en Puerto Rico conocemos la palabra tapón. Ese congestionamiento viene de una densidad vehicular altísima en el área Metropolitana. Las personas que están expuestas a ruido ambiental, pero están trabajando, léase aquellos que trabajan en los peajes, policías de tránsito, personas que trabajan cortando grama con los 'trimmers'. En las carreteras cercanas al área Metropolitana, están expuestas a ambos riesgos, el ruido como también el monóxido de carbono. O sea, que eso es un tópico que nosotros estamos estudiando en función de diferentes propuestas y diferentes proyectos. Y que creemos que es de trascendencia para nuestra Isla.

Problemas del ambiente construido o por su nombre en inglés, 'built environment'. También el problema del ruido es un problema que nos afecta a todos. Cuando hablamos de las escuelas, por

ejemplo y estándares de ruido dentro de las escuelas para que la integibilidad de la voz del maestro sea la apropiada. Los niveles recomendados en la literatura, son niveles significativamente inferiores a los niveles que podemos tener acá con el ruido ambiental existente. Material particular en el ambiente por las emisiones de los vehículos movidos a diesel y otras generaciones de materias particulados y químicos ototóxicos.

(ENGLISH TRANSLATION)

Good afternoon to all. We as part of the Medical Sciences Campus , the Graduate School of Public Health in particular the Department of Environmental Health, bring some concerns and ideas and some potential topics for investigation, from laboratories as we understand that is of transcendence for our island.

Facing them is that one of the important things or important subjects would be the characterization of the interaction between noise and ototoxic chemicals, to say chemicals that interact with the noise, increasing the probability of developing the loss of hearing. In the occupational aspect in particular we would be talking of exposition to organic solvents as in the print shops, in the company that does washing and drying of clothes.

And a major problem that affects us is when we have carbon monoxide present in the environment. All of us here who live in Puerto Rico know the word traffic jamb. That congestion comes in an automobile density in the metropolitan area, the persons who are exposed to environmental noise but are working meaning those who work in the toll roads, transit police, people who work cutting grass with the trimmers. In the roads near the metropolitan area those people are exposed to both risks, the noise and also carbon monoxide. Thus this is a topic that we are studying in different proposals and different projects. And we believe that it is of great transcendence for our island.

Problems of the built environment as it is called in English and also the problem of noise is a problem that affects us all. When we talk about the schools for example and noise standards of the schools in order that the intelligibility of the teacher's voice can be the appropriate one. The recommended levels in the literature are significant levels inferior to the levels that we can have here in the existing environmental noise. And particular material in the environment because of the emissions of the vehicles moving with diesel and other emissions of particular materials and otototoxic chemicals.

Comment ID: 4592.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

Exposures

- Heat/cold

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

(English translation follows)

También entendemos que es bien importante hablar de la investigación de problemas típicos de Puerto Rico. Que no necesariamente se generalizan a otros estados de la unión, estamos hablando de estrellas de calor. Si hablamos de problemas asociados a la exposición a alta temperatura y altos grados de humedad, pues Puerto Rico es un laboratorio de estudio tremendo. Acá, cualquiera que haya tratado de cortar grama a las doce del día, siente ese problema, imagínese aquellos trabajadores de construcción civil, que trabajan afuera en días ensolados durante el verano.

(ENGLISH TRANSLATION)

We also understand that it is very important to speak of the investigation of problems typical to Puerto Rico which do not necessarily are generalized in other states of the union, we are speaking of grades of heat, 'estrellas de calor'. If we speak of the problems associated to the exposition of high temperature and high grades of humidity then Puerto Rico is a tremendous laboratory of study. Here anyone who has tried to cut grass at twelve noon can feel that problem. Imagine those workers in civil construction that work outside on sunny days during the summer.

Comment ID: 4592.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Partners

Categorized comment or partial comment:

(English translation follows)

Reestablecimiento de servicio después de huracanes es otra área donde nosotros como algunos de los estados de la unión, tenemos como problema potencial después de una tormenta. Para electrocución, para caídas y otros riesgos asociados a esa tarea.

(ENGLISH TRANSLATION)

Reestablishment of service after hurricanes is another area where we the same as some states of the union, have a potential problem after a storm. The electrocution, the falling and other risks associated to this work.

Comment ID: 4592.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

(English translation follows)

Uno de los temas más importantes, principalmente para la pequeña industria es el desarrollo de soluciones que sean económicamente factibles de implementar. Que sean a su vez eficaces, en el sentido de que resuelvan el problema y eficientes de tal forma que sean económicamente factibles de hacer. Nuestros pequeños empresarios no tienen capacidad económica para implementar aquellas soluciones que compramos de las revistas. Que por su propio nombre tienen un precio bastante alto para la capacidad económica de esas pequeñas empresas.

(ENGLISH TRANSLATION)

One of the most important subjects principally for the small industry is the development of solutions that are economically feasible to implement. That they should be at the same time efficient in the sense of resolving the problem and efficient in such a way as to be economically feasible to bring about. Our small businesses do not have the economic capacity to implement those solutions that we find in magazines which by their name have a high price for the economic capacity of those small businesses.

Comment ID: 4592.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

(English translation follows)

Nosotros tenemos una actitud hacia la seguridad como cultura, que es desde varios puntos de vista diferentes a la cultura de San Juan. El otro día estaba pasando--guiando por la calle y encontré una 'van' con la puerta abierta y cuatro pasajeros en la parte de atrás de la 'van'. Bajé la ventana y dije, 'oiga, cierre la puerta, es peligroso' y me terminaron insultando. Como yo me estoy metiendo en su espacio. O sea, nosotros tenemos una cultura hacia la seguridad, que debe de ser estudiado. Dado que los métodos de atacar ese problema son diferentes. Es una actitud cultural que no necesariamente como sistema de ventilación o con tapones de oídos lo vamos a resolver.

Nuestras organizaciones están cada vez más apretadas de tiempo y eso afecta la estabilidad y sostenibilidad humana y económica del negocio. Desafortunadamente, algunos de los costos más importantes en el salario no se contabilizan a nivel empresarial. Cuando nosotros presionamos al trabajador, al ingeniero o al administrador que trabaje doce, diez, catorce horas al día, esa situación no es una situación sostenible. Hablamos tanto de sostenibilidad desde el punto de vista ambiental y sostenibilidad desde el punto de vista humano, nunca se menciona. Eso tiene un costo altísimo a la industria y eso es bastante importante.

(ENGLISH TRANSLATION)

We have an attitude towards safety as a culture that is from various points different than the culture of San Juan. The other day I was passing--driving along a street and I found a van with the door open and four passengers in the back of the van. I lowered my window and said, 'listen close the door, it's

dangerous' and they ended up insulting me. How do I dare get into their space? We have a culture towards safety that should be studied since the methods of attacking that problem are different. It is a cultural attitude that is not necessarily a ventilating system or with ear plugs it is going to be solved.

Our organizations are more and more short of time and that affects the human stability and sustainability and also the economics of business. Unfortunately some of the most important costs in salaries are not calculated at the business level. When we pressure the worker, the engineer or the administrator to work twelve, ten, fourteen hours a day that situation is not a sustainable situation. We speak so much of sustainability from the point of view of environment and sustainability from the human point of view is never mentioned. That has a high cost to the industry and that is also important.

Comment ID: 4592.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

(English translation follows)

Y para terminar, necesitamos codificar nuestras lesiones de forma universal, de tal forma que aquellos investigadores interesados en analizar patrones estadísticos en los datos, puedan asociar causa y efecto usando un sistema universal. Tenemos muchos problemas en este momento para--con respecto a ese tema.

(ENGLISH TRANSLATION)

Finally we need to code our lesions in a universal form so that those investigators interested in analyzing statistical patterns in the data, can associate cause and effect when using a universal system. We have many problems at this time with respect to this subject.

Comment ID: 4592.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction
Unspecified

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research

Partners

Categorized comment or partial comment:

(English translation follows)

Y finalmente, todo mundo vio o ve comunmente las vespas o las motitos nuevas que todo--que cada uno puede comprar porque se yo cuanto, cuatrocientos, ochocientos dólares. Y eso genera un problema adicional en nuestro tráfico. Los accidentes vehiculares de las personas que están trabajando y se envuelven en accidentes. Así que con eso yo concluyo, muchas gracias.

(ENGLISH TRANSLATION)

And finally everyone sees commonly the vespas that anyone can buy for some four hundred, eight hundred dollars. That generates an additional problem in our traffic and the vehicular accidents of the persons who are working and they become involved in accidents. So with that I conclude my presentation. Many thanks.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4593.01

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

- Language/culture/ethnicity

Health outcomes; diseases/injuries

- Traumatic injuries
- Mortality

Exposures

Approaches

- Surveillance
- Etiological research

Partners

Categorized comment or partial comment:

Verbal Comments 2006/12/06 (English translation follows):

Buenas tardes. Mi nombre es Cruz María Nazario. Yo soy epidemióloga y soy profesora de la Escuela Graduada de Salud Pública y enseño un curso de Epidemiología Ocupacional. Tenemos un programa graduado en Higiene Industrial en la Escuela, que prepara y capacita muy bien a personas que van a dedicar sus carreras profesionales en este campo.

Durante la tarde, agradezco la oportunidad de hablar con ustedes un poco y presentarles mi preocupación sobre algunos asuntos relacionados con la salud y la seguridad de nuestros trabajadores. Primero, todos los años vemos en Puerto Rico la foto en el periódico donde se presenta este trabajador que murió en una construcción porque se derrumbó un talúd de tierra. Y la descripción que se hace de ese evento, es un accidente ocupacional. Lo que sucede es que si le llamamos accidente ocupacional, como buen salubrista sabemos que entonces no tenemos nada que hacer para resolverlo.

Durante mi investigación en los documentos que se presentan de las estadísticas del Departamento del Trabajo, uno encuentra la utilización de la palabra 'accidente' y también la palabra 'incidente'. Y yo creo que un esfuerzo muy importante que podría hacerse de este grupo de personas interesadas en este campo, es nombrar las enfermedades por su nombre. No son accidentes, son actos de negligencia. Y cuando lo llamamos correctamente, adjudicamos responsabilidad.

Y mi preocupación en cuanto a los alegados eventos que ocurren de esta forma, en la industria de la construcción, tiene que ver porque muchos de estos empleados, son empleados inmigrantes y en

ocasiones son ilegales. Así que solamente vemos cuando ha ocurrido un incidente de tal magnitud que ese trabajador muere. Pero hay muchos eventos que tenemos conocimiento, que no se registran en las estadísticas, por el hecho de que estamos hablando de trabajadores ilegales en donde se les dice que no pueden informar el hecho de que han sido lesionados o han recibido algún trauma, algún problema de salud.

Como epidemióloga, me interesa mucho conocer en el análisis de la tendencia de los eventos, los incidentes, los traumas y las lesiones en los trabajadores, que en términos generales podemos demostrar que desde 1980 al 2000, hay una disminución en las tasas de incidencias de lesiones. Pero no es parejo para todas las industrias. Y vemos como en la industria clasificada como gobierno, hay un descenso de un seis por ciento por año en esos últimos veintidos años.

Pero sin embargo, en las otras industrias, lo que vemos es un aumento, pero matemáticamente al hacer la suma, esta disminución aparece como que estamos haciendo algo positivo para disminuir las lesiones ocupacionales. Cuando en realidad no sabemos si esos datos estadísticos por la forma en que se recogen, puedan estar ocultando algún problema que amerite y que tenga solución con intervención temprana.

Hay que nombrar a las enfermedades como enfermedad, hay que nombrar a los incidentes como problemas de salud, tenemos que analizar y ver porque está disminuyendo la tasa de incidencia en una industria y ver cuales son los factores que han promovido ese descenso. Porque podemos ver en términos positivos, si funciona en una industria podemos entonces aplicar, modificando esas estrategias que verdaderamente ha sido efectivas para disminuir los riesgos en las otras, en donde no hemos sido efectivos.

Mi propuesta en el día de hoy es que le llamemos a los eventos como problemas de salud, que identifiquemos los factores de riesgos que los promueven. Y que también podamos hacer comparaciones y evaluar en donde hemos sido efectivos, identificando cuales son las estrategias e intervención que protegen a nuestros trabajadores de esos eventos que le causan lesiones y trauma. Gracias.

(ENGLISH TRANSLATION)

Good afternoon. My name is Cruz María Nazario. I am professor of the Graduate School of Public Health. We have a graduate program in Industrial Hygiene in this school that prepares and makes competent the persons who are going to dedicate their professional careers in this field.

During this afternoon I appreciate the opportunity to speak with you and present my preoccupation about some things related to health and safety among our workers. First, every year we see in Puerto Rico photos in newspapers where is presented this worker who died in a construction project because there was a landslide in the "talud" of the soil. And the description made of that event is an occupational accident. What happens is if we call it occupational accident, as good health people that we are, we know that we have nothing to do to resolve this.

During my investigation in the documents that are presented of the statistics of the Department of Labor one finds the utilization of the word 'accident' and also the word 'incident'. And I believe that an important effort from this group of interested persons in this field would be to give the proper name to this. They are not accidents, they are acts of negligence. And when we name them correctly, we adjudicate responsibility.

And my preoccupation as to the alleged events that occur in this manner in the construction industry has to do with the fact that many of these employees are immigrants and on occasion they are illegal, so that we only see when an incident has occurred of this magnitude when the worker dies. But there are many events that we know of that do not register statistics by the fact that we are speaking of illegal workers where they are told they cannot inform about being injured or have had some trauma, some health problem.

As epidemiologist I am very much interested in knowing the analysis of the tendency of the events, the incidents, the traumas and the injuries in workers which in general terms we can demonstrate that from 1980 to 2000 there is a decrease in the lists of incidents of injuries. But it is not equal for all the industries. And we see how in the industry classified as government, there is a decrease of six percent per year in those last twenty-two years.

But nevertheless in the other industries what we see is an increase mathematically on doing the numbers this decrease appears as if we are doing something positive to decrease the occupational injuries when in reality we don't know if those statistical data by the way they are compiled, can be hiding some problem that merits and has a solution with early intervention.

The illness has to be named as illness, the incidents have to be named as health problems, we have to analyze and see why there is a decrease in the numbers of incidents in an industry and see which are the factors that have made that decrease. Because we can see in positive terms if it functions in an industry and then apply it, modifying that strategy that really has been effective to reduce the risks in others where we have not been effective.

My proposal on this day is that we name the events as health problems, that we identify the risk factors that promote them. And that we could also make comparisons and evaluate where we have been effective, identifying which are the strategies and intervention that protect our workers from those events that cause injuries and trauma. Thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4594.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Verbal Comments 2006/12/06:

Good afternoon. I would like to appreciate the opportunity to present what I think is one of the various characteristics of the situation of injury and illness in Puerto Rico. Because "latinos" are just the second largest group, in terms of incidents and severity of this, so I congratulate NIOSH and NORA, specifically in their vision of including us in this activity.

I'm an associate professor at the University of Puerto Rico, the Medical Science Campus. And I am also the president of the local section of the Industrial Hygiene Association. I'm going to skip the background on the association, but I would like to say that in Puerto Rico, the local section represents around two hundred and fifteen members, that belongs to this organization. The majority of them are alumni of the Industrial Hygiene Program and others are professionals that have very direct intervention in terms of industrial hygiene.

Our objective is to promote study and evaluation of environmental stresses in organizations and its surrounding communities. I have developed the presentation in different topics, some of them are very-do have a sectorial approach to them. I would like to know--I would like to mention that some of these topics, are topics that have already been intervened by NIOSH and the scientific community. But some of those findings have not been translated into practice. And my intention is to actually motivate--those are going to be developing these resources agenda to move into the RTP [editor: "r2p") section that NORA stands for.

In terms of the general concerns, we have interest in the epidemiology post-studies that look at sico-social [editor: "psycho-social"] nature of cumulative trauma disorders, specifically among "latinos" employees. As well as a epidemiology study that look at the impact of the change into the new record keeping standard that went on, on 2001. We believe that these changes actually perclude us from getting real intelgence in terms of where and what type of injuries we are actually looking in the work place.

Comment ID: 4594.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Immune disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Exposure assessment

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

We have several issues regarding indoor air quality and some of these issues came directly from our practicing members. Evaluation of the actual guidelines for indoor air quality, specifically those internal environment that are depending on air conditioning. We have an issue with the electricity here in Puerto Rico and when we don't have electricity, most of our systems just go down.

Evaluation of the indoor air quality guidelines for spaces specifically in tropical weather that depend on air conditioning. We need--we believe we need action for contaminants measuring technologies and control interventions. Action leadings like some allergens that cause occupational asma. Action limits that--pest control chemicals under using indoor air that are dependant on air conditioning.

Comment ID: 4594.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Small business

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

So, in terms of sectors dealing with the service sectors, we need specific information identification of-- monitoring technologies for chemical exposures. Specifically in the small business that deals with forensics, anatomy laboratories and morgues. Refrigerant exposure to air conditioning technicians, employees exposures in weight [editor: probably "waste"] disposal tasks, as well as water treatment plants.

Comment ID: 4594.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

The ever standing, CTD and back injuries in the FedEx, UPS and DHL Delivery type of services.

Comment ID: 4594.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Within the communication in these sectors and the identification of exposure limits among employees working in the radio towers.

Comment ID: 4594.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Within the construction sector, skin exposure for dry wall sealing in construction, engineering control for solvent usage and handling of wood dust in carpentry. Exposure in the construction industry in general.

Comment ID: 4594.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing
Wholesale and Retail Trade

Population

Small business

Health outcomes; diseases/injuries

Cancer

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

In the manufacturing and the refinery sector, metal dust exposure in cleaning a boilers, handling carcinogens in a chemical bulk plant. Exposure to different chemicals in refineries, on small business sector and retail sectors.

Comment ID: 4594.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Exposure we should meant to aromatic candles and aerosols in work places.

Comment ID: 4594.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Dermal disease
Musculoskeletal disorders
Respiratory disease

Exposures

Chemicals/liquids/particles/vapors
Work organization/stress
Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

Quimical [editor: probably "chemical"] exposure in hair and nail polish in parlors. Within the health services enforcement, emergency and education sectors, solvents and gas exposure in surgery wards and hospitals. CDT and back injuries for EMT staff. Stress related injuries and illnesses for nursing staff, EMT, MT, and firemen. Occupational exposure to radiation in a nuclear medicine clinic. Firemen exposure to toxics gases and fumes.

Respiratory and skin conditions and back injuries among elementary and special education teachers. Gun powder and exposure measures among enforcement agents. And that. I do appreciate your attention, thank you.

Note: Verbal testimony provided to NORA Town Hall meeting in Isla Verde, PR, 2006/12/06.

Comment ID: 4595.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cancer
Cardiovascular disease
Immune disease
Respiratory disease
Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors
Cardiovascular disease
Work organization/stress
Work-life issues

Approaches

Etiological research
Risk assessment methods
Authoritative recommendation

Partners

Categorized comment or partial comment:

Submitted written statement:

COMMENTS ON BEHALF OF THE INTERNATIONAL LONGSHORE AND WAREHOUSE UNION REGARDING
THE NATIONAL OCCUPATIONAL RESEARCH AGENDA

Submitted by:

John M. Castanho

Chairman, IL WU Coast Safety Committee

This is submitted in writing as the official position of the ILWU regarding what needs to be done to improve workplace health and safety conditions of shipping terminals up and down the west coast. These comments will reflect our historic and current position on this matter, as well as a synopsis on what we feel needs to be done in the near, as well as distant future. We ask that the National Institute of Occupational Safety and Health (NIOSH) give this their full consideration when developing their National Occupational Research Agenda (NORA) for the next ten years.

Historically, longshore work on the docks consisted of many hazards, most of which have evolved over time. Years ago, the work was so dangerous that it was not only common, but also an accepted fact that longshore workers were either killed or maimed with alarming regularity. Work shifts that lasted twelve hours or more were common, adding to the already unsafe conditions that were prevalent. The work was arduous, sweat-filled and backbreaking. There were very few safety provisions covering longshore workers at that time. If someone were injured or even killed, they would simply be carted off and replaced by someone else eager to earn a day's wage. These were the dark days of working on the docks.

With the advent of mechanization in the 1960's, it became readily apparent that a need existed for safety regulations to be instituted and implemented in the workplace on the waterfront. There were two reasons for this. The first was obvious; the introduction of labor-saving machinery brought with it a new set of hazards that led to even more unsafe conditions. Trucks, huge forklifts, cranes, and other container-handling equipment took the place of hundreds of men handling cargo by hand. The more machinery that was present, the greater the risk was of someone getting crushed or run over by it. The second reason proving the need for more safety regulations was more subtle, but just as prevalent. Longshore workers who had been working twenty, even thirty years on the waterfront became diagnosed with asbestosis and asbestos-related cancer. This was due to fact that there were no basic safety provisions governing the safe handling of asbestos in bulk form, and these workers had been exposed to it over the course of many years.

Over the next three decades, the ILWU was successful in negotiating safety regulations with the Pacific Maritime Association. These negotiations took place every three years, and were aimed at addressing safety issues that were of concern to workers who endured an ever-changing work environment. As new machinery and modes of work operations came about, so to did the need to incorporate basic safety rules to govern them. For years, the ILWU and the PMA recognized that a safe work environment was in the best interest of everyone involved with working on the waterfront. Based upon the principle of a safe work environment, there was a mutual respect that was forged between labor and the employers. A safe workplace not only decreased the chances of an industrial accident, it also provided safeguards to the environment and the communities that were adjacent to waterfront terminals.

In the late 1990's, this mutual respect was replaced with skepticism and mistrust. The employers complained that the safety rules that had been negotiated were limiting the ability to have their ships loaded/unloaded in a "timely" manner. The union did not agree with this assessment. Accidents and fatalities were on the rise. This was due to a disregard of the safety standards that had been adhered to for years, and a "speedup", or an unsafe, increased rate of work was demanded by employers.

Reports of illnesses have also increased in the last ten years, particularly respiratory-related types. Asthma, bronchitis, lung and throat cancers, heart disease, and a host of other ailments are becoming more and more commonplace. Unfortunately, this situation is not confined to the docks, but has spread to the communities that surround these ports. The biggest culprits that can be readily targeted as a problem are diesel exhaust and ship's stack-gas emissions. Each year, tens-of-thousands of trucks drive to and from the ports, hauling containerized cargo through our communities to their final destination. Thousands of ships enter U.S. ports each year as well, their stacks emitting thousands of tons of carcinogenic smoke. Both sets of emissions not only find their way into the bodies of the longshore workers, but also to the adults and children who live, work, and attend schools nearby. This condition adversely affects thousands of people, creating "cancer-clusters" in different regions. Separate studies

recently conducted by the University of Southern California suggest that communities located many miles inland, away from the ports of Los Angeles and Long Beach are incurring these clusters as a direct result of the pollution created by the ships and truck traffic in these ports.

The ILWU has long held the position that cleaner-burning fuels are needed on port terminals, and that the ships that call here need to use low-sulfur, or even “ultra-low”-sulfur bunker fuel. During the 2002 Safety Negotiations, the union bargained for weeks, unsuccessfully, to negotiate the use of biodiesel for use on all waterfront equipment that ran on diesel fuel. We argued that it was technology that could be implemented immediately, that could almost eliminate most harmful emissions. There was lengthy discussion on the viability of liquefied natural gas and compressed natural gas. The employers pointed that the federal government does not have a permissible exposure limit (PEL) established for diesel emissions. Rather, they have a “recommendation” of 20-micrograms/cubic meter of air (which is actually the PEL in the state of California). They did not feel the need to spend money on something that would clean up the air and make it safer for longshore workers, as well as all who live nearby and beyond.

NIOSH needs to begin a long-term analysis of the air quality problems plaguing our nation’s ports and their surrounding areas. Short-term studies are only good for generating data to solve short-term problems. What the industry is creating are long and permanent problem. What the industry is creating are long and permanent problems. There is a need to have funding made available through the federal government to ensure that a long-term commitment can be realized. Further studies into the health hazards of air contaminants also need to be continued. This problem will only worsen over time. As shipping volumes continue to increase, so too will the current problems that it causes. The sooner that NIOSH takes steps towards eliminating this problem, the sooner our workers and citizens will realize fewer health problems associated with the pollution generated by these ports.

Note: Retyped submitted written statement.

Comment ID: 4596.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Manufacturing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Infectious agents
Chemicals/liquids/particles/vapors
Radiation (ionizing and non-ionizing)

Approaches

Engineering and administrative control/banding
Training
Marketing/dissemination

Partners

Categorized comment or partial comment:

Submitted written statement:

R. ERIC LEBER, Ph.D
4411 King Drive
West Richland, Washington 99353

January 15, 2006

To Whom It May Concern:

I am writing as a Chemistry professor at Heritage University (Toppenish, Washington), a researcher focusing on alternative (primarily non-food) uses of agriculture, and a member of El Proyecto Bienestar (a partnership among the University of Washington, the Yakima Valley Farm Workers Clinic, the Northwest Communities' Education Center, and Heritage University dedicated to protecting the health and well-being of local agricultural workers and their families).

For several years, my students (90-percent of whom are Hispanic or Native American) and I have been making and testing biodiesel fuels, ethanol, producer gas, palletized solid fuels, biolubricants, polymer, composite materials, specialty papers, inks and wood stains, skin creams and cosmetics, nutritional

supplements, baking ingredients, animal feeds, soil amendments, and other products (more than two-dozen items in all) derived from agricultural byproducts discharged from local industrial operations.

To date, we have been accident-and injury free during the conduct of this work; since we observe the proper safety and environmental procedures.

My concern regards the implications of scaling-up these technologies and moving them out of the laboratory environment (where skilled students and faculty use proper protective gear and training to ensure the safe handling and management of chemically and biologically active materials and equipment) into the field.

I am supportive of efforts to expand the scope of agriculture to address our nation's energy, materials, chemical, nutritional, and pharmaceutical needs. These measures could lead to a substantial improvement in the availability and affordability of these items and create related jobs and businesses in economically depressed areas while reducing our dependence on foreign sources and minimizing the adverse environmental impacts of current practices.

These measures could also lead to a substantial increase in the number of chemical, biological, electrical, mechanical, and perhaps radiological risks faced by agricultural workers and their communities, to the extent that the commercial deployment of these new technologies proceeds in a modular, distributed fashion (i.e., close to the farm in order to reduce the costs of transporting low-value materials).

Among these risks are toxic substances (e.g., methanol, carbon monoxide, methoxides), flammable substances (e.g., methane, ethanol, hexanes), biological substances (e.g., many micro-organisms, plants, and their substances that are new to commercial agriculture and have different characteristics and properties), electrical components (e.g., inverters, switch gear, transformers, network interconnects), mechanical components (e.g., shredders, mixers, pelletizers, gasifiers), and possibly radiation sources (e.g., gamma-rays and e-beams for sterilizing, pre-conditioning, or reacting biomaterials).

Accordingly, I urge that - in anticipation of these new directions in agriculture - communication, education, and training programs (in English and Spanish) be developed, based on the best available research and understanding of these risks and incorporating the best available detection and control technologies, and disseminated to ensure that these enterprises can proceed without exacerbating the risks of injury and illness already faced by our agricultural workers and their families.

Thank you for your consideration of this important matter. I would be pleased to respond to any related comments or questions.

Sincerely,

Eric Leber
509/967-3045
509/967-0118 fax
RELeber@msn.com

Note: Retyped submitted written statement.

Comment ID: 4597.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2006/01/17:

Washington State Department of
Natural Resources

17 Jan 2006

To: Members of the National Institute of Occupational Safety & Health (NIOSH), and Members of the National Occupational Research Agenda (NORA)

From: Jim Sedore, WA State Dept of Natural Resources Safety & Health Manager
Box 47033

Olympia WA 98504-7033

Email: Jim.Sedore@WA.DNR.gov

Phone: 360-902-1133

Subject: Input on future research related to Agriculture, Forestry and Fisheries Sector

Members of NIOSH & NORA

Thank you for the opportunity to provide input about future research on reducing work-related injury and illness in to employees in Agriculture, Forestry and Fishing.

For the past 20 years, I have served as the Safety & Health Manager for the WA State Dept of Natural Resources. This state agency manages 5 million acres of land and protects 12.7 million private and state-owned forested acres from wildfire. Approximately 1,200 permanent employees, 400 summer wildland fire fighters, and 400 inmates staff the agency.

Employees file approximately 180 work-related injuries per year requiring medical care beyond first aid. Despite the exposures to wildfires, scuba diving, mine inspection and timber harvesting, the DNR has one of the lowest rates of claims/hr of any state agency. At your request, I can provide statistics on accident severity and frequency for that last 6 years.

Comment ID: 4597.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work-life issues

Approaches

Personal protective equipment

Health service delivery

Partners

Categorized comment or partial comment:

However, critical safety and health research is needed in the following areas:

1. Age related injuries:

As retirement parameters result in older employees in the field, what can employees and employers do to reduce the number and severity of age-related injuries. I'll give 2 examples:

-- a. Injuries to load bearing joints. The number and seriousness of knee injuries are increasing significantly in field employees over 45. What can be done to improve conditioning, footwear and medical treatment for knee injuries? In the last 5 years, DNR employees have suffered 127 knee injuries costing \$321,520 including \$49,000 in time loss for an average of \$2,531/injury.

Comment ID: 4597.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Engineering and administrative control/banding

Personal protective equipment

Partners

Categorized comment or partial comment:

-- b. Hearing loss. The cumulative effect of years of working with equipment, even with hearing protection and engineering controls, is resulting in significant hearing loss in aging employees. Much hearing protection is cumbersome and unclean in a logging or firefighting environment.

Comment ID: 4597.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work-life issues

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

2. Creating and maintaining physical fitness in wildland fire fighters and natural resource workers:

While vehicles and equipment are great, there are many places where the fire engine or bulldozer can't go. In government, managers don't know if they can justify fitness programs and gym memberships to the taxpayer. However, many tasks in the natural resource environment require high levels of physical fitness. Objective research is needed showing if there is a value of on-the-job fitness programs on injury prevention, productivity and sick leave reduction. Ideally this research would identify the most effective fitness and conditioning programs.

This research would follow up on the current NORA research projects on "Aging Effects on Intermittent Work Capacity," "Effects of Physical Conditioning on Lifting Biomechanics," and "Evaluating the Effectiveness of a Logger Safety Training Program."

Comment ID: 4597.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work-life issues

Approaches

Engineering and administrative control/banding

Training

Authoritative recommendation

Partners

Categorized comment or partial comment:

3. The upcoming work force-weak, fat and electronic

In years past, natural resource employers often hired the children of loggers, farmers and fishermen. This young population is shrinking and being replaced by young adults who are great with a joystick but have never used a chainsaw. They can operate an ipod but not a manual transmission. And, more and more of them are overweight with asthma or diabetes.

What medical exams or fitness tests are best at identifying the fittest applicants? As much of our young culture becomes more high tech, how do we teach arduous hand labor skills like digging a fire trail or operating a chainsaw to remove downed trees?

Comment ID: 4597.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

4. Lastly, do better job of marketing the results of your research. We need to implement the findings of many NORA research projects by sharing the results with employers. On the web, I found many NORA research projects that apply to my workplace, but I could not find many results or implementation strategies to apply in my workplace.

Thank you.

Human Resource Division 1111 WASHINGTON ST SE PO BOX 47033 OLYMPIA, WA 98504-7033 TEL:
(360)-902-1777 TTY: (360)-902-1156 Equal Opportunity Employer

Note: Retyped written expansion of verbal comment, which was numbered w485.

Comment ID: 4598.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Work-site implementation/demonstration
Authoritative recommendation
Marketing/dissemination
Emergency preparedness and response

Partners

Cooperative State Research, Education, and Extension Service (CSREES) through the U.S.
Department of Agriculture

Categorized comment or partial comment:

Written expansion of verbal comment 2006/01/17:

Opportunities for Reducing Injuries and Illnesses in Agriculture

Comments on the National Occupational Research Agenda for Agriculture, Forestry and Fishing.

Mitch Ricketts, MS, CSP

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The National Occupational Research Agenda (NORA) is an effective framework for guiding research in occupational safety and health. The new sector-based approach will further improve NORA by identifying the unique needs of particular industry sectors, such as agriculture, forestry and fishing. My comments on NORA today will be limited to agriculture.

Effective Partners for Safety and Health Research in Agriculture.

The Agriculture NORA will have its greatest impact if it encourages partnerships with agencies and organizations that already have trusted relationships with farmers and ranchers. Farmers cannot adopt

new methods unless they know about them. Furthermore, farmers will not adopt new methods for improving safety unless those methods are efficient, profitable, and realistic in relation to the goals and resources of the farmer. For research to have a measurable impact on safety and health, the agricultural community must be engaged to provide meaningful input at every stage of the process from research to practice.

In this regard, the Agricultural NORA should encourage more partnerships with the research and outreach programs supported by the U.S. Department of Agriculture and the nation's Land-Grant University system. The Cooperative State Research, Education, and Extension Service (CSREES) is the primary agency by which the U.S. Department of Agriculture makes programs accessible to the agricultural community. Through a network of state and local Extension Offices, Experiment Stations, and Land-Grant Universities, CSREES helps provide information, training, and assistance to farmers and agribusinesses throughout the nation. State and local employees of these programs are in constant contact with the agricultural community. When farmers and ranchers need information or solutions to difficult problems, their first call is usually to an Extension Office, Experiment Station, or Land-Grant University.

CSREES and the Land-Grant system have built close and lasting partnerships with the agricultural community throughout the U.S. These partnerships have facilitated a long history of successful interventions on America's farm. The Agricultural NORA can ensure that future agricultural safety and health efforts have a direct impact on farmers, laborers, and farm families by encouraging more projects through the state and local research and outreach programs associated with CSREES and the Land-Grant system.

Priority Safety and Health Issues and Approaches.

The Agricultural NORA will be most effective if it targets important categories of research issues, rather than specific hazards and particular methodologies. This approach will permit researchers to use current data, literature, and professional judgment to identify significant topics within the broader categories of emphasis. Some examples of important categories are listed below. These examples are not meant as a comprehensive listing. Instead, they are offered as illustrations of how research categories might be constructed.

Comment ID: 4598.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Motor vehicles

Violence

Approaches

Partners

Cooperative State Research, Education, and Extension Service (CSREES) through the U.S.

Department of Agriculture

Categorized comment or partial comment:

Category 1: Leading classes of injury and illness. To have a substantial impact on overall agricultural safety and health, NORA must target those issues that are associated with the greatest number of injuries and illnesses in agriculture. For instance:

- Transportation incidents account for the largest share of fatal injuries in agriculture. A large proportion of these are non-highway incidents (Bureau of Labor Statistics, n.d., Table R1; Myers, 1997, 1998, 2001).
- Sprains and strains comprise the most common nature of nonfatal injuries and illnesses, accounting for about one-third of incidents agriculture (Bureau of Labor Stastics, n.d., Tables A-1 and R8).
- The back is the part of the body most often injured, accounting for almost one-fifth of all non-fatal injuries and illnesses in agriculture (Bureau of Labor Statistics, n.d., Table R2).
- The most common events or exposures leading to nonfatal injuries and illnesses in agriculture are contact with objects, slips/trips/falls, and overexertion. Together, these events or exposures account for about three-fourths of all nonfatal incidents (Bureau of Labor Statistics, n.d., Table R4).

Category 2: Region- and operation-specific issues. To have substantial impact in individual workplaces, the Agricultural NORA must also place an emphasis on issues that affect particular sub-sectors and regions within agriculture. For instance:

- Assaults by beef and dairy cattle account for a disproportionately large share of fatal and nonfatal injuries in animal production (Bureau of Labor Statistics, n.d., Tables A-1 and R8.)

- In crop production, the incidence rate for amputations is more than three times the average for private industry, and the incidence rate for machinery-related injuries is more than double the average for private industry (Bureau of Labor Statistics, n.d., Tables R5 and R7).

- The Midwest tends to have a particularly high rate of injuries related to beef, hogs, and sheep (Myers, 1997, 1998, 2001.)

Comment ID: 4598.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Cooperative State Research, Education, and Extension Service (CSREES) through the U.S.
Department of Agriculture

Categorized comment or partial comment:

Category 3: Issues that distinguish agriculture from other industries. Although this category may account for fewer injuries and illnesses than those mentioned above, research should be supported because these issues are not likely to be addressed by other research agendas. For instance:

- Pesticide exposure.
- Confined space issues in silos, manure pits, and other agricultural facilities.

Comment ID: 4598.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress
Work-life issues

Approaches

Partners

Cooperative State Research, Education, and Extension Service (CSREES) through the U.S.
Department of Agriculture

Categorized comment or partial comment:

Category 4: Issues relating to the changing nature of agriculture. Research on these issues should be supported in order to address emerging trends in agricultural safety and health. For instance:

- The increasing number of "hobby farmers" in some regions means that people with little or no agricultural experience are operating machinery and handling livestock.
- The increasing number of producers engaging in "value-added agriculture" means that many producers with little manufacturing experience are hiring employees and operating small scale food processing facilities on their own farms.

Comment ID: 4598.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Small business

Other

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Cooperative State Research, Education, and Extension Service (CSREES) through the U.S.

Department of Agriculture

Categorized comment or partial comment:

Category 5: Vulnerable populations. Research on these issues is needed in order to address the special needs of workers in agriculture.

- For agricultural employers with 11 or more employees, Hispanic and Latino workers comprised the most common race or ethnic origin of workers suffering injuries and illnesses in 2004 (Bureau of Labor Statistics, n.d., Table R38).
- For agricultural employers with 11 or more employees, females account for about one-fifth of the injuries and illnesses (Bureau of Labor Statistics, n.d., Table R39).
- Most farm operations are small businesses. Like other small business owners, most farmers do not have effective safety programs, nor do they have easy access to resources for developing safety programs.

Comment ID: 4598.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Cooperative State Research, Education, and Extension Service (CSREES) through the U.S.

Department of Agriculture

Categorized comment or partial comment:

Category 6: Research approaches. Research approaches should be selected according to their potential to increase the effectiveness of safety and health interventions and to ensure the results of research are actually implemented on farms.

- All projects should include meaningful partnerships with affected populations whenever possible. Many farmers do little to prevent injuries because traditional safety approaches are often impractical to implement on farms. The best way change the safety culture is to enlist farmers and laborers to help develop approaches that are practical and profitable in their own workplaces.

- Education/translation projects should employ effective methods of communication and persuasion. Many education projects fail because they present safety information in an abstract and unconvincing manner. The effectiveness of safety training depends as much on communication strategies as it does on content.

References

Bureau of Labor Statistics. (n.d.). Table A-1. Fatal occupational injuries by industry and event or exposure, all United States, 2004. Retrieved December 14, 2005, from: <http://www.bls.gov/iif/oshwc/cfoi/cftb0196.pdf>

Bureau of Labor Statistics. (n.d.). Table A-2. Fatal occupational injuries resulting from transportation incidents and homicides, All United States, 2004. Retrieved December 14, 2005, from: <http://www.bls.gov/iif/oshwc/foi/cftb0197.pdf>

Bureau of Labor Statistics. (n.d.). Table R1. Number of nonfatal occupational injuries and illnesses involving days away from work by industry and selected natures of injury or illness, 2004. Retrieved December 14, 2005, from: <http://www.bls.gov/iif/oshwc/osh/case/ostb1511.pdf>

Bureau of Labor Statistics. (n.d.). Table R2. Number of nonfatal occupational injuries and illnesses involving days away from work by industry and selected parts of body affected by injury or illness, 2004. Retrieved December 14, 2005, from: <http://www.bls.gov/iif/oshwc/osh/case/ostb1512.pdf>

Bureau of Labor Statistics. (n.d.). Table R4. Number of nonfatal occupational injuries and illnesses involving days away from work by industry and selected events or exposures leading to injury or illness, 2004. Retrieved December 14, 2005, from: <http://www.bls.gov/iif/oshwc/osh/case/ostb1514.pdf>

Bureau of Labor Statistics. (n.d.). Table R5. Incidence rates for nonfatal occupational injuries and illnesses involving days away from work per 10,000 full-time workers by industry and selected sources of injury or illness, 2004. Retrieved December 14, 2005, from: <http://www.bls.gov/iif/oshwc/osh/case/ostb1515.pdf>

Bureau of Labor Statistics. (n.d.). Table R7. Incidence rates for nonfatal occupational injuries and illnesses involving days away from work per 10,000 full-time workers by industry and selected sources of injury or illness, 2004. Retrieved December 14, 2005, from <http://www.bls.gov/iif/oshwc/osh/case/ostb1517.pdf>

Bureau of Labor Statistics. (n.d.). Table R8. Incidence rates for nonfatal occupational injuries and illnesses involving days away from work per 10,000 full-time workers by industry and selected sources of injury or illness, 2004. Retrieved December 14, 2005, from <http://www.bls.gov/iif/oshwc/osh/case/ostb1518.pdf>

Bureau of Labor Statistics. (n.d.). Table R38. Number of nonfatal occupational injuries and illnesses involving days away from work by industry and race or ethnic origin of worker, 2004. Retrieved December 16, 2005, from: <http://www.bls.gov/iif/oshwc/osh/case/ostb1548.pdf>

Bureau of Labor Statistics. (n.d.). Table R39. Incidence rates for nonfatal occupational injuries and illnesses involving days away from work per 10,000 full-time workers by industry and selected sources of injury or illness, 2004. Retrieved December 16, 2005, from <http://www.bls.gov/iif/oshwc/osh/case/ostb1549.pdf>

Myers, J.R. (1997). Injuries Among Farm Workers in the United States, 1993. DHHS (NIOSH) Publication No. 98-153.

Comment ID: 4599.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Mining

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding
Authoritative recommendation

Partners

Clean Air Filter

Categorized comment or partial comment:

Clean Air Filter is a small filter manufacturing company in Defiance, Iowa. Clean Air Filter also tests, evaluates (lab and field) and completely characterizes enclosed environmental cabs used to protect workers from hazardous air contaminants (aerosol and gas/vapor).

Clean Air Filter has partnered with NIOSH researchers at PRL and NIOSH Morgantown. These efforts concentrated on improving the testing and quality of the protection workers are receiving when working in environmental cabs. Clean Air Filter is particularly concerned because effective standards do not exist to routinely test environmental cabs to make sure they are providing acceptable worker protection. Therefore, numerous workers are being exposed to hazardous contaminants (chemicals, silica, aerosols, gas/vapor) and only have a false sense of security concerning the protection they are receiving.

Environmental cabs essentially function as large powered air-purifying respirators. Respirators have established federal criteria that must be met to be certified as giving an APF value. No critical criteria exists for enclosed environmental cabs. Clean Air Filter knows the importance of performance standards, maintenance, and recertification to continually assure cab routine performance.

Clean Air Filter is committed to this effort and will continue to partner with NIOSH to make these efforts become a reality so that workers are receiving the protection they need.

Note: Text entered from an E-mail received by the NORA Coordinator on 7 May 2007.

Comment ID: 4600.01

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

I have been working on coal mine safety and health issues for many years. In the past, I received funding from NORA sponsored research programs. I have two comments for the mining council to consider:

1) MINER Act of 2006 mainly focuses on safety. NORA should focus on safety and health. NORA should encourage basic sciences with inter-disciplines addressing multiple coal mining problems or differences in coals among various coal mine regions. An example is that pyrite (FeS_2)-containing coal is known to cause spontaneous coal combustion, acid mine drainage, and acid rain. We have found that oxidation products from the same pyrite can cause pulmonary diseases in coal workers. However, products from Eastern coal mines (e.g. PA and WV) are stable and bioavailable, which can lead to lung damage. On the other hand, the formed products are not stable in the Western coal mines (e.g. CO and UT) because of the presence of calcite (CaCO_3). This may explain why the incidence of lung disease or accident is higher in the east coal miners than in the west coal miners. This type of studies should receive funding. To make my point clear, I have attached a paper that was published in Environmental Health Perspectives.

2) NORA should also encourage studies on prevention of safety and health problems in relation to the development of new methodology for mining. Again, basic sciences on physico-chemical characteristics of coals among different regions are important. For example, we have found that addition of calcite into the PA coals can attenuate some of the PA coals' toxicities (see attached paper published in Journal of Toxicology and Environmental Health). We would propose to add calcite into the water spray when mining. This would reduce lung disease incidence, acid mine and acid rain problems. However, we could

not find a collaborator to do a feasibility study. The mining council should encourage this type of collaboration.

It may seem that my comments are self serving but I do think that they are important for the council to consider. Thank you for your time in this matter. If you have any questions, please let me know.

Xi Huang, Ph.D.

Assistant Professor of Environ. Med.

550 First Avenue

PHL Room 802

New York, NY 10016

References:

Xi Huang, Weihong Li, Michael D. Attfield, Arthur Nádas, Krystyna Frenkel, and Robert B. Finkelman (2005) Mapping and Prediction of Coal Workers' Pneumoconiosis with Bioavailable Iron Content in the Bituminous Coals, *Environ Health Perspect* 113:964-968.

Qi Zhang, Xi Huang (2005) Addition of Calcite Reduces Iron's Bioavailability in the Pennsylvania Coals - Potential Use of Calcite for the Prevention of Coal Workers' Lung Diseases, *Journal of Toxicology and Environmental Health, Part A*, 68:1663-1679.

Note: Text submitted from an E-mail received by the NORA Coordinator on 1 May 2007.

Comment ID: 4602.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Written expansion of verbal comments 2006/01/23:

National Institute of Occupational Safety and Health

National Occupational Research Agenda

Presentation on Safety and Health Issues in Healthcare

Houston, Texas

1/23/06

Kaiser Permanente Introduction

The following comments are submitted on behalf of Kaiser Foundation Health Plan, Inc., Kaiser Foundation Hospitals, and the Permanente Medical Groups, collectively known as the Kaiser Permanente Medical Care Program ("Kaiser Permanente" or "the Program"). The Program provides health care services on an inpatient and outpatient basis to over 8.3 million members in 9 states and the District of Columbia. Kaiser Permanente includes over 12,000 physicians and more than 148,000 non-physician employees and operates 30 medical centers and more than 430 medical office buildings.

Healthcare's Issues

In 2004, hospitals reported more non-fatal illnesses and injuries than any other industry and healthcare retained the fourth largest non-fatal incident rate compared to other industrial sectors. Healthcare has

3 issues, cultural, ergonomic and hazardous exposures. These issues cut across all aspects of healthcare systems that include hospital, medical office buildings, laboratories, pharmacies, and radiology.

The Cultural Challenges of Healthcare

While the healthcare industry has a good picture of what the current injury risks are, unique cultural challenges make reducing workplace injuries extremely challenging.

The biggest challenge that the healthcare industry faces is creating a culture of safety within the complex hierarchical structure. The practice of medicine, while moving more toward team-based care, is still predominantly practiced by individuals with a high degree of autonomy. Autonomy, coupled with a significant hierarchical infrastructure, makes it very difficult to adopt performance improvement mechanisms like behavior-based safety which requires a degree of "psychological safety" that doesn't presently exist, including a willingness and openness to give and receive feedback. In addition, there is a history of "blame and shame" following adverse outcomes which has created a fear of reporting. Implementing an Ombudsman program is one way to support physicians and other caregivers when the report.

Creating a culture of safety in healthcare is also challenging because of a rapid and constantly changing environment. New health and safety issues arise regularly with the creation of new practices, technology, and the changing demographics of the population.

New priorities always arise in healthcare and often take the spotlight off workplace safety. New regulation that affects the industry is quite frequent and can consume the organization's efforts. The escalating cost of healthcare has put a new emphasis on efficiency and decreasing cost. In addition, healthcare workers must work long hours with declining numbers of nurses in the profession juggling more responsibilities than before.

Recent revelations about the prevalence of medical errors have shifted more focus on patient safety which may directly compete with worker safety. The link between healthcare occupational safety and patient safety will be a critical component of moving the two fields forward together instead of in opposition. One example is using lifting equipment which eliminates worker injury during assisted patient transfers and is also safer for the patient because there is little chance of being dropped.

The ability of an organization to maintain a productive and healthy workforce is becoming exceedingly difficult in the United States. The prevalence of chronic diseases such as obesity, diabetes, and asthma is increasing rapidly resulting in lost productivity and higher costs to America's workforce. The healthcare industry is learning that promoting employee wellness and integrated disability management within the workplace is not only the right thing to do, but can

Comment ID: 4602.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Ergonomics

Ergonomic related injuries are a primary contributor to the overall injury rate in healthcare. Sixty percent of Kaiser Permanente's workplace injuries are related to strains and sprains and ten percent are attributed to work-related musculoskeletal disorders. The ergonomic risks that healthcare workers are exposed to vary greatly. Slips, trips, and falls may result in acute injuries while workers who do material handling, patient handling, or work with computers and diagnostic or screening equipment are at risk for developing work-related musculoskeletal disorders.

In addition to existing ergonomic risks, new medical technology and electronic data systems are being introduced at a faster rate than ever before creating new and more numerous exposures. The electronic medical record is becoming a standard in healthcare and it is important to build good ergonomic practices into the implementation of electronic medical records systems.

The changing demographics of the U.S. population introduce new ergonomic concerns as well. More chronically ill and obese patients who may not be able to assist themselves need assisted transfers in greater numbers than before. As medicine treats more patients in the outpatient setting, there is greater potential for injury to workers who must assist patients who could have previously walking in and out on their own.

Comment ID: 4602.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Personal protective equipment

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Hazardous Exposure and Unknown Hazards

Healthcare is unique in that not only are workers exposed to known hazards like chemical disinfectants and waste anesthetic gases, but there is also a possibility that exposure to an unknown biological respiratory hazard could occur at anytime. Implementing a system to effectively evaluate and control exposure to an unknown respiratory disease is extremely difficult. The issue is exacerbated by the need for care providers to continue to treat patients in an effective manner which limits the ability to eliminate exposures. Patients do not expect their healthcare worker to be wearing certain types of respiratory and protective gear during regular appointments. In addition, respiratory protection against biological hazards continues to be one of the most difficult safety programs to implement in the healthcare industry. Healthcare-specific evidence-based science is needed.

There are challenges in evaluating exposures to known hazards as well. Exposure monitoring and modeling for chemicals are constantly becoming more refined. Historical monitoring continues to lose validity as time moves on and technology evolves making it even more difficult to get a true picture of what healthcare workers' exposures are. The research on exposure and health effects does not always move quickly so in some cases, we do not truly understand what the exposures actually mean to our employees.

Hazardous drugs is one example. There is substantial evidence that hazardous drug exposures during preparation and administration may be more prevalent than previously thought. However there are few established methodologies available to measure airborne or surface concentrations of hazardous drugs and very little dose-response information available to evaluate exposure data.

High level disinfectants pose similar exposure concerns. New products are frequently introduced with little or no exposure data or sampling methodologies available to assist in evaluating potential health risks to healthcare workers.

Conclusion

Healthcare currently faces many challenges in maintaining a safe and healthy workplace. The biggest challenge is creating a safety culture that is adaptable to the complex hierarchical structure and multiple priorities of healthcare. In addition, the industry needs to create new ways of reducing ergonomics risks and assessing hazardous biological and chemical exposures.

We appreciate this opportunity to comment on the National Occupational Research Agenda and offer to partner with NIOSH to refine the agenda for healthcare research for the next ten years. If there are questions regarding any of Kaiser Permanente's comments, please do not hesitate to contact me.

Sincerely

Barbara Smisko

Director, National Environmental, Health and Safety

Kaiser Permanente Medical Care Program

510-625-3084

Note: Retyped written expansion of verbal comment, which was numbered W540.

Comment ID: 4603.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Engineering and administrative control/banding
Authoritative recommendation
International interaction

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2006/02/21:

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NORA Town Hall Meeting

UCLA

Los Angeles, CA

February 21, 2006

Alternatives to the Regulatory Witch Hunt

Barbara Kanegsberg

BFK Solutions, LLC

We regulate chemicals based on what I can best describe as a regulatory witch hunt. Regulatory agencies address safety and environmental problems based on management of individual chemicals or classes of chemicals. As a chemical proves efficacious in various processes, the usage increases. The chemical then comes under increasing regulatory scrutiny. Based on environmental or worker safety profiles, it is placed on a list of restricted or even banned materials. Industry then substitutes one or

more chemicals that then in turn come under scrutiny, and the cycle continues. The chemical witch hunt automatically targets high performance chemicals, with the unintended consequences of development of mystery mix formulations, an increase in the use of multiple chemicals where the toxicological and environmental impacts are not well understood, and secrecy on the part of chemical producers. To compound the situation, the various regulatory agencies publish lists of chemicals indicating safety and environmental attributes that are contradictory and confusing to industry, to community activists, and to regulators themselves.

This approach is damaging to industry, workers, communities impacted by industry, and the overall environment. We need a paradigm shift. Examples of better approaches include:

- Process management, not product bans
- Simplification, Nationalization, and Globalization of standards and regulations
- Holistic regulatory approach, combining safety and environmental
- True sustainable regulations

My background

I am an independent consultant in cleaning, surface preparation, and surface attributes with over 30 years of industrial experience. My background includes biology, biochemistry, clinical chemistry, and industrial process development.

My for-profit consultancy is BFK Solutions, LLC. As independent advisors to the manufacturing community, we do not accept commissions or referral fees for chemicals or equipment. My comments do not reflect the promotion of a chemistry or technology.

I also have a separate non-profit organization, Surface Quality Resource Center. Activities include education and outreach to industry and to communities impacted by industrial operations.

They call me the cleaning lady, because my expertise is in precision cleaning or critical cleaning. I don't do windows. I do help manufacturers develop processes to clean and manufacture optics, as well as many other products.

About critical cleaning

The field of critical cleaning encompasses far more than optics fabrication. Virtually all manufactured objects require cleaning (removal of lubricants, lapping compounds, etc.) to achieve the appropriate surface characteristics and to assure product reliability. Cleaning involves not only chemicals but also the process, including cleaning agents, cleaning force, heat, and time.

The demand for effective cleaning chemicals and cleaning processes will increase. As medical devices become smaller and with an expected product life of decades, cleaning becomes more critical, not less. As devices and products approach the micro and nano level, the ratio of surface to volume increases. As an end-point, the surface becomes the product. Without appropriate surface preparation, the health and well-being of all individuals will be compromised.

Traditional approach

Traditionally, agencies have regulated the chemical. Beginning in the mid-1980's, there was program to eliminate ozone depleting substances (ODS). In manufacturing this meant not only replacing common

refrigerants. I headed a team involved in ambitious programs to revise critical manufacturing processes that depended on CFC-113 (a Freon) and 1,1,1-trichloroethane (a chlorinated solvent). We successfully eliminated ODS in aerospace applications; and in 1996, I received a U.S. EPA Stratospheric Ozone Protection Award.

A plethora of lists

I treasure my EPA award. However, I have come to the conclusion that eliminating chemicals of utility to industry is not the answer. The chemicals that were adopted as replacements for eliminated ODS chemicals have their own safety and environmental baggage. As we learn more and more about the safety and environmental consequences of industrial chemicals, increasing alarms are raised.

Over the past 20 years, regulatory agencies at the International, Federal, State, and Local levels have published list upon list of chemicals that are banned, regulated, or determined to be what might be thought of as “environmentally challenged” or “politically incorrect.”

Confusion Demotivation

The various “no-no” lists are counterproductive for communities and for industry. Given the number of chemicals of potential industrial utility, the lists are likely to grow.

SQRC, our non-profit organization, works with the Willits Community Action Council. Willits, a small town in Northern California, has been adversely impacted by industrial chemicals. While many of the activists have become potentially and technically savvy, they continue to be frustrated by conflicting environmental regulations, by incomprehensible lists, and by the definitions of what constitutes “dangerous” levels of particular compounds that may vary among lists by orders of magnitude. Achieving successful remediation and meaningful medical monitoring are daunting tasks; the regulatory information has added to the confusion. These conflicts also provide ammunition to legal advisors of those seeking to avoid dealing with the problems of site cleanup and medical monitoring. The community is left to struggle with severe health and environmental impacts.

As part of my consultancy, I am a member of the Joint Solvent Substitution Working Group (JS3WG), a consortium of the military services and of NASA with the laudable goals of streamlining implementation of non-HAP and low or no-VOC chemicals throughout the military and of normalizing processes. Discussion of the relative merits of lists and of lists of lists occupies a great deal of time and effort. Progress would be faster if it were fewer, more consistent safety and environmental regulations.

Similarly, in industry, workers struggle to understand the toxicity of industrial chemicals. Some naively accept statements by vendors; or, they assume that any chemical that is not on a safety or environmental regulatory list of restricted or banned chemicals must be safe. Managers and their advisers navigate complex lists and requirements, struggling to keep their production lines running.

Particularly, in Southern California, industry is left with a very short list of chemicals that can be readily used. Some use inefficient processes that because they must be repeated and because of increases in process time, effectively increases exposure of workers to potentially dangerous chemicals. These same processes subject nearby communities to chemical soups with virtually unknown toxicity and environmental profiles.

Despite hopeful phrases like “cross media implications,” regulatory agencies often have little to no understanding of regulations being promulgated in an office down the hall, let alone those that are

developed by another agency. I recently spoke at one local agency; the attendees all wanted to understand the regulations at a second local agency; and they commented about complex, ambiguous, and conflicting rules. If regulatory personnel have problems understanding the rules, imagine the problems for people who are trying to run their business or keep their communities and children safe.

Creative Foundations

Make no mistake, all industrial process formulations use chemicals; and this is true for both solvent based and water based products. Manufacturers of cleaning agents and coatings often formulate around lists of restricted chemicals. If one chemical is on "the list," they find another one that is sort of like it. Perhaps they use five compounds, where one would have previously sufficed. We have seen an increase in chemical blends, or "mystery mixes."

The trend also leads to use of a greater assortment of chemicals with poorly-established toxicological and environmental characteristics. It also increases the opportunity of chemical synergy, and that synergy may mean enhanced safety or environmental issues.

The cleaning market is fragmented. Given increased regulatory restrictions and diverse process requirements, it is likely to become more fragmented. In many cases, there is little or no economic incentive to develop new products.

No Miracle Chemical

A new, miracle chemical is unlikely. There are technical and physical constraints, so while it is desirable to think outside the box, thinking outside the periodic table of the elements is more difficult. A safe, environmentally-preferred, and effective chemical is counterintuitive. Human beings, the environment, and industrial process agents all contain compounds that are chemically-related. Therefore, if a cleaning chemistry is effective against major soils of interest, there is the potential for interaction with people and/or with the environment.

Some companies have also elected to engage in what I term "political chemistry." That is, they approach regulatory agencies using scare tactics to warn them of potential safety and environmental disasters if the products of the competition are allowed to remain on the market. This has led to regulatory hold-ups and a disincentive to introduce new, potentially useful products.

Finally, fear of the regulatory with hunt leads some of these same companies to be less than transparent to their customer and to the public about the toxicity profile of their own products.

A more productive approach

The generation of ever-growing lists of undesirable chemicals produced by multiple agencies is counterproductive. We need a more proactive, sustainable approach. I do not have all of the answers. I do have a few ideas.

Process management, not product bans

We need aggressive, targeted cleaning agents and aggressive cleaning processes. Restricting cleaning chemistries to benign products that do not do the job efficiently is dangerous and probably damaging to the environment. Such an approach is like attempting to protect surgeons from cutting themselves by restricting them to blunt, plastic knives instead of scalpels. Instead, we regulate the process; and we have standards for doctors.

By analogy, industrial processes, not individual chemicals must be addressed.

Simplification; Nationalization; Globalization

Right now, air and water standards in California are different from those in New Jersey. This is an unproductive situation. Because industry may dispute the more stringent regulations, neither the citizens of New Jersey nor those in California stand to benefit.

The simplified worksheets developed by ATSDR are helpful. Standardization is necessary to achieve true understanding of safety and the environment.

Holistic regulatory approach, combining safety and environmental

Safety and environmental regulations should be normalized and made consistent.

Yes, there are different requirements for those using a chemical in the workplace versus those in communities being exposed to air and water contamination. However, it is unreasonable that the standards are not coordinated. There are instances where a chemical is environmentally-preferred; but it may have a less than optimal worker safety profile. Environmental regulations may compel industries to use such unsafe chemicals rather than to develop overall less emissive processes.

Sustainable regulations

We ask manufacturers to develop sustainable processes. We need sustainable regulations. Restricting industry to ineffective chemicals is incorrect, short-sighted, and counter-productive. An inefficient or ineffective manufacturing process, a process that results in rework or waste is, by definition, wasteful. Such a process does not promote pollution prevention.

Note: Retyped written expansion of verbal comment, which was numbered W711.

Comment ID: 4604.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cancer
Neurological effect/mental health
Renal disease
Immune disease
Dermal disease
Respiratory disease
Traumatic injuries
Mortality

Exposures

Chemicals/liquids/particles/vapors
Radiation (ionizing and non-ionizing)
Motor vehicles

Approaches

Etiological research
Authoritative recommendation

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2005/12/05:

Comments of

Brenda Cantrell, Director
Railway Workers Hazardous Materials Training Program
National Labor College

Before Town Hall Meeting

Input for the National Occupational Research Agenda
National Institute for Occupational Safety and Health
College Park, Maryland

December 5, 2005

Thank you for the opportunity to address this meeting and share with you the very important research needs associated with the occupational safety and health of railroad workers. Over the next decade, we urge NIOSH to continue its intervention-oriented research, research that saves the lives and health of workers. Research associated with rail worker safety and health is sorely needed.

My name is Brenda Cantrell. I come to you as director of the Railway Workers Hazardous Materials Training Programs, a program that over the last 15 years has formally trained approximately 20,000 railroad workers in every state across the country (except Hawaii which has no railroads). Because of the active peer trainers teaching in the program, there are also hundreds, perhaps thousands, of additional contacts a year when these trainers are on-the-job and over lunch, or a break, they teach about hazards or about how to use resources to understand chemical exposures; where they discuss the importance of personal protective equipment, etc. Funded by the National Institute of Environmental Health Sciences, and run by the National Labor College, the Rail Program is also associated with the AFL-CIO Departments of Occupational Safety and Health and of Transportation Trades, the North American Railway Foundation, and 7 rail unions: The Brotherhood of Locomotive Engineers and Trainmen, International Brotherhood of Teamsters; the Brotherhood of Railroad Signalmen; International Brotherhood of Boilermakers; National Conference of Fireman and Oilers, SEIU; Transportation-Communication Workers International Union, Brotherhood of Railway Carmen; and the Transport Workers Union. The Program also works in conjunction with ERC faculty from John Hopkins, to do medical testing before trainees don self-contained breathing apparatus and chemical protective clothing and to teach toxicology. Our trainees work on the major railroads as well as commuter and short-line railroads.

There are approximately 160,000 railroad workers in the United States. Freight revenue alone, in 2004, was \$40 billion. With approximately 500,000 rail freight cars, there were 30 million carloads annually. Each car weighs approximately 60 tons, with the average train carrying well over 3000 tons. In 2004, railroads carried 1.8 billion tons of freight, totaling 1.7 trillion ton miles.

The health risks facing rail workers are among the most significant of any workers. According to the International Labour Organization, "50 percent of transported goods are dangerous...85 percent of chlorine, which is one of the very dangerous chemicals, is transported by rail." Other highly dangerous materials transported regularly and in large quantity by rail include anhydrous ammonia, sulfuric acid, nitric acid, methanol, and phenol. During course sessions, trainees share information with the class about work colleagues who have become ill, and sometimes died, from diseases that they assume were work-related. Sometimes it is only when they hear the health risks of some of the materials they work with, like silica or benzene, that they begin to make the links between exposure and possible illnesses. Among listed health problems are: asbestos-related diseases, asthma, brain damage, brain cancer, chest pain/tightness, colon cancer, dermatitis, dizziness, equilibrium disabilities, headaches, kidney cancer, leukemia, liver diseases, lung cancer and other severe lung diseases, lymphoma, multiple myeloma, pancreatic cancer, silicosis, stomach cancer, skin cancer, testicular cancer, and throat cancer. They report many people in their shops or on their track gangs who have gotten cancer and died at early ages-in their thirties or forties-as well as the fear that many live with, of getting cancer from work place exposure. Trainees have listed over 200 hazardous materials to which they have been exposed. It is an area begging for NIOSH research. Track workers, for example, come in contact with every hazardous material that travels by rail and drips along the track, and are thus exposed to a very complex "soup" of

chemicals. Their union, BMWED, has limited number of retirees because so many people die before retirement age.

The injury risks to rail workers are also high. In 2004, in Ohio alone there were more than 100 accidents and more than one-quarter of involved hazardous cargo. In 2005, there were, in the U.S., 2 major rail accidents involving Hazmats, each of which left rail workers and residents dead. In January of this year the puncture of rail car carrying chlorine through Spartanville, South Carolina killed the engineer and 8 other people. In June a train accident in Bexar County, Texas left three dead from chlorine. The rail sector of the transportation industry is a sector with accidents and disease, where NIOSH focus could make a vital contribution.

Evaluation research has consistently led to intervention strategies to improve the health and safety of rail workers, their families, and those in the communities near rail tracks and rail yards. Over the years, the Rail Program has adapted its programs to emerging needs and priorities. I would like to relate just three examples. First, when a derailment in Bexar County, Texas led to fatalities from chlorine leaks, analysis showed that emergency dispatchers should have known more about chemical hazards when doing their work during the incident. The Railway Workers Hazardous Materials Training Program offered all of these San Antonio area dispatchers the on-line hazardous chemical awareness course that is available to rail workers. The County required that its dispatchers take the course.

A second example was after Dine (Navajo) track workers received the four-day hazardous waste and chemical emergency response course. They became concerned not only about their own exposures at work, but the vulnerabilities of their communities, many of which have rail traveling across the Dine Nation with radioactive as well as other hazardous materials. They asked if the Rail Program could jointly train community emergency responders along with rail workers-and the Rail Program delivered two 4-day training sessions in Chinle, Arizona. Similarly, several 8-hour awareness classes have been held in New Jersey, also bringing together emergency responders with rail workers-a way to maximize coordination of responders in a rail emergency.

A third example is the increasing amount of class curriculum relating to issues of security and possible terrorist events. The dress-out simulation, that teaches about level A chemical protective clothing, was broadened into a full emergency response simulation, also teaching rail workers about incident command and the roles of skilled support in an emergency.

Rail workers face many workplace dangers, including exposure to hazardous materials routinely on a daily basis—be it in the yards, the shops, on the trains, or along the track. Training is critical, and so too is research aimed at designing life-saving interventions. NIOSH research findings, widely disseminated, often through training programs, pave the way for safer and more healthful work places.

Note: Retyped written expansion of verbal comment, which was numbered W280.

Comment ID: 4605.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Surveillance

Etiological research

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2006/01/17:

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Comments of Don Villarejo, NIOSH/NORA Town Meeting, Seattle, January 17, 2006

Perhaps the most important change in U.S. agriculture during the past thirty years is the dramatic increase in the importance of labor-intensive agricultural production and the associated greater reliance on hired workers.

Three major factors account for the greater utilization of hired workers in U.S. agriculture. First, over twenty years, there has been a steady increase in the proportion of U.S. crop farm cash receipts derived from the sale of fruits and nuts, vegetables, and nursery and greenhouse products. In 1974, fruits, vegetables and nursery products were 17% of farm cash receipts from crop sales. By 2002, that share had increased more than two-fold to 40%. The physical output of U.S. fruits and vegetables, in tons harvested, nearly doubled between the years 1970 and 2000.

Second, sharply increased farm-size usually requires supplementing farm and family labor with hired labor. Among fruit and vegetable producers, the increase of size concentration is particularly dramatic. Between 1974 and 2002, the number of U.S. farms reporting 500 or more acres of harvested vegetables increased by half (from 919 to 1,416), and their corresponding aggregate acreage of vegetables harvested nearly doubled. For land in orchards, the number of U.S. farms with at least 500 acres of trees and/or vines grew by more than half (972 to 1,522), and their corresponding aggregate acres in orchards increased by two-thirds.

Third, the labor supplied by hired workers on U.S. farms now exceeds the total labor provided by farmers and unpaid family members. In the Census of Population, the number of persons who indicated their occupation was Farmer (or Rancher) declined from 830,000 in 1990 to just 587,000 in 2000. In contrast, the number of persons working 150 days or more for farmers, 'regular' hired workers, was 928,000. In the last twenty-eight years, the share of U.S. farms hiring workers for at least 150 days increased, and the number of such workers climbed by 30%.

Of course, the above discussion excludes the one million or more short-term, temporary hired farmworkers who are directly employed by farm operators or who work for labor market intermediaries, such as farm labor contractors.

Characteristics of the farm labor population

What do we know about this population? The most comprehensive, large-scale, on-going national survey of workers employed in seasonal agricultural crop services is the National Agricultural Workers Survey (NAWS). Hired livestock laborers and certain other hired farmworkers are excluded from the survey.

The most recent published report of national findings from the NAWS is based on 6,500 personal interviews conducted between October 1, 2000 and September 30, 2002, in 80 or more randomly selected counties throughout the United States. The NAWS finds that the typical hired crop farm laborer is a young, low-income, foreign-born (mostly Mexican) male with low educational attainment and who has only recently migrated to the United States. Most U.S. hired farmworkers are characterized by low socio-economic status (SES), long associated with adverse health outcomes.

The most significant development within the California farm labor market in recent times is the sharply increased flow of indigenous migrants from the southern Mexican states of Chiapas, Oaxaca, Guerrero, Puebla (Northern Sierra region) and Veracruz. A particularly useful contribution of very recent NAWS report on California farm labor is the highlighting of findings that inform aspects of this migration.

All observers agree that indigenous migrants are the fastest growing component of the state's farm labor force. According to the NAWS report on California, "Workers from (Mexican) states with high indigenous populations have characteristics that differ from other farmworkers, including a higher percentage of newcomers, migrants and with lack of authorization to work in the U.S."

Estimating the size of the indigenous migrant population within the hired farm labor force is difficult because only a relatively few choose to self-identify as 'indigenous' for reasons likely associated with their experience of discrimination within Mexico. Thus, while NAWS finds that 16% of hired crop farm workers in California are indigenous migrants, this estimate is based only on individuals' self-reported origin within one of the Mexican states with large numbers of persons of indigenous ethnicity.

Occupational safety and health among farm laborers-the California experience

The seriousness of farm labor occupational hazards was underscored in California during the Summer 2005 heat wave when statewide attention was drawn to four deaths among the state's hired crop farm workers who suffered heat illness while hurrying to pick crops.

There is persuasive evidence that vigorous enforcement of occupational safety laws reduces workplace injuries and illnesses throughout industry. Within California agriculture, the CalOSHA Agricultural Safety and Health Project (ASHIP) initiative clearly played a positive role in improving field sanitation for hired farm laborers. In the new NAWS report, nearly all workers (99%) say their employer provides both toilets and water for hand-washing. Similarly, some 96% of workers report their employer provides drinking water and cups everyday. These findings represent a substantial improvement above the levels of compliance with Cal/OSHA field sanitation regulations (83%-91%) found by NAWS in 1980-90.

Similarly, following the horrific deaths in August 1999 of 13 Fresno County farms laborers when the unsafe labor van in which they were riding was demolished in a collision with a tomato truck, the Legislature and the Highway Patrol developed a new licensing and inspection program for farm labor vehicles. The program included, for the first time, a seat belt requirement, and that vans with more than 10 passenger seats be inspected on a regular basis. Most importantly, funds were specifically earmarked for enforcement and inspection of such vehicles. The fall-off in farm labor vehicle accidents in subsequent years demonstrates once again the importance of enforcement as an injury prevention tool.

An econometric multi-variate analysis of non-cumulative injury workers compensation claim frequency for all industries in the state, conducted by the Workers Compensation Insurance Rating Bureau of California, that examined all such claims for the ten year period 1989-1998, finds CalOSHA enforcement and education was the single largest factor contributing to reductions in claims resulting from non-cumulative injury.

The available evidence indicates there has been little progress in the recent past in reducing the prevalence of both fatal and nonfatal work-related injuries to California's hired farm workers. The annual number of fatal occupational injuries or illnesses to hired farm workers varies from year-to-year. However, the Workers Compensation Insurance Rating Bureau finds the number of California farm production workers who lost their lives to occupational injuries or illnesses was relatively constant in successive five-year periods starting in 1988. The number of such occupational fatalities was 221 during the interval 1988-92, 237 during 1993-1997, and 203 during 1998-2002.

The health of U.S. hired farm workers

The health of U.S. hired farmworkers is affected by several factors, each having an influence on acute and chronic conditions in the population. A major factor is the extent of poverty affecting this group. This has its impact in diverse ways, including lack access to health care; limited nutritional choices; decrease in preventive health services (e.g., dental, vision care, vaccinations); and poor housing conditions. Some health outcomes, such as poor dentition, infectious disease, obesity and diabetes directly reflect the low socioeconomic status of the population.

A second major influence is the hazards of agricultural work. Agricultural hazards cover a broad spectrum that includes physical stresses (e.g., trauma, heat, and cold), infectious agents, chemicals hazards, psychosocial stresses and the effects of repetitive trauma. The effects of agricultural work on numerous health outcomes have been documented, although studies among hired farmworkers are

relatively few in number. Data on this population is further limited by the lack of effective surveillance systems, a paucity of studies on chronic health effects, and the mobility of the population. Health status is further limited by inadequate medical care, lack of worker's compensation for occupational injuries in many states, and the lack of legal rights owing to unlawful immigration status. As regards the latter, many social service benefits that are designed to assist low-income workers, including non-emergency health services, are denied to most unauthorized immigrants, even though they would otherwise qualify.

Third, the low educational attainment of adults in this population presents a major challenge to health educators and health care providers. Written information may be inaccessible to many in the population. The lack of English language skills among native speakers of Spanish can, in principle, be overcome with suitable bi-lingual/bi-cultural staff, but a large and increasing fraction of the population is comprised of indigenous migrants from southern Mexico and Central America for whom Spanish is as foreign a language as English. For the latter segment of the hired farm workforce, language and cultural barriers are even greater.

Fourth, many workers are uninformed or ill-informed about their rights in the U.S. workplace. The variation in legal protections from state-to-state, the pervasive "agricultural exceptionalism" in much of federal labor law, and the apparent lack of recourse to resolve workplace disputes leaves many workers with the feeling that their situation must be accepted, even if there are genuine violations of labor or safety law involved.

Finally, behavioral and other exchanges associated with acculturation, disruption of families, and migration have an important impact on the health of hired farmworkers. Many of the behavioral changes associated with acculturation, particularly among women, are reflected in worsening of health status after longer residence in U.S. Improvement in the health of hired farmworkers and farm family members, but specific attention to the health status of hired farmworkers is needed because of the unique conditions under which they labor.

Recommendations to NIOSH

An agenda for farm labor safety and health research:

- Prospective cohort studies of hired farmworkers, including surveillance of occupational and environmental exposures, acculturation, and risk behaviors.
- Cross-sectional studies should include comprehensive physical examination, such as BCD blood panels and screening for STDs.
- NIOSH should add a periodic occupational supplements to the NAWS, perhaps every three or four years, such as is standard practice in the Current Population Survey.
- NIOSH should immediately provide public access to raw data files already collected, subject to privacy protection, as is standard practice by the Census of Population and Housing (PUMS) and by the NAWS.
- Restore Environmental Justice program to address the disparities of risk faced by some ethnic minority populations.
- Retrospective analysis of the impact of CalOSHA enforcement, and of the heightened regulation of farm labor vehicles.

Note: Retyped written expansion of verbal comment, which was numbered W511.

Comment ID: 4606.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Training

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2006/02/21:

National Occupational Research Agenda (NORA)

February 21,2006, Los Angeles

Submitted by Linda Delp, Director

UCLA Labor Occupational Safety & Health Program (UCLA-LOSH)

UCLA-LOSH develops programs for a variety of workers from the public and private sectors, the formal and the informal economy. Our goal is to improve workplace health

and safety conditions by developing leadership skills among workers so they can participate actively in workplace health and safety programs and in the policy arena. We do so through participatory education, collaborative research and promoting policy change.

Southern California has a large immigrant workforce; today you've heard about issues affecting immigrant workers in the garment, restaurant, hotel, janitorial and construction

industries. Workers in these industries are often invisible - as a society, we tend to ignore the fact that a large segment of the population works in hazardous conditions for low wages with limited access to health care.

I want to highlight another sector of the often invisible workforce - the growing number of home care workers who provide essential personal care services to the elderly and disabled - over 100,000 In-Home Supportive Services workers in Los Angeles County alone. They are predominantly middle aged women (86%), ethnically diverse and half are immigrants. And their workplace is the home.

For the last year, I have been analyzing data from over 1600 questionnaires and from six focus group discussions conducted with home care workers, a research project undertaken with SEIU Local 434B, the union that represents the workers in Los Angeles.

It is clear that stressors related to direct care work and to inadequate home care policies are significantly associated with workers' health and job satisfaction. It is also clear that home care policies and union activities that support workers - through classes and other benefits - have a positive effect. What is not completely clear are the all the mechanisms through which these different factors operate.

I want to highlight a few issues that have emerged in the course of this research:

First, the occupational health needs of this workforce warrant concerted research efforts to better understand how to support a workforce that provides critical

services for the growing elderly population in our society. These research needs include the traditional hazards of care work such as lifting and blood-borne pathogen exposure. Even more important are the stressors associated with direct care and the organization of the work - the schedule demands, the lack of back-up support, etc.

Second, the research approach must fundamentally change. If a research goal is to collect valid data that can be relied on as the foundation for making policy

changes, which I believe it should be, researchers cannot use a traditional approach, It is critical that research be conducted through collaborative partnerships with the organizations that represent or advocate for workers; in this case, the union that represents home care workers, in other cases, public authorities, community based organizations or worker centers. Only by working in collaboration can the important research questions be identified and a relationship of trust developed that is critical to collecting accurate data, This is, in essence, what is commonly referred to as a community-based or participatory action research approach.

For example, I was involved in a study that included home care workers and union staff in developing the questionnaire that was used. We also trained home care workers to conduct the interviews in four different languages. With training and supervision, I believe workers can collect data that is as valid as that collected by traditional researchers and they may have better access to workers. One Chinese worker interviewer unable to reach Chinese home care workers insisted on making phone calls at 11:30 at night, asserting that many workers had restaurant jobs to supplement the low wages of home care work and that the late evening was the only viable time to reach them. She was right - she ultimately achieved the highest response rate of anyone on the team.

Third, data collected from workers must include both quantitative and qualitative methods. For example, unless in-depth interviews and focus group discussions are conducted, questions developed for use in a survey will be meaningless and quantitative results cannot be interpreted.

Finally, worker education is a critical component of research. Results of research must be disseminated to those most affected -the workers themselves. A collaborative approach to research that includes worker education will enhance the ability to disseminate results and to use them to improve working conditions, ultimately the goal of any occupational health research.

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Note: Retyped written expansion of verbal comment, which was numbered W764.

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Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2006/01/17:

Farm Worker Pesticide Project

Room NB3, 5031 University Way NE Seattle, WA 98105; 206-729-0498

Statement of Carol Dansereau'

Director, Farm Worker Pesticide Project

Town Hall Meeting, The National Occupational Research Agenda

January 17, 2006; Seattle, Washington

Thank you for this opportunity to provide input. I am Carol Dansereau of the Farm Worker Pesticide Project, a non-profit organization directed by farm workers.

We urge that high priority be given to research on farm worker pesticide issues. Given the huge numbers of workers affected, the high toxicity of chemicals involved, and the documentation of widespread exposures, priority for these issues is clearly warranted. Documentation of exposures comes from many sources: extensive urine and dust sampling, air monitoring in California, Pesticide Incident Reporting and Tracking (PIRT) reports, focus groups by Washington State's Department of Health in which three of four workers recounted pesticide-induced illness at work (with almost none of these cases reported to authorities), and our new cutting edge medical monitoring program here. As you may have heard, one in five workers in the first year of the program had cholinesterase depressions after handling pesticides which triggered protective action under the program. One in ten of a broader pool of workers in the second year of the program experienced these significant depressions, and the majority of workers had depressions of some level after handling pesticides.

There are two specific research needs that I want to highlight today.

First, we call for Exposure Monitoring research. We have extensive general documentation of exposures. We have measured physiological changes in workers' nervous systems in the medical monitoring program. But we have done almost no monitoring to determine the concentrations and types of exposures workers are experiencing in general in their agricultural workplaces.

The need for such monitoring is made clear by ambient air monitoring in California. We urge NIOSH and others to read the California studies carefully. They reveal that high percentages of the general population inhale common agricultural pesticides at levels exceeding health guidelines. Researchers warn that farm workers probably experience much higher exposures because of where they work and live.

It is ironic that monitoring the air and workers' exposures is a given in other workplaces such as facilities where toxic chemicals are unintentional byproducts released in comparatively small amounts from manufacturing processes. By contrast in the farm workers' workplace massive quantities of highly toxic chemicals are intentionally released directly to the worker's immediate environment, and yet there is not exposure monitoring.

We call for exposure monitoring studies both: 1) to gather much-needed data which is currently completely missing about exposures. This data is essential for informed policy discussions, and 2) to identify the best exposure monitoring techniques which other researchers and government agencies can employ in order to monitor workplace exposures.

Comment ID: 4607.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Cancer

Reproductive

Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Etiological research

Exposure assessment

Risk assessment methods

Partners

Categorized comment or partial comment:

The second research need that we would like to highlight is research related to pregnant farm workers and worker's children. The sad cases of farm worker children with severe birth defects in Immokalee, Florida and related media coverage have elevated this issue in the past year. Our organization is working with farm workers in Mattawa who are deeply concerned about high rates of cancer among their children. We have asked the Washington State Department of Health to investigate.

It cannot be stated with any certainty that pesticides caused children's health problems in Immokalee or in Mattawa. However, there is every reason to believe that some farm worker children in our country are experiencing birth defects, cancers or other problems are the result of exposures. Extensive laboratory and other data strongly implicate chlorpyrifos with major impairment of neurological development, for example. Farm worker children are being exposed to this chemical parentally and at home through take-home pesticides and drift.

We call for research that identifies the numbers of pregnant workers in the fields and monitors their exposures and the resulting exposures for their unborn children. We need to see tracking of birth defects and other health effects. (There needs to be increased tracking of health effects in adults, too.) It is important that researchers meet with workers in settings where they can talk, such as focus groups. It will also be important to talk to medical care providers and community groups.

Comment ID: 4607.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Authoritative recommendation

Partners

Categorized comment or partial comment:

Before closing, I would like to also urge research institutions and individual researchers to take on a role beyond research. Please encourage appropriate agencies and other policymakers to collect essential data such as through exposure monitoring, pesticide use reporting, and notice prior to applications.

Please, also speak about the precautionary principle and call for its application here. If ever there was a time to break the silence and speak for precaution it is on these issues. They involve highly toxic chemicals and documented exposures of not only workers, but also their vulnerable children.

Attachments:

- 1) Farm Worker Pesticide Project, Messages from Monitoring: Farm Workers, Pesticides and the Need for Reform, February 2005.
- 2) California Air Monitoring Studies
 - a) Lee et al, "Community Exposures to Airborne Agricultural Pesticides in California: Ranking of Inhalation Risks," Environmental Health Perspectives 110(12): 1175-1184 (December 2002)
 - b) Harnley et al, "Correlating Agricultural Use of Organophosphates with Outdoor Air Concentrations: A Particular Concern for Children", Environmental Health Perspectives 113(9), 1184-1189 (September 2005)
- 3) Palm Beach Post, "Laboring in the fields while carrying a child.", November 27, 2005.

Note: Retyped written expansion of verbal comment, which was numbered W 488.

Comment ID: 4608.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Cancer

Exposures

Work organization/stress

Work-life issues

Approaches

Surveillance

Hazard identification

Engineering and administrative control/banding

Economics

Authoritative recommendation

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2006/12/05:

December 5, 2005

Good Morning. My name is Michael Feurstein, PhD, MPH. I am a professor in Medical and Clinical Psychology and Preventive Medicine and Biometrics at the Uniformed Services University in Bethesda, Maryland. I am here today to propose that problems faced by cancer survivors in the workplace be added to the NORA research agenda. The problems that cancer survivors experience at work represent a national burden in the American workplace. As the number of cancer survivors' increase, a result of earlier detection and improved interventions, the number of cancer survivors who desire or need to return to productive work will increase. Currently, there are approximately 3.8 million working aged adults with cancer in the U.S. This workplace public health problem will escalate over the next decade as treatment becomes more successful and the workforce ages (IOM/NRC, 2005).

Public health burden. So what are some of the data on cancer survivors and the American workplace that signal a problem?

1. One out of five cancer survivors who are 1-5 years post diagnosis report cancer related limitations in their ability to work. Nine percent were actually unable to work. Research indicates that labor force participation declines 12 percent immediately following diagnosis to follow-up. (Short et al 2005).
2. Using another national database, the National Health Interview Survey between 1998 and 2000 research indicates that 17 percent or approximately 1 in 6 workers with a history of cancer report they are unable to work. These employees attributed this work disability to physical, cognitive or emotional challenges. An additional 7 percent indicated they were limited in the amount and type of work they could perform (Hewitt et al 2003).
3. This burden does not rest solely on the cancer survivor or his or her family. As with any health problem that impacts works productivity, there is a cost to employers. Of course, there are medical costs, of which a large portion are often covered by the employer, but there are also real costs related to lost productivity, turnover, family medical leave and potential effects on coworker.
4. Our culture continues to perpetuate the view that an individual with cancer is somehow now defective. While at this point limitations in function often represent the sequelae of cancer and its treatment, the question we need to be asking is not can he or she do the work, but rather can the cancer survivor perform the essential tasks of his or her job and, if not, can he or she be reasonably accommodated to minimize the impact of the illness on work productivity? Yet employers and supervisors continue to perceive cancer survivors as poor risk for job loss. The outcomes can regrettably lead to a cascade of problems for the survivor, the workplace and society.
5. Accommodating workers with other medical conditions have been on the rise; however, a study completed by my research group using litigation data from 1990-1996 indicated that cancer accounted for 7% of all impairments involved in EEOC litigation related to failure to accommodate (Huang and Feuerstein, 1998).

Case Example. I am a 55 year old tenured full professor. I was brought to the Uniformed Services University to develop and direct the first and only clinical psychology PhD program for the military in the US 10 years ago at the request of Congress. I never had any problems at work. Work was and still is a major aspect of my life. I was a high achiever. In the summer of 2002, I was diagnosed with a malignant brain tumor. I had surgery to biopsy the tumor the maximum radiation tolerable and 12 months of chemotherapy. I now receive MRIs every 4 months. I am a cancer survivor.

I return to work two weeks after brain surgery and worked throughout my radiation and chemotherapy. I myself experienced problems reintegrating into the workplace. The unexpected problem was my supervisor's reaction to me, not my health. I returned to work to find out from a secretary that some research space and a part-time research assistant were no longer available. I went into my supervisor's office and asked why? He told me that I did not need these anymore because I was no longer normal. Fortunately, I was able to resolve this matter through frank discussion and support of colleagues. I also experienced a number of other workplace challenges following my diagnosis including the denial of my request for an accommodation that I sincerely believe was reasonable.

Future Needs Related to NORA. Given the challenges that I and other cancer survivors experience at work I recommend NORA add cancer survivorship and work to its agenda over the next decade. Specifically, research in the following areas should be seriously considered:

1. Epidemiological studies of this burden at a population health level.

2. Identification of modifiable risk factors.
3. Detection and long-term surveillance of problems in affected workers.
4. Evidence based cost effective approaches that address the problems cancer survivors experience in returning to work, work retention and work productivity.
5. National and state policy on more effective ways to address this problem at a system level.

Thank you.

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Messner, C., & Patterson, D. (2001). The challenge of cancer in the workplace. *Cancer Prac*, 9(1), 50-51.

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Note: Retyped written expansion of verbal comment, which was numbered W262.

Comment ID: 4610.01

Categorized with the following terms:

Sectors

Manufacturing
Services

Population

Health outcomes; diseases/injuries

Cancer
Reproductive
Neurological effect/mental health

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research
Exposure assessment
Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2006/01/23:

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NIOSH Town Meeting, Houston, Jan 23, 2006

Brominated Flame Retardants (BFRs) and Worker Safety and Health

Brominated flame retardants (BFRs), especially polybrominated diphenyl ethers (PBDEs) are widely used in the U.S.A. to reduce fire injuries. They are found in television sets, computers, fax machines, in some

textiles, in Styrofoam in chairs and mattresses, and in carpet padding (Birnbaum and Staskal 2004). These brominated flame retardants are currently found in all persons studied to date in the USA, whether in blood or milk, fat tissue or in fetal liver (Hites 2004; Schechter et al 2006; Schechter et al. 2005b; Schechter et al. 2003; She et al. 2002).

Levels of one type of these, polybrominated diphenyl ethers of PBDEs, are orders of magnitude higher in the U.S.A. than found elsewhere worldwide (Schechter et al. 2005b; Siodin et al. 2004). High levels have been reported in U.S. household vacuum sweepings and on office computer and computer monitor wipes (Schechter et al. 2005a).

There is both structural and toxicological similarity of PBDEs to PCBs. Animal studies with PBDEs show similar health outcomes, cancer, reproductive and developmental toxicity, endocrine disruption and central nervous system alterations (Birnbaum and Staskal 2004). No human health studies have been published at this time.

The only occupational study is from Sweden. Worker studies in Swedish electrical recycling workers showed elevated PBDEs in blood of workers. After worker protective measures were instituted, levels decreased (Sjodin et al. 1999; Thuresdson et al. 2004). The elevated PBDEs levels reported in exposed Swedish workers were lower than the general population levels in persons living in the U.S.A.

It is believed that some US workers are at risk from PBDE and other BFR exposure. Exposure and health studies are urgently needed to document exposure and also possible adverse health consequences from such exposures.

Workers at risk include those involved in manufacture of brominated flame retardants, those involved in putting BFRs on or into electronics, textiles, or Styrofoam, those involved recycling such materials, first responders such as firefighters, police and emergency medical specialists, as well as garbage disposal workers, among others.

Since PBDE levels in humans have gone from not detectable in the 1970's in the USA to the highest in the world in the early 2000s (while dioxins, dibenzofurans and PCBs have declined) (Schechter et al. 2005b) it is of considerable urgency to determine which workers are exposed, how such exposure can be decreased, and what the health consequences are of worker and general population exposure.

References

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Hites RA. 2004. Polybrominated diphenyl ethers in the environment and in people: a meta-analysis of concentrations. *Environ Sci Technol* 38(4):945-956.

Schechter A, Pavuk M, Papke O, Ryan JJ, Birnbaum L, Rosen R. 2003. Polybrominated diphenyl ethers (PBDEs) in U.S. mother's milk. *Environ Health Perspect* 111(14): 1723-1729.

Schechter A, Papke O, Tung KC, Joseph J, Harris TR, Dahlgren J. 2005b. Polybrominated diphenyl ethers (PBDE) levels in U.S. computers and domestic carpet vacuuming: possible sources of human exposure. *J Toxicol Environ Health A* 68(7):501-513.

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Note: Retyped written expansion of verbal comment, which was numbered W526.

Comment ID: 4611.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Unspecified

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Engineering and administrative control/banding
Intervention effectiveness research
Work-site implementation/demonstration
Emergency preparedness and response

Partners

physical therapists

Categorized comment or partial comment:

Written expansion of verbal comment 2006/01/17:

Thank you for the opportunity to provide comments to NORA about the future areas of research in order to reduce the incidence of WMSDs. My name is Janet Peterson and I am a physical therapist and ergonomist in the Seattle area. I also am a current board member of the American Physical Therapy Association [APTA] and a past president of the Physical Therapy Association of Washington [PTWA].

In looking at future research directions, I'd like to encourage NORA to consider an interdisciplinary model when creating research teams. The various disciplines of engineering, epidemiology, medicine, psychology, physical therapy, and basic scientists working together with "end user" businesses and industry can produce a more comprehensive outcome than a single discipline working alone.

One example of this is the upcoming collaboration between APTA, the Association of Rehabilitation Nurses (ARN) and the American Occupational Therapy Association (AOTA) on a project entitled "Therapeutic Use of Patient Handling Equipment". This is a continuation of a very successful collaboration with the ARN last year when we developed and published a white paper on safe patient handling. The purpose of the upcoming program is to develop clinical tools that will assist the clinician in the selection, implementation and assessment of safe patient handling technologies to reduce the risk of injury for both caregivers and patients.

Physical therapists are well-suited to assisting in the research of work-related musculoskeletal disorders. The knowledge base of physical therapists includes:

- Anatomy
- Biomechanics and mechanics
- Kinesiology
- Pathokinesiology
- Motor Control
- Statistics
- Epidemiology
- Ergonomic Processes

Physical therapists are educated at the doctoral (70% of physical therapy programs) or the master's degree level, are licensed in all 50 states, and work in a wide variety of settings including research and industry.

There is evidence that repetitive motion, stressful postures and forceful exertions are associated with a variety of musculoskeletal disorders (MSDs):

- Silverstein, MA, Silverstein BA, Franklin GM. Evidence for work-related musculoskeletal disorder: a scientific counterargument. *J Occup Environ Med.* 1996;38:477-484.
- Waddell, G and Burton, AK. Occupational health guidelines for the management of low back pain at work: evidence review. *Occup. Med.* 2001; 51(2) 124-135.

There is evidence that exposure to computer workstation job tasks increases the incidence of musculoskeletal disorders (MSDs):

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There is evidence that return to work depends on an increase in functional abilities:

- Lindstrom I, Ohlund C, Nachemson A. Physical performance, pain, pain behavior and subjective disability in patients with subacute low back pain. *Scan J Rehabil Med.* 1995; 27:153-160.
- Waddell, G and Burton, AK. Occupational health guidelines for the management of low back pain at work: evidence review. *Occup. Med.* 2001; 51(2) 124-135.

APTA applauds NORA's efforts to seek further evidence to assess the most effective interventions for decreasing the risk for work-related injuries; we invite you to include physical therapists in those efforts.

Sincerely,

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Note: Retyped written expansion of verbal comment, which was numbered W462.

Comment ID: 4612.01

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Traumatic injuries

Exposures

- Violence
- Work-life issues

Approaches

- Surveillance
- Etiological research
- Training
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Authoritative recommendation
- Marketing/dissemination
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

- National Institute of Mental Health (NIMH); Centers for Medicaid and Medicare (CMS); American Psychological Association (APA); American Hospital Association; Joint Commission for the Accreditation of Healthcare Organizations (JCAHO); Occupational Safety and Health Administration (OSHA)

Categorized comment or partial comment:

Written expansion of verbal comment 2005/12/05:

NORA II Testimony

Author: Kathleen M. McPhaul, PhD, MPH, RN, Assistant Professor

Affiliation: University of Maryland School of Nursing, Baltimore, Maryland

Co-Investigator/Investigator NIOSH supported workplace violence intervention research studies involving mixed methods such as qualitative injury and participatory action research.

Planning Committee Member: Partnering in Workplace Violence Prevention: Translating Research to Practice: National Workplace Violence Conference sponsored by NIOSH (2004)

Industry sub sector: Cross Sector- Healthcare and social services; Services, Retail, and Transportation

Occupational Exposure: In each year from 1993-1999 1.7 million incidents of violence occurred in the workplace. Twelve percent of all victims reported physical injuries. Six percent of the workplace crimes resulted in injury that required medical treatment. Only 46 percent of all incidents were reported to the police. Mental health professional had an incidence rate of 68 per 1,000 workers compared with an overall rate of 12 per 1,000 workers. Nurses had an incidence rate of 22 per 1,000 workers, the highest rate in the "medical" category.ⁱ In a Washington State psychiatric facility, 73 percent of staff surveyed had reported at least a minor injury related to an assault by a patient during the past year; only 43 percent of those reporting moderate, severe, or disabling injuries related to such assaults had filed for workers' compensation. The survey found an assault incidence rate of 437 per 100 employees per year, whereas the hospital incident reports indicated a rate of only 35 per 100.ⁱⁱ

Jobs and/or occupations involved: Multiple transportation and retail jobs. Professional and para-professional healthcare providers and support staff including (but not limited to) nurses, community, mental health case workers, nurse's aides, mental health technicians, addictions counselors, psychologists, social workers, physicians, security workers in healthcare

Barriers and Challenges to Implementation of Workplace Violence Prevention Efforts

The lack of effectiveness data and the overall culture of violence within society present formidable challenges to the workplace violence prevention community. Unless there is a tragedy, most employers are willing to allow competing demands to take precedence over workplace violence. In many industry sub-sectors such as healthcare, violence is embedded in the workplace culture and considered "part of the job". Regulatory solutions, such as an OSHA standard requiring workplaces to institute effective workplace violence programming depend on solid cost and effectiveness data.

Type of new information or action that is needed (for example, data to describe the problem, research to obtain new knowledge, evaluation of existing solutions, or moving known solutions into widespread practice)

The workplace violence base has broadened considerably in the last decade, however, basic information about situational and environmental triggers, characteristics of both perpetrators and victims, and most, importantly, conclusive data on effective preventive strategies are lacking. For example, the true frequency of workplace violence, especially, verbal violence is not known. We cannot estimate the true risk of violence directed toward staff by job title, service setting, client type, time of day, staffing levels, or by situational or environmental variables. Motivating employers, workers, and policy-makers to devote time and resources is made more difficult without firm prevalence figures.

A related gap is the absence of data on the cost of workplace violence and the cost-effectiveness of prevention strategies. While cost is not the only measure of success of workplace violence prevention, employers and regulators respond to empiric cost studies. Employers are particularly interested in data that allows them to determine the "return on their investment". Employers may not need every intervention to pay for itself, but they want to understand the cost relative to the benefit. Creative

approaches to cost research include establishing the cost effectiveness of a “non-event” or assault that has been prevented. Other costs that should be considered are the costs of staff turnover such as training new personnel and the indirect costs to employers and employees of reduced morale secondary to a violent workplace.

There is a need to identify and describe successful management systems for tracking workplace violence and related follow-up actions. These systems may be in place in private workplaces, but considered propriety information thus not shared by employers to the field. NIOSH, however, can include the development and testing of such systems in its research grant programs.

Workplace violence prevention training is a critical and powerful preventive strategy when effective. There are a myriad of gaps, however, in our understanding of the most effective training. For example, the training evidence base, including content, effective teaching methods, and intervals between sessions, is currently insufficient to guide the field.

Not all information gaps represent gaps in basic research. Many elements of the workplace violence prevention evidence base are available, but not widely or appropriately disseminated. For example, the definition of workplace violence is not universally understood by employers and workers, even though it has been published. Specifically, there seems to be widespread misunderstanding of the nature of Type II violence in hospitals, schools, and social services. The employer and worker communities appear to focus on and be more concerned about worker on worker violence (Type III). Strategies for timely translation of workplace violence research into occupational health practice must be better understood.

Partners that need to work together to address the problem

Yet perhaps unlike regulating other hazards, violence prevention in healthcare and human services will require the involvement of the patient care quality community such as the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) and healthcare regulatory bodies within the Department of Health and Human Services. The patient safety and worker safety communities must work together. Crucial agencies include the National Institute of Mental Health (NIMH), the Centers for Medicaid and Medicare (CMS), American Psychological Association (APA), American Hospital Association, Joint Commission for the Accreditation of Healthcare Organizations (JCAHO), Occupational Safety and Health Administration (OSHA), NIOSH, professional societies, law enforcement and legal experts, and worker and patient advocate groups. NIOSH must also prioritize workplace violence by making the issue more visible via public information campaigns.

Summary and Recommendations

In summary, prevention of Workplace Violence is hampered by public ignorance and misunderstanding of the problem (especially in healthcare), underreporting of low level and verbal violence, and an inadequate understanding of effective prevention strategies. Furthermore, workplace violence is highly complex and requires the commitment and involvement of management, employees, and customer/clients. Additionally healthcare and social services industry accreditation efforts and government patient and worker safety regulations must be coordinated in order to develop meaningful regulation and avoid burdensome and futile regulatory requirements.

The following questions should guide the research agenda for workplace violence:

1. How prevalent is the full continuum of workplace violence including verbal abuse, verbal threats, and non-fatal assaults with and without injury?

2. What are the organizational attributes that contribute to successful workplace violence prevention?
3. What training content, methodologies, and intervals result in optimal staff and management knowledge and behaviors to prevent workplace violence?
4. What are the direct and indirect costs of not implementing a successful workplace violence prevention strategy?
5. How can private industry provide and share prevalence and “best practices” data to accelerate intervention effectiveness research and still meet rigorous scientific and peer review standards?
6. How can basic workplace violence research be translated in a timely manner to occupational health practitioners, employers, and workers?

iDuhart, D. (2001). Violence in the Workplace 1993-1996: Special Report Bureau of Justice Statistics National Crime Victimization Survey (NCJ 190076).

iiBensley L, Nelson N, Kauffman J, Silverstein B, Kalat J, Walker J. Injuries due to assaults on psychiatric hospital employees in Washington State. *Am J Ind Med* 1997; 31:92-99.

Note: Retyped written expansion of verbal comment, which was numbered W260.

Comment ID: 4613.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Older

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding

Training

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Written expansion of verbak comment 2005/12/05:

Ergonomics in Healthcare

I. Thank you for the opportunity to present some of the challenges and research opportunities for addressing the incidence of illness and injury in the healthcare industry. As a nurse who has worked in hospital, home care and nursing homes and a health and safety professional, this is a topic of personal and professional concern. For the purpose of this presentation, I focus my remarks on NACS code 623000 and 622000 Nursing and Residential Care Facilities and Hospitals, respectively.

II. Employment in Hospitals and Nursing Homes is estimated to exceed 7 million. While this number is impressive, it is far below the number necessary to serve the needs of our aging population. The U.S. Department of Labor estimates that we have over 100,000 vacant healthcare positions, as we anticipate the beginning of retirement for 78 million "baby boomers" in the year 2010. At the same time our nurses are aging, with an average age approaching 50. Estimates of the lack of availability of nursing care are astounding. The Department of Health and Human Services has reported that by 2020 we will need 2.8million nurses, 1 million more than the projected supply. Our healthcare workforce crisis is not limited to nurses. The American Hospital Association projects severe workforce shortages in clinical and non-clinical workers, including: nurses, radiology technicians, pharmacists, medical records personnel,

housekeepers and food service personnel. It is most disturbing to recognize that the Joint Commission on Accreditation of Hospitals (JCAHO) has identified thousands of hospital deaths each year related to the nationwide nursing shortage.

III. What does our healthcare workforce crisis have to do with ergonomics and injury prevention? The connection becomes quite clear when we acknowledge that healthcare workers are leaving the profession at an alarming rate, partly due to health and safety concerns and continue to be injured at rates that far exceed our rate of injury in private industry. A 2001 American Nurses Association survey confirmed that nurses are concerned about their health and safety at work. 88% of the responding nurses reported that health and safety concerns influenced their decision to stay (or leave) nursing. 60% identified disabling back injury within their top 3 health and safety concerns.

Bureau of Labor Statistics data support the extent of our healthcare worker injury crisis. The rate of non-fatal occupational injuries and illnesses in the private sector in 2004 was 4.8 per 100 full-time equivalent workers, while hospitals reported a rate of 9.7 and nursing homes, 8.3. Of particular note is the rate for "all other illness cases", where the OSHA recordkeeping standard directs us to record our cumulative workplace injuries. The private industry rate per 10,000 full-time workers is 18.0 versus 54.3 in hospitals and 26.4 in nursing homes.

IV. The Maryland Center for Environmental Training recently completed an Ergonomics Train-the-Trainer program funded by an OSHA Susan Harwood grant, in cooperation with the Johns Hopkins Bloomberg School of Public Health Education and Research Center and the Institute for Johns Hopkins Nursing. Development and delivery of the train-the-trainer curriculum allowed us entrance into 13 Maryland-based nursing homes. Delivery of the curriculum with the support of Maryland Occupational Safety and Health, facilitated our interaction with representatives of an additional 27 Maryland-based healthcare facilities. Anecdotal data collected through the delivery of this training is indicative of how far we have to go to improve the health and safety of this critical working population.

-- Of the 195 attendees from our on site program, only 1 had read or reviewed OSHA's Ergonomics Guideline for Nursing Homes prior to attending our training session.

-- Pre-planning site visits to facilities identified care-givers working without the benefit of electric beds and assistive resident handling devices, while we are preaching and teaching concepts of neutral body postures and zero lifting policies.

-- Ancillary department staff, including laundry, housekeeping and food service is consistently left out of injury prevention initiatives, while being exposed to significant risk for injury, especially in manual material handling.

-- Certified nursing assistants and nurses that teach nursing assistants, when asked, admit that prevention of work-related injury is not currently included in their training.

-- Registered nurses describe working in a "patient-focused" environment with little room for "workers-focus" and the prevention of worker injury.

V. We strongly urge NIOSH and other partners to address the question of how we will prevent work-related injury within our healthcare workforce. The answer to our healthcare staffing crisis is not in recruitment and training alone but should incorporate strategies for keeping our existing workers at work and those entering the healthcare workforce safe and injury-free in the future.

Areas for future research may include:

- Injury prevention strategies for an aging workforce;
- Economic models for justification of patient handling and material handling equipment;
- Exploration of our educational system for certified and licensed healthcare professionals with consideration of opportunities to incorporate concepts of injury prevention and ergonomics;
- Methods of evaluation of current injury prevention training and
- Effective means for dissemination of injury prevention information within the healthcare industry.

Note: Retyped written expansion of verbal comment, which was numbered W272.

Comment ID: 4614.01

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Economics

Authoritative recommendation

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2005/12/05:

Good morning, my name is Cherise Baldwin Harrington. I am speaking on behalf of Dr. Michael Feuerstein from the Uniformed Services University in Bethesda, Maryland. I am a graduate student and a member of his research group here to discuss areas of importance to work disability.

Work disability is a source of significant cost to the worker, workplace, and society. As result of these problems a worker can find it hard to cope with persistent pain and changes in function that accompany these disorders while attempting to return to work or remain at work. This change in function and productivity can also exert a substantial financial burden (IOM, 2001). Costs to society derive from lost-time wage replacement, disability settlements and healthcare. In addition, there are indirect costs associated with training of replacement workers and lost tax revenues. Also it is interesting to note that when Dr. Feuerstein developed the Journal of Occupational Rehabilitation over 15 years ago he thought that perhaps the journal would gradually loose is popularity as the problem of work disability was solved yet almost two decades later it is stronger than ever with citations of research at its highest levels and

submissions from around the world continuing to increase. Clearly, work disability continues to be an important public health concern.

A major source of work disability continues to be musculoskeletal disorders of the back and upper limb. While most workers return to work within a month from a claim for a musculoskeletal disorder many who actually return to work continue to experience pain and disability. It is well known at this point that a small percent of these workers transition into prolonged disability and account for a disproportionate share of the health care burden. Also, in some cases back and upper limb pain can be recurrent and those returning to work with pain are at increased risk for future problems. Research from our group and groups from around the world strongly indicate that recurrent and prolonged work disability are influenced by a number of factors including the medical status of the individual, their physical condition in relation to work demands, various workplace and individual psychosocial factors and systems level variables (Feuerstein, 1991; IOM, 2001).

Data also suggests that by identifying workers at high risk for disability and intervening within a few months from the time of first report of pain or injury, disability can be prevented (Gatchel et al., 1995; Linton & Bradley, 1996). Our group has also investigated such outcomes as function, patient satisfaction, perceived health and costs related to health care in acute low back pain and have also identified a possible pathway for this prolonged pain and disability. We first observed in over 10,000 cases that provider adherence to clinical practice guidelines suggested workplace ergonomic evaluation and intervention as well as psychosocial intervention was associated with better outcomes and lower costs (Feuerstein et al., in press; IOM, 2001). In an prospective study on n=368 participants, to be published soon, we found that workers exposed to ergonomic risks reported greater job stress which in turn was related to higher levels of emotional distress and increases likelihood of returning to the clinic with persistent back pain (Feuerstein et., in press). Future efforts need to investigate these relationships more closely and develop innovative approaches at the workplace to address these areas realistically and head on. Currently, this pathway is either ignored or held out as possible explanation only months after persistent pain leads to prolonged disability and a series of other problems for the worker and workplace emerge. It is time the integrative role of these factors is studied more seriously and cost effective approaches are developed to mitigate them.

Another important concern is the risk of recurrent disability following return to work (Butler et al., 1995). In preventing reinjury, accommodations are often helpful (Hogg-Johnson & Cole, 1998). Work disability is further impacted by the complexities often involved in truly implementing these accommodations over the long run and assessing their impact. Research done by our group some years ago indicated that musculoskeletal disorders accounted for 23% of all impairments involved in litigation for failure to accommodate under the Americans with Disabilities Act (Huang & Feuerstein, 1998). Have things changed?

The concerns associated with work disability do not discriminate in job type or setting. The prevalence of these problems emphasize that more attention be placed on identifying the relevant risk factors for onset, progression, maintenance, and the effects of innovative interventions. Also, it is important to note that BLS data indicate that more workers return to work with pain than ever before (IOM, 2001). Is that the solution? Probably, not.

It is recommended that NORA reconsider what needs to be done about work related musculoskeletal problems and work disability in the following areas:

1. Well-controlled epidemiology studies on the interactions and pathways among multiple risk factors and their relationship to work disability.
2. Randomized controlled trials (RCTs) based on work from recommendation number 1 to identify effective long-term interventions for work disability.
3. Research on policy that helps facilitate the recognition and need for approaches that address the multiple factors involved in world disability that maximize the application of evidenced based policy. There needs to greater awareness that by focusing on multiple factors we are not blaming workers or labeling workers with psychological problems. Workers experience natural reactions to injury, pain and workplace stress that combine to create a situation that is often fueled by the way we look at this process and manage it. Armed with new data it is time to seriously tackle the problem from a broader perspective.

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- Note; Retyped written expansion of verbal comment, which was numbered W263.

Comment ID: 4615.01

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Exposure assessment

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2005/12/05:

NIOSH DOCKET 047

NATIONAL OCCUPATIONAL RESEARCH AGENDA

PROPOSED RESEARCH PRIORITIES FOR THE AIR TRANSPORTATION SECTOR

Judith Murawski, Industrial Hygienist

Association of Flight Attendants-CWA, AFL-CIO

December 14, 2005

What follows are comments for NIOSH and its NORA partners to consider as they develop research agendas and action plans for workers in the air transportation sector (NAICS code 481) in the next decade. While the research agenda described here has an obvious benefit to the 115,000 flight attendants and 80,000 pilots employed in the aviation industry, it would also benefit any workers exposed to tricresylphosphates (TCPs), including mechanics, oil rig workers, and machinists that use cutting oils.

In the past ten years, NIOSH has funded a series of studies on flight attendant health, although for the most part, this is a research area that has largely been ignored, perhaps partly because OSHA has no jurisdiction over flight attendants when they are working on an aircraft in operation, and partly because in many people's minds, flight attendants are just waitresses that fly, so what could be hazardous about that?

Thanks to the 4(b)(1) clause in the Occupational Safety and Health Act, the Federal Aviation Administration (FAA) assumed jurisdiction over the health and safety of crewmembers in 1975. Unfortunately though, the FAA has not yet exercised that jurisdiction and does not have the expertise to do so. In short, crewmembers are an occupational cohort in serious need of attention.

The three research gaps described here all relate to the hazards posed by exposure to partly combusted and aerosolized engine oil. As such, they are presented together. Exposure to partly combusted engine oil may sound more like a hazard that would only apply to maintenance workers but it is not: We know that the aircraft air supply gets contaminated because the aircraft mechanical records confirm it and the ventilation ducts are coated with oil afterwards. We know all aircraft engine oils contain up to 3% of the neurotoxic TCPs, and that carbon monoxide gas can be generated upon heating. We know that TCPs get distributed to the cabin because they have been identified on aircraft recirculation filters. We know that many crewmembers around the world have reported severe neurological symptoms that are consistent with exposure to organophosphates and carbon monoxide during and after these events. We know that these events happen approximately 1 per 1000 flights on the more problematic aircraft types, and we certainly know that even for a single event, the impact on workers can be devastating. Supporting documentation for all of these statements is available upon request.

The best way to put the specific research gaps in context and emphasize the importance of filling them is to provide an example: On October 8, 2005, three flight attendants flying on a major US airline on a domestic flight noticed a strong smell like dirty socks in the aircraft cabin upon descent. The smell was that of carboxylic acids, a component of heated engine oil. The flight attendants all felt disoriented and sick to their stomachs. They were having difficulty breathing. They called up to the cockpit to find out that the pilot and copilot were aware of the situation and had both been feeling faint and were both on oxygen but would not deploy the masks in the cabin because it “wouldn’t be cost effective.” Emergency vehicles met the aircraft upon landing and the mechanics confirmed that heated oil had leaked into their air supply system. The three flight attendants had sore throats, bad headaches, weak muscles, and felt unusually fatigued. When they felt worse the next day, they reported to the local Emergency Room, although the staff had no idea what to do with them. Since then, these crewmembers have developed problems with memory and concentration; they are regularly weak and fatigued; they have tingling and pain in their hands and feet; they have periods of lightheadedness and confusion. One has been told that she may have Multiple Sclerosis; the second has been told that TCPs are not toxic and that she should see a therapist; and the third was told that her abnormal liver test results are likely due to Hepatitis, despite the fact that she was vaccinated two years ago.

Clearly, these crew members would have benefited from air monitoring in the air supply system during the flight. A simple blood test that would either confirm or deny TCP exposure would have saved them countless hours and doctor visits and unnecessary tests. Such a blood test would also save the airlines the expense of sending crewmembers to countless doctors, once they are made to pay the worker’s compensation costs. Finally, the physicians that these crewmembers are meeting with for diagnosis and relief would clearly benefit from a published paper that describes the relationship between inhalation exposure and neurological illness. These are the research gaps that need to be filled.

The first two research gaps concern exposure assessment: what level of exposure to TCPs are workers exposed to during one these events and what biomarkers are available to identify and quantify what crewmembers are exposed to during a flight?

The third research gap addresses health effects: what systematic scientific studies have been published on the chronic, central nervous system effects of inhalation exposure?

Exposure assessment:

On the subject of exposure, there is currently no requirement for airlines to install air monitoring equipment on commercial aircraft. It is of interest to note, however, that a draft aircraft air quality standard recently released by the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) does require continuous monitoring of appropriate chemical contaminants in the aircraft supply systems to enable crewmembers to respond to a contamination event and to provide proof of exposure. The draft ASHRAE standard echoes the recommendations of the 2002 National Research Council (NRC) Committee on Air Quality in Passenger Cabins of Commercial Aircraft for the FAA to require air supply monitoring in ducts that supply the passenger cabin and establish standard operating procedures for responding to elevated concentrations. Exposure monitoring would also respond to the following specific research question that the NRC Committee posed in their final report: "How are these oils, fluids, and degradation products distributed from the engines into the ECS and throughout the cabin environment?"

Currently, there is no commercially available technology to continuously monitor for ambient TCPs at low concentrations in real time. NIOSH could address this research gap by funding a one-year biosensor research project to apply technology that has been developed and applied for the military to commercial aircraft. To date, biosensor research has identified and isolated animal antibodies that only react to particular chemical agents (such as ricin and anthrax). These antibodies are housed in sensor equipment and, upon exposure, they bind to the specific airborne chemical agent at a rate that can be quantified and converted into a concentration at ppb level in real time on a continuous monitoring basis. The sensor unit now being developed is likely to cost less than \$25K and is the size of a child's lunch box. TCP-specific animal antibodies exist but need to be identified and isolated so that this technology could be applied to quantify ambient TCP levels on a real time basis in the cabin and cockpit.

Another research gap with serious implications for exposed workers is that there is no TCP-specific blood test, such that these workers are without direct proof of exposure and absorption. It is of great interest that TCP has been demonstrated to modify a commercially available pig liver enzyme in a way that is not only detectable but is quantifiable. Research funds for a one to two-year project are needed to apply these findings to develop a TCP-specific test for human blood. The need for a diagnostic tool that would confirm exposure is also supported by the 2002 NRC report per the Committee's recommendation for health surveillance program that would "allow [for the] analysis of the suggested relationship between health effects or complaints and cabin air quality."

Health effects:

There are published studies that report that when test animals ingest these oils or individual isomers of TCP they show delayed effects, largely to the peripheral nervous system and partly to the central nervous system. However, the studies conducted to date are inadequate for the following four reasons:

First, workers are not ingesting these oils and there is evidence that inhalation may have very different toxic effects than ingestion. Second, these studies have not included postmortem analyses to identify damage to parts of the brain involved in cognitive functioning, Third, TCP isomers vary in their neurotoxic effect, but there is no guarantee that the mixtures of TCP isomers that have been tested

reflect the mixtures that workers are inadvertently inhaling on the job. Finally, the engine oil manufacturers paid for the inhalation studies, so there is an inherent conflict of interest.

Crewmembers need NIOSH to take the lead in funding inhalation studies of these engine oils with a focus on damage to the parts of the brain involved in cognition. Such research would respond to the following specific research questions raised in the 2002 NRC Committee report: "What is toxicity of the constituents or degrading products of engine lubricating oils, hydraulic fluids, and deicing fluids, and is there a relationship between exposures to them and reported health effects on cabin crew?"

Dr. Mohamed Abou-Donia at Duke University and Dr. Christian van Netten at the University of British Columbia are experts in this field and could readily fill this research gap.

Conclusion:

Each of these three projects-the biosensor to detect TCPs in real time, the TCP-specific blood test, and the engine oil inhalation research-could be funded well within typical NIOSH grant levels and are estimated to take one to two years to complete, depending on the available funding. NIOSH would be filling major research gaps by answering questions that have been left unanswered for decades with obvious benefits for workers in the transportation sector and beyond.

Sincere thanks to NIOSH and its NORA partners for taking the time to learn about this workplace hazard that affects so many transportation sector workers. We hope that NIOSH will elect to fund the research described here in order to fill the knowledge gaps and develop the practical tools that are sorely needed by flight attendants and pilots alike.

Note: Retyped written expansion of verbal comment, which was numbered W281.

Comment ID: 4616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Work-life issues

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2005/12/05:

MARYLAND COLLEGE OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE
A COMPONENT SOCIETY OF
AMERICAN COLLEGE OF
OCCUPATIONAL AND
ENVIRONMENTAL MEDICINE

December 2, 2005

Docket NIOSH-047

Robert A. Taft Laboratories (C-34)

4676 Columbia Parkway

Cincinnati, OH 45226

Dear Sir or Madam:

The Maryland College of Occupational & Environmental Medicine (MCOEM) is pleased to submit these comments on NIOSH's National Occupational Research Agenda (NORA). MCOEM is a voluntary non-profit association of over one hundred physicians and allied health care providers in the state of Maryland. Our members practice occupational medicine in factories, clinics, hospitals, military bases, and academic centers from the shores to the mountains. We, collectively, care for tens of thousands of Maryland workers who directly benefit from our professional efforts and the efforts at NIOSH to produce quality occupational research.

We applaud NIOSH's solicitation of comments on such a significant pathway for guiding the agency for the next decade and beyond. We recognize the accomplishments from the first decade of NORA and like the aspiring athlete we encourage NIOSH to excel further. We fully subscribe to the proposition that NORA is setting an agenda not only for NIOSH but for Occupational & Environmental evidence based medicine.

While there are many issues that deserve attention from researchers, given the ongoing changes in the U.S. workplace and the field of occupational/environmental health, we have identified several areas that we feel should be priorities for occupational health research in the coming years:

- Mental health and organizational psychology
- Indoor environments
- Emerging diseases
- Emergency preparedness
- Delivery of occupational health services to small-and medium-sized employers
- Cost-effectiveness of occupational health services
- Vulnerable populations
- Effects of chronic disease on work and working populations

The issue of mental health in organizations is large. We know that the combination of affective and other disorders in the workplace has imposed huge direct and indirect costs on many employers. In addition, the role of mental health in productivity is only just beginning to be appreciated. NIOSH should seek opportunities to partner with other Federal and private research intuitions to foster research in this area.

Comment ID: 4616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Indoor environment

Work-life issues

Approaches

Etiological research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Similarly, we know that workers spend a sizable amount of time indoors, yet the science of indoor environments is still fairly young and at times chaotic. Much more work is needed to understand the complex interplay between indoor environments, work, physical and mental health, quality of life and productivity. We applaud NIOSH's efforts in this area to date, but would still regard it as in need of further emphasis.

Comment ID: 4616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Infectious diseases

Exposures

Approaches

Engineering and administrative control/banding
Personal protective equipment
Intervention effectiveness research

Partners

Categorized comment or partial comment:

As demonstrated so sadly following 9/11/2001 and the anthrax exposures, the nation looked long and hard for expertise in safe remediation measures. This is an area where NIOSH has particular expertise and could identify and demonstrate appropriate remediation techniques, including worker protection.

MCOEM urges NIOSH to consider that the threat of emerging infectious diseases requires a reserve of resources and their preparedness while the nation's improvement in hearing conversation warrants applause more than further basic science research. Likewise, finding effective personal protective equipment, e.g. respirators and gloves, warrants more investigation than the association of cigarette smoking with chronic obstructive disease.

Comment ID: 4616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The delivery of occupational health services to small and medium-size employers is a critical issue. NIOSH has an opportunity to demonstrate through research and effectiveness of different models of occupational safety and health and occupational health care delivery.

Comment ID: 4616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Authoritative recommendation

Health service delivery

Partners

Categorized comment or partial comment:

Similarly, there are many practices in occupational safety and health that have been used for years for which there are few, if any, data demonstrating their effectiveness. In this time of evidence-based medicine, NIOSH should work to promote the development of reference data bases as well as research programs that can begin to answer questions about whether commonly used therapeutic or preventive strategies actually work.

Comment ID: 4616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Older

Language/culture/ethnicity

Disability

Other

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Etiological research

Intervention effectiveness research

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Finally, there are two additional issues that we feel should be priorities for the coming years. First is the issue of vulnerable populations. There have been tremendous changes in the workforce which continue today. These include the aging of the workforce, an increase in women in the workforce, increasing numbers of migrant and non-English speaking workers, dual working parents, workers with chronic diseases or permanent impairments, and other demographic shifts. NIOSH should promote research to understand what these shifts portend for the health and safety of workers.

Comment ID: 4616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Disability

Health outcomes; diseases/injuries

Exposures

Work-life issues

Approaches

Etiological research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The other issue concerns the effects of chronic diseases-asthma, diabetes, HIV/AIDS, obesity, cancer heart disease, rheumatologic disorders, to name a few-on safety, health, and productivity in the workplace. As more and more workers with disabilities are staying in the workforce, the effects of these disorders on safety and health professionals is more complex and deserving special attention.

Comment ID: 4616.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Capacity building

Partners

Categorized comment or partial comment:

MCOEM is a professional organization and we firmly believe that professional involvement in the research, application, and policy making at NIOSH is critical. It is commonly recognized that medical care in the United States is in transition. Different approaches are being empirically followed in the quest for quality and fiscal frugality. We applaud NIOSH's continuing commitment to the training of qualified occupational health professionals who can advance the profession of occupational medicine through practice and research. We want to stress that well trained occupational physicians are graduating from some of the nation's finest medical training programs, it is vitally important that there be adequate resources to support research and clinical outreach programs at NIOSH. Partnering with stakeholders should never be substituted for seeking the best medical care possible for American workers. Rather, it should be viewed as an opportunity to educate the decision makers, employers and the work force.

MCOEM appreciates this opportunity to comment on NORA. We remind NIOSH that our patients and our nation's public health benefit from NIOSH research. We steadfastly support quality improvement at NIOSH, and believe that NIOSH must be provided with the resources necessary to carry out this vital public health research agenda.

Respectfully submitted,

Marianne Cloren, MD, MPH
President, Maryland College of Occupational
And Environmental Medicine

Note: Retyped written expansion of verbal comment, which was numbered w264.

Comment ID: 4617.01

Categorized with the following terms:

Sectors

Services
Unspecified

Population

Older
Disability

Health outcomes; diseases/injuries

Neurological effect/mental health

Exposures

Work organization/stress
Work-life issues

Approaches

Etiological research
Economics
Marketing/dissemination
Health service delivery
Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2005/12/05:

Mental Health Issues in the Workplace

Martina Lavrisha, RNC, MSN, MPH

NORA Town Hall Meeting

College Park, Maryland

December 5, 2005

I appreciate this opportunity to describe the need for research regarding mental health issues in the workplace. As mental health professional, I have heard numerous complaints from individuals with mental illness regarding the stress of work on their ability to function. In preparing for today, I spoke with colleagues in the Northern Virginia area regarding job stressors that their patients were experiencing. The following are the responses I received:

-- lack of flexibility by management in the service industry regarding childcare and transportation issues

- perceived lack of empathy by management regarding the effects of mental illness on job performance by government services workers
- underutilization of their skills and being "bored" as having chosen a less stressful occupation due to the severity of their illness
- an increase in workload without due compensation and the unvoiced expectation by management that this is acceptable
- difficulty navigating the insurance and short-term disability system and not knowing how much to disclose to the employer and peers upon returning to work
- ineffective interpersonal communication with management especially when receiving a "punitive" attitude to mistakes
- not obtaining treatment due to concern for job loss when working in the corrections field or for fear of jeopardizing one's security clearance.

Mental illness is on the rise worldwide and one of the leading causes of disability in North America and Europe. The Global Burden of Disease study unveiled that mental illness, including suicide, accounts for 15% of the burden of disease in the United States, which is more than the disease burden caused by all cancers.¹

Mental disorders are common in the United States and internationally. An estimated 22 percent of Americans ages 18 and older-about 1 in 5 adults or 44 million people-suffer from a diagnosable mental disorder in a given year with less than a third receiving treatment.² The cost of mental illness in both the private and public sectors in the U.S. is \$205 billion. Direct treatment costs are \$92 billion, with \$105 billion due to lost productivity, and an additional \$8 billion resulting from crime and welfare costs. The cost of untreated and mistreated mental illnesses to American businesses, the government, and families has grown to \$113 billion annually.³

Despite these statistics, US employers have been cutting back mental health services as a means of cutting costs with an 8% reduction of employers offering MH benefits from 1998 to 2002.⁴ This results in increased costs for the organization or society as a whole. For example, when a Connecticut corporation made a 30 percent cost reduction in mental health services, it triggered a 37% increase in medical care use and sick leave by employees using mental health services.⁵ Health plans with the highest financial barriers to mental health services have higher rates of psychiatric long term disability claims compared to companies with easier access and lack of access to care results in increased substance use and incarceration rates. Correctional facility costs are 4-5 time higher than community based treatment of mental illness.⁶

There continues to be stigmas and discrimination regarding mental illness despite scientific research supporting the biologic nature of these illnesses. There are a substantial proportion of Americans who view mental illnesses as a self-induced weakness thus discouraging individuals to seek treatment. At times, the afflicted individual does not have the awareness that they are ill which is due to the neurochemical changes in the brain. If mental health treatment is delayed, there is decreased productivity, greater absences and longer duration of [original was truncated here]

There continues to be stigmas and discrimination regarding mental illness despite scientific research supporting the biologic nature of these illnesses. There are a substantial proportion of Americans who

view mental illnesses as a self-induced weakness thus discouraging individuals to seek treatment. At times, the afflicted individual does not have the awareness that they are ill which is due to the neurochemical changes in the brain. If mental health treatment is delayed, there is decreased productivity, greater absences and longer duration of disability.⁶ Mental illness impacts not only the individual but also co-workers around them who have to compensate for the uncompleted work with an economic burden resulting. When individuals with mental illness return to work, an additional 5-9 hours of time is needed from supervisors and co-workers to help them return to their previous level of functioning.⁷

A current concern in occupational health is the effect of downsizing on the mental and physical health of employees. In the past decade, there have been hundreds of US businesses that have downsized and reorganized to reduce costs and improve efficiency. A number of studies have explored the effects of downsizing on the workers remaining at work. These “survivors”, especially those more directly involved with the downsizing process, have been found to experience worsening mental and physical health, increased stress, increase in job insecurity, or an increase in alcohol use. ^{8, 9} Organizational factors that have been identified as negatively impacting employee’s mental health are an increase in role ambiguity, role conflict, and lack of effective communication from management. Employees who have a negative affect, have an external locus of control, or perceive management as not being supportive or interested in their employees are less likely to accept organizational changes.¹⁰

Focus on ongoing research should include the evaluation of effective ways of disseminating current findings especially to management and policy makers to improve the mental health of US workers in all sectors. On going scientific research regarding the causes and effective treatments of mental illness is needed. Collaboration between occupational health, mental health, public health, advocacy groups, the insurance industry, and the labor industry is encouraged to educate the public about mental illness and encourage a business culture that promotes mental health. Of particular interest is the effect of the organizational restructuring on the mental health of aging American Workers who are more at risk for depression and the onset of chronic medical conditions. Ongoing studies of the economic costs of mental illness at all levels are encouraged for the sake of all Americans and this country’s prosperity.

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Accessed December 2005.

Note: Retyped written expansion of verbal comment, which was numbered W255.

Comment ID: 4618.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Dermal disease

Infectious diseases

Musculoskeletal disorders

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Radiation (ionizing and non-ionizing)

Violence

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Economics

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2005/12/05:

National Occupational Research Agenda (NORA)

Town Hall Meeting

College Park, MD

December 5th, 2005

Health Care And Social Assistance Sector

Testimony presented by Jane Lipscomb

Center for Occupational and Environmental Health and Justice

University of Maryland

I am here to support NIOSH's approach to the second phase of NORA by focusing on sector specific research. I am strongly in support of the focus on health care and social assistance sector. The University of Maryland's Center for Occupational and Environmental Health and Justice has been conducting research in this sector over the past six years, I have personally been focusing on health care workers health and safety for the past 25 years.

More than 10 percent of workers in the United States are health care workers. Characterized as people committed to promoting health through treatment and care for the sick and injured, health care workers, ironically, confront perhaps a greater range of significant workplace hazards than workers in any other sector. Hazards facing health care workers include biologic hazards, chemical hazards- especially those found in hospitals, including waste anesthetic and sterilant gases, hazardous drugs and industrial-strength disinfectants and cleaning compounds, physical hazards, such as radiation and ergonomic hazards, violence, psychosocial and organizational factors. Of concern great concern are the many health consequences associated with changes in the organization and financing of health care. The Social Services workforce although much more poorly characterized is the source of exposure to many of these same psychosocial and organizational factors that impact health care workers health and safety. Research is needed to begin to understand the risk factors and control strategies for preventing injury among this large and diffuse workforce.

In the limited time allotted here I will provide a brief overview of hazards and research needs associated with the healthcare and social assistance sector, while my colleagues Drs. Johnson and McPhaul will focus on the hazards of occupational stress and workplace violence respectively. We will all speak to the need for support for intervention effectiveness research within these sectors.

In 2004, the BLS injury and illness rate among hospitals workers (8.3 per 100 workers) was nearly double that of the overall private sector rate (4.8) and higher than rates for workers employed in mining, manufacturing, and construction. Although injury and illness rates have been declining among all sector workers, the ratio of hospital worker injuries to the overall private sector workers, the ratio of hospital worker injuries to the overall private sector rate has increased over the past eight years.

The nursing home segment of the health care industry has consistently reported injury and illness rates significantly higher than those for the most hazardous industries-as high as 9.7 per 100 full-time workers in 2004. The home health care industry, the fastest growing segment of health care, has rarely been the subject of occupational health and safety research. Risks for injury and illness found in the home work environment are poorly understood. Hazard controls widely used in other health care work environments are often unavailable or infeasible for the home workplace.

In health care, workers as well as patients are affected when occupational safety and health threats are not inadequately identified and addressed. There is an inextricable link between staff safety and the quality/safety of client care. Physical or psychological injury to direct care staff directly impacts the quality of client care and client safety. Optimal staffing levels and staff performance are essential to providing high quality care. The quality of health care is severely compromised when staff become injured and supervisors and administration are required to replace experienced staff with new hires or staff assigned to other units and therefore unfamiliar with clients' highly individual needs and behaviors. Nonetheless, the health care industry is a decade or more behind other high-risk industries in its attention to ensuring basic safety.

Musculoskeletal disorders (MSDs) rank second among all work-related injuries and the highest proportion of these disorders occur among health care workers. Among all occupations, hospital and nursing home workers experience the highest number of occupational injuries and illnesses involving lost workdays due to back injuries. The nursing home industry experienced a rate of back injuries nearly five times the rate reported among all private sector industries. In a recent survey of nearly 1,200 registered nurses employed across health care practice settings, conducted by Trinkoff, et al at the University of Maryland, nurses reporting highly physically demanding jobs were five to six times more likely than those with low demands to report a neck, shoulder, or back MSD. Ten percent of nurses reported having lifting teams in their workplaces, while half had mechanical lifting devices. Lifting teams and mechanical devices in the workplace were both associated with significantly lower risk of back MSDs. Lipscomb et al have reported that the risk for MSDs increased when nurses work greater than 12 hour shifts and on weekends and non-daytime shifts. The health care industry spends billions of dollars each year in workers' compensation premiums, even though there is strong evidence that reducing low back load by implementing engineering and administrative controls, such as safe staffing levels, lifting teams, and use of newer mechanical patient handling devices, reduces the risk of injury to both patients and workers.

The most prevalent, least reported, and largely preventable serious risk healthcare workers face comes from the continuing use of inherently dangerous conventional needles. Such unsafe needles transmit blood-borne infections to health care workers employed in a wide variety of occupations. Elimination of unnecessary sharps and the use of safer needles can dramatically reduce needlestick injuries. Use of conventional needles in the health care environment today has been compared with the use of unguarded machinery decades ago in the industrial workplace.

Percutaneous injuries continue to occur in unacceptably high numbers in health care despite the promulgation of the original OSHA Bloodborne Pathogen (BBP) Standard in 1991. Yet, the requirement under the BBP Standard that HBV vaccine be made available free of charge to health care workers has greatly reduced the consequences of exposure to this pathogen. Tragically, there is no vaccine or treatment for HCV, and therefore, health care workers, not only those working in the acute care setting or those who traditionally handle needles on a regular basis receive every available protection from occupational exposure to blood and body fluids.

The passage of the federal Needlestick Safety and Prevention Act in 2000, has begun to afford health care workers better protection from this unnecessary and deadly hazard. Not only does the Act amend the 1991 BBP standard to require that safer needles be made available, but it requires employers to solicit the input of frontline health care workers when making safe needle purchasing decisions. Research is needed to evaluate the effectiveness of this and similar provisions of OSHA regulations so that this critical provision can be included in future regulations.

The problem of latex allergy which is attributed, in part, to the increased use of examination and surgical gloves required by OSHA's BBP standard. The prevalence of latex allergy among health care workers is estimated to be between 5 percent and 18 percent, with atopic workers at even greater risk. As a testimony to the NORA process and these Town Hall Meetings specifically, I want to highlight that great progress has been made in preventing latex allergy during the past eight years. NIOSH's 1997, Alert document recommending the use of latex gloves only when protection from infectious agents is needed and the use of powderless, low protein latex gloves for protection from bloodborne pathogens in health care and other settings has had a great impact on glove use. NIOSH supported research has

demonstrated that substituting nonlatex or powder-free nitrile rubber latex for powdered gloves has been found to decrease the incidence of suspected latex allergy and specifically latex-related occupational asthma.

Health care workers are exposed to a wide range of chemical disinfectants, anesthetic waste gases, and hazardous drugs such as chemotherapeutic drugs that are known to cause human health effects, as well as others for which no or inadequate testing has been conducted. NIOSH estimates that the average hospital contains 300 chemicals, twice the number of the average manufacturing facility. More research is needed to evaluate current exposure levels and feasible hazard control strategies to chemicals used in health care including: Glutaraldehyde (Cidex), Ethylene oxide (EtO), anesthetic agents, and hazardous therapeutic drugs such as antineoplastic agents.

As you will hear from Dr. Mcphaul,

The health care sector also leads all other industry sectors in the incidence of nonfatal workplace assaults. Of all nonfatal assaults against workers resulting in lost workdays in the United States, 32 percent occurred in the health care sector. In over half (51 percent) of non-fatal assault injuries, the perpetrator of the violent act is the health care patient. Most research to date has focused on high risk health care settings such as psychiatric facilities. Our recent work with social service agencies, in particular those that provide care for the developmentally disabled and mentally retarding indicate that there are huge gaps in our knowledge of the magnitude of the risk of workplace violence in these workplaces and successful interventions towards preventing injury.

Organization of Work

Dr Johnson will be providing testimony regarding the importance of occupational stress research within NORA2. In the context of his comments he will discuss the role of OOW in overall worker health and safety. As a segue to his comments and in conclusion, many of the hazards that I have discussed can only be prevented by strategies which address the organization of modern health care work across practice settings. Support for rigorous intervention research targeting the impact of changes in work organization on health care and social service worker injury and illness are desperately needed. Our experience in conducting intervention effectiveness research over the past six years has taught us that it must be done within the framework of community-based participatory research if the intervention is to be accepted and sustained. I also urge NIOSH to recognize the time involved in conducting rigorous intervention effectiveness research and to provide a mechanism for longer periods of research support to allow for this type of research.

Thank you for this opportunity to have a voice in the development of the evolving OHR priorities.

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Comment ID: 4619.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Other

Health outcomes; diseases/injuries

Immune disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Work-life issues

Approaches

Etiological research

Exposure assessment

Risk assessment methods

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2006/01/23:

ASTHMA IN HEALTHCARE WORKERS

Important topic, relevant research, unanswered questions

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NORA II Town Hall Meeting

January 23, 2006

Good Afternoon. There are approximately 16 million people in the United States with asthma. The incidence and prevalence of asthma have been increasing in the general population, both worldwide and in the United States, for the past two decades (Anderson, 1989; NHLBI, 1997; CDC, 2004). Prevalence estimates as high as 19.6% having been reported (CDC, 2004).

The annual economic and social consequences of asthma are staggering, evidenced by more than 100 million days of restricted activity, nearly 500,000 hospitalizations, over 5,000 deaths and more than \$27 billion in costs (NHLBI, 1997; Weiss and Sullivan, 2001; Druss et al 2001). Various factors have been implicated in explaining these worsening epidemiological trends, including, contaminants present in workplaces (NHLBI, 1997).

In the U.S., there are more than 20 million workers potentially exposed to occupational asthmagens; 9 million of these are exposed to established sensitizers and irritants (DHHS, 1996a). Work-related asthma (WRA) is currently the most reported diagnosis of work-related respiratory disease in developed nations. In a study conducted by our group, based on adult population data from the National Health and Nutrition Examination Survey III (1988-1994), we estimated the prevalence of work-related asthma in the U.S. to be 3.7% (95% C.I., 9.9-13.1) (Arif et al, 2003). Estimates of the proportion of asthma attributable to the work environment have varied widely, probably due to several factors, including geographic area, lack of recognition of occupational factors (Milton et al., 1998), differential reporting among occupational groups, an absence of statewide surveillance systems for asthma (DHHS, 1996b), variations in the definitions for 'occupational asthma', and differences among denominator populations. In a review and synthesis of 43 attributable risk estimates, Blanc and Toren (1999) found the median attributable risk to be 15% among the best designed studies.

Certain occupational groups known to be at particular high risk of developing OA, such as Western red cedar workers (Chan-Yeung and Malo, 1994), isocyanate chemical workers (Mapp, et al., 1988), construction workers (Bherer et al., 1994), and farmers (Kogevinas et al, 1999). However, whereas the magnitude of the risk and etiologic agents are well characterized for many of these occupations, this is less well studied in the case of healthcare workers, where data are largely derived from case series and relatively few population surveys.

Healthcare workers (HCWS) comprise approximately 8% of the U.S. workforce, and constitute one of the fastest growing sectors of the workforce, projected to increase to more than 15 million by 2012, a 30% increase from 2002. The greatest growth is occurring in outpatient settings, with average annual increases more than double those of the remainder of the U.S. economy (Hecker and Frank, 2004). Healthcare-related occupations represent 51% of the top 30 fastest growing occupations in the U.S. (Hecker and Frank, 2004). Professions expected to grow by more than 20% include nurses (by>20%), physicians (>20%), respiratory therapists (>35%), occupational therapists/physical therapists (>30%), dental hygienist and dental assistants (>40% growth), and pharmacy professionals (>30%).

Following passage of the 1992 OSHA Bloodborne Pathogens standard, which resulted in a significant increase in the use of latex-containing personal protective equipment, such as gloves, cases of latex-related asthma drew attention to HCWs. Potential asthmagens in healthcare settings go beyond latex, however, and include disinfectants/sterilants (e.g., glutaraldehyde, formaldehyde), pharmaceuticals (e.g., psyllium various antibiotics, platinum-containing antineoplastic agents), sensitizing metals (e.g., dental alloys), methacrylates, aerosolized medications and cleaning agents (Mapp et al, 2005; Pechter et al, 2005). Furthermore, since there are potentially multiple sensitizers in healthcare environments, it is

possible that interactions among these compounds could affect sensitization thresholds (Mapp et al, 2005). Previous studies in several countries have described an increased occurrence of asthma among specific groups of HCWs, including nurses respiratory therapists, and pharmaceutical workers (Lefcoe and Wonnacott, 1970; Bardy et al, 1987; Kern and Frumkin, 1989; Christiani and Kern, 1993; Dimich-Ward, Wymer and Chan-Yeung, 2004; Gannon et al, 1994; Meredith, Taylor and McDonald, 1991; Vandenplas et al, 1995; de la Hoz, Young and Pederson, 1997; Liss et al, 1997; Pechter et al, 2005).

In the U.S., the health services industry is second only to the transportation equipment manufacturing sector in total number of reported asthma cases (16% of the total), and 5 of the top 11 industries and 9 of the 22 leading occupations associated with significantly increased asthma mortality were related to healthcare services (Attfield et al, 2003). Recent surveillance data from California, Massachusetts, Michigan and New Jersey found that work-related asthma among HCWs represented 16% of the total reported cases, exceeding the proportion of the workforce made up by HCWs (8%). Agents most frequently associated with these reported asthma cases included latex, cleaning products and poor indoor air quality (Pechter et al, 2005).

In our own study of asthma prevalence and risk factors conducted in a large representative sample of 5600 Texas healthcare workers (physicians, nurses, respiratory therapists and occupational therapists), analysis of which is still ongoing, the overall prevalence of a physician diagnosis of asthma was 14.7%, ranging from a high of 17% among respiratory therapists to a low of 12% among physicians. These asthma prevalence figures are substantially higher than those reported for the general Texas and U.S. population. Furthermore, the prevalence of asthma with onset after entry into the health profession, a surrogate for occupational asthma, was likewise high (overall-7.1%; physicians-6.5%; nurses-6.7%; respiratory therapists-9.1%; occupational therapists-6.3%). Based on self-reported exposures, the preliminary analyses show elevated ORs for female sex (OR, 2.0), obesity (OR, 1.7), years as a health professional (OR, 1.03), exposure to aerosolized medications (OR, 1.04) and exposure to glutaraldehyde (OR, 1.3).

In summary, there is evidence that workers in healthcare settings are at an increased risk of WRA. However, important gaps exist in the healthcare worker (HCW) literature with respect to risk characterization of HCW subgroups, identification of specific exposure to asthmagenic compounds, estimation of the impact of asthma on work patterns among HCWs, and implementation of proper preventive measures. I urge NIOSH to support continued research into this important topic.

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Note: Retyped written expansion of verbal comment, which was numbered W548.

Comment ID: 4620.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Language/culture/ethnicity

Other

Health outcomes; diseases/injuries

Hearing loss

Immune disease

Infectious diseases

Respiratory disease

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Surveillance

Etiological research

Risk assessment methods

Engineering and administrative control/banding

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Health service delivery

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 2006/01/17:

NIOSH Seattle Town Meeting

January 17, 2006

Comments by Ann Backus, M.S.

Instructor Occupational Safety and Health

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Greetings from New England. My name is Ann Backus; I am an Instructor in Occupational Safety and Health, Director of Outreach, and Administrator of the Occupational and Environmental Medicine Residency within the HSPH-NIOSH Education and Research Center (Harvard ERC). Thank you Dr. Howard for this opportunity to speak to the NIOSH Town Hall Meeting on Agriculture, Forestry, and Fishing. Over the past five years, I have worked with the fishing community and the U.S. Coast Guard in New England, organized, with NIOSH Alaska Field Station Anchorage, the first International Fishing Industry Safety and Health Conference, (IFISHI), and I have been writing monthly or bimonthly articles under the heading FISH SAFE for Commercial Fisheries News since February 2000. I am currently an active member of the Maine Commercial Fishing Safety Advisory Council, appointed by Governor Baldacci.

I bring comments from a variety of people at HSPH and in the fishing community.

I would like to make five points.

1) The NIOSH-funded Centers are a very important infrastructure and funding source for research in the agriculture and fishing sectors; 2) there is need for a generic research agenda that crosses the industrial sectors such as work-related hearing loss in agricultural and fishing, and probably forestry; 3) there is need for fishery-specific research to reduce traumatic injury and fatalities; 4) there is need for research on exposures of bacterial origin and associated antibiotic resistance; and 5) there is need for toxicological research on pesticides, VOCs, H₂S, and other compounds and chemicals that revisits the PELs, STELS, and TWAs and brings them into line with exposure levels and types in today's work places.

Infrastructure: The NIOSH-funded Education and Research Centers (ERCs) and the Centers of Disease and Injury Research, Education and Prevention are extremely important especially for the success of research in rural and non-urban settings such as farms, forests, a coastal areas. The ability of our researchers to gain the confidence of prospective research subjects and to be seen as having a substantive hypothesis, integrity relative to the research process, and competence for analysis and interpretation is greatly enhanced and supported by the presence of these centers. For example, Melissa Perry, ScD, at HSPH, is investigating the prevalence of hearing loss in farm youth (Vermont), ototoxic effects of solvents and noise with support from NIOSH pilot grants from the New York Center for Agricultural Medicine and Health and the Harvard Education and Research Center. I collaborated with the NIOSH Alaska Field Station in a study on Entanglement of Lobstermen in Trap Rope which was recently published in the NIOSH Workplace Solutions series and have also participated with a local research team in the analysis of indoor exposures of lobstermen to volatile organic compounds, polycyclic aromatic hydrocarbons, PM 2.5, ultrafines, and endotoxin. This research also was funded by pilot project monies from the Harvard ERC.

In each case, coming from a recognized NIOSH-funded Center enhanced access to the study community and extended our reach into rural farms and coastal villages.

NORA Research Areas:

Generic: Some of the research needed is common to agricultural and fishing: 1) Work-related hearing loss from exposures to tractors, conveyors, engines, and winches; 2) Particulate Matter (PM 2.5) and

ultra fines associated with grain dust, and pot buoy sanding and branding; 3) polycyclic aromatic hydrocarbons (PAHs) from diesel exhaust and heat branding styrofoam pot buoys; 4) endotoxin from cotton, fruits, grains, and algae-covered rope; and 5) volatile organic compounds such as paints, degreasers, and solvents.

In both industries there is major concern about child labor and childhood exposures: Kids on farms and in fishing communities are often pressed into service at an early age. Very young children of fisherman-pre-schoolers-are often present in the workshop and exposed to particulates, PAHs, endotoxins, VOCs, etc. High school students apprenticing in fishing are often stuck with the jobs their adult mentors no longer want to do. One adolescent apprentice I interviewed slept above the workshop and often woke up with nose bleeds after painting pot buoys during the day.

Fishery-Specific: Some of the research needed is unique to fishing in that the fishing work environment or work platform is almost always in motion. Either as part of the NORA area Organization of Work, or as a separate category, research on the dynamics of the work platform as a complex system involving heavy gear, human factors, weather-related factors, and fish biting factors is needed. For example, in northern Maine, there are at least six different rigging categories for scallop boats-the fishermen invent them! Each has its own set of advantages and disadvantages-some rig constructions are distinctly more prone to loss of stability than others. Research on the rigs would help determine which rigs are safe to operate and would reduce fatalities, injuries and boat losses. A marine safety officer at the U.S. Coast Guard office in Portland, Maine stressed that fatigue is a major work environment factor that needs serious attention.

Work environment/platform research can be undertaken through a variety of methodologies: injury epidemiology, incident analyses, case studies, and intervention studies, to name a few. Fishery-specific research is needed to augment the marine safety training available from such groups as AMSEA, John McMillan Associates, and others. As the Maine Commercial Fishing Safety Advisory Council gears up to develop and deliver fishery-specific training, fishery-specific research will be needed to inform this comprehensive safety training initiative. For example, the Entanglement in Trap Rope study we did at Harvard in collaboration with the NIOSH Alaska Field Station is an important contribution to fishery-specific safety training. As a result of this research I have written several articles for Commercial Fisheries News, and the Maine Marine Patrol specified that a rope locker be designed-into a new patrol boat prior to construction. This patrol boat now demonstrates an entanglement risk reduction strategy to lobstermen during the process of enforcing marine fisheries rules.

Bacterial Origin: In addition to research on mechanical and chemical exposures, a research agenda is needed for exposures with a bacterial etiology. Some of these exposures are rapidly lethal. Risk communication specific for fisherman regarding the bilge and product storage conditions that foster the generation of hydrogen sulfide (H₂S) gas by anaerobic bacteria is needed in conjunction with confined space management.

With the warming of the oceans, bacterial infections once confined to tropical latitudes may appear seasonally in more temperate zones. In Marion, MA in August 2004, one fisherman died and another required amputation at the hip as a result of exposure to *Aeromonas hydrophila*. – In Chesapeake Bay, August 2005, a fisherman died from exposure to *Vibrio vulnificus* during a crab bite-an exposure more common to the Gulf Coast as we learned during Hurricane Katrina.

In these cases of rapid lethality, hazard communication needs to be both to workers and to the health care professionals. Coupled with research on exposures of bacterial etiology should be studies related to the development of antibiotic resistance. Bacterial studies can be useful to both anti-terrorist and emergency preparedness programs, not just to the fishing community.

Toxicology: The development of new technology and instrumentation has made it possible to detect many chemicals at lower limits, and recent research has shown negative health effects at lower limits, and recent research has shown negative health effects at lower exposure levels. Researchers at the Harvard School of Public Health suggest that this next decade be the time to undertake a systematic review of the PEL, STEL, and TWA values for many exposures and to increase the amount of research on mixtures and synergistic effects of multiple exposures within and across exposure classes.

Beyond all this, it is difficult to undertake research in the fishing industry. The denominator-number of people employed and at what full time equivalent-is very difficult to ascertain, and while the numerator in terms of fatalities is relatively easy, the numerator for injuries is extremely difficult. There is no OSHA 300 log to capture injuries. Fatality and injury data are sorely needed, but require some “creative” digging.

Finally, I would like to suggest a new initiative in materials science or intervention research. Such a study in collaboration with EPA’s Clean Marinas Program could bring research to practice in boatyards and marinas and help ensure that those sites are safe and healthy for workers, boaters, and the environment. There are a number of marinas in the program including Edwards Boatyard in Massachusetts which realized a \$72, 441 cost benefit from the program, Conanicut Marine Services in RI which realized a \$285, 813 cost benefit, and Boat Haven, WA which realized \$10,800. Information is available at www.epa.gov/owow/nps/marinas.

Special populations research will continue to be critical in the next decade and will need to include, minorities, immigrants, and children, as well as non-urban populations living in rural or isolated areas.

Methodologies need to include injury epidemiology, intervention studies, and community-based/participatory studies among others. For agriculture and fishing and probably forestry as well, participatory studies involving the affected population 1) provide vital measure of realism to the study design, 2) facilitate data collection and the interpretation of results toward the eventual goal of effective risk communication and research translation, and 3) increase the likelihood of adoption of recommendations.

Thank you for all of the organizers for providing this excellent forum for exchange of ideas.

Some Facts

Farming 2002:

28,254 farms in New England nearly 4 M acres 115 out of 141 farms were 100-149 acres large market value of goods and products sold-\$2 B. in New England, Maine has the largest number of farms followed by Vermont and Massachusetts largest crop is potatoes followed by corn for silage, corn for grain, oats for grain, barley for grain.

Fishing 2004

\$404M fishing industry in Maine; 70% is lobster; nearly 71 million pounds of lobster landed for a market value of 285.8M.

Fatalities 2004

US total 5703

Agriculture, Forestry, Fishing and Hunting=659 of which 37 were fishing. Massachusetts total fishing fatalities=7.(down from 10 in 2003.)

Note: Retyped written expansion of verbal comment, which was numbered W498.

Comment ID: 4621.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Heat/cold

Violence

Approaches

Etiological research

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

WORKPLACE HAZARDS OF THE HOSPITALITY INDUSTRY:

THE NEED FOR FURTHER RESEARCH AND INTERVENTIONS

FOR THE REDUCTION AND PREVENTION OF DEBILITATING INJURIES

TESTIMONY OF PAMELA VOSSNAS, MPH

UNITE HERE INTERNATIONAL UNION AND UNITE HERE LOCAL 610,

SAN JUAN, PUERTO RICO

SUBMITTED TO NORA TOWN HALL MEETING

ISLA VERDE, PUERTO RICO

DECEMBER 6, 2006

My name is Pamela Vossen. I am a Senior Health and Safety Educational Representative for the union UNITE HERE's Hotel Division, based at its headquarters in New York City. I am here today to speak about workplace hazards in the hotel industry. I would like to thank OSHA and NIOSH for the opportunity to speak at its NORA town hall meeting held in San Juan, Puerto Rico.

I would also like to express my gratitude to UNITE HERE Local 610, here in San Juan, Puerto Rico, for contributing important information about the hazards UNITE HERE members face currently while working in hotels in San Juan.

Attached in the Addendum for your review are inspection reports from the OSHA Area San Juan Office and the Puerto Rico Fire Department of a particular hotel property, the Diamond Palace Hotel, as a result of complaints filed by UNITE HERE Local 610.

The information I have obtained from UNITE HERE Local 610 and its members helps to build a base of data from which efforts to reduce workplace hazards in the hospitality industry can begin. To achieve this, greater attention must be paid through research; labor-management cooperation; management and worker training; enforcement of local, state and federal regulations; and investment of private and government resources, including NIOSH, to first document these hazards, then propose solutions and finally evaluate their implementation and effectiveness

UNITE HERE had the opportunity to participate in the January 2006 service sector town hall meeting in Los Angeles. Three hotel housekeepers spoke about the demanding workloads and the corresponding injuries to their bodies, and the need to work more than one job due to low wages. Since then we have been able to research further the impact on housekeepers' health of the current demands of the hospitality industry, some of which we presented at the April 2006 NORA Symposium in Washington. In the attached Addendum are highlights of those findings, in addition to an ergonomic evaluation of hotel housekeeping (includes use of lumbar motion monitor technology). UNITE HERE along with several academics is expanding its research to include other job titles so that we have a more comprehensive and accurate assessment of the occupational injuries facing hotel workers. We look forward to submitting those results in the future.

HAZARDS IN THE HOSPITALITY INDUSTRY IN SAN JUAN, PUERTO RICO

During the first week of December 2006, UNITE HERE had the opportunity to discuss with its members the working conditions in various hotels locally. Ergonomic hazards of hotel housekeeping was one of many problems discussed, including pushing heavy carts laden with sheets and pillow cases, extreme bending to reach beds at a low height from the floor, and extreme stretching overhead to clean large mirrors..

Additional hazards identified include:

- Dangerous storage practices of flammable items including chemicals.
- Exposure to chemicals, fumigants; lack of proper training on chemical use; lack of PPE for chemical use
- Heat stress, extreme temperatures

- Ergonomic hazards of hotel housekeeping - pushing heavy carts laden with sheets and pillow cases, extreme bending to reach beds at a low height from the floor, and extreme stretching overhead to clean large mirrors.
- Ergonomic hazards in kitchen, storage areas, and at the front desk
- Poor maintenance of machinery in kitchens, storage area, laundries
- Lack of ventilation in storage areas with exposures to paints, solvents and gases
- Lack of safe drainage of wastewater from hotels
- Lack of attention to water leaks
- Lack of machine guarding
- Slippery surfaces either due to type of surface or due to spills
- Heavy manual lifting
- Pressure, stress due to workload
- Lack of functioning fire safety systems and training affecting workers and guests
- Poor pest management - presence of cockroaches and other insects
- Lack of security systems, lack of security in parking lots, workplace violence hazards
- Lack of provision of personal protective equipment

FURTHER RESEARCH URGENTLY NEEDED

UNITE HERE strongly encourages NIOSH to include in its Research Agenda -- and otherwise encourage support for -- further research on the occupational injuries and illnesses in the hospitality industry.

This must include 1) identifying not only the problems but also the solutions; 2) measuring the effectiveness of interventions; 3) including participatory methods of research so that the expertise of workers and their collective bargaining agents (unions) can contribute to the process; 4) identifying critical moments as opportunities for intervention, i.e. hotel design and renovations; and 5) identifying labor-management initiatives for hazard identification and control.

Occupational hazards facing hospitality workers today are inexcusable, not only because they result in debilitating injuries but also because there exist many interventions to prevent such injuries from occurring in the first place. UNITE HERE looks forward to continued collaboration with NIOSH, with other occupational health professionals, community organizations and with hotel employers in making hotels a source of safe jobs for its community, safe places to work for hotel employees and a safe place to visit for hotel guests.

On behalf of UNITE HERE and its members, especially those in Puerto Rico, I thank you for the opportunity to speak here today.

Sincerely,

Pamela Vossen, MPH
Senior Health and Safety Educational Representative
Hotel Division

UNITE HERE
275 Seventh Avenue, 11th floor
New York, NY 10001

ADDENDUM

1. Highlights of UNITE HERE Research Findings of Hotel Housekeeper Injuries submitted to the April 2006 NORA Symposium.
2. UNITE HERE Report - Risk of Musculoskeletal Injuries to Hotel Housekeepers (includes lumbar motion monitor evaluation findings)
3. OSHA Area San Juan Office – Inspection Report and Penalties for the Diamond Palace Hotel, May 3- July 11, 2006 (in English and Spanish)
4. Puerto Rico Fire Department – Inspection Report for the Diamond Palace Hotel, May 8 and June 7, 2006 (Original report in Spanish along with UNITE HERE English translation)

1. Highlights of UNITE HERE Research Findings of Hotel Housekeeper Injuries submitted to the April 2006 NORA Symposium.

UNITE HERE, in conjunction with academics from the University of Illinois, School of Public Health (Drs. John Halpin, Susan Buchanan and Peter Orris); the University of Massachusetts, Lowell (Dr. Laura Punnett); and the University of California, San Francisco, (Dr. Niklas Krause) presented research findings at the NORA Symposium this past April. These findings evaluated over four thousand injuries occurring to hotel housekeepers gleaned from OSHA 300 logs from over 80 hotels in the United States, in the period 1999-2005. These hotels employed approximately 40,130 workers, of whom 7,149 were hotel housekeepers and the rest were from other job titles. Below are the highlights of these research findings.

Analysis of Hotel Housekeeper Injuries using Hotel Employers'

Injury/Illness Records (OSHA 300 Logs)

Of note:

Average annual injury rate during the period from 1999-2005 in five major US hotel companies.

-- Housekeepers experienced a 10.4% average injury rate compared to a rate of 5.4% for non-housekeepers; this is an increase in risk of 86% for hotel housekeepers

Proportion of hotel employment versus proportion of total injuries

-- Hotel housekeepers represent 17.8% of the hotel workforce but represent anywhere from 26.2 (1999-2001) to 30.4% (2002-2005) of the total injuries in the hotel workforce.

-- The increased risk for housekeepers (compared to all hotel employees) ranges from 47.1% in the 1999-2001 period to 70.8% greater risk in 2002-2005.

-- This indicates an increase in hazards in hotels in the last three years compared to 1999-2001.

Descriptive Injury Data

- Sprains and strains are the most common types of injuries occurring to hotel housekeepers (44%);
- Contact with objects (35%) and overexertion (27%) were the leading causes of these injuries;
- Upper extremities (32%) and the trunk (including back) (22%) are the most common body parts affected;
- Median days away from work due to injury was 14, twice the median for all hotel employees nationally, at 6 days.

ERGONOMIC HAZARDS OF HOTEL HOUSEKEEPING

Clearly, ergonomics is a serious hazard in the hospitality industry and the above data confirms that for hotel housekeepers. In reviewing the job tasks of hotel housekeepers using job description information supplied by hotel employers, the following hazards are present:

Repetitive motion of bed making and bathroom cleaning, including removing and stuffing pillows ranging from four to six per bed;

Forceful motion in pushing loaded cards weighing hundreds of pounds, with heavy linen and supplies;

Awkward postures of bed making and bathroom cleaning;

Heavy lifting of mattresses weighing over 100 pounds, duvets weighing 9-15 pounds;

Repetitive lifting of mattresses to complete bed making using triple sheets;

Our own research identifying ergonomic hazards was also confirmed recently by experts from Ohio State University including Dr. William Marras, using the lumbar motion monitor. This technology dynamically measures spine movement in three dimensions – forward/backward, twisting and sagittal (side to side). This technology predicts the likelihood that a certain job title will fall in the high-risk job category (i.e. annual injury incidence greater than 12%) for low back disorders. Housekeepers wore these machines while performing standard tasks in a hotel room. The findings document not only the existence of ergonomic hazards occurring to hotel housekeepers but also how their risk profile exceeded the risk for certain job titles in industries long-recognized as hazardous – health care, automobile assembly, truck assembly; these findings also document that only warehouse work exceeded the housekeepers' results.

Job Title	Probability of being in "high-risk" group
Warehouse	82%
Hotel housekeeping overall	76%
Hotel Bed Making Task	74%
Auto Door Assembly	71%
Hotel bathroom cleaning task	70%
Nursing/patient handling	64%
Truck hood loading	59%

Additional research by ergonomics expert Gary Orr, CPE, indicated that the task of making a king-size luxury bed resulted in a NIOSH Lifting Index of 1.29, which by NIOSH standards is an unsafe lift for 90% of the population.

RECOMMENDATIONS

- More humane workloads
- Comprehensive re-design
- Ergonomically designed tools
- Increased staffing
- Increased enforcement of occupational health government standards
- Joint labor/management health and safety training for supervisors and employees

2. UNITE HERE Report of Risk of Musculoskeletal Injuries to Hotel Housekeepers (includes lumbar motion monitor evaluation findings)

See [Appendix 13](#) for this document.

3. OSHA Area San Juan Office – Inspection Report and Penalties for the Diamond Palace Hotel, May 3- July 11, 2006.

See [Appendix 14](#) for this document.

4. Puerto Rico Fire Department – Inspection Report and Penalties for the Diamond Palace Hotel, May 8 and June 7, 2006.

See [Appendix 15](#) for the original report in Spanish.

See translation into English below.

UNITE HERE English translation

Puerto Rico Fire Department – Inspection Report and Penalties for the Diamond Palace Hotel

Page 1

Date: May 3, 2006

Name of Building:	Diamond Palace
Physical Address:	55 Condado Avenue
Town:	Condado
Reference Number:	93869
Classification:	Residential
Owner of the Establishment:	Diamond Palace and Casino
Mailing Address:	P.O. Box 1637

San Juan, PR 00908

Telephone:	721-0810			
Type of Use:	Hotel and Casino			
Emergency Exits	Adequate	Deficient	Fine	N/A
010 Other			P	
Fire Safety Equipment	Adequate	Deficient	Fine	N/A
221 Automatic Spreaders			P	
222 Siamese Connection			P	
Fire Hazards	Adequate	Deficient	Fine	N/A
114 Electrical Systems			P	
Emergency Plans	Adequate	Deficient	Fine	N/A
331 Emergency Plans			P	
332 Evacuation Plans			P	
335 Fire Drills			P	

COMMENTS:

The stove that is located in the 2nd floor is placed inside an appropriate room, because it is protected by automatic sprinklers.

Re-inspection date will be: May 18th, 2006. The following requirements or conditions should be met on the indicated date:

CODE

010:

Obstructions at the Lobby Exit Door should be removed. The exit door should be kept accessible so that it can be opened.

Completion Date: May 18, 2006

PAGE 2

The following requirements or conditions should be met on the indicated dates:

CODE:

114: A certification of electrical work should be provided regarding the tasks that were performed on a temporary basis at the lighting substation.

Completion Date: May 18, 2006

221: The headstocks of the automatic sprinklers should be kept away from the acoustic [ceiling tiles] because on some floors [of the hotel] they are blocked.

Completion Date: May 18, 2006

222: The Siamese connection of the building should be identified by a sign.

Completion Date: May 18, 2006

331: An action plan in case of fire must be created.

Completion Date: May 18, 2006

332: An evacuation floor plan should be provided inside each room indicating access to the exits.

Completion Date: May 18, 2006

335: Drills [fire and evacuation] should be performed at least twice (2) a year. Written records should be kept on each drill, to be reviewed by representatives of the Puerto Rico Fire Department.

Completion Date: May 18, 2006

Submitted on May 8, 2006 to the above property.

UNITE HERE TRANSLATION INTO ENGLISH

Puerto Rico Fire Department, San Juan Division - Inspection Report

Date: June 7, 2006

Name of Building:	Diamond Palace
Physical Address:	55 Condado Avenue
Town:	San Juan
Reference Number:	93869
Classification:	Residential
Owner of the Establishment:	Diamond Palace and Casino
Mailing Address:	P.O. Box 1637 San Juan, PR 00908
Telephone:	721-0810
Type of Use:	Hotel and Casino

Re-inspection date will be: June 17, 2006. The following requirements or conditions should be met on the indicated date:

During the re-inspection it was found that they had complied with the requirement(s) 010-222. The requirements 114, 221, 331, 332, 335 are in process of being completed.

Regarding the 221 requirement - they are working on this.

Completion Date: June 17, 2006

Submitted on June 7, 2006 to the above property.

Editor`s Note: This testimony was prepared for the NORA Town Hall meeting in PR; it was not presented there verbally but was submitted electronically.

Comment ID: 4622.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Intervention effectiveness research

Economics

Capacity building

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

The Burden of Occupational Injury - A Challenge for NIOSH and the Rest of the World

Submitted by Tom Leamon, PhD

Reflection on the value of NORA inevitably lead to a consideration and comparison of the actual research and the success, or otherwise, of the implementation of interventions to reduce injury. In a competitive environment, interventions are likely to compete for scarce resources with other priorities - thus the adoption, or otherwise, of NORA research is not solely dependant on the quality, or findings of that research. A key issue is how well the problem is recognized and how an intervener might evaluate potential interventions against other enterprise demands. This occurs at all levels, from global organizations, such as the ILO and WHO, to globe spanning commercial enterprises, from an SME to a national government and the approach suggested involves the determination of the Burden of Occupational Injury. There are significant challenges to achieving such a metric.

In the United States the number of injuries reported exceeds the number of new cases of disease reported by a factor of more than the 13 to one. While this observation does not accommodate the very significant number of long latency disease cases which arise from workplace exposures, it is clear that the resources, both intellectual and financial, devoted to reducing injury are not allocated to reflect the relative significance of each. This is not to say that the resources devoted to avoiding occupational disease should be reduced -- for the evidence is that the current resources have made, and continue to

make, significant improvements to workers health. Instead, it is a cry for the allocation of more resources appropriate to the burden placed upon individual workers, their employers and the broader society.

The unacceptable lack of resources can be readily seen by charting the number of Schools of Public Health in the United States with comprehensive occupational safety programs. An analysis of the web sites, identified by the Association of Schools of Public Health, shows that of the many schools active in occupational safety and health there is not a single one claiming such an occupational safety program. While significant proportions, (but not even a majority) identify safety in their course or activity lists, none appear to address occupational safety in an appropriate manner -- instead topics included under this rubric include violence (spousal, hand gun etc), youth, bicycles, rural & agricultural exposures and automobiles - including collision biomechanics. At the next level of analysis of specific web sites, activities as varied as mental-health economics, various HIV interests, drug abuse, obesity and tobacco products were included under the "safety" banner.

Despite the fact that the direct and indirect cost burdens to society and to enterprises arise from the pain and suffering of individual workers, there appears to be a palpable lack of public concern. This may result from a lack of information on the burden per se and this lack of good data is by no means solely an American problem. The current data produced by the ILO, (and well known by that institution), indicate how serious an issue this is: with Pakistan reporting fewer fatal injuries than Singapore and India reporting fewer fatalities than Hong Kong. Without appropriate data it should be expected that appropriate research and intervention resources will not be available to reduce this burden.

The most significant attempt to determine the burden is perhaps the WHO/Harvard initiative - the Global Burden of Disease, which attempts to measure the burden by the use of DALYs. There is a significant and critical literature, concerning methodological challenges to this metric. Of particular concern to the present commentator is the method of determining disability weights and, more so, the practice of developing monetarized derivatives in order to rank the seriousness of the various sources of disability. Of specific concern is the situation where the estimated "societal cost" is very substantially larger than the actual incurred costs. In this circumstance, despite the well accepted huge variability in these estimated costs, a slight error in this estimated component may totally eclipse the actual costs borne by the appropriate party. If this was not a sufficient challenge to those responsible for the introduction of interventions, the more serious problem is that any savings by reductions in this component are not realizable by those responsible for the introduction of the interventions normally the "workplace owner" i.e. the employer.

A good example the problem with this approach is a paper by Dembe (2001) which had an ever expanding view of social consequences of occupational injuries and illnesses which would have produced a colossal monetarized value. While this appears to be a well-intentioned, and popular, approach to establishing the seriousness of an issue, it appears to depend on attracting the interest of a super-enterprise party and then waiting for a "deus ex machine" intervention to make the improvement. In other circumstances, significant burdens measured by DALYs have attracted governmental interest and have produced legislation which, when coupled with enforcement, have led to safer circumstances. Unfortunately, in the current environment where the expenditures involved in any intervention must be competitive with other financial demands this approach is likely to fail and the "green" dollar savings are inevitably likely to receive more attention than the "white" dollar version.

The unreliability of some estimates of the financial burden is exacerbated by a significant underreporting of injuries which is well documented in the literature. The under-reporting of even fatal workplace injuries has been documented by NIOSH.

In determining the appropriate measure of the burden there are significant technical challenges to be taken up by our National Institute including:

Reporting

Defining injury

Defining work

Defining occupation

The transient nature of workplace

Transient nature of job (improvisation)

Small to medium enterprises, the sampling, aggregation and intervention

The role of transportation

In terms of reporting, there is simply a wide variation in the understanding of what should report. Workers with sharp instruments or glass workers may ignore many minor cuts, and miners with intermittent low back pain may assume this is part of their occupational demand. The wide variability of work environments, from office reception areas, to forestry or fishing in winter also leads to different perspectives on the seriousness, and hence the reportability, of various injuries. The philosophical challenge of developing scales to allow comparisons between risks and, even more appropriately, to allow meaningful legislation to accommodate this immense range of environments is one which should be inherent in NORA.

The definition of work, for pay or not for pay, is significant to the determination of the Burden. In some administrative databases certain categories of exposure to work hazards are excluded including sections of agriculture, self-employment and youth. With the increase in workers working at home this issue needs particular care. In a study in a developing economy, Wellman and Leamon found 42% of injured workers reported injury occurring in the workplace, compared with a 62% response by the same workers to question of where you hurt "while working". The same study found significant differences when injury rates were calculated by using the number of jobs as the denominator compared with using the number of "full-time equivalent". In a society involving an increase in part-time work, post-retirement work and multiple jobs this is a serious issue which requires research in order to develop appropriate corrections.

The question of transient workplaces is acute in construction, forestry and other high risk environments. In these environments, workers as can be exposed for short periods to high risks, risks which may not be replicated for significant periods. In many of these industries, improvisations to overcome unforeseen difficulties are necessary and are likely to continue and generate acute, but short term risks. New approaches, such as case crossover designs may be needed to determine both the burden and the significance of particular hazards.

By the very nature of small to medium enterprises, the risks may not be apparent to the owners, who often lack the aggregated data available to large enterprises or to federal and state authorities. In many cases, even with high hazards, the owners may not have seen adverse outcomes over long periods and are likely to assume that injuries elsewhere were the result of inadequate management or worker carelessness. Known biases in reporting behavior have been identified in SMEs. Parenthetically, there is

a significant need for communication research to address this issue and the associated question of how both informing data and most importantly intervention strategies and methods might be communicated to the owners of small to medium enterprises.

The widespread practice of breaking out transport from occupational exposures obscures the seriousness of occupational exposures. This is certainly the case in the ILO figures - especially for those countries in which much of all transport is associated with occupational uses. Equally, it should be pointed out, that many so-called manufacturing enterprises in this country are in fact huge transportation businesses, with many workers involved in trucking and the use of regular automobiles in the course of their occupation.

The role of surveillance in occupational injury might need to be modified. In traditional health investigations the role of surveillance is to identify subtle or concealed risks. This disease model approach has less value in many traumatic injury exposures which, in themselves, are clearly hazardous. In this case a significant role of surveillance is to activate interventions, by increasing awareness - possibly by appropriately determining the huge burden, estimated to be over \$1 billion a week. Which is paid by American enterprises for the pain-and-suffering borne by their workers as a result of workplace hazards?

Finally, a personal, possibly idiosyncratic view: NORA has paid insufficient concern to the issues of "intervention research". Beyond the evaluation of actual interventions, which appear to be a hallmark of Research to Practice, there is a need to question the value of "intervention research". This is well illustrated by the difficulties recorded in the paper by Sinclair et al. in 2003 which exemplifies the common observation that the research to validate an intervention may be more costly than the intervention itself. The corollary is also true – an intervention such as a machine guard or a well designed fall arresting device may require considerable research expenditures and yet eventually be so "obvious" that the role of research in the R2P paradigm may be undervalued.

Equally there has been sparseness in projects involving methodological development, particularly in surveillance which appears to be a lack of investment in the future reduction of the burden of occupational injury but is surely necessary for an accurate determination of the Burden of Occupational Injuries.

Editor's note: The author later clarified that "DALY" is "disability-adjusted life year."

Note: Submitted as w4622 from an E-mail received by the NORA Coordinator on 10 September 2007.

Comment ID: 4623.01

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Cheerie R. Patneau, CM, MA, SGE

Technical Writer/Publicist

NASA White Sands Test Facility

P. O. Box 20

Las Cruces, NM 88004

Thank you for inviting me to participate in your NIOSH town hall meeting to develop National Occupational Research Agenda (NORA) in an effort to reduce injuries and promote safety of the American Worker. Our site is made up of departments including construction, engineering, and administration. Our primary mission is to test rocket engines, materials, and components, and also fabricate flight hardware for NASA. Our site is classified as hazardous.

Our site participates in the Voluntary Protection Program (VPP/OSHA) to reduce our injury rate. We have awareness campaigns and have established programs including:

Close Call System

Stop Unsafe Acts!

Safety Professional Consultation

Open Door Policy

Spontaneous Interviews

Safety Working Teams

Rewards and Recognition Programs

The benefits of our VPP program include:

Reduced injuries

Worker's Compensation savings

Lost time savings

Making improvements to processes and equipment

Loyalty

Productive work force

Higher morale

Less employee turnover

Improved site marketability

We believe Safety is a Value, not a priority, and we apply our VPP program across the board to include all employees and all departments.

Our site has 5 OSHA stars: our Agency and all 4 of our contractors. Please contact me if you would like more information. Again, thank you for allowing us to be part of your research.

Note: Submission was received by the NIOSH Docket Office as an E-mail on 12/19/2005.

Comment ID: 4624.01

Categorized with the following terms:

Sectors

Manufacturing

Population

Other

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Marketing/dissemination

Partners

Categorized comment or partial comment:

January 23, 2006

Dr. Sidney C. Soderholm, NORA Coordinator

200 Independence Ave., S.W., Room733 G

Washington, DC 20201

Re: Process Safety Management Compliance

Dear Dr. Soderholm:

Thank you for the opportunity to provide public comments as part of the National Occupational Research Agenda (NORA) Stakeholders Meeting in Houston, Texas on January 23, 2006. My written comments address the need for NORA research projects in specific areas of the petrochemical industry.

I. INTRODUCTION

The Contractors Safety Council of Texas City (CSC/TC) was established as a non-profit safety training organization on June 25, 1987 as a joint venture between the Texas City Petrochemical Owners and the contractors who worked in their facilities. The original mission of the organization was to develop and conduct a basic petrochemical safety orientation program common to all Owner facilities and supplement this training with site-specific training for each individual facility. Since the first training programs were taught in November 1988, CSC/TC has conducted over 200,000 petrochemical safety

orientation sessions, and conducted over 430,000 site-specific training sessions. CSC/TC has offered these training services to over 290,000 contract workers. The success of CSC/TC has resulted in the establishment of additional Safety Councils, especially along the Gulf Coast area, serving our nation's largest concentration of petrochemical facilities. An outgrowth of this effort resulted in the formation of a separate non-profit corporation called the Association of Reciprocal Safety Councils (ARSC). ARSC is involved in establishing a core safety training curriculum, setting testing standards, auditing program effectiveness and ensuring consistency of training. The twenty three Safety Council members of ARSC provided safety training to over 200,000 contract workers in 2005 and conducted over 400,000 site-specific orientations to contract workers.

In 1992, the Occupational Safety and Health Administration (OSHA) promulgated the Process Safety Management (PSM) standard 29CFR1910.119 (the "standard"). This standard contained fourteen essential elements for the elimination of catastrophic events associated with highly hazardous chemicals in the petrochemical industry. One of the principle concerns addressed in the standard involved the use of contractors for maintenance/turnaround activities. As Executive Director of CSC/TC for the past fifteen years, I have witnessed the changing role of the contractor work force in the petrochemical industry. The role of the contractor work force needs to be included in the National Occupational Research Agenda (NORA).

II. CONTRACTORS

Many petrochemical owners have initiated programs to evaluate the safety performance of contractors used in maintenance/turnaround activities. These programs have resulted in numerous best practices that need to be analyzed, reviewed, documented and shared with petrochemical owners so the superior safety performance can be duplicated at other locations. Many contractors have achieved recordable injury rates far superior to permanent plant employees, but experience a significantly higher fatality rate. The causes of these fatalities need to be investigated, researched, documented and analyzed as a NORA project, thus eliminating ultimate failure of the safety system. In addition, efforts like the Contractor Assurance Process (CAP), instituted by CSC/TC for our petrochemical owners, needs to be communicated to other petrochemical owners as an industry best practice. The CAP process is based on four cornerstones for management of an effective safety/security process related to the safe use of contractors for maintenance/turnaround work activities. The four cornerstones ensure that every contract worker is drug free, security background checked, safety trained and skill assessed. The use of technology applications to limited plant facility access to contract workers who do not meet these four requirements is currently under development by CSC/TC. These types of best practices need to be identified and shared with other petrochemical owners as part of a NORA project.

Even though a successful contractor safety management process may be implemented in a petrochemical facility, contract workers still may be at risk due to issues of facility siting. The location of job trailers through out a facility must be given proper review to determine safe distance requirements, anchorage, evacuation procedures and notification of unit start up. The research of the existing recommended industry practice must be analyzed and communicated to the industry to determine the risk level associated with locating job trailers inside a petrochemical facility. The need for this research is evidenced by the events at the BP Texas City refinery on March 23, 2005, in which the location of the job trailers played a major role in the fatalities. It should be noted that the only contractor involvement in the maintenance/turnaround activities and start-up of the ISOM unit was enduring fifteen fatalities and

over 170 injuries due primarily to the location of the job trailers. This is an additional area for a NORA effort.

III. PROCESS HAZARD ANALYSIS

When the standard became law in 1992, petrochemical owners were given a schedule when all the Process Hazard Analysis (PHA) had to be completed. A three year implementation schedule was given with 100% compliance required with this provision by 1995. Ten years have passed since this original mandate and a question concerning the completeness and effectiveness of the PHA must be researched, reviewed and evaluated with the findings communicated back to the petrochemical industry. A NORA research effort outlining the effectiveness of the PHA process is needed. This effort should analyze how and when the petrochemical industry conducts a review of the PHA, how management of change issues are incorporated in the PHA, who ensures the existing PHA is complete and adequate, how are new hazards addressed and incorporated into the PHA, and how is this information documented and communicated back to site supervision, engineers, operators, maintenance supervisors and contractors. The number of petrochemical incidents under investigation by the U.S. Chemical Safety Board should serve as a reminder that issues' involving the effectiveness of the PHA is a principle cornerstone in PSM and must be evaluated for its effectiveness and would serve as a worthy NORA project.

IV. MECHANICAL INTEGRITY

Another area which needs additional research involves issues of determining the effectiveness of mechanical integrity programs. By nature, the petrochemical units are designed to operate without interruption for extended periods of time. Failure of critical components in any unit can have disastrous effects. A systematic approach on ensuring mechanical integrity of these components is required under the PSM standard. The development of industry best practices in mechanical integrity needs to be reviewed, analyzed and evaluated through a NORA research effort. This critical information needs to be distributed to the petrochemical industry through their various trade associations such as American Petroleum Institute, National Petroleum Refiners Association, Texas Chemical Council, and other owner-sponsored organizations.

Respectfully submitted,

R. Ronald Sokol, C.S.P.

RRS/wks

Note: Written expansion of verbal comment, which was numbered w519.

Comment ID: 4625.01

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Authoritative recommendation

Partners

Pharma

Categorized comment or partial comment:

Outline for Comments at the NORA Town Hall Meeting - Houston Texas January 23, 2006

Topic - Containment of Hazardous Drugs

Hank Rahe - Director Technology Containment Technologies Group, Inc.

My Background Information:

Work Experience:

-- Containment Technologies Group, Inc. - 1994 to Present - Director Technology

-- Eli Lilly and Company - 1966 to 1993 - Manager Containment Technology (1987-1993)

Professional Organizations and Boards:

-- International Society of Pharmaceutical Engineers

- Past Chairman of the Board

- Board member for five years

-- ISPE Foundation

- Past member Board of Directors

-- CleanRooms Magazine

- Editorial Advisory Board

- Monthly Life Sciences Column (1996-2003)

-- American Pharmaceutical Review

- Editorial Advisory Board (1999-2003)

-- NIOSH Hazardous Drug Committee Member

-- ASHP Sterile Drug Guidelines Committee

-- Hazardous Drug Guidelines Committee

Discussion:

In order to understand containment of hazardous drugs it may help to understand the "journey" a compound takes from discovery to delivery to the patient.

Background:

All pharmaceutical compounds are hazardous. By this I mean all have an effect on people exposed to that compound. The impact of the effect is a function of how much of the compound an individual is exposed too and how frequent the exposure.

The final product forms fall into two categories: solid dosage (capsules and tablets) and parenteral (injectable)

After a compound has been discovered and determined to be of potential value in the very early stages of development testing is conducted to determine therapeutic dose, toxic level and what is call the "no effect level"

Based on this and numerous other data an "exposure level" or limit is established to be used internally for worker protection. (1)

The exposure level is critical in determining the proper contamination control strategies for providing a safe work place for workers.

The elements go into the control strategy: engineering controls; work practices and PPE. Determining the exposure level also helps to determine how the facility and workers will be monitored.

These elements are all in place for the manufacturing environments. In the delivery process including preparation and administration is where a major disconnect occurs.

I am proposing two initiative be considered:

1. Collaboration with Pharma to establish an exchange of information that can be used to establish exposure level bands that can be used to develop the control strategies (engineering controls; work practices and PPE) necessary for the delivery process of preparation and administration.

2. Conduct basic research into the level of contamination generated in the delivery process. An example would be determine the amount of liquid, aerosols and gas produces in the preparation process. The process of removing the drug from a vial using a syringe and injecting the liquid into delivery vessel could be determined. This data would help to prioritize and develop effective control strategies without conducting studies on the hundreds of drugs used in treatments.

The combination of these initiatives would help provide information that can be used to establish a safe workplace for thousands of healthcare workers.

Thank you

Hank Rahe

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Note: Written expansion of verbal comment, which was submitted as w543.

Comment ID: 4626.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Approaches

Etiological research

Economics

Authoritative recommendation

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Genetic Predisposition:

Request for NIOSH Model For Implementation of
Genome-based Occupational Risk Assessment
by Ilise L. Feitshans JD and ScM

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856 428 0605 ilise@prodigy.net

Presented to NORA NIOSH Town Hall Washington DC March 13 2006

My name is Ilise Feitshans. I am a lawyer with the public health training from the Johns Hopkins University Bloomberg School of Public Health. I have been writing and lecturing in the field of occupational health for thirty years. I write the treatise for Westlaw.com entitled DESIGNING AN EFFECTIVE OSHA COMPLIANCE PROGRAM. I am sure that you have each memorized that text, or if not, then the version for non-lawyers entitled BRINGING HEALTH TO WORK. Today I am also videotaping a history of OSHA Act for Digital 2000 Productions entitled OSHA 35 Still Alive! (You'll love the movie if you liked the book). I also have been asked to submit written comments on behalf of the Human Ecology Action League, regarding Nurses and Teachers : Worker Health, Worker Concerns.

In my five minute time limit I want to provide an outline, (oversimplified due to time constraints) of something from the past that impacts workplaces today - and in the future: Genetics

The role of genotype, genetic propensities, even the very nature of the interaction between these genetic players and the work environment ultimately plays a role, if not controls, our individual ability to perform work today and tomorrow. My request to NORA NIOSH is narrow and specific: I perceive the role of genetic testing, monitoring and research in the workplace as inevitable, and equally inevitable is a discourse fraught with painful social questions such as : eugenics, social engineering, stigma, genetic discrimination, potential liability, assumption of the risk, right to know and health care costs. Only NIOSH has the statutory permission to openly discuss the hard choices in genetic technologies.

I request that NORA NIOSH take the lead and develop research into practice recommendations that will guide the future role of genetics at work.

Genetics poses hard questions. Genetics is hard to understand but it is important. Perhaps the greatest challenge for NORA NIOSH will be defining not the genetic materials of concern to workers and their employers; and not the criteria for the predictability and reliability of genetic testing, screening and monitoring itself. Genetics is a cross cutting issue, but it has particular importance in specific industries, in agriculture, in the global scientific community, and for small business who will look perhaps a tad more closely at health care and insurance costs compared to larger scale employers. The greatest challenge (and where I hope NORA NIOSH will tap my expertise) is in the area of definition of terms.

No one wants to make employers pay for problems that are inherited. Existing social policies, such as the tradition that state-based funds for workers' compensation fill the void when the injury or occupational illness comes from previous employment is an example of the precedents for this point. At the same time, we, society, and NORA NIOSH especially must reconcile this fundamental notion of preventing the unfairness to pay or serve as a repository for liability that the employer did not create from a third party past with three (3) important realities :

Employers remain responsible for providing employment and places of employment that are free from recognized hazards under Section 5(a)(1) of the Occupational Safety and Health Act of 1970 (OSH Act). This is without regard to the origin of the effect of the hazard, so long as the employer has control of the premises where the recognized hazard is involved. Certainly, genetic technologies will reveal connections between workplace exposures and genetic transformations in workers. Once these connections have been discovered within the scientific community, this will expand the scope and breadth of the term « recognized hazards » NORA NIOSH must explore this new reality very keenly.

ADA—The Americans With Disabilities Act—applies to genetic conditions, so knowledge in the scientific community that meets the employers obligation to provide safe and healthful employment and places of employment does not mean that an employer can simply fire the worker at risk to prevent harms revealed through genetic technologies. Employers cannot easily escape the co-equal obligation to provide reasonable accommodations to people who can perform the essential functions of their work, despite concerns about genetic factors in the workplace that were heretofore unknown or misunderstood.

Lastly, the convergence of new genetic technologies as applied through pathbreaking research may redefine our collective understanding of « safety » « health » or « disability » and may challenge both the fundamental fairness and scientific underpinning of existing standards, which presumes to protect all workers equally without stratifying the requirements of standards to meet the special needs of particular workplace settings, particular genetic risks or specially vulnerable populations. OSHA in particular has refused to allow such stratification even in the case of reproductive health hazards which

impact female workers very differently from male workers, regardless of issues during pregnancy such as fetal protection. Genetic monitoring and related research issues may signal a new era and thus the demise of «one size fits all » regulatory standards. These concerns must be addressed without bankrupting employers, or saddling them with undue liability, but also without creating an underclass of people who lose their employability due to stigma, discrimination, potential future injury based on genetic propensity, insurance costs or potential liability involving genetic factors and harmful workplace exposures that were previous unexplained or misunderstood.

This task is of millennial importance to every workplace and every worker in our society—USA society and globally. That explains why understanding genetics is hard, not easy. NORA NIOSH must rise to meet this challenge; to explore the best future path for applying genetic technologies to work for the 21st century.

Thank you for your attention to this vital matter.

Ilise L. Feitshans JD and ScM

Note: Written expansion of verbal comments, which were submitted as w676.

Comment ID: 4627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Authoritative recommendation

Partners

Categorized comment or partial comment:

NIOSH/NORA "Town Meeting"

Lowell Massachusetts, March 20, 2006

Testimony of Cathy Boudreau, President of the Massachusetts Teachers Association

The Massachusetts Teachers Association represents 93,000 workers in Massachusetts, including faculty and staff in k-12 schools, as well as higher education. We are the largest union in the Commonwealth and we are affiliated with the National Education Association.

Surveillance

We have joined with a coalition of public employee unions in this state to petition the legislature for a public employees' OSHA in order to ensure that the most basic protections guaranteed to employees in the private sector also apply to our members. Perhaps most important is that in the absence of Federal OSHA surveillance and reporting requirements, there is no systematic collection of data on the occupational injuries and illnesses of teachers. Our members have been exposed to hazardous work environments and building materials - including asbestos - but there are scant data available to inform policy and prevention.

Comment ID: 4627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Indoor environment

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Indoor Air Quality

We are supporting separate state legislation concerning indoor air quality in public buildings because we have innumerable complaints from our members - as well as data collected by the State Department of Public Health - about mold and other air contaminants that threaten the respiratory health of teachers, staff and students. We understand that current OSHA standards do not deal adequately with such indoor air issues. We are deeply concerned about the health of children who spend their days in contaminated schools - as well as the large number of staff who report one form or another of respiratory illness. We would welcome research that examined the relationship between respiratory health of teachers and the variety of indoor air contaminants in schools.

Comment ID: 4627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Hearing loss

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Construction and Renovation Hazards

At a recent meeting, the MTA Environmental Health and Safety Committee heard complaints from members about the difficulties of working in the midst of deteriorating physical plant, renovation projects and new building construction. Noise and unidentified dusts were the principal hazards mentioned. We are concerned that these conditions may pose serious threats to the health of education personnel but are considered mere nuisances by public officials. Investigation of such circumstances is warranted and would be very helpful .

Comment ID: 4627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Breast Cancer

We would also welcome investigation of the already identified problem of excess breast cancer in teachers. We have been able to find only one paper that examines environmental hazards that may be related to this problem. This is a serious issue that warrants attention from researchers.

Comment ID: 4627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Work organization/stress

Violence

Approaches

Etiological research

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Job Stress and Violence

Teachers report that job stress and violence in the schools are problems that warrant attention. In particular we would like to know if there are identifiable health effects of the level of stress that teachers experience; and we would like to know about the efficacy of interventions to reduce stress and violence. These are issues that are addressed by occupational health researchers concerned with the health care industry. There has been inadequate attention to the education sector.

Comment ID: 4627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Infectious diseases

Respiratory disease

Exposures

Approaches

Etiological research

Intervention effectiveness research

Health service delivery

Partners

Categorized comment or partial comment:

Infectious Disease

We note that the Centers for Disease Control recently recommended flu vaccination for children under 7 years of age. As the New York Times commented in an editorial, it is important to make available vaccination for school age children in order to protect them, their teachers and the community. A recent pilot study of faculty and school personnel by the Massachusetts Department of Public Health suggests that a third of these staff suffer from respiratory diseases. A larger study of school-age children in Massachusetts suggests that about 25% have asthma - not an infectious disease but one which could exacerbate a flu epidemic. We need NIOSH research to examine the school environment as a promoter, if not the sole cause, of illness. And we need studies to establish effective intervention to prevent the spread of disease among staff and children.

Comment ID: 4627.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Youth

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Etiological research

Engineering and administrative control/banding

Intervention effectiveness research

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

School Siting

We are concerned that localities are induced for economic reasons to site new schools on or near wetlands and landfills which may then pose a variety of hazards for children and teachers. We believe that the mold problem in many schools - even new ones - is related to this unfortunate siting. It would be desirable to study the long term health effects of schools sited on contaminated property, particularly those on or near landfills that leak. Some of the schools on landfills have monitoring systems, but we have no information on how frequently they are calibrated or otherwise monitored -- or how often the bells go off. It would be useful to have studies of the health effects of such environmental conditions, since they may have profound effects on children as well as teachers and other school personnel.

Economics of Health and Safety

We believe that many of the occupational health problems experienced by teachers are the result of inadequate (and inequitable) funding of public schools. Maintenance of buildings and staffing levels are serious issues. "Low bid" requirements for maintenance, renovation and school construction are a threat to safety and health of teachers and children. There is virtually no research on the cost effectiveness of interventions to protect school health and safety . NIOSH's previous interest in social

and economic dimensions of health and safety could well be applied to the investigation of problems in the education sector.

Note: Written expansion of verbal comments, which were submitted as w841.

Comment ID: 4628.01

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Risk assessment methods

Partners

Categorized comment or partial comment:

Written version

Presentation for NORA Morgantown Town Hall Meeting of March 21, 2006

Dan S. Sharp, HELD

NIOSH has historically been influenced by a view point that places a high value on data derived from the study of human beings over "experimental" data. In this context, "experimental" data is meant to imply results derived from animal research using experimental study design techniques. Important distinctions exist between the scientific approaches used in studies of human beings and "experimental" studies involving animals. These distinctions include 1) the contrast between observational and experimental study designs, 2) the contrasts between research focused at the environmental, organism, tissue, and molecular levels of measurement, and 3) the inferential strengths and limitations among these contrasts.

For example, observational research, such as that conducted by epidemiology studies, does not control exposure conditions and thus is subject to a variety of well established biases related to the principles of confounding. This is not to say that experimental studies are not done with people. The disciplines of physiology, pharmacology, and nutrition often and justifiably uses experimental designs in human studies when ethical standards so allow.

In contrast, experimental research involves one of two fundamental approaches. First, if the science has a well constructed and highly validated quantitative set of models, then how the data derived from results of experiments either match or fail to match predictions of the models leads to inferences of causality and validity of the model. This approach works well within the reductionism contexts of the pure physical sciences and engineering.

Secondly, if the science does not as readily lend itself to quantitatively constructed and validated models, then experimental designs and statistical analysis methods allow for randomization of assignment to logical exposure scenarios in order to control the aforementioned confounding that is the bane of observational studies. The use of animals, or tissue from animals or humans, in the disciplines of physiology, toxicology, and molecular biology are illustrative. This strategy, if conducted properly, eliminates the impact of confounding, although it does not eliminate the continued need for creative designs and measurement systems in the greater context of a specific objective of a specific scientific study.

This fundamental contrast between observational and experimental methodologies has two fundamental implications. First, observational studies can never establish causality beyond a reasonable doubt that all and every confounder has been taken into account; and second, experimental studies, while reasonably grounded in a logic system that allows for inferences of causality, can rarely be conducted on human beings for ethical reasons, and thus human relevance must be ascertained independently of the results of the experimental study. In short, observational studies of people are most closely related to human relevance, but not mechanistic causality; while experimental studies in animals or tissue systems are most closely related to establishing mechanistic causality, but not relevance to the human condition.

How NIOSH goes about establishing knowledge of hazard and risk relations as important inputs into formal risk assessment activities depends on integration of information derived from a variety of observational and experimental studies. The validity of this integration depends on these fundamental characteristics and contrasts of scientific method and attendant inference. The utility and validity of NIOSH's research activities would significantly benefit from a better understanding, appreciation, and integration of these principles and these contrasts of strengths and limitations among the dissimilar disciplines that comprise the Institute's scientists, engineers, and leadership.

Comment ID: 4629.01

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

- Dermal disease
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Hazard identification
- Etiological research
- Risk assessment methods

Partners

Categorized comment or partial comment:

Written version of presentation to internal NORA Town Hall meeting in Morgantown on March 21, 2006.

The importance of laboratory studies in nanotoxicology

Robert R. Mercer, Ph.D.

Biomedical Engineer,

NIOSH Health Effects Laboratory Division

Morgantown, WV

The development of new nano materials for a myriad of applications for commercial products, drug delivery systems, medical devices, computers, electronics, construction materials, etc., is growing at a rate which has accelerated faster than knowledge about their potential health hazards is being accumulated. The number of workers (estimated to reach 1 million in the U.S. in the next decade) producing or using nanomaterials is expected to grow accordingly. Laboratory studies are critical to provide the information that regulatory agencies and industry must have if adequate control measures and work practices are to be developed to protect the worker.

The key elements in laboratory studies to assess health hazards from new nano materials are:

- Hazard Identification

-- Determine the key chemical component of the nanomaterial that is toxic in order to identify critical target organs and cells.

-- Determine the size class of material that is toxic in order to develop control and protection strategies.

-- Dose Response

-- Determine the response in time and concentration in order to assess the potential hazards due to different workplace exposures.

-- Compare the dose-response to known hazards to provide a comparative basis for standards and practices.

-- Route of Entry

-- Absorption by the skin and uptake by inhalation into the lungs are likely routes for nanomaterial uptake.

-- Size and surface chemistry effects are likely to significantly alter the relative contribution of dermal and respiratory uptake.

-- The physics of airborne transport and deposition of nano materials into the lungs involves unique size and surface properties. The sites of principal deposition in the filtering mechanisms of the lungs may be unique.

-- Translocation

-- The organs and cells most sensitive to the toxic effects of a nano material may not be those at the route of entry.

-- The small size of nano materials suggests that nano materials may easily pass through barriers in the body which normally block hazardous agents. While the unique surface chemistry, such as charge effects, may cause the nano materials to concentrate in specific organs.

-- Unlike most inhaled particles, nano materials may not elicit a phagocytic response from alveolar macrophages and may not be cleared or transported by the lymphatic system. This low clearance from the body poses a long term risk for accumulation and /or translocation.

-- Particle Structure / Function

-- Nano materials have a significantly greater potential for surface chemistry and a significantly lower density than larger particles.

-- Conventional control regulations relying on the mass based toxicity of a compound may not adequately reflect the greater surface toxicity of a compound when it is in a nano form.

-- Relatively minor alterations in nano material manufacturing conditions dramatically alter the shape and hence surface properties of nano materials. How particle shape affects toxicity is largely unknown.

Comment ID: 4630.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Partners

Categorized comment or partial comment:

Written version of presentation:

NORA Town Hall Meeting

March 21, 2006

Morgantown, WV

Good morning. My name is Dawn Castillo. I am Chief of the Surveillance and Field Investigations Branch in the Division of Safety Research. I am also a member of the NIOSH Surveillance Coordination Group and actively participate on the Consortium for Occupational State-based Surveillance. I am appreciative of the opportunity to provide input for consideration as NIOSH works with partners to develop an occupational safety and health research agenda for the next decade. My comments are organized around specific recommendations to ensure that as the research agenda unfolds, there is adequate attention to the need to support occupational injury, illness and hazard surveillance.

Recommendation 1: Ensure that adequate resources are provided to maintain and enhance ongoing surveillance that crosses industry sectors.

It is often noted that occupational safety and health surveillance is fundamental to advancing worker health and safety. Surveillance provides empirical data to guide research, foster prevention efforts, and track progress in improving workers' safety and health. With increasing costs and decreasing budgets, several ongoing surveillance systems developed or supported by NIOSH are not realizing their full potential. For example, there are important enhancements that could be made with additional resources, such as:

-- increasing access to data by developing and maintaining easy- to- use internet queryable data systems,

- ensuring the availability of data on industry, especially important as NORA and NIOSH shift to an industry-sector approach to assessing and tackling occupational safety and health problems,
- increasing the timeliness of data, and
- increasing the analysis and interpretation of surveillance data, and associated prevention efforts.

It is encouraging that surveillance will be considered research in the next decade of NORA, allowing surveillance efforts to compete for new funds, but consideration should also be given to bolstering ongoing surveillance efforts. This is especially important given the current establishment of NORA Research Sector Councils which undoubtedly will want to examine existing data to understand the most pressing occupational safety and health problems and identify important gaps in information that are impeding advances in worker safety and health. As well, these groups will also undoubtedly rely on existing data sources to track progress in improving worker safety and health. It is noteworthy that draft goals for the NIOSH construction program include a goal to improve surveillance, including intermediate goals to improve the quality, quantity, and use of industry-wide data from ongoing surveillance systems such as the National Electronic Injury Surveillance System (NEISS) and National Occupational Mortality System (NOMS) [NIOSH 2006]. I anticipate that as NIOSH and NORA Research Sector Councils continue to develop industry sector-based goals, they will similarly identify the need for improvements in existing industry-wide surveillance systems.

Additionally, while the move of NORA II to an industry sector emphasis holds promise for accelerating the application of research findings to worker safety and health, it is critical to recognize the continued responsibility and value of analyzing and tracking populations and outcomes across industry sectors. For example, NIOSH has goals to reduce young worker injuries and pneumoconiosis deaths, among others. We must ensure that data systems that cross industry sectors are maintained and enhanced to facilitate important work and tracking of progress across industry sectors.

The NIOSH Surveillance Strategic Plan established in 2001 with extensive input from partners can be used as a guide for enhancing existing NIOSH supported occupational surveillance [NIOSH 2001].

Comment ID: 4630.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Recommendation 2: As NORA Research Sector Councils are formed, they should include at least one representative with expertise in occupational injury and illness surveillance.

Based on my experience in working on teams setting research agendas, one of the first tasks such teams undertake is to examine data to help guide the development of their agendas. Having a surveillance expert on NORA Research Sector Councils can help ensure that the Councils understand available data, the limitations and strengths of the data, and the potential of new surveillance to fill gaps in information. Inclusion of surveillance experts on these Councils would also help facilitate action based on surveillance needs identified by these groups.

Comment ID: 4630.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Health service delivery

Partners

State and local labor and health departments

Categorized comment or partial comment:

Recommendation 3: Utilize partnerships with state governments to advance worker safety and health through NORA II.

Partners in state health and labor departments can make unique important contributions to worker safety and health. State government partners have access to unique data that can be used to target and guide interventions, and to fill gaps in national occupational injury and illness surveillance systems. These data sources include workers' compensation systems; data from occupational health clinics, immigrant health centers, emergency departments and hospital records; and systems based on statutory reporting requirements within individual states. Additionally, state health and labor departments can advance worker safety and health through state regulations and establishing and working with state-based coalitions and networks. NIOSH has partnered with states on surveillance and associated prevention efforts based on fatal occupational injuries, lead exposures, pesticide poisonings, and work-related asthma among others. Examples from the Fatality Assessment and Control Evaluation (FACE) program illustrate the impact of such occupational state-based surveillance on worker safety and health. State-based FACE programs have led to new state regulations to improve worker safety and health; national modifications to machinery, equipment and products to increase worker safety; and state-wide safety campaigns and programs. [Division of Safety Research, 2004]. Other state-based occupational surveillance programs similarly have compelling examples of positively impacting worker safety and health.

Two specific ways to integrate state government partners into NORA II include: 1) having a state health or labor department representative on each NORA Research Sector Council, and 2) including an industry focus in future NIOSH funding of state-based occupational surveillance.

Again, I am appreciative of the opportunity to provide input into NORA II, and am hopeful that my comments and suggestions illustrate the importance and potential of ensuring that surveillance is a critical component of NORA II.

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Presenter

Dawn Castillo

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National Institute for Occupational Safety and Health

Comment ID: 4631.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Indoor environment

Approaches

- Etiological research
- Health service delivery

Partners

Categorized comment or partial comment:

Written version of presentation made to the internal NORA Town Hall meeting in Morgantown on March 21, 2006.

My name is David Weissman, MD and I am Director of the Division of Respiratory Disease Studies of NIOSH. Occupational respiratory diseases have been a critical concern of NIOSH since the beginning of the Institute. In fact, the reason that the Appalachian Laboratory for Occupational Safety and Health was built in Morgantown was because of its proximity to the coal fields and miners with black lung disease. Occupational respiratory diseases continue to this day and remain a key concern for many industrial sectors. Today, I will briefly mention a range of occupational respiratory diseases of concern during the second decade of NORA, including those affecting the airways, the pulmonary interstitium, respiratory infectious diseases, respiratory malignancies, and diseases of the upper airways. I will address the importance of emerging diseases and the need for not only health protection, but also health promotion for occupational respiratory diseases.

Occupational airways diseases are those that affect the conducting airways of the lungs. These include work-related asthma, occupationally-related chronic obstructive pulmonary disease (COPD), and others.

Work-related asthma is the most common occupational respiratory disease. It includes the categories of occupational asthma, irritant-induced asthma, and work-exacerbated asthma. Approximately 5% of adults suffer from asthma, and it has been estimated that approximately 15% of this disease burden is attributable to occupation. The annual costs of asthma attributable to occupation were estimated to be \$1.6 billion in 1996. Isocyanates, which are low molecular weight agents used in a wide range of sectors

including manufacturing, services, and construction, are one of the most common causes of occupational asthma. Unfortunately, our understanding of how isocyanates induce asthma is limited. As a result, it remains unclear how best to assess exposure, how to diagnose sensitization, and how best to diagnose isocyanate asthma without resorting to potentially risky and costly inhalation challenges. These problems are also true of most other low molecular weight agents, including the disinfectants and cleaning agents commonly used in health care and the service sectors.

Asthma caused by high molecular weight, mostly protein allergens is a problem in many sectors including agriculture, manufacturing, services, and healthcare. Baker's asthma, lab animal asthma, and latex asthma are all examples. Even for this type of asthma, which is reasonably well-understood, there is a relative paucity of data about exposure-response relationships that might guide primary prevention of disease. Improved tools for early detection of occupational asthma are also needed. Tools for early detection of asthma are often of uncertain reliability, limiting opportunities for secondary prevention.

In some cases, it is unknown exactly what exposures are causing an increased burden of asthma in an occupational population. This is often the case in non-industrial buildings such as office buildings and schools with poor indoor environmental quality. It has been estimated that as many as 15 million indoor workers would benefit from improvements in indoor environmental quality (IEQ). Concerns related to IEQ are by far the most frequent source of health hazard investigation requests. It is well known that building dampness is associated with increase risk of asthma. Microbial agents and their constituents have been incriminated but not confirmed as responsible. It is often impossible to attribute IEQ-related health effects, including asthma, to any particular exposure, complicating efforts to identify and prevent asthma caused by IEQ problems. Although it impacts on many sectors, this controversial area is particularly relevant to the services sector.

In recent years, it has become clear that cigarette smoking is not the sole cause of COPD. Occupational exposure to airborne agents, especially inorganic and organic dusts, is an important cause. Over the past several decades, COPD has been the third leading cause of death in elderly whites and the 4th or 5th leading cause in most other demographic groups. About 15% of COPD has been attributed to occupation, with an estimated cost to the US of \$5 billion per year in 1996. Globally, it has been estimated that 318,000 people per year die from occupational COPD. Clearly identifying the agents causing COPD and exposure-response relationships are important needs for primary prevention. Because COPD takes a period of decades to manifest itself, developing and validating methods for early detection of disease is an important need for secondary prevention.

Occupational interstitial pulmonary diseases (ILD) are those that affect the gas-exchanging areas of the lung distal to the conducting airways. They can be caused by inhalation of a number of agents, including fibers, crystalline silica, coal mine dust, beryllium, and many others. Many of these agents can cause additional respiratory diseases, such as respiratory cancers.

A key concern for all occupational ILDs is to develop approaches for applying current chest imaging technologies in medical screening and surveillance. Most hospitals and clinics in the US have abandoned analog x-ray film technology in favor of more cost-effective digital imaging. A critical need is to develop validated approaches to applying the ILO chest radiograph classification system to digital chest radiographs. This system forms the basis for most x-ray monitoring programs, yet is validated only for analog film-based radiographs. Another key need is to develop validated, cost-effective approaches to use of computed tomography in medical screening and surveillance programs.

Comment ID: 4631.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Unspecified

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Etiological research
- Exposure assessment
- Risk assessment methods
- Authoritative recommendation
- Health service delivery

Partners

Categorized comment or partial comment:

Of the many types of fibers that can cause lung disease, asbestos remains one of the greatest concerns and is extremely controversial. Asbestos fibers can cause asbestosis, benign pleural disease, mesothelioma, and lung cancer. The regulatory definition of asbestos is narrow and includes only 6 types of mineral fibers crystallized in an asbestiform habit. It does not include asbestiform fibers of other minerals, or nonasbestiform fibers, even those of the 6 asbestos minerals. Despite this narrow regulatory definition, we lack validated, cost-effective tools to reliably differentiate between asbestos fibers and nonasbestiform fibers, particularly "cleavage fragments" of massive mineral forms. Although it is clear that some nonregulated fibers, such as those of winchite and richterite associated with vermiculite from Libby, MT, have toxicities similar to regulated forms of asbestos, this has not been well-documented for many mineral fiber types. A particularly controversial area of great concern to the mining and construction sectors is the toxicity of non-asbestiform "cleavage fragments" present in mine dusts and in deposits of "naturally-occurring asbestos," such as those in the area of El Dorado Hills, CA. Another controversial area has been risk associated with fiber exposures after collapse of the World Trade Center in 2001. Construction workers continue to encounter these dusts. Understanding the toxicities of the broad range of mineral fibers, developing validated methods for measuring exposure to regulated and unregulated mineral fibers, developing methods for risk assessment for the broad range of mineral fibers, and developing recommendations for prevention based on risk assessment all remain important needs.

Comment ID: 4631.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Manufacturing
- Mining
- Unspecified

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Engineering and administrative control/banding
- Authoritative recommendation
- International interaction

Partners

Categorized comment or partial comment:

Although much progress has been made in preventing silicosis and coal worker's pneumoconiosis in the United States, continued vigilance is important. Silicosis, in particular, can unexpectedly occur in new settings, especially in the construction and manufacturing sectors. These diseases also remain important in less developed countries.

Comment ID: 4631.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing
Unspecified

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research
Health service delivery

Partners

Categorized comment or partial comment:

Chronic beryllium disease remains an important priority. The beryllium industry is critical to key US industries such as nuclear power, aircraft manufacturing, and other industries where light, strong metal alloys are needed. Unfortunately, routine mass-based airborne exposure assessment has proved a poor predictor of developing beryllium sensitization or chronic beryllium disease (CBD). Evaluating relationships between novel exposure metrics such as aerosol surface area and sensitization or CBD is an important activity. The beryllium lymphocyte proliferation test has important limitations; developing better tools to assess for beryllium sensitization would be highly desirable. Finally, important genetic susceptibilities have been identified for beryllium sensitization and CBD; developing and validating approaches to genetic counseling would have important implications both for CBD and possibly other diseases with measurable genetic susceptibilities.

Comment ID: 4631.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Healthcare and Social Assistance Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Infectious diseases
- Respiratory disease

Exposures

Approaches

- Etiological research
- Exposure assessment
- Engineering and administrative control/banding
- Personal protective equipment
- Intervention effectiveness research
- Authoritative recommendation

Partners

Categorized comment or partial comment:

In recent years, preventing occupationally-related respiratory infectious diseases has become an area of key importance. Sectors especially affected include the healthcare sector and first responders such as police and firemen in the service sector. In the aftermath of the anthrax attacks of 2001, the US has invested hundreds of millions of dollars in development and implementation of monitoring systems for airborne agents such as BioWatch devices in general public areas and Bio-Detection System (BDS) in the Post Office. Evaluating the effectiveness of these systems, developing other approaches to exposure assessment and determination of exposure-infection relationships, and developing data-based approaches to prevention measures such as disinfection, respiratory protection, and engineering controls are all important priorities. Similar considerations apply to preparation for pandemic influenza, refinement of guidelines for preventing tuberculosis transmission and preparing for outbreaks of emerging diseases such as subacute respiratory syndrome (SARS) and avian influenza.

Comment ID: 4631.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Construction
- Manufacturing
- Mining
- Unspecified

Population

Health outcomes; diseases/injuries

- Cancer
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Given the severe consequences of lung cancer, occupationally-related respiratory malignancies remain an important public concern in many sectors, especially mining, construction, and manufacturing. A number of types of occupational exposures have been documented to be associated with excess risk of lung cancer. It has been estimated that, worldwide, 102,000 deaths could be attributed to occupational lung cancer. There are a number of agents whose carcinogenic potential remains controversial. Of particular note are nonasbestiform mineral fibers; silica; diesel exhaust; and welding fumes. Continued basic and epidemiological research remains important.

Comment ID: 4631.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Mining
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Indoor environment

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Occupationally-related diseases of the upper airways, including the nose, sinuses, and oropharynx are often neglected but important. Although not life threatening, they can have important economic impacts through absenteeism or reduced productivity. In combination with obesity, they can lead to obstructive sleep apnea (OSA). In those exposed to occupational allergens, allergic rhinitis often precedes development of occupational asthma. Upper airways complaints are the most frequent types of symptoms associated with poor indoor air quality. As is the case for IEQ-related asthma, the precise cause of complaints is often unclear. Although epidemiological data are lacking, it is likely that upper airway problems such as rhinitis and sinusitis affect a broad range of sectors with allergic or irritating exposures, including agriculture, mining, construction, manufacturing and services.

Comment ID: 4631.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

- Manufacturing
- Unspecified

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Surveillance
- Etiological research
- Exposure assessment
- Health service delivery

Partners

Categorized comment or partial comment:

It is important to remain vigilant for new occupational respiratory diseases. Examples of new, previously unanticipated diseases recently identified through sentinel field investigations include bronchiolitis obliterans associated with exposure to artificial butter flavorings; and flock worker's lung disease. New exposures create opportunities for new diseases. For example, nanotechnology has been an area of explosive development in the manufacturing sector and is an important priority of the US Government. This new industry is associated with new inhaled nanoparticulate exposures not previously encountered. Developing methods for measuring these novel exposures and monitoring both workplace environments and exposed workers over time will be an important priority. Tenacity of follow up will be particularly important in this area, if disease latencies mirror those of asbestos in which disease can take 20 to 40 years to develop.

Comment ID: 4631.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services
Unspecified

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors
Work-life issues

Approaches

Health service delivery

Partners

Categorized comment or partial comment:

A final area I would like to discuss is health promotion. Passive cigarette smoke exposure in workplaces has been documented as an important risk factor for adult onset asthma. For the sake of both the smoker and co-workers, smoking cessation and smoke-free workplaces are an important issue for lung health in all sectors, especially in the services industry where smoking often persists in restaurants, bars, and casinos. Obesity prevention is also important for preventing adverse respiratory effects such as obstructive sleep apnea. Disordered breathing and disrupted sleep associated with OSA have been documented to be risk factors for motor vehicle accidents and are potentially important risk factors for accidents involving anyone operating heavy machinery.

I thank you for having the opportunity to make this statement.

Comment ID: 4632.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Written comments submitted by E-mail in lieu of a planned presentation at the NORA Town Hall meeting in Lowell, MA.

National Occupational Research Agenda (NORA) Town Hall Meeting

Lowell, MA - March 20, 2006

Comments submitted by:

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First, I would like to thank NIOSH for convening these Town Hall meetings to give interested stakeholders the opportunity to discuss important issues around the next generation of NORA. I would also like to thank my colleagues from around the New England area for coming out to this meeting today to participate in the process.

When NORA was first unveiled ten years ago, it was recognized as an innovative approach to targeting a limited amount of NIOSH resources toward the areas of occupational safety and health that needed them most. With hundreds of agencies and individuals participating in the early stages of NORA's development, including its basic framework, widespread acceptance of the Agenda in its final form by stakeholders was inevitable.

While I applaud NIOSH for keeping the NORA concept going with its next iteration of the Agenda, I am not surprised by the dissenting opinions about the utility of the new framework in being able to appropriately address occupational health and safety issues that we know already exist and to identify emerging issues over the next decade. We all know that change is inevitable and often difficult, but we should not necessarily make the assumption that "new" means "new and improved".

The sector-based approach outlined for NORA2 represents a significant diversion from the basic framework of the original NORA. Although this new approach represents a bold new vision for occupational health and safety research activities in the US, the vision is that of NIOSH and not necessarily that of the stakeholder agencies and other groups whose work will be guided by it during the decade to come.

While there may be health and safety issues that are specific to single industry sectors, the vast majority are multiple, or even all sector issues for which a sector-based approach to research or intervention will likely be inefficient, inconsistent, and duplicative. The concern I share with many of my colleagues is that the momentum that was generated over the past 10 years in addressing the research priority areas identified in development of the original NORA framework will diminish as NIOSH's focus shifts to industry sectors. The potential impact on two of the original NORA priority areas is of particular concern.

Comment ID: 4632.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Youth

Older

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Etiological research

Marketing/dissemination

Partners

Categorized comment or partial comment:

Young Workers, Older Workers, and Non-English Speaking Workers

The first is "Special Populations at Risk". Great strides have been made in recent years toward protecting young workers across all industries. Much of this progress is a result of NORA support directed toward research-based initiatives or indirectly through public health initiatives based on information gathered through research.

Similar progress has been made in developing education and intervention activities geared toward non-English speaking workers. NORA directed funds have allowed researchers to shed light not only on the increasing need for Spanish and other non-English language health and safety materials, but also on the need for new strategies in delivering health and safety messages to non-English speaking groups.

In recent years, the population of older workers has significantly increased, as many senior citizens have found it necessary to keep working to make ends meet. Many of these older workers are being pushed out of the office and into new lines of work, where they are encountering new occupational hazards for the first time, such as ergonomic issues related to repetitive movements and static standing.

Each of these special populations has unique cognitive, developmental, and social characteristics that put them at an increased risk for suffering an occupational illness or injury. These risk factors are however characteristics of the population of workers not of specific industry sectors, and therefore it seems a population-based approach to research and intervention activities would be much more efficient and effective than a sector-based approach in protecting these groups of workers.

I understand that NORA2 will include Cross-Sector Research Councils, whose task it will be to identify and address research issues that affect more than one industry. However, the sheer number of issues that impact worker safety and health across most or all industry sectors will undoubtedly be overwhelming and lead to tough decisions on prioritization, which will mean those deemed less important will be left behind.

Comment ID: 4632.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

State-Based Surveillance Activities

My second concern is the potential for dwindling support of state-based surveillance methods research. With technology advancing at an exponential rate, most State health agencies are struggling to find resources to keep up. This has traditionally negatively impacted our ability to perform effective surveillance because, even when compelled to do so by State law, clinicians are less and less inclined to report occupational injury or illness cases over time as the gap widens between antiquated or cumbersome reporting mechanisms operated by State agencies and more automated electronic charting and billing systems offered by private-sector companies.

Funding directed toward surveillance methodology research under the first NORA provided an important boost to many of NIOSH's State partners that helped us to make significant advances in our ability to add electronic data transfer and web-based reporting capability to our occupational illness and injury surveillance systems. While there is no doubt that the technological advances during the next ten years will be even greater than those of the past decade, there is some doubt that the sector-based approach to NORA2 will continue to provide NIOSH's State partners with adequate resources to keep pace.

In the past, NIOSH has recognized State partners as an invaluable resource in pursuing occupational injury and illness surveillance initiatives. This is because State health agencies are uniquely positioned with both the legal authority to collect surveillance data and the obligation to engage in intervention and investigation activities driven by this data. However, this ethical obligation to protect worker health applies to workers in all industry sectors equally and cannot be set aside in favor of the pursuit of research dollars.

While it may be relatively easy for private sector and academic research groups to adapt to NIOSH's new vision for NORA, the public health infrastructure in place at the State level can rarely turn on a dime. As your State partners, we are counting on NIOSH's continued recognition of us as a valuable investment for NORA funds as we attempt to adapt over the next few years to the new framework of NORA, while balancing our statutory and other public health practice responsibilities, many of which were put in place based on findings that resulted from the first decade of NORA.

In closing, I would ask NIOSH to reconsider the utility of a sector-based approach to targeting research dollars. The framework for the first decade of NORA was developed as a shared vision of how to bring support to investigators interested in developing advanced methodologies and tackling the disease types, workplace hazards, and workforce characteristics that affect worker health and safety most.

While we may be beyond the point of abandoning a sector-based approach for NORA2, I would ask NIOSH to consider how other approaches might complement their new NORA vision. In particular, I would ask NIOSH decision makers to remain true to the original vision for NORA, the final design of which included input from a variety of different stakeholders and "end-users". I would ask that NIOSH include Research Councils specific to the disease, environment, and tool categories that we know worked well for prioritization as part of this next NORA iteration, so that the progress that has been accomplished to date is given at least as much focus as an industry sector approach that may or may not work.

Thank you very much for giving me the opportunity to speak with you today.

Comment ID: 4633.01

Categorized with the following terms:

Sectors

Services
Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training
Intervention effectiveness research
Authoritative recommendation

Partners

Categorized comment or partial comment:

National Occupational Research Agenda

Monday 20,2006 Lowell, MA

Testimony of

Steven Schrag, SEIU Eastern Region Hazmat Program Coordinator

NORA, NORA, NORA

Purpose

To explore the issues affecting the evaluation of workplace health and safety training programs to determine their effectiveness at informing workers as well and increasing understanding on how to protect themselves on the job

Task

You are the committee responsible for the National Occupational Research Agenda (NORA) and your task is to use your experience, the attached factsheets and other relevant information from the town forums or elsewhere to answer the following questions.

- 1.What is the quality of training that is currently provided to workers to fulfill OSHA mandates?
- 2.Is the length of the training adequate for workers to assimilate the information provided?

3. Is the frequency of the training sufficient to ensure up-to-date info and skill development using necessary safety equipment and protocols?

A. SEIU health and safety training experience

Since 1985 over 20,000 workers have been trained in the Eastern Region of SEIU.

This training has occurred in a wide variety of workplaces:

- Hospitals
- Nursing homes
- Homecare
- Department of Transportation
- Building maintenance

There are holes in many current employers programs:

- 15 minute hazard communication training leaves little time for real discussion
- operations level training with minimal hands-on activity means no opportunity to practice skills
- sign-in sheets requiring participants to state that they understand the material before they have had the training

We need to do better.

B. OSHA sez

OSHA has dozens of training requirements under the General Industries standards:

- Means of egress
- Powered platforms, manlifts and vehicle mounted work platforms
- Occupational health and environmental control (dip tanks, hearing protection)
- Hazardous materials
- Personal protective equipment
- General environmental controls (confined spaces, lockout or tagout et al)
- Medical services and first aid
- Fire protection
- Materials handling and storage
- Machinery and machine guarding
- Welding, cutting and brazing
- Special industries
- Electrical safety related work practices
- Commercial diving operations

- Toxic and hazardous substances
- Explosive and other dangerous atmospheres
- Surface preparation and preservation (painting/flammable liquids)
- Welding cutting and heating
- Scaffold, ladders and other working surfaces
- Gear and equipment for rigging and materials handling
- Tools and related equipment

B. The quality of training is not strained

1. OSHA compliance standards mandate a certain training must occur
2. OSHA performance standards measure what workers know
3. The use of lecture, powerpoint, online training and "experts" dominates many training programs and allows employers the opportunity to fulfill their compliance requirements
4. Participatory, small group and use of peer educators offers the opportunity for greater performance success
5. Other participatory methods such as using hands-on activities such as donning and doffing personal protective equipment, handling and practicing with specialized safety equipment can increase the retention of info provided and increased understanding
6. When you want to learn how to ride a bike you do not attend a lecture and take a written test, or watch a video or use an online computer program. You find someone who knows how to ride a bike and you watch them, ask questions and get on the bike. And after falling a few times you learn how to do it yourself.

D. How much is enough?

To take care of the health and safety of others there are minimum education requirements for various professionals. If they spend years learning a body of information, why do some employers think that an hour or two is enough for workers?

Job category	Education time required
Emergency medical technician paramedic	2 years
Epidemiologist	4 years
Industrial hygienist	4 years
Masters in public health	6 years
Physician	8 years
Registered Nurse	2 years
Toxicologist	4 years

To understand information on occupational health and safety sufficiently there needs to be enough time allocated so that the students can absorb the material and be able to apply the information to real situations.

E. How much is enough? (part 2)

It is common for many employers to use new employee orientation as their basic health and safety training. Unfortunately a new employee may not have a lot of practical questions on workplace hazards unless they have already worked in that industry previously.

There are some programs that demand more than a single attempt to increase effectiveness:

- Financial audits-businesses conduct an analysis of their financial situation at least annually.
- Performance appraisals are conducted annually for many employees to determine how effective they are at contributing to goals of the employer.
- Continuing education for professionals are required to be taken on a regular basis with many professionals having a minimum number of contact hours required annually

If other training and measuring tools are conducted annually why can't all OSHA mandated training have the same requireme

NORA, NORA, NORA summary points

1. Knowledge is the first step to help protect workers from occupational hazards
2. Without adequate knowledge there is no motivation to change behaviors or working conditions
3. However knowledge alone will not help reduce exposure occupational exposure to hazards
4. Workers should understand the information provided
5. Understanding comes from a combination of absorbing information and practicing using it in combination with their own practical work experience in hands-on activities.
6. There needs to be a greater emphasis on determining the effectiveness of current training practices in order to assess how effective OSHA mandated training is working to help reduce injuries and illnesses on the job.
7. OSHA can issue standards. NIOSH does terrific research. However if workers don't understand what needs to be done, then little will change the worksite. Too many workers are needlessly exposed to hazards. Everyday that another worker gets sick or ill we have failed. We need to stop failing in the future and NORA's research will help in that cause.

Comment ID: 4634.01

Categorized with the following terms:

Sectors

- Services
- Unspecified

Population

- Disability

Health outcomes; diseases/injuries

- Musculoskeletal disorders

Exposures

- Work-life issues

Approaches

- Engineering and administrative control/banding
- Training
- Health service delivery

Partners

Categorized comment or partial comment:

Submitted by one person in three E-mails following an invitation to attend the NORA Town Hall meeting in Los Angeles.

Text of the first E-mail:

I am an injured person with carpal tunnel who cannot go to the meeting. But I would like to offer a few suggestions.

I think that injured workers should be used as a way of learning how not to do things. I believe injured people should be asked the following questions. If you had to do things again so you would be healthy what would you do.

In my case, I would speak up. I would ask for breaks. I would suggest that people who have pain do not do what men do all the time tough it out and be macho but seek medical help.

I would suggest that managers let people get leave to seek medical treatment that workers comp such as federal workers comp not cause people to have to get worse before they could get help.

In my own case my hand began to throb. I went to the workers comp section of Kaiser in November 1997. They said you have dequervians not work related. I did the same thing for 6 more months and got worse. The same doctor who said I was not work related said I was and I got approved. But I had to get worse before I could get treatment.

Prevention is needed. President Bush for feds has a strategy called Share to reduce workers comp costs in federal government. But a key is to prevent people from getting so bad that they cannot do things like tie their shoes or have problems getting dressed as I do .

In addition, there are needs to have worker education. Instead we are told to work smarter and harder not to work safer.

I testified at OSHA at least twice including once at the worker forum in 2001 at George Mason University when I gave a Marshall Plan for avoiding injuries and for people looking and acting like me. I would suggest they be looked at.

I cannot go to LA because I am in training for re-learning my job and that too is a hassle. I have a computer with adaptive equipment but when I go do my on the job training I cannot use it and my hands go numb. But I will not give up.

Text in the attachment to the second E-mail:

Personal Experiences as an Injured Worker

Howard Egerman 2005

A popular television commercial for the Hair Club for Men concludes with a follicle/challenged gentleman proclaiming "I'm not just a spokesperson, I am also a client."

So it is with me even though I help ensure hair people perform SGA, I don't just represent injured workers, and I am an injured worker, myself.

How does this "status", this "gift" I have been given help people as a Union Representative?

Simple.

I believe that there is difference.

When I was healthy I represented injured people in one way.

Now that I am "sick" or "injured" I think that I have another path.

When I was a healthy rep I would see a person's case just like my agency work-something to receipt in, develop, clear and finish.

I had a tendency to think that this person's case just reflected what that individual during her or his working day.

I would often just look at things in the way an individual or group of people were impacted just in terms of health and safety.

But when I became injured I saw things differently.

An injured person does not live despite what Dolly Parton might say a 9-5 life.

A person who has suffered an injury is impacted 24 hours a day, 7 days a week, FLSA or no FLSA and truly no overtime or premium night differential pay goes that person.

Everything and anything is a struggle from the time the person goes to bed if she or he is able to do so to the time he or she wakes up.

To paraphrase Brother Henny Youngman, Take my life, please.

My injuries which include carpal tunnel syndrome, deQuervains syndrome, tendonitis with a little arthritis thrown in for good measure has given me

Truly this type of perspective.

Each day, I try to do the best with the accommodations and equipment workers comp has provided me.

But I am in pain.

Often I do not feel the pain while working.

Other times literally I feel nothing. Despite my graduate degree, my hands and arms sometimes feel totally numb.

For a long time when I drove it would kill me to drive. Everything would be fine as long as I could go straight ahead but if I had to turn and use my wrist the pain was almost intolerable.

So I did what my doctor who is a disciple of Brother Henny Youngman said, "If it hurts you to drive, don't drive"

And so I stopped and began to take the bus. But after I return home after a day on the job, I still feel my pain and try to cope by using ice and paraffin wax.

When I get myself calmed down enough to go to sleep I put my Pilo Splints or sleeping splints on to keep my hands in a neutral position and rest them on a pillow.

My pain usually wakes me up early in the morning sometimes around 2 unless an earlier wake up call from my hands and wrist has gotten me so exhausted that I fall asleep longer.

But after I wake up I find that I can take some action to manage the pain by taking a bath and doing my own version of contrast baths, something that I learned in rehab after my first operation.

I would soak my hands and wrist for a while in warm and then cooler water and just try to relax and not think, just to let the soothing water take away the pain.

I then would get dressed the best I could. I have found that in long sleeved shirts I sometimes have trouble with the lower buttons. Not being a cover person for GQ though means that the lack of such activity does not hurt my image.

I cannot tie my shoes and so after some helpful hints from a member of my RSI Support Group I use Velcro and close them.

When it is around 5 a.m. I set forth on my walk. My part of East Oakland at one time was a part of a hacienda and I live not far from a real live East Oakland Park called the Peralta Hacienda which has good lighting and a visual situation that enables you to walk in a rectangle so you can see if anyone is coming behind you.

I walk close to an hour each morning and return home to get things to take to work and then walk another half mile to the bus stop. I find that my walks help improve my circulation and since I listen to music while I walk I don't think about my hands.

During the bus trip which enables me to view 40 blocks of scenic Oakland including perhaps the most beautiful model of an Oakland Raider helmet ever made I relax and read the paper.

I then read some more outside the office inside our mall while I wait for someone from management to open up.

The principles I follow enable me to be able to show up for work relatively pain free.

The author who has influenced me most in my injured worker life is Deborah Quilter who in her wonderful book THE REPETITIVE STRAI INJURY RECOVERY BOOK speaks of a concept she calls the hand bank.

Each injured person has to do what she or he can do to strengthen his or her hand.

In other words to make deposits.

I do this by my baths, my walking etc.

Then with your hand strengthened you can work at making withdrawals during the day by using your computer.

THAT IS MY DAY.

Then I try to do my job and repeat the whole process.

What have I learned as an injured person enables me to deal better with others.

One thing that we all have to know is that no body is perfect. Injuries and illnesses come to all types of people regardless of ethnic group, sex, etc and bargaining unit or management status. Disability is an equal opportunity unemployer. Here are some things I learned.

1. I am me, others are she or he. Each of us is different.

When I testified at OSHA I wrote to people. One woman who answered did not tell me that she often feels a failure as a wife and mother because she cannot cook nor do other household work because of her hands.

As a man I can get by if I don't do things. Sometimes other responsibilities enter into an injured person's life—children, spouses (some people can be prolific), parents, other responsibilities. They may not be able to tune their hand or other bank to be able to work.

2. In terms of differences, not everyone may be willing to either invest the time or have an injury that enables them to invest the time to be able to work.

3. Someone who is injured needs time. They cannot simply be dismissed. Their struggle is with them always.

4. Pain is perhaps the most obscene word in English. Pain can truly cause you to use other words as well. Someone in pain may not be able to function in ways other than she or he wants.

5. Sleep is something great if you can get it. Lack of sleep can cause you to make errors or react differently than you want to.

6. It is often great to look at things down the road but many of us who have become injured got that way one day at a time. One way of functioning is to work one day at a time.

7. Not everyone who is injured can succeed or be a star or superstar. But you can cope.

8. Learn what you can about your injury or your illness. Become an expert. Go to the health section of a bookstore or library and read everything you can about your illness. Become an expert on it. That is what Lance Armstrong did when he got cancer. Use the internet.

9. Listen to an injured person. It took them a long time or sometimes an instant to become sick. They have reasons for the way they feel or look. Give them time. Give them respect.

10. Recognize that injured people are not alone. If possible join an injured worker or other type of support group. When you do so you can find one place in which you actually belong. A spouse or friend who takes you might be the one banished to the healthy person's table.

After my first surgery I felt like hell. A friend in my support group invited me to a group chocolate tasting party. We tasted chocolate, trashed doctors and talked. It was wonderful.

The most important thing about being an injured worker is an understanding that an injury while painful and sometimes difficult to live with is not the end all.

At a support group meeting Deborah Quilter told all of us in Berkeley, California an important lesson. We are not just our injury. We have worth. We have value and as Reverend Jackson told some colleagues at a rally across from the office in which I work,

We are all SOMEBODY, even if some of our bodies do not work the way we want them to.

As Sister Aretha puts it, we all need R-E-S-P-E-C-T.

Safety reps need to do what they can to remedy the situation that caused us to become ill if it happened at work.

The hierarchy of controls can be used to abate an accident or injury scene or perhaps work to prevent more of our sisters and brothers from having the same fate that we do.

But what must be remembered is abatement deals with a situation.

WE ARE PEOPLE.

A Claims processing system in which we work deals with policies and principles which ultimately IMPACT PEOPLE.

In the Labor Relations Process actions are taken and we defend situations WHICH IMPACT PEOPLE.

Injured workers are more than anything else
PEOPLE.

The Union's Role in Injured Worker Issues

H. Egerman

AFGE has a responsibility to work with SSA management per article 9, section IB to cooperate in a continued effort to avoid and reduce the possibility of and/or eliminate accidents, injuries and health hazards in all areas under the Employer's control.

Designated health and safety reps under Article 9, Section 3 A 4 receive reports from employees of unsafe or unhealthy conditions. Under A5 they inform management of unsafe or unhealthy conditions as well as making

Possible referrals to OSHA and NIOSH . In accordance with 7 they get copies of any written notice referred to an agency official in response to an employee report of unsafe or unhealthy condition.

Article 9, Section 4 calls for management to take action to abate an unsafe or unhealthy working condition.

But such conditions can result in workers becoming injured. Employees also can be become injured through occupational disease or illness, the whole matter covered in Article 34 of the contract.

President George W. Bush has established an Executive Order calling for each agency to reduce its workers comp costs called Share.

This understood it is important to realize and recognize that we have two issues at work here.

1. Situation which led to the injury or illness.
2. The person—the injured or ill employee.

Here the impact of the injured person will be discussed in this training.

Injured Workers face varied forums:

1. Workers Compensation.

Proper form CA-1 CA-2

Narratives, checklists, witnesses, advice.

What to do if denied—advice

2. EEO issues.

Request reasonable accommodation.

Return to Work.

Limited Duty.

Redesign of job or job tasks.

501/ Reasonable accommodation wizard process.

3. Disability Retirement

Provide information on process.

Issues regarding FERS/CRS retirement.

Interface between disability retirement and workers compensation information.

4. Regular retirement options

Provide information on this process as well as early out

Role of SSA/SSI in the process.

5. Other injured worker issues

Leave sharing if leave is needed.

Leave buy back information and assistance if workers compensation is approved.

Workplace assessment information such as using vocational rehabilitation or other organizations to assist the employee.

Information on other resources for the person's illness—books, articles, doctors, (including reviews of doctors)

Lawyers, physical therapists, web sites, support groups.

6. If problems information on the grievance process and information as to how the process works.

Comment ID: 4635.01

Categorized with the following terms:

Sectors

Unspecified

Population

Small business

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Authoritative recommendation

Partners

State and local agencies; National Health and Nutrition Examination Survey (NHANES); Bureau of Labor Statistics (BLS); Occupational Safety and Health Administration (OSHA)

Categorized comment or partial comment:

Written version of presentation made to the internal NORA Town Hall meeting in Cincinnati, Hamilton Building.

Remarks from John P. Sestito

NIOSH Hamilton Laboratory, Cincinnati, Ohio

February 23, 2006

I offer the following thoughts for the ongoing support of occupational surveillance generally, and occupational disease surveillance specifically. Occupational surveillance lacks the prominence of a Sector or Cross-sector program within the National Institute for Occupational Safety and Health (NIOSH) Program Portfolio structure. So, as NIOSH moves forward under the Program Portfolio framework, NIOSH leadership should be mindful of the importance of injury, illness, hazard, and exposure surveillance data for establishing research agendas, making judgments about research priorities, and developing program performance metrics. Many of my remarks speak to disease surveillance, but are generally applicable to occupational surveillance.

Surveillance defined. Surveillance is the collection, analysis, interpretation, and dissemination of data describing a health related event, exposure, or hazard. Surveillance is critical to effective occupational safety and health programs. It enables decision-makers to identify the problem and the affected group of workers. Surveillance also describes the magnitude and severity of an issue, and assesses progress made in reducing the burden of occupational injuries and illnesses. As a result, surveillance programs

create added value by establishing baseline and trend data, assisting in priority-setting and providing information to guide research, interventions, control, or prevention.

Congressional oversight in the 1980s. In passing the Occupational Safety and Health Act of 1970 (OSH Act) [29 USC § 651 et seq.], Congress mandated extensive authority to the Secretaries of Labor and Health and Human Services to develop regulations requiring employers to record and report occupational illness, to conduct medical examinations, and to notify employees of clinically significant results [29 USC §§ 655(d)(7), 657(c) and (g), and § 669(a)(5)]. In addition, the OSH Act requires the Secretary of Labor to "compile accurate statistics on work injuries and illnesses which shall include all disabling, serious, or significant injuries, and illnesses, whether or not involving loss of time from work." [20 USC § 673(a).] This authority has been delegated to the Bureau of Labor Statistics (BLS). Unfortunately, much of this broad authority remains unused.

Accurate and reliable data on occupational disease is essential for informed public policy decisions, employer and employee awareness of health problems, and employers' ability to correct harmful working conditions. Congress recognized the importance of good information systems when it passed the Occupational Safety and Health Act of 1970 (OSH Act) [29 USC § 651 et seq.] Today, 35 years after its passage, the state of present national disease surveillance systems is – as described by Dr. J. Donald Millar, the former Director of the National Institute of Occupational Safety and Health (NIOSH) – "90 years behind...[surveillance] of communicable disease." No reliable national estimates exist today, with the exception of a limited number of substance specific studies (such as on asbestos), on the level of occupational disease, cancer, disability, or deaths. It cannot be meaningfully determined if diseases from chronic exposures to hazardous substances represent a greater problem today than when the OSH Act was passed in 1970. The lack of complete, reliable, and accurate injury and illness data greatly hampers any broad-based evaluation of the occupational safety and health programs, and threatens the statistical foundations for the current NIOSH Program Portfolio of Sector and Cross-sector research. Furthermore, the existing data from employer logs, used in BLS's Annual Survey, are generally viewed as unreliable and under-report occupational disease.

Accurate and reliable data on occupational disease is essential. For public policy, these data assist the Occupational Safety and Health Administration (OSHA) and NIOSH in setting and revising health standards under § 6 of the OSH Act, as well as setting enforcement and research priorities. The early reporting of disease causing exposures to vinyl chloride and kepone heightened the public awareness of previously undisclosed dangers of occupational exposures. Occupational disease information is also essential to employees and employers in alerting them to disease patterns as early as they become clinically significant. This is particularly important to the health of the worker, and is also significant to the employer who can take corrective action and understand the full economic cost of doing business.

BLS's ability to implement an occupational disease statistics program is hampered by the nature of occupational disease study, where expertise in epidemiology and occupational medicine is required. If the purposes of the OSH Act are to be achieved – if effective measures of prevention of occupational disease through elimination of hazards in the workplace are to be developed, and the effectiveness of these programs is to be evaluated – NIOSH must find solutions to the problems of obtaining adequate data on occupational diseases.

Future Directions and Challenges for NIOSH

Many of the following comments reflect the ongoing national dialogue on developing and improving the nation's occupational surveillance. The major "bullets" are distilled from the work of the NIOSH NORA Surveillance Research Methods Team.

- NIOSH must maintain a strong national surveillance program to establish priorities. Future surveillance should (1) maintain ongoing surveillance and disseminate of surveillance data as guided by the NIOSH Surveillance Strategic Plan, and (2) respond to emerging occupational health and hazard issues.

Problem: Federal surveillance of occupational disease is fragmented among many agencies; i.e., NIOSH, NCHS, NCI, SSA, and CDC. The current activities of these federal agencies do not assure the nation's workers access to comprehensive occupational surveillance data in the United States.

Comment: Comprehensive information for occupational disease, disability, and mortality is needed to (1) develop effective measures of prevention of occupational disease through elimination of hazards in the workplace, and (2) evaluate the effectiveness of these programs. The one agency which focuses on the surveillance of occupational disease is NIOSH. NIOSH has long-standing expertise both in the study of occupational disease and in focusing research toward better a understanding of the etiological association between disease and workplace hazards and exposures. NIOSH is well-equipped to take on the central role and responsibility for the ongoing collection, analysis, interpretation, dissemination and use occupational disease statistics.

Problem: No reliable national estimates exist today on the magnitude and trend of occupational cancer, disability, and mortality.

Comment: It cannot be meaningfully determined if diseases from chronic exposures to hazardous substances represent a greater problem today than when the OSH Act was passed in 1970. State and local mortality, cancer incidence, and disability data have significant potential as data elements within a comprehensive surveillance system for occupational disease. Such data have yet to realize their potential because of incomplete or inconsistent data collection through local and State-level data sources, insufficient resources to support State and local agencies to collect or compile these data, as well as limited and inconsistent coding and classification of employer\employment (i.e. SIC or NAICS codes) and occupation (Census occupational titles and codes) information.

Problem: Employers are unable to record, and thus report, many chronic and latent occupational diseases.

Comment: Employee and household surveys are excellent alternative sources of data on the prevalence of disease in working populations. The National Health Interview Survey (NHIS) was adapted in 1988 for occupational surveillance purposes, gathering a wide range of occupational health and safety data. Medical examinations provide more accurate methods for determining occupational disease, disease precursors, and biomarkers. The National Health and Nutrition Examination Survey (NHANES) is used by CDC to gather a wide range of population demographic and health data. The NHANES could be adapted to monitor the population for selected occupational conditions and exposure measures.

Problem: BLS surveys of nonfatal occupational illnesses are unable to identify or report diseases with a long latent period. There is no adequate evaluation of the extent of under-recognition, under-reporting, or over-reporting of nonfatal occupational injuries and illnesses.

Comment: NIOSH should establish a dialogue with our federal partners, OSHA and BLS, on the feasibility of undertaking a comprehensive Quality Assurance Program on the OSHA logs. This dialogue should explore options to assess the accuracy and reliability of employer logs and the differences, if any, in levels of occupational disease as found in medical records, the OSHA logs, the Annual Survey forms, and employee surveys. NIOSH should provide epidemiologic, industrial hygiene, medical consultation and other assistance as needed. Such efforts could be expanded to general recordkeeping and reporting for nonfatal injuries. As possible collaborators in such a program, NIOSH's state-based surveillance partners have significant experience in state-level data sources. These data sources should be explored to better understand disease under-reporting.

- NIOSH should support new program initiatives and projects to develop and adapt methods for state and non-governmental partners. New surveillance programs and research methods are advocated in the NIOSH surveillance strategic plan, as well as the reports of NORA research priorities for cancer, emerging technologies, exposure assessment methods, musculoskeletal disorders, traumatic injury, reproductive outcomes, and workplace organization factors.
- NIOSH should link the results from state-level surveillance to intervention and prevention activities. This could produce significant improvements in occupational safety and health. Recent evaluation and planning activities reinforce the importance of expanding and enhancing state-based occupational surveillance.
- NIOSH should advocate an expanded surveillance research program that focuses upon smaller employment establishments in a private sector surveillance research initiative. An estimated 7 million private sector establishments employed 115 million workers in 2001. Establishments with 19 or fewer employees accounted for 85.7% of all workplaces, but only 24.1% of all employees. Establishments with 100 or more employees accounted for only 0.7% of all workplaces, but over 46.8% of all employees.
- NIOSH should establish Collaborating Surveillance Research Centers of Excellence to guide the development of surveillance to prevention practices including new R & D teams that harness the strengths of occupational health researchers, non-government organizations, insurance carriers, and public health agencies. Specific activities within the Centers should include (1) providing technical assistance and consultation with respect to developing and evaluating occupational surveillance methods; (2) establishing outreach programs to identify specific methodological and research needs, evaluate occupational surveillance follow-up methodologies, and develop and evaluate innovative strategies for improving the quality and utility of surveillance data; and (3) expanding surveillance and surveillance research that focuses on smaller scale employment establishments.

Useful references

U.S. Congress, House of Representatives [1984]. Report on occupational illness Data Collection: Fragmented, Unreliable, and Seventy years Behind Communicable Disease Surveillance. Subcommittee of the Committee on Government operations, 98th congress, 2nd Session, Washington, D.C..

U.S. Congress, House of Representatives [1986]. Occupational Health Hazard Surveillance: 72 Years Behind and Counting. Subcommittee of the Committee on Government operations, 99h congress, 2nd Session, Washington, D.C..

National Research Council [1987]. Counting Injuries and Illnesses in the Workplace: Proposals for a Better System. National Academy Press, Washington, D.C..

Comment ID: 4636.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Approaches

Surveillance

Etiological research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Written expansion of verbal comment 12/6/2006:

NORA Town Hall Meeting

December 6, 2006

Presented by Lida Orta Anés, Ph.D.

Associate Professor

UPR-Medical Sciences Campus

President AIHA Puerto Rico Local Section Intercontinental Hotel

Puerto Rico

American Industrial Hygiene Association

Background

-- Founded in 1939

-- Over 13,000 members

-- Only organization in Puerto Rico representing Industrial Hygienists since 1982 (n=250 members)

Objectives of the organization

-Promote the study, evaluation, and control of environmental stresses in work organizations and its surrounding communities

American Industrial Hygiene Association

(PR Local section)

General Concerns

-- Epidemiologic study about psychosocial nature of Cumulative Trauma Disorders among Latinos employees

-- Epidemiologic study about the impact of the 2001 record keeping standard on the incidence and severity of injuries

Comment ID: 4636.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Immune disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Indoor environment

Approaches

Etiological research

Exposure assessment

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

- Indoor air quality research concerns
- Evaluation of the ASHRAE guideline for indoor environments depending on air conditioning
- Evaluation of the indoor air quality guidelines for spaces in tropical weather that depend in a/c
- Identification of action limits for several indoor air contaminants measuring technologies and control interventions.
- Identification of action limits for allergens causing occupational asthma
- Study of pest control chemicals used in indoor work areas depending on a/c

Comment ID: 4636.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Exposures

Infectious agents

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

American Industrial Hygiene Association (PR Local section)

Concerns from service sector

-- Identification of formaldehyde and formaline monitoring technologies for employees exposure in morgues, forensics and gross anatomy laboratories.

-- Refrigerant exposure among air conditioning technicians

-- Employees' exposures in waste disposal tasks and water treatment plants

Comment ID: 4636.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Partners

Categorized comment or partial comment:

-- CTD & back injuries in Fedex,UPS,DHL deliver drivers

Comment ID: 4636.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Exposures

Radiation (ionizing and non-ionizing)

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

Concerns from communication/ utilities sector

-- Identification of exposure limits among employees working near in radio towers

Comment ID: 4636.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Partners

Categorized comment or partial comment:

Concerns from construction

- Skin exposure for drywall sealants in construction
- Engineering control for solvent usage and handling, wood dust in carpentry
- Exposure assessment methods in the construction industry

Comment ID: 4636.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Cancer

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

American Industrial Hygiene Association

(PR Local section)

Concerns from manufacturing/refineries sector

- Metal dust exposure while cleaning boilers
- Handling carcinogens in a chemical bulk plant
- Employees exposure to coal dust,SO₂,H₂S,HCO's in refineries

Comment ID: 4636.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Small business

Health outcomes; diseases/injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Partners

Categorized comment or partial comment:

Concerns from small business and retail sector

- Exposure measurement to aromatic candles and aerosols in work places
- Chemical exposure measurement in hair and nails parlors

Comment ID: 4636.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance
Services

Population

Health outcomes; diseases/injuries

Dermal disease
Musculoskeletal disorders
Respiratory disease

Exposures

Chemicals/liquids/particles/vapors
Work organization/stress
Radiation (ionizing and non-ionizing)

Approaches

Partners

Categorized comment or partial comment:

American Industrial Hygiene Association

(PR Local section)

Concerns from health services/enforcement/emergency/education sectors

- Solvents and inert gas exposure in surgery wards and hospitals
- CTD and Back injuries for EMT staff
- Stress related injuries and illnesses among nursing staff, EMT, MT and firemen
- Occupational exposure to radiation in a nuclear medicine clinics
- Firemen exposure to toxic gases and fumes
- Respiratory, and skin conditions and back injuries among elementary and special education teachers
- Gun powder and lead exposure measures among enforcement agents

Note: This is a written expansion of verbal comments w4594.

Comment ID: 4637.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Older

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Motor vehicles

Work-life issues

Approaches

Surveillance

Etiological research

Exposure assessment

Intervention effectiveness research

Partners

Categorized comment or partial comment:

AAOHN

American Association of Occupational Health Nurses, Inc.

Susan A. Randolph, MSN, RN, COHN-S, FAAOHN

President

Ann R. Cox, CAE

Executive Director

December 27, 2005

Docket NIOSH-047

Robert A. Taft Laboratories (C-34)

4676 Columbia Parkway

Cincinnati, OH 45226

Via: e-mail

RE: *National Occupational Research Agenda (NORA): The Second Decade*

The membership and leadership of the American Association of Occupational Health Nurses, Inc. (AAOHN) actively participated in the first decade of the National Occupational and Research Agenda (NORA) by providing input at NIOSH town hall meetings and written testimony. Occupational and environmental health nurses continue to use the research agenda as a framework to guide occupational safety and health research and professional practice. As the primary association for the largest group of health care professionals serving workplaces and communities, AAOHN is pleased to provide input on the Second Decade of NORA (National Occupational Research Agenda).

The association targeted five out of eight sectors to provide comments including agriculture, health care, retail, transportation and utilities. Comments were developed by soliciting input on the following questions from occupational and environmental health nurses who worked in these sectors.

- What or why should the sector be researchable?
- What are the 2-3 major researchable issues of the sector?
- How would you apply research evidence to practice?

Specific Comments

1. Agriculture

The agriculture industry has ranked among the top three industries for fatal and non-fatal injury rates among U.S. workers. Agriculture is an area that has not been addressed in recent years although there were several initiatives implemented in the 1990s. Today agriculture continues to have some of the same issues it had in the 1990s. These initiatives were only a beginning. Much more needs to be done.

External forces that make this an important sector to research are the changing nature of the workforce (increased diversity) and lifestyle and general health issues such as obesity, aging, etc. The migrant worker has always been a component of the agricultural workforce since agriculture is viewed as entry-level work for inexperienced workers. The agricultural sector also experiences high turn over within the ranks because the jobs are filled with inexperienced and transient workers. The health status of the American workforce in general is becoming older, more obese, etc. One can assume that it is true of the agricultural workforce.

Possible researchable topics could include the following:

- Which group of workers has the most exposure to hazards?
- Have the hazard to farm work been adequately defined?
- What are the precursors to tractor rollovers?
- Has training made a difference in the incidence of tractor rollovers or other farm equipment type injuries?
- How does lifestyle/general health status affect farm workers?
- What prevention strategies are most effective in dealing with aging, weight, etc.?

-- What are the implications of increasing cultural diversity in prevention of farm accidents? In seeking care?

By knowing precursors to tractor rollovers or other farm equipment type injuries, education can be developed and conducted that is relevant and more effective in preventing injuries. Surveillance of farm injuries would also be useful to identify which population group is at risk so effective prevention strategies can be tailored to the task performed. The same approach would apply to culturally diverse work groups and lifestyle issues.

Comment ID: 4637.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Infectious diseases

Musculoskeletal disorders

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Intervention effectiveness research

Partners

Categorized comment or partial comment:

2. Healthcare

Although numerous strides have been made toward ergonomic/musculoskeletal disorders (MSDS) prevention, MSDS continues to be a major problem among healthcare workers as well as exposures to latex, bloodborne pathogens, violence, etc. But, there is also the threat of emerging airborne infections, i.e., SARS, multi-resistant tuberculosis, etc. and many questions such as "fit-test or not fit-test"? And, "what respiratory protection to wear for what exposure?" Now the healthcare worker is faced with the threat of avian flu and flu pandemic.

Because the healthcare environment varies (occupational and community health, jails and correctional facilities, hospices, hospitals) and is always changing (air care, global care, nanotechnology, aging workforce), there will always be researchable topics in healthcare, i.e., the effectiveness of education/training and workplace changes on MSDS injuries, workplace violence, environmental exposures; the health and safety impacts of traditional vs. nontraditional workplaces; the impact of shift work, increasing acuity of workloads, contract and immigrant workers. And, in the current unsettling global environment, the impact of bioterrorism and emerging infections, i.e., pandemic, etc., the health and safety of health care providers should have an increased research priority.

As a research sector category, healthcare is very important and should be given the emphasis warranted due to the nature of the recruitment and retention issues of registered nurses and other health care professionals. An appropriate level of staffing within the health care system is imperative to achieve

quality client care, improvement in the health status of the nation and cost effectiveness in health care delivery.

Comment ID: 4637.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work-life issues

Approaches

Etiological research

Engineering and administrative control/banding

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

3. Retail

Employees working in retail often experience repetitive injuries (wrists, shoulders, etc.) even with use of ergonomic engineering and restructuring. These injuries result in lost productivity and lost or modified days, which result in higher economic costs.

A possible research approach would be to look at the effects of body weight, body type, grasping strength, posture, etc. on injuries. Other approaches would be to consider the effects of routine exercise programs and/or stretching programs on repeat injuries, i.e., a cost-benefit and intervention analysis of changes in work conditions.

Comment ID: 4637.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Cardiovascular disease

Exposures

Cardiovascular disease

Work organization/stress

Work-life issues

Approaches

Economics

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

4. Transportation

Long-distance truck drivers are one of the unhealthiest groups of workers: sitting for hours in the cab of a truck; eating fast foods or truck stop foods that are high in fat and salt; dealing with stress of meeting deadlines, traffic, etc.; and having low to no activity. Therefore, the truck driver meets the criteria of development of cardiovascular disease (CVD), stress related illness, and deep vein thrombosis (DVT).

Although research may be difficult for this segment of workers, there can be economic gains such as the employee and his/her family could live longer with improved health, healthier lifestyles could reduce insurance costs for the employer, and could reduce driving accidents potentially caused by CVD, DW, stress, etc., thereby decreasing work related compensation as well as saving lives.

Comment ID: 4637.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Musculoskeletal disorders

Traumatic injuries

Exposures

Heat/cold

Radiation (ionizing and non-ionizing)

Work-life issues

Approaches

Etiological research

Engineering and administrative control/banding

Authoritative recommendation

Partners

Categorized comment or partial comment:

5. Utilities

Utilities should in a category of its own because utility workers have exposures not always shared with other workers, i.e., weather, electrical and nuclear hazards. Utility workers also face the possibility of falls while working from very high lifts, musculoskeletal disorders from working overhead and in contorted positions, and sleep deprivation. Because of the specific type of work performed, the utility worker's work can range from sedentary (nuclear plant worker) to high stress (lineman).

The potential for research would focus on lifestyle changes and/or recommendations or regulations on number of hours worked, effective ergonomic strategies, i.e., the cause-effect intervention relationship.

AAOHN appreciates the opportunity to review and comment on the *Second Decade of NORA (National Occupational Health Agenda)*. As always, we will continue to provide our support and assistance to facilitate safe and healthful workplaces and communities.

Sincerely,

Susan A. Randolph, MSN, RN, COHN-S, FAAOHN

President

Comment ID: 4638.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

Construction Sector

Fatal and Non-Fatal Injury and Illness Surveillance Information

(A version with tables and active links is available in [Appendix 2.](#))

The following summary of fatality, injury, and illness rates in the Construction sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; BLS, 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in

their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 6,672,400 workers in the construction sector in 2003 (Table C1). Workers in the specialty trades and building construction comprised 63% and 23% of the sector workforce, respectively.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Fatal occupational injuries

Falls accounted for 32% of the fatal occupational injuries in the construction sector. Transportation accidents accounted for 26% of the fatal occupational injuries in the construction sector (half of these involved highway accidents) (Table C3).

Nonfatal occupational injuries involving days away from work

Sector-wide, sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate of 9.30 cases per 1000 full-time workers per year (Table C4). The incidence rate of sprains was highest in the Specialty Trade Contractors (NAICS 238) subsector. Finish Carpentry (NAICS 23835) construction industry had the highest incidence rate of nonfatal amputations involving days away from work that was about 7-fold larger than the construction sector average (Table C7).

Total nonfatal occupational injuries

The Specialty Trade Contractors (NAICS 238) construction subsector had the highest rate and number of nonfatal occupational injuries (Table C5). Construction industries with the highest incidence rates of nonfatal occupational injuries included Framing Contractors (NAICS 23813), Structural Steel and Precast Concrete Contractors (NAICS 23812), and Poured Concrete Foundation and Structure Contractors (NAICS 23811) (Table C6A).

The incidence rate of traumatic injuries and disorders involving days away from work was 24.4 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 67 cases/1000 full-time workers/year (2003 BLS Tables R72 and Table C5). This suggests that the total injury rate is about 3-times larger than the injury rate involving days away from work.

Nonfatal occupational illnesses and injuries involving days away from work

The incidence rates of carpal tunnel syndrome and tendonitis involving days away from work were 0.14 and 0.18 cases/1000 full-time workers/year (Table C8). Incidence rates of carpal tunnel syndrome and tendonitis involving days away from work were highest in the Highway, Street, and Bridge Construction

(NAICS 2373) industry group (Table C9) and the Drywall and Insulation Contractors (NAICS 23831) industry (Table C10), respectively.

Comment ID: 4638.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Nonfatal occupational illnesses

The incidence rate of nonfatal occupational skin diseases and disorders was 0.38 cases/1000 full-time workers/year for the construction sector (Table C12). The Heavy and Civil Engineering Construction (NAICS 237) subsector had the highest incidence rate of skin diseases and disorders. However, due to a large workforce, the Specialty Trade Contractors (NAICS 238) subsector had the highest number of cases. The Utility System Construction (NAICS 2371) industry group had an incidence rate of 1.53 cases of skin diseases and disorders/1000 full-time workers/year, which was 4-fold the construction sector average (Table C13).

The incidence rate of nonfatal occupational respiratory conditions was 0.16 cases/1000 full-time workers/year for the construction sector (Table C12). The Specialty Trade Contractors (NAICS 238) subsector had the highest incidence rate and case numbers of nonfatal occupational respiratory conditions. The Other Building Finishing Contractors (NAICS 23839) industry had an incidence rate of 2.45 cases/1000 full-time workers/year, 15-fold the construction sector average (Table C14).

The incidence rate of nonfatal occupational poisonings was 0.09 cases/1000 full-time workers/year for the construction sector (Table C12). The two industries with the highest incidence rates of occupational poisonings were Painting and Wall Covering Contractors (NAICS 23832) and Other Building Finishing Contractors (NAICS 23839), which had incidence rates of 0.87 and 0.75 cases/1000 full-time workers/year, respectively (Table C15).

The incidence rate of all other nonfatal occupational illnesses was 0.91 cases/1000 full-time workers/year for the construction sector (Table C12). The three industries with the highest incidence rates of all other occupational illnesses were Framing Contractors (NAICS 23813), Tile and Terrazzo

Contractors (NAICS 23834), and Other Foundation, Structure, and Building Exterior Contractors (NAICS 23819), which had incidence rates ranging from 1.93 to 2.41 cases/1000 full-time workers/year (Table C16).

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any important potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Comment ID: 4639.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Motor vehicles

Violence

Approaches

Partners

Categorized comment or partial comment:

Healthcare and Social Assistance Sector

Fatal and Non-Fatal Injury and Illness Surveillance Information

(A version with tables and active links is available in [Appendix 3.](#))

The following summary of fatality, injury, and illness rates in the Healthcare and Social Assistance sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; BLS, 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 13,721,900 workers in the healthcare and social assistance sector in 2003 (Table H1). Workers in hospitals, nursing and residential care facilities, and physician offices comprised 31%, 20%, and 15% of sector workforce, respectively.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Fatal occupational injuries

Transportation accidents accounted for 48% of fatal occupational injuries in the healthcare and social assistance sector (most involved highway accidents). Assaults and violent acts accounted for 25% of fatal occupational injuries in the healthcare and social assistance sector (about an equal number were due to homicides as were due to suicides) (Table H3).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate within the healthcare and social assistance sector of 9.5 cases per 1000 full-time workers per year (Table H4). The Nursing and Residential Care Facilities (NAICS 623) subsector had the highest incidence rate of sprains and strains, with an incidence rate of 17.76 cases/1000 full-time workers/year, which was approximately two-fold larger than the healthcare and social service sector average.

Total nonfatal occupational injuries

The Nursing and Residential Care Facilities (NAICS 623) subsector had the highest incidence rate and total number of cases of total nonfatal occupational injuries (Table H5).

Within the healthcare and social assistance sector, the incidence rate of traumatic injuries and disorders involving days away from work was 16.30 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 60 cases/1000 full-time workers/year (Specially requested information and Table H5). This suggests that the total injury rate was about 4-fold larger than the injury rate involving days away from work.

Nonfatal occupational injuries and illnesses involving days away from work

The incidence rate of carpal tunnel and tendonitis for the healthcare and social assistance sector were 0.17 and 0.08 cases/1000 full-time workers/year, respectively (Table H6). Carpal tunnel syndrome and tendonitis incidence rates were highest in the Home Healthcare Services (NAICS 6216) and Hospitals (NAICS 622) industry group and subsector, respectively (Table H6). The musculoskeletal system and connective tissue diseases and disorders incidence rate for the healthcare and social assistance sector was 0.18 cases/1000 full-time workers/year (Special Request); 43% of these cases were diagnosed as tendonitis.

The incidence rate of back pain (without a medical diagnosis) involving days away from work for the healthcare and social assistance sector was 0.65 cases/1000 full-time workers/year (Table H6). The highest rate was in the Nursing and Residential Care Facilities (NAICS 623) subsector, which had an incidence rate of 1.38 cases/1000 full-time workers/year.

Comment ID: 4639.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Healthcare and Social Assistance

Population

Health outcomes; diseases/injuries

Dermal disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Nonfatal occupational illnesses

The incidence rates of nonfatal occupational skin diseases and disorders and nonfatal occupational respiratory conditions for the healthcare and social assistance sector were 0.93 and 0.59 cases/1000 full-time workers/year (Table H7). The Hospitals (NAICS 622) subsector had the highest incidence rates and case numbers for both nonfatal respiratory conditions and skin diseases and disorders. BLS data was not able to further discriminate as to what portions of the hospital workforce were at greatest risk.

The incidence rate of nonfatal occupational poisonings for the healthcare and social assistance sector was 0.05 cases/1000 full-time workers/year (Table H7). The Social Assistance (NAICS 624) subsector had the highest incidence rate of nonfatal occupational poisonings.

The incidence rate of all other nonfatal occupational illnesses for the healthcare and social assistance sector was 2.89 cases/1000 full-time workers/year (Table H7). The Hospitals (NAICS 622) subsector had the highest incidence rate and case numbers of all other nonfatal occupational illnesses.

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due

to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Comment ID: 4640.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

Manufacturing Sector

Fatal and Non-Fatal Injury and Illness Surveillance Information

(A version with tables and active links is available in [Appendix 4.](#))

The following summary of fatality, injury, and illness rates in the Manufacturing sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; BLS, 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in

their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 14,459,700 workers in the manufacturing sector in 2003 (Table M1). Workers in Transportation Equipment, Food, Fabricated Metal Products, Computer and Electronic Products, and Machinery manufacturing comprised 12%, 10%, 10%, 9%, and 8% of the sector workforce, respectively.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Fatal occupational injuries

Contact with objects and equipment accounted for 31% of fatal occupational injuries in the manufacturing sector (the largest proportion involved workers being caught in or compressed by equipment or objects). Transportation accidents accounted for 28% of fatal occupational injuries in the manufacturing sector (most involved highway accidents) (Table M3).

Nonfatal occupational injuries involving days away from work

Industry-wide, sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate within the manufacturing sector of 5.92 cases per 1000 full-time workers per year (Table M4). Beverage and Tobacco Products (NAICS 312) manufacturing subsector had an incidence rate of sprains and strains of 17.61 cases/1000 full-time workers/year, which was approximately three-fold larger than the manufacturing sector average.

Furniture and Related Products (NAICS 337), Fabricated Metal Products (NAICS 332), and Wood Products (NAICS 321) manufacturing subsectors had the three highest incidence rates of nonfatal amputation involving days away from work, with the highest manufacturing industry rates in Miscellaneous Fabricated Metal Product (NAICS 332999), Ornamental and Architectural Metal Works (NAICS 332323); and Other Metal Valve and Pipe Fitting (NAICS 332919) manufacturing (Tables M4 and M7).

Total nonfatal occupational injuries

Beverage and Tobacco Products (NAICS 312) and Wood Products (NAICS 321) manufacturing subsectors had the highest incidence rates of total nonfatal occupational injuries (Table M5), with Bottled Water (NAICS 312112) and Truss (NAICS 321214) manufacturing industries having incident rates, respectively, 2.8- and 2.4-fold larger than the manufacturing sector average (Table M6A). The Transportation Equipment (NAICS 336) manufacturing subsector had the highest number of total nonfatal injuries, due to a large workforce and a moderately elevated incidence rate (Table M5).

Within the manufacturing sector, the incidence rate of traumatic injuries and disorders involving days away from work was 13.85 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 60 cases/1000 full-time workers/year (2003 BLS Tables R72 and SNR05). This suggests that the total injury rate was more than 4-fold larger than the injury rate involving days away from work.

Nonfatal occupational injuries and illnesses involving days away from work

Carpal tunnel syndrome and tendonitis incidence rates involving days away from work were highest in the Leather and Allied Products (NAICS 316) manufacturing subsector (Table M8). The incidence rates of carpal tunnel syndrome and tendonitis were, respectively, about 11-fold higher in the Other Leather and Allied Product (NAICS 31699) manufacturing industry and about 50-fold higher in Rubber and Plastic Footwear manufacturing (NAICS 316211) manufacturing industry, compared with the respective manufacturing sector averages (Tables M9A and M10).

The incidence rate of back pain (without a medical diagnosis) involving days away from work for the manufacturing sector was 0.35 cases/1000 full-time workers/year (Table M8). Beverage and Tobacco Products (NAICS 312) had an incidence rate of 0.94 cases/1000 full-time workers/year, which was about three times larger than the sector average.

The incidence rate of hernia (including inguinal and ventral hernias) involving days away from work for the manufacturing sector was 0.44 cases/1000 full-time workers/year (2003 BLS Table R72).

Comment ID: 4640.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Manufacturing

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

Nonfatal occupational illnesses

Food (NAICS 311), Chemical (NAICS 325), and Transportation Equipment (NAICS 336) manufacturing subsectors had the highest incidence rates and case numbers of nonfatal occupational respiratory conditions. The Flour Milling and Malt (NAICS 31121) manufacturing industry had an incidence rate of nonfatal occupational respiratory conditions 13-fold the manufacturing sector average (Table M12A).

Leather Products (NAICS 316), Transportation Equipment (NAICS 336), and Fabricated Metal Products (NAICS 332) manufacturing subsectors had the highest incidence rates of nonfatal occupational skin diseases and disorders, with the largest number of affected workers being in the Transportation Equipment manufacturing subsector (Table M11). The three manufacturing industries with the highest incidence rates of nonfatal occupational skin disease and disorders involved handling concrete and metalworking and hydraulic fluids (Table M13A).

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities

in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al. 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al. 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalach N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Comment ID: 4641.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

Mining Sector

Fatal and Non-Fatal Injury and Illness Surveillance Information

(A version with tables and active links is available in [Appendix 5](#).)

The following summary of fatality, injury, and illness rates in the Mining sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; BLS, 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments that do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies; and comprehensive reporting by the Mine Safety and Health Administration (MSHA) for the mining sector (except for oil and gas extraction and related support activities). Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

The mining sector (NAICS 21), as presented in this summary, includes establishments MSHA rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining

operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates for other industries.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 500,100 workers in the mining sector in 2003 (Table MG1). Workers in the mining subsector comprised 40% of the sector workforce. Of these, 34% were coal miners.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Fatal occupational injuries

Transportation accidents accounted for 34% of fatal occupational injuries in the mining sector (58% of these fatalities were due to highway accidents). Contact with objects and equipment accounted for 32% of fatal occupational injuries in the mining sector (71% of these fatalities were due to the worker being struck by an object) (Table MG3).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate within the mining sector of 6.04 cases per 1000 full-time workers per year (Table MG4). Coal Mining (NAICS 2121) subsector had an incidence rate of sprains and strains of 19.16 cases/1000 full-time workers/year, which was more than three-fold larger than the mining sector average. Bituminous Coal Underground Mining (NAICS 212112), Dimension Stone Mining and Quarrying (NAICS 212311), and Drilling Oil and Gas Wells (NAICS 213111) had incidence rates of fractures involving days away from work ranging from 3.85 to 8.64 cases/1000 full-time workers/year, which were 2 to 4.5 times larger than the mining sector average (Table MG7). The highest amputation rate involving days away from work was in Bituminous Coal Underground Mining (NAICS 212112), which had an incidence rate of 5.1 cases/1000 full-time workers/year (2003 BLS Table R5).

Total nonfatal occupational injuries

The highest incidence rate of total nonfatal occupational injuries was in the Bituminous Coal Underground Mining (NAICS 212112) industry, which had an incidence rate of 84 cases/1000 full-time workers/year (Table MG6).

Within the mining sector, the incidence rate of traumatic injuries and disorders involving days away from work was 13.11 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 31 cases/1000 full-time workers/year (Special Request and Table MG5). This suggests that the total injury rate was more than two-fold larger than the injury rate involving days away from work.

Nonfatal occupational injuries and illnesses involving days away from work

The incidence rate of occupational back pain (without a medical diagnosis) involving days away from work was highest in the Support Activities for Mining (NAICS 213) subsector (Table MG8) with a rate of 0.28 cases/1000 full-time workers/year. However, the incidence rate for Bituminous Coal Underground Mining (NAICS 212112) was much higher at 5.1 cases/1000 full-time workers/year (2003 BLS Table R5).

Comment ID: 4641.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Mining

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

Nonfatal occupational illnesses

Bituminous Coal Underground Mining (NAICS 212112) and Bituminous Coal and Lignite Surface Mining (NAICS 212111) industries had incidence rates of nonfatal occupational respiratory conditions of 2.08 and 0.63 cases/1000 full-time workers/year, respectively, compared to the mining sector average of 0.23 cases/1000 full-time workers/year (Tables MG9 and MG10). The incidence rate of nonfatal skin diseases and disorders was highest in the Support Activities for Mining (NAICS 213) industry group, with the Drilling Oil and Gas Wells (NAICS 213112) industry having the highest incidence rate (0.55 cases/1000 full-time workers/year) within this industry group (Tables MG9 and MG11).

The incidence rates of all other nonfatal occupational illnesses were highest in the Bituminous Coal Underground Mining (NAICS 212112) and Iron Ore Mining (NAICS 21221) industries, which had incidence rates of 3.91 and 3.72 cases/1000 full-time workers/year, respectively (Table MG12).

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities

in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalach N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Comment ID: 4642.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Neurological effect/mental health

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Motor vehicles

Violence

Approaches

Partners

Categorized comment or partial comment:

Services Sectors

Fatal and Non-Fatal Injury and Illness Surveillance Information

(A version with tables and active links is available in [Appendix 6](#).)

The following summary of fatality, injury, and illness rates in the Services sectors is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 44,822,300 workers in the services sectors in 2003 (Table S1). Workers in Accommodation and Food Services, Administrative and Support Services, and Professional, Scientific, and Technical Services comprised 23%, 16%, and 15% of services sectors workforce, respectively.

Fatal occupational injuries

Transportation accidents accounted for 49% of fatal occupational injuries in the Services sectors (66% of these were due to highway accidents). Assaults and violent acts accounted for 24% of fatal occupational injuries in the Services sectors (76% of these were due to homicides) (Table S3).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work for all service sectors with sector incidence rates ranging from 0.85 cases/1000 full-time workers/year in the Finance and Insurance (NAICS 52) sector to 15.73 cases/1000 full-time workers/year in the Waste Management and Remediation Services (NAICS 562) subsector (Table S4). The Waste Collection (NAICS 5621) industry group had the highest incidence rate of amputations involving days away from work with a rate of 0.67 cases/1000 full-time workers/year (Table S7).

Total nonfatal occupational injuries

Amusement Parks and Arcades (NAICS 7131), Waste Collection (NAICS 5621), and Consumer Electronics and Appliances Rental (NAICS 53221) were the industry groups and industries that had the highest total nonfatal occupational injury rates, ranging from 82 to 108 cases/1000 full-time workers/year (Table S6).

Nonfatal occupational injuries and illnesses involving days away from work

The highest incidence rate of occupational carpal tunnel syndrome involving days away from work was 1.09 cases/1000 full-time workers/year in the Direct Life, Health, and Medical Insurance Carriers (NAICS 52411) industry (Table S9). The highest incidence rate of tendonitis involving days away from work was 0.21 cases/1000 full-time workers/year in the Spectator Sports (NAICS 7112) industry group (Table S10). The incidence rate of musculoskeletal system and connective tissue diseases and disorders involving days away from work was highest in the Other Services (NAICS 81) sector which had an incidence rate of 0.23 cases/1000 full-time workers/year; 28% of these cases were diagnosed as tendonitis (Special Request). The highest incidence rate of back pain (without a medical diagnosis) involving days away from work was 0.91 cases/1000 full-time workers/year in the Waste Treatment and Disposal (NAICS 5622) industry group (2003 BLS Table R5). Finance and Insurance (NAICS 52) had the highest sector incidence rate of mental illness, with a rate of 0.09 cases/1000 full-time workers/year (Table S8).

Comment ID: 4642.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Services

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Nonfatal occupational illnesses

The incidence rate of nonfatal occupational skin disease was highest in the Recreational Vehicle Parks and Recreational Camps (NAICS 7212) industry group, which had an incidence rate of 11.82 cases/1000 full-time workers/year (Table S12).

The incidence rate of nonfatal occupational respiratory conditions was highest in Hotels and Motels (NAICS 72111), Amusement Parks and Arcades (NAICS 7131), and General Rental Centers (NAICS 5323) industry groups and industries, which had incidence rates ranging from 0.48 to 0.57 cases/1000 full-time workers/year (Table S13).

The incidence rate of nonfatal occupational poisonings was highest in the Lessors of Other Real Estate Property (NAICS 53119) industry, which had an incidence rate of 8.7 cases/1000 full-time workers/year (Table S14).

The incidence rate of all other nonfatal occupational illnesses was highest in the Satellite Communications (NAICS 5174) industry group, which had an incidence rate of 11.22 cases/1000 full-time workers/year (Table S15).

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these

events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Comment ID: 4643.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Motor vehicles

Approaches

Partners

Categorized comment or partial comment:

Transportation, Warehousing, and Utilities Sectors

Fatal and Non-Fatal Injury and Illness Surveillance Information

(A version with tables and active links is available in [Appendix 7.](#))

The following summary of fatality, injury, and illness rates in the Transportation, Warehousing, and Utilities sectors is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; BLS, 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-

sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 3,946,200 workers in the Transportation and Warehousing sectors and 575,900 workers in the Utilities sector in 2003 (Table TR1). Workers in Truck Transportation comprised 33% of the combined Transportation/Warehousing workforce.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Fatal occupational injuries

Transportation accidents accounted for 75% of fatal occupational injuries in the Transportation, Warehousing, and Utilities sectors (69% of these were due to highway accidents) (Table TR3).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work. Within the Transportation and Warehousing sectors, the incidence rate of sprains and strains was 17.32 cases/1000 full-time workers/year (Table TR4). However, the Couriers and Messengers (NAICS 492) subsector had an incidence rate of 23.42 cases/1000 full-time workers/year. The incidence rate of amputations involving days away from work was highest in the Local General Freight Trucking (NAICS 48411) industry, which had an incidence rate of 0.44 cases/1000 full-time workers/year.

Total nonfatal occupational injuries

The subsectors with the highest incidence rates of total nonfatal occupational injuries were Couriers and Messengers (NAICS 492) and Air Transportation (NAICS 481) (Table TR5). The incidence rates of total nonfatal occupational injuries were highest in Refrigerated Warehousing and Storage (NAICS 49312), Couriers (NAICS 4921), and Scheduled Air Transportation (NAICS 4811) industry groups and industries, which had incidence rates 47% to 73% higher than the Transportation and Warehousing sectors average (Table TR6A).

Within the Transportation and Warehousing sectors and the Utilities sector the incidence rates of traumatic occupational injuries involving days away from work were 33.49 and 11.11 cases/1000 full-time workers/year (Special Request) compared to 74 and 40 cases of total nonfatal occupational injuries/1000 full-time workers/year (Table TR5), respectively. This suggests that the total injury rates were 2.2 and 3.6 fold larger than the injury rates involving days away from work for these sectors, respectively.

Nonfatal occupational injuries and illnesses involving days away from work

The subsector with the highest incidence rates of occupational carpal tunnel syndrome and tendonitis involving days away from work was Warehousing and Storage (NAICS 493), which had incidence rates of 0.42 and 0.34 cases/1000 full-time workers/year, respectively (Table TR8). The industry with the highest incidence rate of occupational carpal tunnel syndrome involving days away from work was the Long Distance Specialized Freight (except used goods) Trucking (NAICS 48423) industry, which had an incidence rate of 1.13 cases/1000 full-time workers/year, approximately 4 times larger than the Transportation and Warehousing sectors average (Table TR9).

Within the Transportation and Warehousing sectors, the incidence rate of the symptom of back pain (without a medical diagnosis) involving days away from work was 1.27 cases/1000 full-time workers/year (Table TR8). This incidence rate was highest in the Couriers and Messengers (NAICS 492) subsector. The incidence rate of hernia (including inguinal and ventral hernias) involving days away from work for the Transportation and Warehousing sectors was 0.59 cases/1000 full-time workers/year.

Comment ID: 4643.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Approaches

Partners

Categorized comment or partial comment:

Nonfatal occupational illnesses

The incidence rate of nonfatal occupational skin diseases and disorders was highest in the Water Sewage and Other Systems (NAICS 2213) industry group, which had an incidence rate of 2.03 cases/1000 full-time workers/year (Table TR11).

The incidence rate of nonfatal occupational respiratory conditions was highest in the Urban Transit System (NAICS 4851) industry group, which had an incidence rate of 2.83 cases/1000 full-time workers/year (Table TR12).

Appendix

Notes on Limitations and Interpretations

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for

occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003), are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalach N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Comment ID: 4644.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Mortality

Exposures

Motor vehicles

Violence

Approaches

Partners

Categorized comment or partial comment:

Wholesale and Retail Trade Sectors

Fatal and Non-Fatal Injury and Illness Surveillance Information

(A version with tables and active links is available in [Appendix 8.](#))

The following summary of fatality, injury, and illness rates in the Wholesale and Retail Trade sectors is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; BLS, 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program there were 20,519,800 workers in the wholesale and retail trade sectors in 2003 (Table T1). Workers in wholesale trade and retail trade comprised 27% and 73% of the workforce for the combined trade sectors, respectively.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Fatal occupational injuries

Assaults and violent acts accounted for 41% of fatal occupational injuries in the Wholesale and Retail Trade sectors (85% of these were due to homicides). Transportation accidents accounted for 32% of fatal occupational injuries in the Wholesale and Retail Trade sectors (79% of these involved highway accidents) (Table T3).

Nonfatal occupational injuries involving days away from work

Within the Wholesale and Retail Trade sectors, sprains and strains were the most frequent nonfatal injury type involving days away from work with incidence rates of 6.78 and 6.97 cases/1000 full-time workers/year, respectively (Table T4). Building Material and Garden Equipment and Supplies Dealers (NAICS 444), Nondurable Goods Merchant Wholesalers (NAICS 424), and Food and Beverage Stores (NAICS 445) subsectors had the highest incidence rates of sprains and strains.

The incidence rate of amputations involving days away from work were 0.12 and 0.03 cases/1000 full-time workers/year for the Wholesale Trade and Retail Trade sectors, respectively (Table T4). Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233) had an amputation incidence rate of 1.03 cases/1000 full-time workers/year, which was more than 8 times larger than the Wholesale Trade sector average (Table T7).

Total nonfatal occupational injuries

General Merchandise Stores (NAICS 452), Food and Beverage Stores (NAICS 445), and Building Material and Garden Equipment and Supplies Dealers (NAICS 444) had the highest rates of total nonfatal occupational injuries, ranging from 62 to 69 cases/1000 full-time workers/year (Table T5). The Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers (NAICS 4248) industry group had an

incidence rate of total nonfatal occupational injuries of 107 cases/1000 full-time workers/year, which was more than two times higher than the Wholesale Trade sector average. (Table T6A).

Within the Wholesale and Retail Trade sectors the incidence rates of traumatic occupational injuries involving days away from work were 13.97 and 14.43 cases/1000 full-time workers/year (Special Request) compared to 45 and 51 cases of total nonfatal occupational injuries/1000 full-time workers/year, respectively (Table T5). This suggests that the total injury rates were 3.2- and 3.5-fold larger than the injury rate involving days away from work for these sectors, respectively.

Nonfatal occupational illnesses and injuries involving days away from work

Incidence rates of occupational carpal tunnel syndrome and tendonitis involving days away from work incidence rates were, respectively 0.46 and 0.34 cases/1000 full-time workers/year in the Food and Beverage Stores (NAICS 445) subsector (Table T8). The highest incidence rate of carpal tunnel syndrome was in the Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238) and Supermarkets and Other Grocery (except convenience) Stores (NAICS 44511), which had incidence rates of 0.63 and 0.56 cases/1000 full-time workers/year (Table T9). The highest incidence rate of tendonitis was in the Other Specialty Food Stores (NAICS 44529) industry, at 4.61 cases/1000 full-time workers/year, 42 times higher than the Retail Trade average (Table T10).

The incidence rates of the symptom of back pain (without a medical diagnosis) involving days away from work were 0.52 and 0.41 cases/1000 full-time workers/year for Wholesale Trade and Retail Trade, respectively (Table T8). The incidence rate for this symptom was highest in Nondurable Goods Merchant Wholesalers (NAICS 424) subsector and in the Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers (NAICS 4248) industry group (Table T11). For the Wholesale and Retail Trade sectors the incidence rates for hernia involving days away from work were 0.36 and 0.31 cases/1000 full-time workers/year, respectively (Special Request).

Comment ID: 4644.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Dermal disease

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Partners

Categorized comment or partial comment:

Nonfatal occupational illnesses

The incidence rate of nonfatal occupational skin diseases and disorders was 0.31 cases/1000 full-time workers/year in both Wholesale and Retail Trade sectors (Table T12). This rate was highest in the Nursery and Garden Center (NAICS 44422) industry, which had an incidence rate of 3.40 cases/1000 full-time workers/year (Table T13).

The incidence rate of nonfatal occupational respiratory conditions was 0.14 and 0.10 cases/1000 full-time workers/year in the Wholesale and Retail Trade sectors, respectively (Table T12). This rate was highest in the Camera and Photographic Supplies Stores (NAICS 44313) industry, which had an incidence rate of 3.11 cases/1000 full-time workers/year (Table T14).

The incidence rate of nonfatal occupational poisonings was 0.03 and 0.05 cases/1000 full-time workers/year in the Wholesale and Retail Trade sectors, respectively (Table T12). This rate was highest in the Outdoor Power Equipment Stores (NAICS 44421) industry, which had a rate of 4.73 cases/1000 full-time workers/year (BLS Table SNR08).

The incidence rate of all other nonfatal occupational illnesses was 1.01 and 1.21 cases/1000 full-time workers/year in the Wholesale and Retail Trade sectors, respectively (Table T12). This rate was highest in Electronic Shopping and Mail-Order Houses (NAICS 4541) industry group which had an incidence rate of 6.94 cases/1000 full-time workers/year (Table T15).

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or climatic characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lulich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Comment ID: 4645.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities

Population

Health outcomes; diseases/injuries

- Neurological effect/mental health
- Musculoskeletal disorders

Exposures

- Noise/vibration

Approaches

- Etiological research

Partners

Categorized comment or partial comment:

Human Vibration Exposures

Human vibration includes hand-transmitted vibration and whole-body vibration. It is estimated that more than nine million workers in the U.S. are occupationally exposed to human vibration.

Human vibration may not be listed in the top three exposures in any of the eight sectors but it is one of the important exposures across the sectors. Human vibration exists in six sectors: construction, transportation, mining, agriculture and forest, services, and manufacture.

Although many studies on human vibration have been reported, several fundamental issues have not been resolved. For example, no one knows the exact relationship between the vibration exposure and the incidence of vibration-induced disorders. A robust theory has not been established to quantify the exposure dose and the health effects. The vibration-induced problems have not gone away.

It is true that several international standards (ISO 5349, 2001; ISO 2631, 1997) have been established for assessing the risk of the vibration exposures. However, one of the major purposes of these standards is to have a set of uniform procedures to collect experimental data so that they can be used to effectively improve the standards.

Therefore, further studies on human vibration exposures are required.

Note: Written version of a verbal comment provided at a NORA Town Hall meeting held in Morgantown, WV, on March 21, 2006.

Comment ID: 4646.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing
Construction
Healthcare and Social Assistance
Manufacturing
Mining
Services
Transportation, Warehousing and Utilities
Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Approaches

Etiological research
Engineering and administrative control/banding
Intervention effectiveness research
Work-site implementation/demonstration
Emergency preparedness and response

Partners

Categorized comment or partial comment:

Musculoskeletal disorders are prevalent in all eight NORA sectors:

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Comprehensive strategies for controlling work-related musculoskeletal disorders include:

- Basic research
- Ergonomics
- Biomechanics
- Epidemiological research
- Engineering controls
- Administrative controls
- Applied research and validation studies
- Intervention studies
- And so on

It would be unwise to hang the MSD control hat on just one of these domains. Each of them is important. One often overlooked, but vital aspect of this distributive portfolio is basic research. Basic research provides unbiased facts to answer questions and resolve disputes. Basic research provides the essential objective measurements of forces, movements, and postures used in the workplace. Only basic research can discern underlying fundamental mechanisms of musculoskeletal disorders and injuries and help identify dose-response relationships. The knowledge provided through basic research leads to a better grasp of the etiologies of MSDs and helps us develop the most cost-effective and least-intrusive workplace solutions. Basic research also leads to the development of robust, convenient, objective measurement methodologies and instrumentation for use in laboratory and field studies.

In the past, intervention strategies based on general biomechanical and ergonomics principles have proven to be less than successful. This is because these efforts often lacked the critical information that is provided through basic research. The use of basic research can help safety professionals pinpoint underlying mechanisms and to develop efficient and cost-effective intervention approaches for quantifying important variables and for targeting specific dose-response relationships. The OSHA ergonomics standard was widely criticized because many of its components lacked the support of objective, quantitative data. Basic research is the primary source of such support. In short, basic research must play a significant role in the overall strategy to control workplace musculoskeletal disorders and injuries.

Note: Written version of a verbal comment provided at a NORA Town Hall meeting held in Morgantown, WV, on March 21, 2006.

Comment ID: 4647.01

Categorized with the following terms:

Sectors

Agriculture, Forestry and Fishing

Population

Youth

Older

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Noise/vibration

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

I am speaking today regarding the Agriculture industry, North American Industry Classification System (NAICS) code 11. In order to assure that the NORA 2 priorities are data driven, I will attempt to provide some data for this industry. What I provide is not comprehensive, but it is compelling.

For 2004, the latest year that data is available from the Bureau of Labor Statistics (BLS), their released - 'National Census of Fatal Occupational Injuries in 2004" (CFOI) reports that the Agriculture, forestry, fishing & hunting industry had the highest fatality rate among all the industrial sectors with 30.1 deaths/100,000 workers. Mining came in second (28.3 deaths) followed by the Transportation and warehousing sector (17.8). This compares to an all industry average rate of 4.1/100,000 workers.(1) The Agriculture industry's rate is over seven times (7.3) the industry average.

The Agriculture, forestry, fishing and hunting industry was ranked 3rd in the total number of deaths (659). Construction was ranked first (1,224) followed by the Transportation and warehousing sector (829). Mining had 152 deaths and was ranked 12/15 industry sectors.(2) Speaking of mining (and since we're in WV), the Sago mine tragedy is still fresh in our minds, even though it is beginning to fade from the headlines. This calamity took the lives of 12 men in a close knit mining community not far from here. There was an outcry by news commentators and editorial writers about the "human cost" of coal as an energy source. However, can you imagine the outcry if farmers were to die in groups of 12? The Agriculture sector could sustain that number every week (12 deaths a week) for a year and still be under the 2004 total number of fatalities (624 vs 659). But these deaths do not generally happen in groups and

thus escape the national media, even though they appear all too often as single incidents in our nations local newspapers. The point I wish to make is that there also is a "human cost" to the most basic of our human necessities, food. We must not forget this point.

Within the industry of Agriculture, crop and livestock production (which most closely parallels the occupation of farming) accounts for 70% (458/659) of the deaths in the agriculture, forestry, fishing and hunting sector. Surveillance studies have shown there are high fatality rates for older agricultural production workers (those older than 64 years of age) along with higher numbers of deaths for these older workers. A 2001 study of 7 years of CFOI data found these older agricultural production workers had a fatality rate of 65.9/100,000 which was 2-3 times the rate of other agricultural production age groups and 13 times higher than the national average (5.0/100,000). Also, these older agricultural production workers incurred 2-4 times the number of deaths of their younger agricultural production age groups.(3)

Additionally, young agricultural workers are at increased risk, too. The youth who work on farms face unique risks which are not present for many other young workers. These include machinery, large animals, electrical hazards, chemical hazards and excessive noise. From 1992-2002, the agriculture production workforce 15-19 years of age comprised 7.1% of the total youth workforce (full time equivalent - FTE adjusted) but incurred 15.8% of all the fatalities. For workers under 16 years of age, the agriculture production sector accounted for 60% of the deaths, and for workers 10 years of age and younger, the agriculture production sector accounted for 79% of all the deaths. The highest fatality rate for this time period among young agriculture production workers was for 15 year olds (18.5/100,000). The rates for young agriculture production workers was 3.6 times higher than their counterparts in all other industries.(4)

The previous statistics have all been fatalities. However, there have been a number of surveys conducted for non-fatal injuries which NIOSH has sponsored that indicates there is a greater percentage of injuries occurring to youth who live on farms from non-work activities.(5) There is no other industrial sector where the workplace is also the home and leisure activity area for the worker and his family. This provides for some unique and complex situations which have to be understood and addressed in order to reduce the unacceptably high numbers and rates of agricultural injuries and deaths.

Let me conclude by noting that the Agriculture industry consistently ranks high in both the rate and number of occupational fatalities. It is an industry sector which warrants priority funding and our attention and efforts in order to alleviate this situation. Within the agriculture production sectors, there are high rates and numbers of death for older farmers. Also, there are high fatality rates for young agricultural production workers as compared to their counterparts in all other industries. Additionally, nonfatal injuries, both work and non-work related, occur to youth who live on farms. The unique situation of working and living on farms creates many opportunities for research and intervention activities that are not found in any other industry. There is a human cost associated with the production of food in the US that I believe is at an unacceptable rate and frequency for those who work in these sectors. I would encourage you to keep this in mind as priorities are selected and put forth for the NORA 2 initiative.

References

1, 2. National Census of Fatal Occupational Injuries in 2004. USDL. News Bureau of Labor Statistics. Washington, DC. Aug 25, 2005.

3, 4 . Hard DL, Myers JR, Gerberich SG. 2002. Journal of Agricultural Safety and Health, V 8(1):5 1-65.

5. 2001 Childhood Agricultural-Related Injuries. USDA. NASS Fact Finders for Agriculture. Washington, DC. Jan 8, 2004.

Note: Written version of a verbal comment provided at a NORA Town Hall meeting held in Morgantown, WV, on March 21, 2006.

Comment ID: 4648.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Mortality

Exposures

Approaches

- Surveillance
- Marketing/dissemination

Partners

Categorized comment or partial comment:

A Town Hall Meeting for the
National Occupational Research Agenda (NORA)
Tuesday, March 21, 2006
Comments by Robert E. Koedam, M.S.
Chief, Fatality Investigations Team
Surveillance and Field Investigations Branch
Division of Safety Research, CDC/NIOSH

Hello, my name is Robert Koedam. I serve as the Chief of the Fatality Investigations Team within the Surveillance and Field Investigations Branch. Division of Safety Research, NIOSH. Within the Fatality Investigations Team lies the Fatality Assessment and Control Evaluation (FACE) program. I would like to speak today to impress upon the NORA Research Program industry sector managers, coordinators. and research sector councils the significant impact that the FACE program can have on NIOSH's research agenda - across those sectors with high numbers and rates of fatalities. As a matter of fact, between

1983 and 2005, the FACE program completed 2,096 fatality investigative reports - including investigations in all **eight** NORA Sector Programs.

The Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries collects occupational fatality data that are useful in setting safety research and prevention priorities. We know that the BLS data collected is highly effective in identifying common causes of death and worker groups that have experienced large numbers and/or rates of occupational injury.

What we also know is that unfortunately, there are "gaps" in the data in that it does not completely include the needed detail that would enable researchers to clearly identify a specific hazard, identify the specific factors that allow workers to be exposed to a hazard, and/or identify a specific means to control an emerging or existing hazard. In order to develop effective, sector-specific prevention measures, more in-depth information is needed to understand all of the circumstances and events that lead up to and contribute to fatal injuries.

The NIOSH FACE program fills this niche' nicely through the execution of its primary objectives - which include identifying work situations at high risk for fatal injury, performing in depth on-site investigations, collecting specific, comprehensive information, and performing analysis of collected data. This data analysis includes all information related to the agent, host, and environment in the pre-event, event, and post event phases of the incident. NIOSH FACE has both an intramural and an extramural component (currently active in 15 States.) The State FACE programs, because of their close relationships with other intra-state agencies and safety organizations, as well as with employers and workers, have also been particularly effective at administering FACE programs while reaching out quickly to employers within their respective state when hazards are identified and prevention strategies are developed. This type of collaboration would work well within the NORA sectors as well.

Perhaps the most unique characteristic of the FACE program is that it contains the surveillance component as well as the field investigation component. The field investigation component allows for the gathering of the needed detail pertaining to an incident. This enhances the existing BLS data and fills many of the existing information gaps. Perhaps more importantly, the additional detail collected during field investigations allows for the development of a summary fatality report that includes prevention recommendations that can be immediately used in future or existing training programs, and feeds into the implementation of safety controls and research - including product substitution, developing engineering controls and administrative controls, and addressing the development and/or use of adequate personal protective equipment.

Each of the FACE-generated reports and documents also incorporate a dissemination component. The dissemination component allows the summary reports and their timely, effective, and realistic prevention strategies to reach those who can intervene in the workplace - thereby preventing future similar incidents. The dissemination has included forming partnerships with other government agencies, civilian agencies, trade associations, trade journals, and private and corporate industry. The NIOSH FACE program has been able to direct this information to targeted audiences in a variety of FACE products and interventions - including working with partners such as the OSHA training institute and its satellite training centers to incorporate FACE reports into safety and health training as case studies.

In closing, with very limited resources, FACE has contributed to changes in regulations, equipment, and has identified needs for current research. FACE materials are also used in training for employees, and by employers by creating a safer work environment through the implementation of the aforementioned

safety controls. These direct impacts and R2P examples include, but are not limited to; the State of New Jersey enacting safety laws regarding electrical requirements and inspections of public swimming pools – protecting employees. OSHA implementing CPL 2-1.36 - which covers the Interim inspection procedures during Communication Tower Construction Activities, a North Carolina OSHA telecommunication tower standard, and engineering and administrative controls implemented by the international community following two investigations by Nebraska FACE of accidental injections from Micotil 300®; a deadly cattle antibiotic. Other impacts include the implementation of FACE findings into training programs in the telecommunication tower, roadway construction, and logging industries - just to name a few.

I urge you to consider including surveillance, as well as the FACE program in your NORA recommendations.

Thank you for this opportunity to speak before you today.

Note: Written version of a verbal comment provided at a NORA Town Hall meeting held in Morgantown, WV, on March 21, 2006.

Comment ID: 4649.01

Categorized with the following terms:

Sectors

- Manufacturing
- Services
- Unspecified

Population

Health outcomes; diseases/injuries

- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Hazard identification
- Etiological research

Partners

Categorized comment or partial comment:

Examples Where Laboratory Investigations Have Directly Impacted Occupational Health

Vincent Castranova, Ph.D.

Health Effects Laboratory Division/NIOSH

I. Leather Spray Protectant

A. Issue - Consumers who treated leather products with leather protectant spray were admitted into the hospital with respiratory problems.

B. Lab study -

- Identified that cases were associated with a new formulation of the spray.
- Compared the effects of exposure to the new vs old formulation in an inhalation animal model.
- Found that the new formulation caused severe damage to the alveolar air/blood barrier.
- Identified the potential causative agents in the new formulation.

C. Result - The new product was recalled.

II. Wood/leaf compost

A. Issue - A landscaper was hospitalized with fever and labored breathing.

B. Lab study -

-- Simulated the collection of wood/leaf compost at the worksite and measured high levels of aerosolized fungal spores.

-- Generated an aerosol of wood/leaf compost dust for an animal inhalation study.

-- Documented an acute inflammatory response to this organic dust.

C. Result -

-- Assisted the diagnosis of organic dust toxic syndrome which guided patient treatment.

-- Resulted in control measures at the wood/leaf compost site.

III. Nylon flock

A. Issue - A high incidence of pulmonary disease in a nylon flocking plant.

B. Lab study -

-- Identified airborne fiber-like nylon shreds generated during cutting of the flock.

-- Animal exposures indicated that these shreds were highly inflammatory and durable in the lung.

C. Result -

-- Changes in plant air handling, personal protective equipment, and work practices were instituted.

-- Work practices were changed industry wide.

IV. Artificial butter flavoring

A. Issue - A high incidence of severe lung disease in a popcorn plant.

B. Lab study -

-- Generated a fume by heating the artificial butter flavoring which mimicked plant conditions.

-- Animal inhalation of this fume resulted in severe damage to the airway epithelium.

-- Diacetyl was identified as an etiologic agent.

C. Result -

-- Changes in work practices, use of personal protective equipment, and exposure controls were implemented in the plant.

-- Information changed work practices industry wide.

V. Summary

The above are just a few examples of how laboratory investigations have impacted occupational health. Other examples would be providing information concerning hazard identification, dose-response, and mechanisms of action which support risk assessment and development of prevention strategies. Another example is the discovery of biomarkers for early disease detection.

Note: Written version of a verbal comment provided at a NORA Town Hall meeting held in Morgantown, WV, on March 21, 2006.

Comment ID: 4650.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Manufacturing
- Services

Population

Health outcomes; diseases/injuries

- Cancer
- Immune disease
- Dermal disease
- Infectious diseases
- Respiratory disease

Exposures

- Chemicals/liquids/particles/vapors
- Indoor environment

Approaches

- Hazard identification
- Etiological research
- Exposure assessment
- Risk assessment methods
- Health service delivery

Partners

Categorized comment or partial comment:

NORA Town Hall Meeting

March 21, 2006

Morgantown, WV

I would like to highlight the need for research in allergy and immunology. It is one of the identified cross-sectors that doesn't fit nicely into any one of the defined sectors. There is, however, often a very close linkage between work place exposures and the immunological health of the workers. This can range from skin exposures to various chemicals that cause a simple contact dermatitis, to more systemic or inhalational exposures that can cause allergic reactions, sometimes being acute or severe like anaphylaxis, to much more chronic problems such as occupational asthma.

There are work place exposures that are not necessarily related to any particular occupational setting but can occur in relatively clean environments such as office buildings and schools to more hazardous places such as manufacturing plants or farms. In modern society, the increased use of personal protective equipment in the form of latex gloves resulted in a million workers with latex allergy, a difficult and sometime life-threatening condition. Water damaged or damp indoor places, for example, can grow molds that after relatively long but low dose exposures result in allergic reactions such as rhinoconjunctivitis or more serious problems such as asthma or hypersensitivity pneumonitis. Sometime these high dose exposures, but they often low dose, chronic exposures that are difficult to detect and to characterize. There is much work that needs to be done to understand these problems, to develop biomarkers for these kinds of exposures, and to be able to assign workplace risk. Monoclonal antibodies can be developed and used for exposure assessment. We need to establish standards of measurement that relate to the risk. There are relatively new technologies such as proteomics that could be very powerful in identifying and characterizing biomarkers and workplace hazards.

The other side of the coin relate to exposures which do not stimulate the immune system but suppress or injure it. In these situations, such as exposure to welding fumes or certain manufacturing chemicals, an immunosuppression occurs. Here, instead of a hyper-reactivity or allergic response there is a reduced immune activity and this can leave workers more susceptible to infections or the development of cancer and other diseases. Laboratory hazard identification methods can help identify potentially immuno-reactive materials in order to prevent worker exposures. Better methods of assessing the immunological status of a worker should be developed where either hyper-reactivity or immunosuppression can be detected early so intervention can occur before the development of disease.

While allergy and immunology are not readily placed into a sector, they are extremely important for workers health and research in this area should be a priority.

Note: Written version of a verbal comment provided at a NORA Town Hall meeting held in Morgantown, WV, on March 21, 2006.

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Musculoskeletal disorders

Exposures

Work organization/stress

Work-life issues

Approaches

Engineering and administrative control/banding

Work-site implementation/demonstration

Economics

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Ergonomics, night work (on highways), (employees) being fit for duty, decrease ergo issues and increase productivity and lower medical (health and welfare costs) = cost of business prohibitive to profit for contractors, lower money spent on safety personnel, PPE, etc. Controls need to be pilot tested in the field; Highway safety book - case study add a night work section. Change in population.

Angie King

Midwest Region Laborers Health and Safety Fund

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Work-life issues

Approaches

Etiological research

Intervention effectiveness research

Economics

Health service delivery

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Do CISM techniques mitigate circumstances - "we know return to work rates when there is CISM vs. when not?" Does it save money? Barriers: contractors believe time & money to have CISM - need quantifiable data. Increase in non-English speaking members; what else can we do? DFWP - are they effective? Pre-DFWP stats vs. post DFWP stats. Does DFWP prevent injuries; accidents? Quantify data. The stats out there aren't in relation to construction.

Jamie F. Baker

Laborers' Health & Safety Fund of North America

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

[Editor's Note on acronyms: CISM may mean "Critical Incident Stress Management" and DFWP may mean "Drug Free Work Place" or "Drug Free Workplace Policy."]

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Work organization/stress

Approaches

Intervention effectiveness research

Work-site implementation/demonstration

Authoritative recommendation

Marketing/dissemination

Emergency preparedness and response

Partners

Categorized comment or partial comment:

More research on silica, ways to reduce stress, night work hazards; stay with research, more information, talk to workers: you have to apply real world solutions. Partnerships should be long-lasting.

Mike Cackowski

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Intervention effectiveness research

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

insurance groups

Categorized comment or partial comment:

partners with insurance groups to gain lower rates for contractors that use safety equipment; use friendly materials, understood by general public; spruce up electronic view; gain interest of different age groups.; Long term general construction/heavy highway site monitoring program using and enforcing safety equipment and programs, comparing to site that used only limited safety equipment.

Lynn Coleman

Michigan Laborers Training and Apprenticeship Institute

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Engineering and administrative control/banding

Work-site implementation/demonstration

Economics

Marketing/dissemination

Emergency preparedness and response

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Backover/runover, injuries from slip/trip/falls, truckers highway work zone; Barriers - distribution, education - level playing field in a competitive industry (enforcement) - contractor controls that are economically feasible; getting information to workers; Outcome - significant reduction in death, injuries in target area.

Joe DeMarco

SET Local 172

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Etiological research

Engineering and administrative control/banding

Training

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Evaluation of S&H training, more detailed information in falls, trenching, electrocutions - like the work zone research done by Dave Fosbrooke; Dissemination of new technologies - user-friendly; Barriers: politics, money, validity, accurate response times; Outcomes: produce more proactive products/training (to) add validity.

Travis Parsons

Laborers' Health & Safety Fund of North America

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Work-life issues

Approaches

Partners

Categorized comment or partial comment:

drug testing & background checks; clean-up of brownfield sites before construction; workers hit by moving equipment

Michael Smith

AGC, Greater Detroit

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Engineering and administrative control/banding

Economics

Marketing/dissemination

Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

Research on how to get controls economically feasible for buyers/owners; research on making the "design" of controls user-friendly; research on how to get manufacturers to produce controls

Walter Jones

Laborers' Health & Safety Fund of North America

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Respiratory disease

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Engineering and administrative control/banding

Marketing/dissemination

Partners

Categorized comment or partial comment:

diesel exhaust fumes: the dangers of direct exposure, indirect exposure and intermittent exposure; getting contractors as well as workers to realize the threat and take protective measures before an issue evolves. Dry cement floors - inhaling fumes during concrete flooring - 3 case studies.

John Anatone

Laborers' Health & Safety Fund of North America

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Musculoskeletal disorders

Traumatic injuries

Exposures

Work organization/stress

Approaches

Engineering and administrative control/banding

Intervention effectiveness research

Partners

Categorized comment or partial comment:

Ergonomics in the demolition industry, what kinds of work practices, tools or work organization would improve this hazard in the industry. NIOSH has sponsored some research showing the value of training. Similar research should be done on whether there is value in construction owner safety requirements in ??????. Does 100% fall protection requirement by owners work to decrease falls and injuries compared to similar sized projects w/out it? Demographics of the workforce - new immigrant populations.

Brian Christopher

MA - LECET

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Hearing loss

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Exposures

Chemicals/liquids/particles/vapors

Approaches

Exposure assessment

Engineering and administrative control/banding

Marketing/dissemination

Partners

Categorized comment or partial comment:

Silica exposures - more use of wet methods and HVAC engineering controls; hearing loss greater use of equipment w/lower noise levels and PPE; workers on foot struck by construction vehicles - video cameras and sensor systems. Falls from ladders and scaffolds, greater use of fall arrest systems; musculoskeletal sprains and strains - better ergonomic consideration of tasks. Rank of order - sprains/strains; struck by vehicles; falls; silica; hearing loss; immigrant worker; ??? self

Ken Hoffner

NJ Laborers Health & Safety Fund

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Mortality

Exposures

Approaches

Surveillance

Etiological research

Marketing/dissemination

Health service delivery

Partners

Categorized comment or partial comment:

A study or statistics regarding the number of accidents and/or deaths for union contractors as compared to non-union contractors; statistics of the number of accidents that are not reported by contractors for workers comp. reasons: study of lack of preventative maintenance for tools and equipment in relation to the number of accidents and seriousness of accidents; getting new safety products into hands of contractors - J-4 Flagger Work Station - can't get contractors to buy it. This is a heavy highway safety device that would save lives.

William Orrill

Midwest Region - LECET

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Highway work-zone.

Bob

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Partners

Categorized comment or partial comment:

Immigrant work- force; commitment to educate immigrant population - more than Spanish. Country specific - who's giving the message.

Bryan Hale

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work-life issues

Approaches

Work-site implementation/demonstration

Emergency preparedness and response

Partners

Categorized comment or partial comment:

Injured immigrants workers - need the money; enforcement needed.

Matt

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Hearing loss

Exposures

Approaches

Partners

Categorized comment or partial comment:

Noise issues still a problem: Hispanic work force still a problem.

Steve Clark

Laborers' Health & Safety Fund of North America

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Training

Intervention effectiveness research

Authoritative recommendation

Partners

Categorized comment or partial comment:

Demolition area has no best practices: falls are a big issue. Roadway safety program; NIOSH evaluations on: intervention practice of roadway safety program/toolbox talks.

Doug Buman

Laborers' International Union of North America

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Marketing/dissemination

Partners

Categorized comment or partial comment:

New products on-site. No MSDS markings - obscure. Symbols on materials-that are universal for immigrant workers.

Bobby

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Pamphlet CD language, delivery system that is interactive.

Anonymous

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Exposures

Approaches

Surveillance

Marketing/dissemination

Partners

Categorized comment or partial comment:

NIOSH may need to expand research into new demographics in regions/industries and how to best get to these workers and their employees with timely training.

Anonymous

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Work organization/stress

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Barriers: growing Latino workforce. Need to find ways to engage them and get them the information. Safety is not a priority to them because they are constantly pushed. Solution: Increased safety and health numbers, less injuries.

Anonymous

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4651.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Construction

Population

Language/culture/ethnicity

Health outcomes; diseases/injuries

Traumatic injuries

Exposures

Approaches

Training

Marketing/dissemination

Partners

Categorized comment or partial comment:

Barriers: PR in the immigrant workforce community. There is a serious need for education concerning jobsite safety and health concerns. Solve: makes for quality jobsites where people are safe and L.I.U.N.A. contractors can compete.

Anonymous

Note: From a summary submitted after the NORA Focus Group organized by the Labors' International Union of North America (LIUNA)

Comment ID: 4652.01

Categorized with the following terms:

Sectors

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

Population

Health outcomes; diseases/injuries

- Hearing loss
- Traumatic injuries

Exposures

Approaches

- Personal protective equipment
- Intervention effectiveness research
- Work-site implementation/demonstration
- Economics
- Marketing/dissemination
- Emergency preparedness and response
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

NORA Town Meeting, Hamilton Building

Thursday, February 23, 2006

Janet Ehlers.

Farmworkers on the East Coast rejected use of free eye protection; those farmworkers perceived that the styles selected by the researchers made them look like drug dealers. Eye wear was readily accepted by farmworkers in a community-based research project in IL and TN where the eyewear was selected and distributed by trained, lay health advisors. A safety manager for the largest citrus grower in FL failed to get workers to wear eye protection. However, in 2004, 75% of these same workers wore eye

protection when the same safety manager replicated the community-based program NIOSH funded in IL and IN that utilized lay, peer health advisors.

1. R2P - is much needed concept.

How many hazards do each of us know that have known prevention but - workers or managers don't know about - or - don't feel empowered to implement. All the research in the world won't do much good if those who need to know -both groups and individuals, don't know. The current research on prevention of NIHL among carpenter apprentices focuses on empowering the workers themselves to take preventive action. It is a novel direction for NIOSH - but in the right direction.

2. Prevention of Noise-induced Hearing loss (NIHL) is an area that is very ripe for R2P Research and outreach especially in Agriculture - but in all sectors. NIHL is emerging through increased use of IPODS etc both in and outside of the workplace. Farmers and their families intuitively know that they lose hearing due to noise, but they don't know

-- how young it starts

-- how preventable it is

-- that prevention needs to be started before any loss occurs

NIHL is also a great example of where partnerships are important. The partnerships need to be expanded even beyond the current memorandum of understanding with multiple agencies.

3. Intervention Research (IR), including Community-based research is a broader example of both R2P and partnerships. However, CDC/NIOSH needs to recognize that the successful models for the development and evaluation of intervention research are different than bench research. RFA's and internal programs for IR need to specify IR so proposals are not competing against bench research. IR, especially community-based and with partnerships, take longer - especially those in agriculture take longer because of the seasonality of interventions.

4. Sustainability of interventions needs more focus at NIOSH

-- R2p needs to fund not just program development and evaluation. but demonstration projects then sustainment of programs shown to be effective in partnership with others. Other CDC Centers do this in multiple programs.

-- The Intervention Research program needs funding to look back several years to evaluate the sustainability, impact, and outgrowths of programs NIOSH no longer funds.

You only need to look how much time and \$ the government has put into tobacco use and seat belt use to know that public health change takes time. Essential to maximize impact and measure impact.

5. It is critical to understand the drivers and barriers to the desired change. Those will be different for the particular problems, state of readiness, sub-sectors, and target populations. In the agricultural sector and in interventions like ergonomics, research has been shown that workers and management eagerly incorporate new approaches that are cost effective - those that don't impede - and often improve. NIOSH needs to recognize and support research that identifies and incorporates these concepts.

6. Collaboration between NIOSH researchers and extramural project researchers on NIOSH-funded work is beneficial to NIOSH, the extramural researchers, and the goals of the particular projects. For the types of work NIOSH does, unlike perhaps NIH, there is not the risk for stealing others ideas. The benefits outweigh the risks. Therefore, such collaboration should be encouraged, not inhibited by barriers.

Note: Written version of comments presented at an internal Town Hall meeting in Cincinnati, OH, on February 23, 2006.

Comment ID: 4653.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Mary Schubauer-Berigan, PhD

NORA I1 Town Hall Meeting, February 23, 2006

Research Epidemiologist, DSHEFS

Comment on Sector and Cross-Sector approach for exposures and agents that are split among Sectors

Theoretically, the organization of occupational research priorities could be based on population, health outcome or exposure agent. NORA I was organized around a combination of these modes, while NORA II has selected primarily a population approach with its basis in eight NAICS occupational sectors. The proposed approach for addressing exposures and/or diseases that cross sectors is unclear, but presumably research projects that propose a single study in more than one sector would request funding from one of the sectors or from the cross-sector category if it fits into one of this category's designated topics. This could lead to low assigned prioritization by the individual Sector Councils for relatively small populations that are further split into two or more sectors, based solely on the *a priori* decision to use NAICS codes as the basis of evaluating research and research-to-practice proposals.

Example:

Consider a proposed study of *Vibrio vulnificus* infection rates and modes of reducing hazards among workers in the shellfishing and shellfish-processing industries. These workers are among the highest-risk U.S. populations for *V. vulnificus* infection because of their potential for exposure to the agent. However, these workers, despite their common exposure pathways and disease risk, are classified into two different sectors: Shellfishing is in the Agricultural, Forestry & Fishing Sector, and shellfish harvesting is in the Manufacturing Sector. Both are relatively small components of each overall sector, and even a scientifically strong proposal might face a difficult funding path because of the required modes of submission and funding through a single sector.

Comment ID: 4653.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Cancer

Exposures

Chemicals/liquids/particles/vapors

Approaches

Etiological research

Partners

Categorized comment or partial comment:

Comment on need for continued investment in cancer research

It has been estimated that 4 to 10% of U.S. cancers (48,000 incident cases annually) are caused by occupational exposures. NIOSH research, both intramurally and extramurally, has had an enormous impact on recognizing the need to reduce exposures to carcinogenic agents within and outside the workplace. Seminal NIOSH research on the health effects of workplace exposures to carcinogens includes vinyl chloride and hepatic angiosarcoma, TCDD and all-cancers, benzene and leukemia, beryllium and lung cancer, and radon from uranium mining and lung cancer, among many others.

These findings have derived from agency investments in long-term research, and their influence is immediately observed by their incorporation into carcinogenic assessments by the U.S. Environmental Protection Agency, the Reports on Carcinogenicity by the National Institute for Environmental Health Science's National Toxicology Program, the International Agency for Research on Cancer, and NIOSH's own Carcinogen List. These assessments have resulted in the monitoring of and reductions in workplace exposures to carcinogens worldwide, in some cases through the development of protective standards by the Occupational Safety and Health Administration, the Department of Energy, and other standard-setting organizations. The path between the conduct of research and its eventual result in practice changes can be long and indirect for epidemiologic studies of carcinogens, but it is vital to achieving reductions in workplace-attributable cancer.

Comment ID: 4653.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Partners

Categorized comment or partial comment:

Speaking personally, these past investments and the promise of continued investment in this area are what attracted me to join NIOSH as a new epidemiology researcher seven years ago. Two years ago, I joined the "Cancer Research Methods" NORA Team, which permitted me to become involved in setting priorities for future cancer research. A top priority of this team was to promote research that would further elucidate the epidemiologic association of suspected (e.g., IARC Group 2A and 2B) carcinogens, many of which are not currently regulated as carcinogens in the US. Placement of Cancer as just one of many research topics in the Cross-Sector group de-emphasizes its importance. There are many emerging issues and exposures (e.g., nanotechnology) whose carcinogenicity should be evaluated. It would be disappointing to see the strong recommendations of the NORA I Cancer Research Methods group (summarized in the "NORA at Nine" document [inserted by Editor: <http://www.cdc.gov/niosh/docs/2006-121/pdfs/2006-121.pdf> in the section on Cancer Research Methods), and the need to study the carcinogenicity of emerging agents, become diluted in the Sector-based approach of NORA II. There should be a mechanism in place to fast-track these strong recommendations resulting from NORA I into the next ten years of NORA.

Note: Written version of comments presented at an internal Town Hall meeting in Cincinnati, OH, on February 23, 2006.

Comment ID: 4654.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Hearing loss

Dermal disease

Musculoskeletal disorders

Respiratory disease

Traumatic injuries

Mortality

Exposures

Chemicals/liquids/particles/vapors

Approaches

Surveillance

Partners

State-based surveillance programs

Categorized comment or partial comment:

Recommended priorities for the NORA2 Research agenda

Geoffrey M. Calvert, MD, MPH, FACP

February 23, 2006

Thank you for this opportunity to share my opinions.

I plea for NIOSH and other federal agencies to provide more support to hazard and disease surveillance activities. Currently there is no comprehensive national surveillance system for occupational illnesses nor for nonfatal occupational injuries. Adopting the following recommendations can help fill this gap. These include:

1. Expand the National Exposure at Work Survey (NEWS). NIOSH supported extensive workplace exposure surveys in the 1970s and 1980s. These provided estimates of the numbers of workers exposed to almost any occupational toxin. Unfortunately, no exposure surveys have been conducted recently. Given the substantial changes in the US economy over the past 20 years, these 1980s exposure estimates provide interesting historical data but are of little relevance for estimating the numbers of

workers exposed to toxins in 2006. Information on the number of exposed workers is one compelling statistic needed for public health prioritization.

2. Support an occupational health supplement to the National Health Interview Survey (NHIS). The NHIS is considered the principal information source on the health of civilians in the US. Unfortunately, the NHIS collects little information on work-related health and safety problems. To rectify this, in 1988, NIOSH supported an occupational health supplement to the NHIS. This supplement was a rich source of data to assess the magnitude and severity of several work-related outcomes including occupational injuries, dermatitis, and lung diseases. The NHIS can provide up-to-date statistics on magnitude and trends that cannot be obtained anywhere else. It has been 18 years since the NHIS supplement was administered. This needs to be repeated.

3. Increase support to state-based surveillance programs. Although a vast majority of states conduct surveillance of adult lead poisoning, relatively few states conduct surveillance of other occupational disease and injuries such as pesticide poisoning, asthma, pneumoconiosis, and fatal injuries. In addition, no states receive targeted funds for surveillance of some of the most important occupational disease and injuries, including dermatitis, musculoskeletal disorders, and noise-induced hearing loss. This information is important to identify the magnitude and trends of occupational disease and injury, to identify emerging occupational health and safety problems, and to target scarce public health interventional resources.

4. Provide support to the National Occupational Mortality Survey (NOMS). NOMS is a mortality statistics database. Since the early 1980s, NIOSH along with NCHS and NCI supported the collection and coding of decedent's usual industry and occupation in 27 states. This program generated a large number of important publications. Unfortunately, this database has not been updated in the past 8 years. As this data becomes more dated, the usefulness of NOMS to detect and access mortality patterns and risks becomes weaker and less relevant.

5. Support development of a computer program that will automatically code industry and occupation information. Industry and occupation information is captured by many public health records systems. These include death certificates, cancer registries, and birth defect registries. However, this information is rarely utilized to its full potential. Coded data is the most electronic-friendly form of industry and occupation information. NIOSH developed an automated coding system to assign 1990 Census codes to industry and occupation. However, the program was prone to coding errors and the codes it assigned are now outdated. A new automated coding program needs to be developed to improve and expand collection of useful industry and occupation information.

Comment ID: 4654.01 (partial comment categorized separately)

Categorized with the following terms:

Sectors

Unspecified

Population

Health outcomes; diseases/injuries

Exposures

Approaches

Authoritative recommendation

Partners

Categorized comment or partial comment:

6. Re-initiate the writing "criteria for a recommended standard" documents. These are important documents, used to develop and support RELs for consideration by OSHA and MSHA. However, to my knowledge, NIOSH has not released a criteria document in approximately 8 years. More criteria documents need to be created to protect the health and safety of American workers.

This concludes my comments. Thank you.

Note: Written version of comments presented at an internal Town Hall meeting in Cincinnati, OH, on February 23, 2006.

Comment ID: 4655.01

Categorized with the following terms:

Sectors

- Construction
- Manufacturing
- Unspecified

Population

- Small business

Health outcomes; diseases/injuries

- Hearing loss

Exposures

- Chemicals/liquids/particles/vapors

Approaches

- Surveillance
- Etiological research
- Engineering and administrative control/banding
- Personal protective equipment
- Economics
- Authoritative recommendation
- Marketing/dissemination
- Health service delivery
- Work-site occupational safety health system/record keeping

Partners

Categorized comment or partial comment:

My name is Rick Davis and I'm co-team leader of the Hearing Loss Prevention Team in the Engineering and Physical Hazards Branch of DART. The Hearing Loss Research program consists of researchers primarily in DART, EID, DSHEFS, and PRL.

I would like to provide input today for the role of Hearing Loss and Hearing Loss Prevention in NORA 2. Noise-induced hearing loss has been a focus of NIOSH activity since the agency's founding. Noise-induced hearing loss was one of the first criteria documents developed by the then new NIOSH. Noise-induced hearing loss is still a major occupational injury. In 2004 Noise induced hearing loss became a separately recordable occupational injury on the OSHA 300 Log. These results recently became available. We believe the 28,400 recordable cases underestimate the true cases of NIHL. However, these data are the best data currently available. Of the separately recordable injuries on the OSHA Form 300, hearing loss is the second largest.

OSHA found that most of these cases (23,800 workers) were in manufacturing with an incidence rate of 3.2 per 10,000 full time workers.

- Some of the highest incidence rates were in the Rolling and Drawing of purchased steel 136.8 worker cases per 10,000;
- Iron and Steel mills 86.2 worker cases per 10,000;
- Motor vehicle metal stamping 97.7 worker cases per 10,000;
- Dried and dehydrated food manufacturing 125.7 worker cases per 10,000;
- Animal slaughtering (except poultry) 94.5 worker cases per 10,000;
- Trades and transportation had 3,200 hearing loss cases; with 1.5 per 10,000.

Over the past year the Hearing Loss Research program has been undergoing a review by the National Academies. This has given us a shining opportunity to identify what we consider emerging issues. We have organized our ideas around four research goals:

Research Goal 1: Contribute to the Development, Implementation and Evaluation of Effective Hearing Loss Prevention Programs.

- Conduct economic cost/benefit analyses of hearing conservation programs versus noise controls.
 - Are hearing conservation programs really more cost effective than placing noise control on machinery?
- Establish a centralized repository of audiometric data that can be accessed by professionals.
 - Allow for mobile workers (carpenters, agricultural workers) to be included in a hearing conservation program.
- Collaborate with partners in education to reach young workers with prevention information and skills.
 - Only by targeting elementary school children can we hope to be able to change attitudes towards loud noise and use of hearing protectors.
- Strengthen efforts to transfer and disseminate information.
 - Develop guidelines to train workers to maximize residual hearing.
 - Develop guidelines for defining hearing-critical jobs.

Research Goal 2: Reduce hearing loss through interventions targeting personal protective equipment.

- Refine hearing protector fit-testing methods.
 - Provide a fast easy tool for workers to ensure they are being protected prior to entering noise.

Research Goal 3: Develop engineering controls to reduce noise exposures.

- Develop basic guidelines on engineering controls and the maintenance of those controls, and provide leadership for noise education in undergraduate and graduate programs in engineering, industrial hygiene and architecture.

- There is currently a shortage of engineers capable of providing noise control solutions. Also, engineers must become aware of the importance of designing out noise when new machines are being developed.

-- Publish available control solutions and update.

- Many noise control solutions are known, getting these solutions into the hands of company owners and engineers is a priority.

-- Develop engineering noise controls for small business.

- It is often the one or two man shop which is benefited least by government research. Developing noise controls which can be implemented by owner-operators to reduce noise in thousands of workplaces is a priority.

- Most businesses in America are small businesses.

-- Encourage manufacturers to provide noise labels.

- Only by making quiet a selling point can we hope to reduce the noise levels of the workplace.

Research Goal 4: Contribute to reductions in hearing loss through surveillance and investigation of risk factors.

-- Establish ongoing surveillance programs for occupational hearing loss and noise exposure; repeat large epidemiologic survey of industry and collect industry/job task specific noise exposure data.

- Only when we know where we are can we develop effective strategies for reducing noise-induced hearing loss.

-- Establish the effectiveness of prophylactic treatments for noise-exposed workers.

- There are workers who will never be able to be brought into safe noise exposures. For them a daily pharmaceutical may be necessary to keep their ears from being damaged. That opens questions to safety over a working lifetime.

-- Establish recommended exposure limits for mixed exposures of ototoxic chemicals and noise.

- Are there safe levels for exposure to ototoxicants? How do we find them?

We are a cross sector program having had partners and projects in manufacturing, construction, mining, agriculture and the military. We are interested in partnering with sectors and companies which will work with us to protect the hearing of the American worker.

We hope that Hearing Loss Prevention will be a priority for NORA II.

I invite you to visit our review website: www.cdc.gov/niosh/nas/hlr/default.html.

Reference material provided:

1. Description of emerging issues, including four research goals:

http://www.cdc.gov/niosh/nas/hlr/wwpa_emergingissues.html or [Appendix 16](#)

2. OSHA 300 Log 2004: [Appendix 17](#) (Note that the highlighted and unreadable words on the top of a column on the first page are "Hearing loss".)

3. Hager, Lee (2006) OSHA Hearing Loss Recordables, *NHCA Spectrum*, Vol. 23 (1):4-5.

Note: Written version of comments presented at an internal Town Hall meeting in Cincinnati, OH, on February 23, 2006.

Appendix 1. Surveillance Summary for Agriculture, Forestry and Fishing

Agriculture, Forestry, and Fishing Sector Fatal and Non-Fatal Injury and Illness Surveillance Information

The following summary of fatality, injury, and illness rates in the Agriculture, Forestry, and Fishing sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; BLS, 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 965,000 workers in the agriculture, forestry, and fishing sector in 2003 ([Table A1](#)). Workers in crop production, support activities for crop production, and animal production comprised 45%, 28%, and 14% of the sector workforce, respectively.

Table A1. Annual employment numbers by agriculture, forestry, and fishing subsectors and industry groups, 2003

Agriculture, forestry, and fishing industry group and subsector	NAICS code	Number of workers
Crop production	111	430,800
Oilseed and grain farming	1111	11,300
Vegetable and melon farming	1112	87,300
Fruit and nut farming	1113	129,300
Greenhouse, nursery, and floriculture production	1114	149,100
Other crop farming	1119	53,800
Animal production	112	139,300
Cattle ranching and farming	1121	71,100
Hog and pig farming	1122	16,300
Poultry and egg production	1123	37,900
Forestry and logging	113	72,800
Fishing, hunting, and trapping	114	10,100
Support activities for agriculture and forestry	115	311,900
Support activities for crop production	1151	270,100
Support activities for animal production	1152	25,400
Support activities for forestry	1153	16,400
Total for agriculture, forestry, and fishing	11	965,000

Numbers were obtained from [2003 BLS Table SNR10](#); numbers of workers were rounded to the nearest 100 workers and are derived primarily from the BLS-Quarterly Census of Employment and Wages (QCEW) program. These worker numbers differ from full-time worker numbers (see discussion in introduction). QCEW captures only those workers covered by unemployment, which may impact the number of workers in many of the subsectors in this sector.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opus/hom/pdf/homch9.pdf]

Table A2. Comparison of incidence rates (cases/1000 full-time workers/year) of occupational fatalities, injuries, and illnesses for the agriculture, forestry, and fishing sector and the U.S. workforce, 2003

Health outcome	Incidence rate for the agriculture, forestry, and fishing sector	Incidence rate for U.S. workforce	Incidence rate ratio	Comment (pertains to agriculture, forestry, and fishing sector)	Table reference
Fatal occupational injuries	0.31*	0.04*	7.8	Transportation accidents were responsible for 50% of all fatal occupational injuries.	A3
Traumatic nonfatal occupational injuries involving days away from work	19.26	13.79	1.4	The greatest proportion (36%) of the cases was due to trauma to muscles, tendons, ligaments, and joints.	Special Request
Total nonfatal occupational injuries	58	47	1.2	This rate was 3-fold larger than the incidence rate of traumatic injuries involving days away from work.	A5
Occupational musculoskeletal system and connective tissue diseases and disorders involving days away from work	0.29	0.22	1.3	38% of these cases were diagnosed with tendonitis.	Special Request
Occupational back pain (without a medical diagnosis) involving days away from work	0.46	0.43	1.1	The incidence rate in the Fruit and Nut Farming (NAICS 1112) industry was more than three-fold the sector average.	A6
All occupational pain (without a medical diagnosis) involving days away from work	1.77	1.18	1.5	The incidence rate in Forestry and Logging (NAICS 113) subsector was more than two-fold the sector average.	A6

Table A2 (Continued)

Health outcome	Incidence rate for sector	Incidence rate for U.S. workforce	Incidence rate ratio	Comment (pertains to agriculture, forestry, and fishing sector)	Table reference
Nonfatal occupational skin diseases and disorders	1.85	0.49	3.8	The incidence rate in Vegetable and Melon Farming (NAICS 1112) was 2.5 times higher than the sector average.	A7
Nonfatal occupational respiratory conditions	0.21	0.22	1.0	The incidence rate in Support Activities for Forestry (NAICS 1153) was more than 11-fold larger than the sector average.	A7
Nonfatal occupational poisonings	0.22	0.04	5.5	The incidence rate in Fruit and Nut Farming (NAICS 1113) was more than 5-fold larger than the sector average.	A7

* Fatality data are from the BLS Occupational and Safety and Health (OSH)/Census of Fatal Occupational Injuries (CFOI) 2003 Profiles and Charts. Employment data for 2003 are based on estimates derived from BLS Current Population Survey (CPS) monthly microdata files.

Fatal occupational injuries

Transportation accidents accounted for 50% of fatal occupational injuries in the agriculture, forestry, and fishing sector (the largest proportion of these involved non-highway accidents). Contact with objects and equipment accounted for 29% of fatal occupational injuries in this sector (52% involved the worker being struck by an object) ([Table A3](#)).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate within the sector of 6.93 cases/1000 full-time workers/year ([Table A4](#)). The incidence rate of sprains and strains was highest among the Forestry and Logging subsector, which had an incidence rate of 15.86 cases/1000 full-time workers/year. Amputation rates were highest in Support Activities for Crop Production (NAICS 1151).

Total nonfatal occupational injuries

The incidence rates of total nonfatal occupational injuries were highest in Cattle Ranching and Farming (NAICS 1121) and Hog and Pig Farming (NAICS 1122), which had incidence rates of 87 and 83 cases/1000 full-time workers/year, respectively ([Table A5](#)).

Within the Agriculture, Forestry, and Fishing sector, the incidence rate of traumatic injuries and disorders involving days away from work was 19.26 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 58 cases/1000 full-time workers/year (Special Request and [Table A5](#)). This suggests that the total injury rate was three-fold larger than the injury rate involving days away from work.

Nonfatal occupational injuries and illnesses involving days away from work

This incidence rate of pain (without a medical diagnosis) was highest in subsector Forestry and Logging (NAICS 113) and the industry group Fruit and Nut Farming (NAICS 1113) ([Table A6](#)). Musculoskeletal system and connective tissue disorders had an incidence rate of 0.29 cases/1000 full-time workers/year for the sector; 38% of these cases were diagnosed with tendonitis (Special Request).

Nonfatal occupational illnesses

Vegetable and Melon Farming (NAICS 1112) had an incidence rate of nonfatal occupational skin diseases and disorders of 4.60 cases/1000 full-time workers/year, which was 2.5 times larger than the sector average ([Table A7](#)).

Support Activities for Forestry (NAICS 1153) had an incidence rate of nonfatal occupational respiratory conditions of 2.37 cases/1000 full-time workers/year, which was more than 11-times larger than the sector average ([Table A7](#)).

Fruit and Nut Farming (NAICS 1113) had an incidence rate of nonfatal occupational poisonings of 1.21 cases/1000 full-time workers/year, which was more than 5 times larger than the sector average ([Table A7](#)).

The incidence rate for all other nonfatal occupational illnesses was highest in the Other Crop Farming (NAICS 1119) industry group, which had an incidence rate of 9.52 cases/1000 full-time workers/year ([Table A7](#)).

Table A3. Number and percent of fatal occupational injuries in the agriculture, forestry, and fishing sector by event or exposure, 2003

Event or exposure	Number of fatal injuries	Percent of total fatal occupational injuries in the manufacturing sector
Contact with objects and equipment	208	29
Struck by object	140	
Struck by falling object	94	
Struck by flying object	5	
Struck by swinging or slipping object	7	
Struck by rolling, sliding objects on floor or ground	30	
Caught in or compressed by equipment or objects	49	
Caught in or crushed in collapsing materials	17	
Falls	34	5
Exposure to harmful substances or environments	45	6
Contact with electric current	9	
Contact with temperature extremes	9	
Exposure to caustic, noxious, or allergenic substances	12	
Oxygen deficiency	15	
Transportation accidents	355	50
Highway accident	96	
Non-highway accident (farm, industrial premises)	184	
Worker struck by vehicle, mobile equipment	23	
Aircraft accident	11	
Water vehicle	36	
Railway	4	
Fires and explosions	12	2
Assaults and violent acts	59	8
Homicides	17	
Suicides, self-inflicted injuries	16	
Assaults by animals	26	
Total	713	

Totals for major categories may include subcategories not shown separately; 2003 data were specially requested from BLS.

Table A4. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries involving days away from work by agriculture, forestry, and fishing industry groups and subsectors, 2003

Agriculture, forestry, and fishing industry group and subsector	NAICS code	Sprains, strains	Fractures	Cuts, punctures	Bruises	Amputations
Crop production	111	3,000 (7.41)	580 (1.43)	7 00 (1.73)	740 (1.83)	60 (0.15)
Oilseed and grain farming	1111	†	†	†	†	†
Vegetable and melon farming	1112	320 (4.06)	-	110 (1.40)	150 (1.90)	-
Fruit and nut farming	1113	1,040 (9.02)	190 (1.65)	210 (1.82)	270 (2.34)	-
Greenhouse, nursery, and floriculture production	1114	1,180 (8.23)	160 (1.12)	310 (2.16)	240 (1.67)	-
Other crop farming	1119	-	-	-	-	-
Animal production	112	890 (6.02)	430 (2.91)	210 (1.42)	550 (3.72)	20 (0.14)
Cattle ranching and farming	1121	520 (6.51)	310 (3.88)	70 (0.88)	320 (4.01)	-
Hog and pig farming	1122	160 (9.54)	30 (1.79)	30 (1.79)	70 (4.17)	-
Poultry and egg production	1123	130 (3.41)	60 (1.57)	80 (2.10)	50 (1.31)	-
Forestry and logging	113	1,030 (15.86)	320 (4.93)	170 (2.62)	250 (3.85)	-
Fishing, hunting, and trapping	114	†	†	†	†	†
Support activities for agriculture and forestry	115	1,170 (4.52)	320 (1.24)	370 (1.43)	380 (1.47)	190 (0.73)
Support activities for crop production	1151	980 (4.42)	210 (0.95)	330 (1.49)	300 (1.35)	190 (0.86)
Support activities for animal production	1152	160 (7.17)	60 (2.69)	20 (0.90)	80 (3.59)	-
Support activities for forestry	1153	40 (2.71)	40 (2.71)	20 (1.36)	-	-
Total for agriculture, forestry, and fishing sector	11	6,130 (6.93)	1,640 (1.85)	1,440 (1.63)	1,940 (2.19)	270 (0.31)

† No data were provided for this NAICS code; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest two values are in bold font.

Table A5. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries by agriculture, forestry, and fishing industry groups and subsectors, 2003

Agriculture, forestry, and fishing industry group and subsector	NAICS code	Total nonfatal occupational injuries	
Crop production	111	22,200	(55)
Oilseed and grain farming	1111	200	(23)
Vegetable and melon farming	1112	3,400	(43)
Fruit and nut farming	1113	6,500	(56)
Greenhouse, nursery, and floriculture production	1114	8,300	(58)
Other crop farming	1119	†	
Animal production	112	11,600	(78)
Cattle ranching and farming§	1121	2,200	(87)
Hog and pig farming	1122	1,400	(83)
Poultry and egg production	1123	3,000	(78)
Forestry and logging	113	3,900	(60)
Fishing, hunting, and trapping	114	100	(15)
Support activities for agriculture and forestry	115	13,300	(51)
Support activities for crop production	1151	12,100	(55)
Support activities for animal production	1152	900	(39)
Support activities for forestry	1153	300	(22)
Total for agriculture, forestry, and fishing sector	11	51,100	(58)

Numbers of cases were rounded to the nearest 100 workers; † no data were provided for this NAICS code; § data only available for NAICS code 11211 (beef cattle ranching and farming); numbers were extracted from 2003 BLS Table [SNR05](#); highest two values are in bold font.

Table A6. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries and illnesses involving days away from work by agriculture, forestry, and fishing industry groups and subsectors, 2003

Agriculture, forestry, and fishing industry group and subsector	NAICS code	Multiple traumatic injuries and disorders		Back pain (without a medical diagnosis)		All pain, including back pain (without a medical diagnosis)	
Crop production	111	410	(1.01)	260	(0.64)	750	(1.85)
Oilseed and grain farming	1111	†		†		†	
Vegetable and melon farming	1112	-		-		180	(2.28)
Fruit and nut farming	1113	200	(1.73)	180	(1.56)	400	(3.47)
Greenhouse, nursery, and floriculture production	1114	170	(1.19)	-		140	(0.98)
Other crop farming	1119	-		-		-	
Animal production	112	160	(1.08)	50	(0.34)	280	(1.90)
Cattle ranching and farming	1121	80	(1.00)	-		150	(1.88)
Hog and pig farming	1122	-		-		40	(2.38)
Poultry and egg production	1123	40	(1.05)	20	(0.52)	80	(2.10)
Forestry and logging	113	100	(1.54)	-		270	(4.16)
Fishing, hunting, and trapping	114	†		†		†	
Support activities for agriculture and forestry	115	110	(0.42)	80	(0.31)	250	(0.97)
Support activities for crop production	1151	100	(0.45)	70	(0.32)	190	(0.86)
Support activities for animal production	1152	-		-		-	
Support activities for forestry	1153	-		-		-	
Total for agriculture, forestry, and fishing sector	11	790	(0.89)	410	(0.46)	1,570	(1.77)

† No data were provided for this NAICS code; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest two values are in bold font.

Table A7. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational illnesses by agriculture, forestry, and fishing industry groups and subsectors, 2003

Agriculture, forestry, and fishing industry group and subsector	NAICS code	Skin diseases and disorders	Respiratory conditions	Poisonings	All other illnesses
Crop production	111	1,300 (3.10)	100 (0.21)	200 (0.39)	1,200 (2.87)
Oilseed and grain farming	1111	<15	<15	<15	<15
Vegetable and melon farming	1112	400 (4.60)	<15	<15	200 (3.07)
Fruit and nut farming	1113	200 (1.99)	<50 (0.19)	100 (1.21)	<50 (0.34)
Greenhouse, nursery, and floriculture production	1114	500 (3.65)	<50 (0.23)	<15	300 (2.31)
Other crop farming	1119	100 (2.28)	<50 (0.35)	<15	500 (9.52)
Animal production	112	100 (0.99)	<50 (0.14)	<15	300 (1.99)
Cattle ranching and farming	1121	<50 (0.46)	<50 (0.23)	<15	200 (2.25)
Hog and pig farming	1122	<15	<15	<15	<15
Poultry and egg production	1123	<50 (1.28)	<15	<15	100 (2.41)
Forestry and logging	113	<15	<15	<15	100 (2.17)
Fishing, hunting, and trapping	114	<15	<15	<15	-
Support activities for agriculture and forestry	115	200 (0.92)	100 (0.31)	<50 (0.07)	500 (1.83)
Support activities for crop production	1151	200 (0.97)	<50 (0.21)	<15	400 (1.99)
Support activities for animal production	1152	-	<15	<15	<15
Support activities for forestry	1153	<50 (1.49)	<50 (2.37)	<15	<50 (1.36)
Total for agriculture, forestry, and fishing sector	11	1,600 (1.85)	200 (0.21)	200 (0.22)	-

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR10](#) and [SNR08](#); highest values are in bold font.

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger

public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Appendix 2. Surveillance Summary for Construction

Construction Sector Fatal and Non-Fatal Injury and Illness Surveillance Information

The following summary of fatality, injury, and illness rates in the Construction sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) ([BLS, 2005a](#); [BLS, 2005b](#)). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators ([BLS, 1997](#)). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 6,672,400 workers in the construction sector in 2003 ([Table C1](#)). Workers in the specialty trades and building construction comprised 63% and 23% of the sector workforce, respectively.

Table C1. Annual employment numbers by construction subsectors, 2003

Construction subsector	NAICS code	Number of workers
Construction of buildings	236	1,565,400
Heavy and civil engineering construction	237	891,500
Specialty trade contractors	238	4,215,500
Total	23	6,672,400

Numbers were obtained from 2003 BLS Table [SNR10](#); numbers of workers were rounded to the nearest 100 workers and are derived primarily from the BLS-Quarterly Census of Employment and Wages (QCEW) program. These worker numbers differ from full-time worker numbers (see discussion in introduction). QCEW captures only those workers covered by unemployment.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Table C2. Comparison of incidence rates (cases/1000 full-time workers/year) of occupational fatalities, injuries, and illnesses work for the construction sector and the U.S. workforce, 2003

Health outcome	Incidence rate for the construction sector	Incidence rate for the U.S. workforce	Incidence rate ratio	Comment (pertains to construction sector)	Table reference
Fatal occupational injuries	0.12*	0.04*	3.0	Most fatal occupational injuries were due to falls and transportation incidents.	C3
Traumatic nonfatal occupational injuries involving days away from work	24.4	13.79	1.8	The greatest proportion (38%) of the cases was due to trauma to muscles, tendons, ligaments, and joints.	2003 BLS R72
Total nonfatal occupational injuries	67	47	1.4	This rate was 3-fold larger than the incidence rate of traumatic injuries involving days away from work.	C5
Occupational back pain (without a medical diagnosis) involving days away from work	0.68	0.43	1.6	The highest incidence rate was in the Other Building Finishing Contractors (NAICS 23839) industry.	C8 and C11A
Occupational musculoskeletal system and connective tissue diseases and disorders involving days away from work	0.18	0.22	0.8	45% and 19% were diagnosed as tendonitis and bursitis, respectively.	2003 BLS R72 and R49
Occupational carpal tunnel syndrome involving days away from work	0.14	0.25	0.6	The highest incidence rate was in the Highway, Street, and Bridge (NAICS 2373) construction industry group.	C8 and C9

Table C2 (Continued)

Health outcome	Incidence rate in the construction sector	Incidence rate in the U.S. workforce	Incidence rate ratio	Comment (pertains to construction sector)	Table reference
Nonfatal occupational skin diseases and disorders	0.38	0.49	0.8	The highest incidence rate was in the Utility System Construction (NAICS 2371) industry group	C12 and C13
Nonfatal occupational respiratory conditions	0.16	0.22	0.7	The highest incidence rates were in the Specialty Trade Contractors (NAICS 238) construction subsector and the Other Building Finishing Contractors (NAICS 23829) construction industry.	C12 and C14
Nonfatal occupational poisonings	0.09	0.04	2.3	The highest incidence rate was in the Painting and Wall Covering Contractors (NAICS 23832) industry	C12 and C15
All other nonfatal occupational illnesses	0.91	2.32	0.4	The highest incidence rate was in the Framing Contractors (NAICS 23813) industry	C12 and C16

* Fatality data are from the BLS Occupational and Safety and Health (OSH)/Census of Fatal Occupational Injuries (CFOI) 2003 Profiles and Charts. Employment data for 2003 are based on estimates derived from BLS Current Population Survey (CPS) monthly microdata files.

Fatal occupational injuries

Falls accounted for 32% of the fatal occupational injuries in the construction sector. Transportation accidents accounted for 26% of the fatal occupational injuries in the construction sector (half of these involved highway accidents) ([Table C3](#)).

Nonfatal occupational injuries involving days away from work

Sector-wide, sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate of 9.30 cases per 1000 full-time workers per year ([Table C4](#)). The incidence rate of sprains was highest in the Specialty Trade Contractors (NAICS 238) subsector. Finish Carpentry (NAICS 23835) construction industry had the highest incidence rate of nonfatal amputations involving days away from work that was about 7-fold larger than the construction sector average ([Table C7](#)).

Total nonfatal occupational injuries

The Specialty Trade Contractors (NAICS 238) construction subsector had the highest rate and number of nonfatal occupational injuries ([Table C5](#)). Construction industries with the highest incidence rates of nonfatal occupational injuries included Framing Contractors (NAICS 23813), Structural Steel and Precast Concrete Contractors (NAICS 23812), and Poured Concrete Foundation and Structure Contractors (NAICS 23811) ([Table C6A](#)).

The incidence rate of traumatic injuries and disorders involving days away from work was 24.4 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 67 cases/1000 full-time workers/year (2003 BLS Tables [R72](#) and [Table C5](#)). This suggests that the total injury rate is about 3-times larger than the injury rate involving days away from work.

Nonfatal occupational illnesses and injuries involving days away from work

The incidence rates of carpal tunnel syndrome and tendonitis involving days away from work were 0.14 and 0.18 cases/1000 full-time workers/year ([Table C8](#)). Incidence rates of carpal tunnel syndrome and tendonitis involving days away from work were highest in the Highway, Street, and Bridge Construction (NAICS 2373) industry group ([Table C9](#)) and the Drywall and Insulation Contractors (NAICS 23831) industry ([Table C10](#)), respectively.

Nonfatal occupational illnesses

The incidence rate of nonfatal occupational skin diseases and disorders was 0.38 cases/1000 full-time workers/year for the construction sector ([Table C12](#)). The Heavy and Civil Engineering Construction (NAICS 237) subsector had the highest incidence rate of skin diseases and disorders. However, due to a large workforce, the Specialty Trade Contractors (NAICS 238) subsector had the highest number of cases. The Utility System Construction (NAICS 2371) industry group had an incidence rate of 1.53 cases of skin diseases and disorders/1000 full-time workers/year, which was 4-fold the construction sector average ([Table C13](#)).

The incidence rate of nonfatal occupational respiratory conditions was 0.16 cases/1000 full-time workers/year for the construction sector ([Table C12](#)). The Specialty Trade Contractors (NAICS 238) subsector had the highest incidence rate and case numbers of nonfatal occupational respiratory conditions. The Other Building Finishing Contractors (NAICS 23839) industry had an incidence rate of 2.45 cases/1000 full-time workers/year, 15-fold the construction sector average ([Table C14](#)).

The incidence rate of nonfatal occupational poisonings was 0.09 cases/1000 full-time workers/year for the construction sector ([Table C12](#)). The two industries with the highest incidence rates of occupational poisonings were Painting and Wall Covering Contractors (NAICS 23832) and Other Building Finishing Contractors (NAICS 23839), which had incidence rates of 0.87 and 0.75 cases/1000 full-time workers/year, respectively ([Table C15](#)).

The incidence rate of all other nonfatal occupational illnesses was 0.91 cases/1000 full-time workers/year for the construction sector ([Table C12](#)). The three industries with the highest incidence rates of all other occupational illnesses were Framing Contractors (NAICS 23813), Tile and Terrazzo Contractors (NAICS 23834), and Other Foundation, Structure, and Building Exterior Contractors (NAICS 23819), which had incidence rates ranging from 1.93 to 2.41 cases/1000 full-time workers/year ([Table C16](#)).

Table C3. Number and percent of total fatal occupational injuries in the construction sector by event or exposure, 2003

Event or exposure	Number of fatal injuries*	Percent of total fatal occupational injuries in the construction sector
Contact with objects and equipment	231	20
Struck by object	111	
Caught in or compressed by equipment or objects	41	
Caught in or crushed in collapsing materials	78	
Falls	364	32
Exposure to harmful substances or environments	179	16
Transportation accidents	290	26
Highway accident	145	
Non-highway accident except rail, air, or water	48	
Pedestrian accident (non-passenger struck by vehicle or mobile equipment)	84	
Railway accident	5	
Water vehicle accident	3	
Aircraft accident	4	
Fires and explosions	29	3
Assaults and violent acts	37	3
Total	1131	

* Totals for major categories may include subcategories not shown separately; numbers were extracted from [2003 BLS Table A-9](#).

Table C4. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries involving days away from work by construction subsectors, 2003

Construction subsector	NAICS code	Sprains, strains	Fractures	Cuts, punctures	Bruises	Amputations
Construction of buildings	236	10,020 (7.26)	3,550 (2.57)	6,030 (4.37)	1,740 (1.26)	230 (0.17)
Heavy and civil engineering construction	237	7,410 (8.70)	2,310 (2.71)	2,220 (2.61)	1,990 (2.34)	180 (0.21)
Specialty trade contractors	238	38,270 (10.18)	12,390 (3.30)	14,250 (3.79)	6,450 (1.72)	680 (0.18)
Total for construction sector	23	55,710 (9.30)	18,250 (3.05)	22,510 (3.76)	10,180 (1.70)	1,080 (0.18)

Number of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest values are in bold font.

Table C5. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries by construction subsectors, 2003

Construction subsector	NAICS code	Total nonfatal occupational injuries
Construction of buildings	236	77,400 (56)
Heavy and civil engineering construction	237	53,800 (63)
Specialty trade contractors	238	267,800 (71)
Total for construction sector	23	399,100 (67)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from [2003 BLS Table SNR05](#).

Table C6A. Construction industries (5-digit NAICS codes) with the highest nonfatal occupational injury incidence rates, 2003

Construction industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Framing contractors	23813	136,900	117	13,300
Structural steel and precast concrete contractors	23812	83,300	95	7,300
Poured concrete foundation and structure contractors	23811	198,200	94	16,600

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from [2003 BLS Table SNR05](#); the incidence rates of nonfatal occupational injury, regardless whether workdays were lost for the manufacturing sector and the entire U.S. workforce were 67 and 47 injuries/1000 full-time workers/year, respectively.

Table C6B. Construction industry groups (4-digit NAICS codes) with the highest numbers of nonfatal occupational injuries, 2003

Construction industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Building equipment contractors	2382	1,804,700	69	115,800
Foundation, structure, and building exterior contractors	2381	945,600	86	69,900
Building finishing contractors	2383	878,400	68	51,700

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from [2003 BLS Table SNR05](#); the incidence rates of nonfatal occupational injury, regardless whether workdays were lost for the manufacturing sector and the entire U.S. workforce were 67 and 47 injuries/1000 full-time workers/year, respectively.

Table C6C. Sources (2-digit codes) responsible for the highest incidence rates of nonfatal occupational injuries within the construction sector, 2003

Source	Source code	Incidence rate (cases/1000 full-time workers/year)
Floors, walkways, ground surfaces	62	5.42
Solid building materials	41	3.56
Person injured or ill worker	56	3.11

Numbers were extracted from [2003 BLS Table R74](#).

Table C6D. Events (2-digit code) responsible for the highest incidence rates of nonfatal occupational injuries within the construction sector, 2003

Source	Event code	Incidence rate (cases/1000 full-time workers/year)
Overexertion	22	5.07
Fall to lower level	11	3.38
Struck by object	02	4.82

Numbers were extracted from [2003 BLS Table R75](#).

Table C7. Construction industries (5-digit NAICS codes) with the highest nonfatal occupational amputation incidence rates involving days away from work, 2003

Construction industry	NAICS Code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Finish carpentry contractors	23835	143,400	1.21	150
Plumbing, heating, and air-conditioning contractors	23822	848,200	0.32	250
All other special trade contractors	23899	285,000	0.28	70

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#) and [R5](#); the incidence rates of nonfatal occupational amputation involving days away from work for the construction sector and the entire U.S. workforce were 0.18 and 0.09 injuries/1000 full-time workers/year, respectively.

Table C8. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries and illnesses involving days away from work by construction subsector, 2003

Construction subsector	NAICS code	Carpal tunnel syndrome	Tendonitis	Back pain (without a medical diagnosis)
Construction of buildings	236	220 (0.16)	90 (0.07)	880 (0.64)
Heavy and civil engineering construction	237	110 (0.13)	60 (0.07)	400 (0.47)
Specialty trade contractors	238	530 (0.14)	350 (0.09)	2,780 (0.74)
Total for construction sector	23	850 (0.14)	490 (0.08)	4,060 (0.68)

Numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest values are in bold font.

Table C9. Construction industry groups (4-digit NAICS codes) with the highest incidence rates of occupational carpal tunnel syndrome involving days away from work, 2003

Construction industry group	NAICS Code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Highway, street, and bridge construction	2373	332,300	0.22	70
Foundation, structure, and building exterior contractors	2381	945,600	0.20	160
Nonresidential building construction	2362	731,400	0.18	120

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#) and [R5](#); the incidence rates of occupational carpal tunnel syndrome involving days away from work for the construction sector and the entire U.S. workforce were 0.14 and 0.25 cases/1000 full-time workers/year, respectively.

Table C10. Construction industries (5-digit NAICS codes) with the highest incidence rates of occupational tendonitis involving days away from work, 2003

Construction industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Drywall and insulation contractors	23831	320,100	0.25	70
All other special trade contractors	23899	285,000	0.24	60

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of occupational tendonitis involving days away from work for the construction sector and the entire U.S. workforce were 0.08 and 0.09 cases/1000 full-time workers/year, respectively.

Table C11A. Construction industries (5-digit NAICS codes) with the highest incidence rates of back pain (without a medical diagnosis) involving days away from work, 2003

Construction industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Other building finishing contractors	23839	64,500	2.63	150
Structural steel and precast concrete contractors	23812	83,300	1.70	130
Plumbing heating and air-conditioning contractors	23822	848,200	1.02	810

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of occupational back pain (without a medical diagnosis) involving days away from work for the construction sector and the entire U.S. workforce were 0.68 and 0.43 cases/1000 full-time workers/year, respectively

Table C11B. Construction industry groups (4-digit NAICS codes) with the highest number of cases of back pain (without a medical diagnosis) involving days away from work, 2003

Construction industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Building equipment contractors	2382	1,804,700	0.75	12,500
Foundation, structure, and building exterior contractors	2381	945,600	0.79	6,400
Building finishing contractors	2383	878,400	0.74	5,600

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of occupational back pain (without a medical diagnosis) involving days away from work for the construction sector and the entire U.S. workforce were 0.68 and 0.43 cases/1000 full-time workers/year, respectively.

Table C12. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational illnesses by construction subsector, 2003

Construction subsector	NAICS code	Skin diseases and disorders		Respiratory conditions		Poisonings		All other illnesses	
Construction of buildings	236	300	(0.22)	100	(0.09)	100	(0.08)	700	(0.47)
Heavy and civil engineering construction	237	700	(0.80)	100	(0.16)	100	(0.06)	800	(0.98)
Specialty trade contractors	238	1,300	(0.34)	700	(0.18)	400	(0.10)	4,000	(1.05)
Total for construction sector	23	2,300	(0.38)	900	(0.16)	500	(0.09)	5,500	(0.91)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); highest values are in bold font.

Table C13. Manufacturing industry groups and industries (4- and 5-digit NAICS codes) with the highest incidence rates of nonfatal occupational skin diseases and disorders, 2003

Construction industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Utility system construction	2371	368,000	1.53	500
Site preparation contractors	23891	301,800	1.04	300
All other special trade contractors	23899	285,000	0.64	200

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of nonfatal occupational skin diseases and disorders, regardless whether workdays were lost, for the construction sector and the entire U.S. workforce were 0.38 and 0.49 cases/1000 full-time workers/year, respectively

Table C14. Construction industries (5-digit NAICS codes) with the highest incidence rates of nonfatal occupational respiratory conditions, 2003

Construction industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Other building finishing contractors	23839	64,500	2.45	100
Finish carpentry contractors	23835	143,400	0.44	100
Roofing contractors	23816	177,800	0.30	<50

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of nonfatal occupational respiratory conditions, regardless whether workdays were lost, for the construction sector and the entire U.S. workforce were 0.16 and 0.22 cases/1000 full-time workers/year, respectively.

Table C15. Construction industries (5-digit NAICS codes) with the highest incidence rates of nonfatal occupational poisonings, 2003

Construction industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Painting and wall covering contractors	23832	213,200	0.87	200
Other building finishing contractors	23839	64,500	0.75	<50
Roofing contractors	23816	177,800	0.26	<50

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of nonfatal occupational poisonings, regardless whether workdays were lost, for the construction sector and the entire U.S. workforce were 0.09 and 0.04 cases/1000 full-time workers/year, respectively.

Table C16. Construction industries (5-digit NAICS codes) with the highest incidence rates of all other nonfatal occupational illnesses, 2003

Construction industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Framing contractors	23813	136,900	2.41	300
Tile and terrazzo contractors	23834	58,100	2.35	100
Other foundation, structure, and building exterior contractors	23819	36,300	1.93	100

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of all other nonfatal occupational illnesses, regardless whether workdays were lost, for the construction sector and the entire U.S. workforce were 0.91 and 2.32 cases/1000 full-time workers/year, respectively.

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any important potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high

rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lulich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Appendix 3. Surveillance Summary for Healthcare and Social Assistance

Healthcare and Social Assistance Sector Fatal and Non-Fatal Injury and Illness Surveillance Information

The following summary of fatality, injury, and illness rates in the Healthcare and Social Assistance sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) ([BLS, 2005a](#); [BLS, 2005b](#)). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators ([BLS, 1997](#)). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 13,721,900 workers in the healthcare and social assistance sector in 2003 ([Table H1](#)). Workers in hospitals, nursing and residential care facilities, and physician offices comprised 31%, 20%, and 15% of sector workforce, respectively.

Table H1. Annual employment numbers by healthcare and social assistance subsectors and industry groups, 2003

Healthcare and social assistance subsector and industry group	NAICS code	Number of workers
Ambulatory healthcare services	621	4,783,400
Physician offices	6211	2,006,600
Dental offices	6212	744,200
Offices of other health practitioners	6213	505,700
Outpatient care centers	6214	428,000
Medical and diagnostic laboratories	6215	179,700
Home healthcare services	6216	723,600
Other ambulatory healthcare services	6219	195,500
Hospitals	622	4,201,300
Nursing and residential care facilities	623	2,776,500
Social assistance	624	1,960,700
Total for healthcare and social assistance sector	62	13,721,900

Numbers were obtained from [2003 BLS Table SNR10](#); numbers of workers were rounded to the nearest 100 workers and are derived primarily from the BLS-Quarterly Census of Employment and Wages (QCEW) program. These worker numbers differ from full-time worker numbers (see discussion in introduction). QCEW captures only those workers covered by unemployment.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Table H2. Comparison of incidence rates (cases/1000 full-time workers/year) of occupational fatalities, injuries, and illnesses for the healthcare and social assistance sector and the U.S. workforce, 2003

Health outcome	Incidence rate for the healthcare and social assistance sector	Incidence rate for the U.S. workforce	Incidence rate ratio	Comment (pertains to the healthcare and social assistance sector)	Table reference
Fatal occupational injuries	0.01*	0.04†	0.3	Most fatal occupational injuries were due to transportation accidents and assaults and violent acts.	H3
Traumatic nonfatal occupational injuries involving days away from work	16.30	13.79	1.2	Most of these cases (59%) were due to traumatic injuries to muscles, tendons, ligaments, and joints.	Special Request
Total nonfatal occupational injuries	60	47	1.3	This rate was about four-fold larger than the incidence rate of traumatic injuries involving days away from work.	H5
Occupational back pain symptom (without a medical diagnosis) involving days away from work	0.65	0.43	1.5	The incidence rate in the Nursing and Residential Care Facilities (NAICS 623) was more than 2-fold larger than the healthcare and social assistance sector average.	H6
Occupational musculoskeletal system and connective tissue diseases and disorders cases involving days away from work	0.18	0.22	0.8	43% of these cases were diagnosed as tendonitis.	Special Request

Table H2. (Continued)

Health outcome	Incidence rate for the healthcare and social assistance sector	Incidence rate for the U.S. workforce	Incidence rate ratio	Comment (pertains to the healthcare and social assistance sector)	Table reference
Occupational carpal tunnel syndrome cases involving days away from work	0.17	0.25	0.7	Home Healthcare Services (NAICS 6216) industry group had the highest incidence rate of carpal tunnel syndrome cases involving days away from work.	H6
Occupational infectious and parasitic diseases involving days away from work	0.13	0.02	6.5	Bacterial, viral, infectious diseases pertaining to the intestines, and other infectious and parasitic diseases accounted for 12%, 30%, 26%, and 30% of reported cases.	Special Request
Occupational mental disorders or syndromes involving days away from work	0.08	0.05	1.6	11% of these cases were due to post-traumatic anxiety and 23% were due to a neurotic reaction to stress.	Special Request
Nonfatal occupational skin diseases and disorders	0.93	0.49	1.9	The Hospitals (NAICS 622) subsector incidence rate of skin disease and disorders was 43% higher than the sector average.	H7

Health outcome	Incidence rate for the healthcare and social assistance sector	Incidence rate for the U.S. workforce	Incidence rate ratio	Comment (pertains to the healthcare and social assistance sector)	Table reference
Nonfatal occupational respiratory conditions	0.59	0.22	2.7	The Hospital (NAICS 622) subsector incidence rate of respiratory conditions was 66% higher than the sector average.	H7
Nonfatal occupational poisonings	0.05	0.04	1.3	The incidence rate of poisonings in the Social Assistance (NAICS 624) subsector was three-fold larger than in the healthcare and social assistance sector.	H7

* Fatality data are from BLS Census of Fatal Occupational Injuries (CFOI) special research file. Data exclude information for New York City and are preliminary. Employment data are from BLS Current Population Survey monthly microdata files. Fatality totals include all workers regardless of age. Workers under the age of 16 and active duty military were not included in the rate calculations to maintain consistency with the employment data. Rates were calculated by NIOSH and may differ from previously published BLS CFOI rates.

† Fatality data are from the BLS Occupational and Safety and Health (OSH)/Census of Fatal Occupational Injuries (CFOI) 2003 Profiles and Charts. Employment data for 2003 are based on estimates derived from BLS Current Population Survey (CPS) monthly microdata files.

Fatal occupational injuries

Transportation accidents accounted for 48% of fatal occupational injuries in the healthcare and social assistance sector (most involved highway accidents). Assaults and violent acts accounted for 25% of fatal occupational injuries in the healthcare and social assistance sector (about an equal number were due to homicides as were due to suicides) ([Table H3](#)).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate within the healthcare and social assistance sector of 9.5 cases per 1000 full-time workers per year ([Table H4](#)). The Nursing and Residential Care Facilities (NAICS 623) subsector had the highest incidence rate of sprains and strains, with an incidence rate of 17.76 cases/1000 full-time workers/year, which was approximately two-fold larger than the healthcare and social service sector average.

Total nonfatal occupational injuries

The Nursing and Residential Care Facilities (NAICS 623) subsector had the highest incidence rate and total number of cases of total nonfatal occupational injuries ([Table H5](#)).

Within the healthcare and social assistance sector, the incidence rate of traumatic injuries and disorders involving days away from work was 16.30 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 60 cases/1000 full-time workers/year (Specially requested information and [Table H5](#)). This suggests that the total injury rate was about 4-fold larger than the injury rate involving days away from work.

Nonfatal occupational injuries and illnesses involving days away from work

The incidence rate of carpal tunnel and tendonitis for the healthcare and social assistance sector were 0.17 and 0.08 cases/1000 full-time workers/year, respectively ([Table H6](#)). Carpal tunnel syndrome and tendonitis incidence rates were highest in the Home Healthcare Services (NAICS 6216) and Hospitals (NAICS 622) industry group and subsector, respectively ([Table H6](#)). The musculoskeletal system and connective tissue diseases and disorders incidence rate for the healthcare and social assistance sector was 0.18 cases/1000 full-time workers/year (Special Request); 43% of these cases were diagnosed as tendonitis.

The incidence rate of back pain (without a medical diagnosis) involving days away from work for the healthcare and social assistance sector was 0.65 cases/1000 full-time workers/year ([Table H6](#)). The highest rate was in the Nursing and Residential Care Facilities (NAICS 623) subsector, which had an incidence rate of 1.38 cases/1000 full-time workers/year.

Nonfatal occupational illnesses

The incidence rates of nonfatal occupational skin diseases and disorders and nonfatal occupational respiratory conditions for the healthcare and social assistance sector were 0.93 and 0.59 cases/1000 full-time workers/year ([Table H7](#)). The Hospitals (NAICS 622) subsector had the highest incidence rates and case numbers for both nonfatal respiratory conditions and skin diseases and disorders. BLS data was not able to further discriminate as to what portions of the hospital workforce were at greatest risk.

The incidence rate of nonfatal occupational poisonings for the healthcare and social assistance sector was 0.05 cases/1000 full-time workers/year ([Table H7](#)). The Social Assistance (NAICS 624) subsector had the highest incidence rate of nonfatal occupational poisonings.

The incidence rate of all other nonfatal occupational illnesses for the healthcare and social assistance sector was 2.89 cases/1000 full-time workers/year ([Table H7](#)). The Hospitals (NAICS 622) subsector had the highest incidence rate and case numbers of all other nonfatal occupational illnesses.

Table H3. Number and percent of fatal occupational injuries in the healthcare and social assistance sector by event or exposure, 2003

Event or exposure	Number of fatal injuries	Percent of total fatal occupational injuries in healthcare and social assistance sector
Contact with objects and equipment	4	3
Falls	15	13
Exposure to harmful substances or environments	12	10
Exposure to caustic, noxious, or allergenic substances (3 were due to needlesticks)	8	
Oxygen deficiency	4	
Transportation accidents	55	48
Highway accident	38	
Worker struck by vehicle, mobile equipment	7	
Aircraft accident	8	
Assaults and violent acts	29	25
Homicides	16	
Suicides, self-inflicted injuries	13	
Total	115	

Totals for major categories may include subcategories not shown separately; 2003 data were specially requested from BLS

Table H4. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries involving days away from work by healthcare and social assistance subsectors and industry groups, 2003

Healthcare and social assistance subsector and industry group	NAICS code	Sprains, strains	Fractures	Cuts, punctures	Bruises	Amputations
Ambulatory healthcare services	621	14,020 (3.73)	1,890 (0.50)	1,000 (0.27)	2,710 (0.72)	-
Physician offices	6211	2,970 (1.76)	610 (0.36)	300 (0.18)	340 (0.20)	-
Dental offices	6212	-	-	-	-	-
Offices of other health practitioners	6213	†	†	†	†	†
Outpatient care centers	6214	†	†	†	†	†
Medical and diagnostic laboratories	6215	430 (2.76)	80 (0.51)	60 (0.39)	-	-
Home healthcare services	6216	5,690 (12.26)	450 (0.97)	290 (0.62)	1,050 (2.26)	-
Other ambulatory healthcare services	6219	2,840 (16.41)	150 (0.87)	120 (0.69)	260 (1.50)	-
Hospitals	622	39,070 (11.59)	3,320 (0.98)	1,600 (0.47)	6,480 (1.92)	20 (0.01)
Nursing and residential care facilities	623	38,790 (17.76)	2,510 (1.15)	2,320 (1.06)	6,440 (2.95)	90 (0.04)
Social assistance	624	10,890 (7.29)	1,640 (1.10)	690 (0.46)	1,420 (0.95)	-
Total for healthcare and social assistance sector	62	102,770 (9.50)	9,350 (0.87)	5,610 (0.52)	17,050 (1.58)	160 (0.01)

† Data were not available for this NAIC code; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest values are in bold font.

Table H5. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries by healthcare and social assistance subsectors and industry groups, 2003

Healthcare and social assistance subsector and industry group	NAICS code	Total nonfatal occupational injuries	
Ambulatory healthcare services	621	112,800	(30)
Physician offices	6211	38,500	(23)
Dental offices	6212	8,800	(16)
Offices of other health practitioners	6213	†	
Outpatient care centers	6214	15,300	(43)
Medical and diagnostic laboratories	6215	4,200	(27)
Home healthcare services	6216	25,900	(56)
Other ambulatory healthcare services	6219	15,300	(88)
Hospitals	622	267,900	(79)
Nursing and residential care facilities	623	211,000	(97)
Social assistance	624	58,100	(39)
Total for healthcare and social assistance sector	62	649,800	(60)

† Data were not available for this NAIC code; numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS [Table SNR05](#); highest value is in bold font.

Table H6. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries and illnesses involving days away from work by healthcare and social assistance subsectors and industry groups, 2003

Healthcare and social assistance subsector and industry group	NAICS code	Carpal tunnel syndrome	Tendonitis	Back pain (without a medical diagnosis)
Ambulatory healthcare services	621	830 (0.22)	110 (0.03)	1,040 (0.28)
Physician offices	6211	380 (0.23)	40 (0.02)	140 (0.08)
Dental offices	6212	-	-	-
Offices of other health practitioners	6213	†	†	†
Outpatient care centers	6214	†	†	†
Medical and diagnostic laboratories	6215	-	-	70 (0.45)
Home healthcare services	6216	140 (0.30)	-	540 (1.16)
Other ambulatory healthcare services	6219	-	-	220 (1.27)
Hospitals	622	680 (0.20)	400 (0.12)	2,180 (0.65)
Nursing and residential care facilities	623	170 (0.08)	230 (0.11)	3,010 (1.38)
Social assistance	624	130 (0.09)	80 (0.05)	790 (0.53)
Total for healthcare and social assistance sector	62	1,820 (0.17)	820 (0.08)	7,010 (0.65)

† Data were not available for this NAIC code; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest values are in bold font.

Table H7. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational illnesses by healthcare and social assistance subsectors and industry groups, 2003

Healthcare and social assistance subsector and industry groups	NAICS code	Skin diseases and disorders	Respiratory conditions	Poisonings	All other illnesses
Ambulatory healthcare services	621	1,100 (0.30)	1,700 (0.46)	100 (0.02)	6,600 (1.76)
Physician offices	6211	200 (0.09)	1,000 (0.57)	<50 (0.03)	2,900 (1.70)
Dental offices	6212	<50 (0.03)	100 (0.22)	<15	400 (0.83)
Offices of other health practitioners	6213	100 (0.15)	<15	<15	100 (0.21)
Outpatient care centers	6214	300 (0.76)	300 (0.94)	<15	1,100 (3.05)
Medical and diagnostic laboratories	6215	100 (0.37)	100 (0.39)	<15	400 (2.25)
Home healthcare services	6216	400 (0.84)	200 (0.44)	<15	1,100 (2.38)
Other ambulatory healthcare services	6219	200 (1.09)	<50 (0.25)	<15	700 (3.99)
Hospitals	622	4,700 (1.38)	3,300 (0.98)	200 (0.05)	16,600 (4.92)
Nursing and residential care facilities	623	-	900 (0.41)	100 (0.05)	5,700 (2.6)
Social assistance	624	400 (0.3)	500 (0.31)	200 (0.15)	2,400 (1.59)
Total for healthcare and social assistance sector	62	10,100 (0.93)	6,400 (0.59)	600 (0.05)	31,300 (2.89)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR10](#) and [SNR08](#); highest values are in bold font.

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing

prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Appendix 4. Surveillance Summary for Manufacturing

Manufacturing Sector Fatal and Non-Fatal Injury and Illness Surveillance Information

The following summary of fatality, injury, and illness rates in the Manufacturing sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) ([BLS, 2005a](#); [BLS, 2005b](#)). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators ([BLS, 1997](#)). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 14,459,700 workers in the manufacturing sector in 2003 ([Table M1](#)). Workers in Transportation Equipment, Food, Fabricated Metal Products, Computer and Electronic Products, and Machinery manufacturing comprised 12%, 10%, 10%, 9%, and 8% of the sector workforce, respectively.

Table M1. Annual employment numbers by manufacturing subsectors, 2003

Manufacturing subsector	NAICS code	Number of workers
Food	311	1,513,400
Beverage and Tobacco Products	312	199,400
Textile	313	261,300
Textile Product Mills	314	182,600
Apparel	315	309,000
Leather and Allied Products	316	45,600
Wood Products	321	534,300
Paper	322	514,100
Printing and Related Support Activities	323	672,300
Petroleum and Coal Products	324	115,500
Chemical	325	905,500
Plastics and Rubber Products	326	814,600
Nonmellatic Mineral Products	327	496,000
Primary Metal	331	474,500
Fabricated Metal Products	332	1,476,200
Machinery	333	1,145,800
Computer and Electronic Products	334	1,354,000
Electrical Equipment, Appliance, and Components	335	457,800
Transportation Equipment	336	1,753,700
Furniture and Related Products	337	570,300
Miscellaneous	339	663,600
Total for manufacturing sector	31-33	14,459,700

Numbers were obtained from 2003 BLS [Table SNR10](#); numbers of workers were rounded to the nearest 100 workers and are derived primarily from the BLS-Quarterly Census of Employment and Wages (QCEW) program. These worker numbers differ from full-time worker numbers (see discussion in introduction). QCEW captures only those workers covered by unemployment.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Table M2. Comparison of incidence rates (cases/1000 full-time workers/year) of occupational fatalities, injuries, and illnesses for the manufacturing sector and the U.S. workforce, 2003

Health outcome	Incidence rate for the manufacturing sector	Incidence rate for the U.S. workforce	Incidence rate ratio	Comment (pertains to the manufacturing sector)	Table reference
Fatal occupational injuries	0.03*	0.04*	0.8	Most fatal occupational injuries were due to contact with objects and equipment and transportation accidents.	M3 , 2003 BLS SNR10
Traumatic nonfatal occupational injuries involving days away from work	13.85	13.79	1.0	The greatest proportion (43%) of the cases was due to trauma to muscles, tendons, ligaments, and joints.	2003 BLS R72 , R49
Total nonfatal occupational injuries	60	47	1.3	This rate was more than four-fold larger than the incidence rate of traumatic injuries involving days away from work.	M5
Occupational back pain (without a medical diagnosis) involving days away from work	0.35	0.43	0.8	Beverage and Tobacco Products (NAICS 312) subsector had the highest incidence rate. The Food (NAICS 311) subsector had the highest number of cases.	M8
Occupational hernia involving days away from work	0.44	0.26	1.7	This includes inguinal and ventral hernias.	2003 BLS R72
Occupational musculoskeletal systems and connective tissue diseases and disorders cases involving days away from work	0.48	0.22	2.2	38% of these cases were diagnosed as tendonitis.	2003 BLS R49 , R72

Table M2. (Continued)

Health outcome	Incidence rate for the manufacturing sector	Incidence rate for the U.S. workforce	Incidence rate	Comment (pertains to the manufacturing sector)	Table reference
Occupational carpal tunnel syndrome cases involving days away from work	0.56	0.25	2.2	The highest incidence rate of carpal tunnel syndrome involving days away from work was in the Leather and Allied Products (NAICS 316) manufacturing subsector and the largest number of cases was in the Transportation Equipment (NAICS 336) manufacturing subsector.	M8
Nonfatal occupational skin diseases and disorders	0.74	0.49	1.5	The highest incidence rate was in the Leather and Allied Products (NAICS 316) manufacturing subsector and the largest number of cases was in the Transportation Equipment (NAICS 336) manufacturing subsector.	M11
Nonfatal occupational respiratory conditions	0.25	0.22	1.1	The highest incidence rate was in the Food (NAICS 311) manufacturing subsector and the largest number of cases was in Food (NAICS 311) and Transportation Equipment (NAICS 336) manufacturing subsectors.	M11
Nonfatal occupational poisonings	0.05	0.04	1.3	The highest incidence rate was in the Furniture and Related Products (NAICS 337) manufacturing subsector.	M11
All other nonfatal occupational illnesses	6.88	2.32	3.0	The highest incidence rates were in Transportation Equipment (NAICS 336) and Food (NAICS 311) manufacturing subsectors.	M11

* Fatality data are from the BLS Occupational and Safety and Health (OSH)/Census of Fatal Occupational Injuries (CFOI) 2003 Profiles and Charts. Employment data for 2003 are based on estimates derived from BLS Current Population Survey (CPS) monthly microdata files.

Fatal occupational injuries

Contact with objects and equipment accounted for 31% of fatal occupational injuries in the manufacturing sector (the largest proportion involved workers being caught in or compressed by equipment or objects). Transportation accidents accounted for 28% of fatal occupational injuries in the manufacturing sector (most involved highway accidents) ([Table M3](#)).

Nonfatal occupational injuries involving days away from work

Industry-wide, sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate within the manufacturing sector of 5.92 cases per 1000 full-time workers per year ([Table M4](#)). Beverage and Tobacco Products (NAICS 312) manufacturing subsector had an incidence rate of sprains and strains of 17.61 cases/1000 full-time workers/year, which was approximately three-fold larger than the manufacturing sector average.

Furniture and Related Products (NAICS 337), Fabricated Metal Products (NAICS 332), and Wood Products (NAICS 321) manufacturing subsectors had the three highest incidence rates of nonfatal amputation involving days away from work, with the highest manufacturing industry rates in Miscellaneous Fabricated Metal Product (NAICS 332999), Ornamental and Architectural Metal Works (NAICS 332323); and Other Metal Valve and Pipe Fitting (NAICS 332919) manufacturing (Tables [M4](#) and [M7](#)).

Total nonfatal occupational injuries

Beverage and Tobacco Products (NAICS 312) and Wood Products (NAICS 321) manufacturing subsectors had the highest incidence rates of total nonfatal occupational injuries ([Table M5](#)), with Bottled Water (NAICS 312112) and Truss (NAICS 321214) manufacturing industries having incident rates, respectively, 2.8- and 2.4-fold larger than the manufacturing sector average ([Table M6A](#)). The Transportation Equipment (NAICS 336) manufacturing subsector had the highest number of total nonfatal injuries, due to a large workforce and a moderately elevated incidence rate ([Table M5](#)).

Within the manufacturing sector, the incidence rate of traumatic injuries and disorders involving days away from work was 13.85 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 60 cases/1000 full-time workers/year (2003 BLS Tables [R72](#) and [SNR05](#)). This suggests that the total injury rate was more than 4-fold larger than the injury rate involving days away from work.

Nonfatal occupational injuries and illnesses involving days away from work

Carpal tunnel syndrome and tendonitis incidence rates involving days away from work were highest in the Leather and Allied Products (NAICS 316) manufacturing subsector ([Table M8](#)). The incidence rates of carpal tunnel syndrome and tendonitis were, respectively, about 11-fold higher in the Other Leather and Allied Product (NAICS 31699) manufacturing industry and about 50-fold higher in Rubber and Plastic Footwear

manufacturing (NAICS 316211) manufacturing industry, compared with the respective manufacturing sector averages (Tables [M9A](#) and [M10](#)).

The incidence rate of back pain (without a medical diagnosis) involving days away from work for the manufacturing sector was 0.35 cases/1000 full-time workers/year ([Table M8](#)). Beverage and Tobacco Products (NAICS 312) had an incidence rate of 0.94 cases/1000 full-time workers/year, which was about three times larger than the sector average.

The incidence rate of hernia (including inguinal and ventral hernias) involving days away from work for the manufacturing sector was 0.44 cases/1000 full-time workers/year ([2003 BLS Table R72](#)).

Nonfatal occupational illnesses

Food (NAICS 311), Chemical (NAICS 325), and Transportation Equipment (NAICS 336) manufacturing subsectors had the highest incidence rates and case numbers of nonfatal occupational respiratory conditions. The Flour Milling and Malt (NAICS 31121) manufacturing industry had an incidence rate of nonfatal occupational respiratory conditions 13-fold the manufacturing sector average ([Table M12A](#)).

Leather Products (NAICS 316), Transportation Equipment (NAICS 336), and Fabricated Metal Products (NAICS 332) manufacturing subsectors had the highest incidence rates of nonfatal occupational skin diseases and disorders, with the largest number of affected workers being in the Transportation Equipment manufacturing subsector (Table M11). The three manufacturing industries with the highest incidence rates of nonfatal occupational skin disease and disorders involved handling concrete and metalworking and hydraulic fluids ([Table M13A](#)).

Table M3. Number and percent of fatal occupational injuries in the manufacturing sector by event or exposure, 2003

Event or exposure	Number of fatal injuries	Percent of total fatal occupational injuries in the manufacturing sector
Contact with objects and equipment	130	31
Struck by object	52	
Caught in or compressed by equipment or objects	70	
Caught in or crushed in collapsing materials	6	
Falls	38	9
Exposure to harmful substances or environments	45	11
Transportation accidents	117	28
Highway accident	61	
Non-highway accident except rail, air, or water	21	
Pedestrian accident (non-passenger struck by vehicle or mobile equipment)	23	
Aircraft accident	12	
Fires and explosions	47	11
Assaults and violent acts	41	10
Total	420	

Totals for major categories may include subcategories not shown separately; numbers were extracted from [2003 BLS Table A-9](#).

Table M4. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries involving days away from work by manufacturing subsectors, 2003

Manufacturing subsector	NAICS code	Sprains, strains	Fractures	Cuts, punctures	Bruises	Amputations
Food	311	9,290 (6.20)	1,990 (1.33)	2,240 (1.49)	3,110 (2.08)	450 (0.30)
Beverage and Tobacco Products	312	3,370 (17.61)	430 (2.25)	250 (1.31)	450 (2.35)	-
Textile	313	650 (2.57)	290 (1.15)	340 (1.35)	220 (0.87)	60 (0.24)
Textile Product Mills	314	810 (4.76)	110 (0.65)	410 (2.41)	190 (1.12)	-
Apparel	315	870 (3.14)	90 (0.33)	200 (0.72)	210 (0.76)	-
Leather and Allied Products	316	240 (5.65)	40 (0.94)	110 (2.59)	40 (0.94)	-
Wood Products	321	5,070 (9.67)	1,310 (2.50)	2,460 (4.69)	1,270 (2.42)	280 (0.53)
Paper	322	3,140 (5.89)	670 (1.26)	830 (1.56)	610 (1.14)	160 (0.30)
Printing and Related Support Activities	323	3,270 (5.15)	470 (0.74)	840 (1.32)	540 (0.85)	120 (0.19)
Petroleum and Coal Products	324	380 (3.17)	120 (1.00)	70 (0.58)	100 (0.83)	-
Chemical	325	3,550 (3.91)	810 (0.89)	440 (0.48)	450 (0.50)	150 (0.17)
Plastics and Rubber Products	326	5,220 (6.45)	1,060 (1.31)	1,360 (1.68)	1,190 (1.47)	160 (0.20)
Nonmetallic Mineral Products	327	4,480 (9.01)	1,010 (2.03)	1,150 (2.31)	780 (1.57)	150 (0.30)
Primary Metal	331	3,380 (7.10)	970 (2.04)	900 (1.89)	640 (1.34)	160 (0.34)
Fabricated Metal Products	332	9,550 (6.59)	2,180 (1.50)	3,490 (2.41)	2,230 (1.54)	850 (0.59)
Machinery	333	6,340 (5.51)	1,160 (1.01)	1,730 (1.50)	1,130 (0.98)	240 (0.21)
Computer and Electronic Products	334	2,810 (2.12)	490 (0.37)	650 (0.49)	510 (0.38)	50 (0.04)
Electrical Equipment, Appliance, and Components	335	2,050 (4.60)	410 (0.92)	430 (0.97)	570 (1.28)	100 (0.22)
Transportation Equipment	336	13,930 (7.97)	1,780 (1.02)	2,230 (1.28)	2,540 (1.45)	180 (0.10)
Furniture and Related Products	337	3300 (6.03)	730 (1.33)	1,450 (2.65)	710 (1.30)	530 (0.97)
Miscellaneous	339	2,530 (4.01)	470 (0.75)	840 (1.33)	600 (0.95)	70 (0.11)
Total for the manufacturing sector	31-33	84,210 (5.92)	16,590 (1.17)	22,410 (1.57)	18,090 (1.27)	3,750 (0.26)

Numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest three values are in bold font.

Table M5. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries by manufacturing subsectors, 2003

Manufacturing subsector	NAICS code	Total nonfatal occupational injuries
Food	311	106,600 (71)
Beverage and Tobacco Products	312	19,700 (103)
Textile	313	11,200 (44)
Textile Product Mills	314	8,800 (52)
Apparel	315	8,700 (31)
Leather and Allied Products	316	2,700 (65)
Wood Products	321	49,500 (95)
Paper	322	23,200 (44)
Printing and Related Support Activities	323	27,000 (42)
Petroleum and Coal Products	324	3,000 (25)
Chemical	325	26,700 (29)
Plastics and Rubber Products	326	55,400 (69)
Nonmetallic Mineral Products	327	37,000 (74)
Primary Metal	331	41,800 (88)
Fabricated Metal Products	332	115,800 (80)
Machinery	333	73,500 (64)
Computer and Electronic Products	334	25,500 (19)
Electrical Equipment, Appliance, and Components	335	23,800 (53)
Transportation Equipment	336	129,900 (74)
Furniture and Related Products	337	43,400 (79)
Miscellaneous	339	27,800 (44)
Total for the manufacturing sector	31-33	860,900 (60)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from [2003 BLS Table SNR05](#); highest three values are in bold font.

Table M6A. Manufacturing industries (5- and 6-digit NAICS codes) with the highest nonfatal occupational injury incidence rates, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Bottled water manufacturing	312112	17,000	167	2,900
Iron foundries	331511	61,800	149	9,600
Truss manufacturing	321214	41,900	146	6,200

Number of workers and cases were rounded to the nearest 100 workers; numbers were extracted from [2003 BLS Table SNR05](#); the incidence rates of nonfatal occupational injuries, regardless whether workdays were lost, for the manufacturing sector and the entire U.S. workforce were 60 and 47 cases/1000 full-time workers/year, respectively.

Table M6B. Manufacturing industries (5-digit NAICS codes) with the highest numbers of nonfatal occupational injuries, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Animal slaughtering and processing	31161	512,400	72	37,800
Other plastics product manufacturing	32619	374,200	70	25,900
Printing	32311	615,600	44	25,400
Automobile and light duty motor vehicle manufacturing	33611	227,300	66	23,000

Number of workers and cases were rounded to the nearest 100 workers; numbers were extracted from [2003 BLS Table SNR05](#); the incidence rates of nonfatal occupational injuries, regardless whether workdays were lost, for the manufacturing sector and the entire U.S. workforce were 60 and 47 cases/1000 full-time workers/year, respectively.

Table M6C. Sources (2-digit code) responsible for highest nonfatal occupational injury rates within the manufacturing sector, 2003

Source	Source code	Incidence rate (cases/1000 full-time workers/year)
Person injured or ill worker	56	3.18
Floors, walkways, ground surfaces	62	1.92
Nonpressurized containers	11	1.26

Numbers were extracted from [2003 BLS Table R74](#).

Table M6D. Events (2-digit code) responsible for highest nonfatal occupational injury rates within the manufacturing sector, 2003

Event	Event code	Incidence rate (cases/1000 full-time workers/year)
Bodily reaction	21	1.63
Struck by object	02	2.08
Repetitive motion	23	1.48

Numbers were extracted from [2003 BLS Table R75](#).

Table M7. Manufacturing industries (5- and 6-digit NAICS codes) with the highest nonfatal occupational amputation incidence rates involving days away from work, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
All other miscellaneous fabricated metal product manufacturing	332999	60,300	2.83	160
Ornamental and architectural metal work manufacturing	332323	37,900	2.45	90
Other metal valve and pipe fitting manufacturing	332919	22,000	1.84	40

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of nonfatal occupational amputations involving days away from work for the manufacturing sector and the entire U.S. workforce were 0.26 and 0.09 cases/1000 full-time workers/year, respectively.

Table M8. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries and illnesses involving days away from work by manufacturing subsector, 2003

Manufacturing subsector	NAICS code	Carpal tunnel syndrome		Tendonitis		Back pain (without a medical diagnosis)	
Food	311	610	(0.41)	340	(0.23)	800	(0.53)
Beverage and Tobacco Products	312	50	(0.26)	30	(0.16)	180	(0.94)
Textile Mills	313	80	(0.32)	-		-	
Textile Product Mills	314	140	(0.82)	70	(0.41)	30	(0.18)
Apparel	315	240	(0.87)	70	(0.25)	50	(0.18)
Leather and Allied Products	316	160	(3.76)	30	(0.71)	20	(0.47)
Wood Products	321	240	(0.46)	90	(0.17)	380	(0.72)
Paper	322	290	(0.54)	80	(0.15)	200	(0.38)
Printing and Related Support Activities	323	310	(0.49)	70	(0.11)	120	(0.19)
Petroleum and Coal Products	324	30	(0.25)	-		30	(0.25)
Chemical	325	170	(0.19)	80	(0.09)	160	(0.18)
Plastics and Rubber Products	326	470	(0.58)	130	(0.16)	270	(0.33)
Nonmetallic Mineral Products	327	110	(0.22)	140	(0.28)	280	(0.56)
Primary Metal	331	310	(0.65)	90	(0.19)	180	(0.38)
Fabricated Metal Products	332	840	(0.58)	180	(0.12)	610	(0.42)
Machinery	333	780	(0.68)	160	(0.14)	340	(0.30)
Computer and Electronic Products	334	460	(0.35)	160	(0.12)	210	(0.16)
Electrical Equipment, Appliance, and Components	335	330	(0.74)	60	(0.13)	140	(0.31)
Transportation Equipment	336	1,320	(0.75)	400	(0.23)	650	(0.37)
Furniture and Related Products	337	400	(0.73)	230	(0.42)	180	(0.33)
Miscellaneous	339	580	(0.92)	170	(0.27)	100	(0.16)
Total for the manufacturing sector	31-33	7,910	(0.56)	2,580	(0.18)	4,940	(0.35)

Numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest three values are in bold font.

Table M9A. Manufacturing industries (5- and 6-digit NAICS codes) with the highest incidence rates of occupational carpal tunnel syndrome involving days away from work, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Other leather and allied product manufacturing	31699	17,800	6.13	100
Men's footwear (except athletic) manufacturing	316213	9,400	3.32	30
Sign manufacturing	33995	69,300	3.15	200

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of occupational carpal tunnel syndrome involving days away from work for the manufacturing sector and the entire U.S. workforce were 0.56 and 0.25 cases/1000 full-time workers/year, respectively.

Table M9B. Manufacturing industries (5-digit NAICS codes) with the highest numbers of occupational carpal tunnel syndrome involving days away from work, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Printing	32311	615,600	0.52	300
Aerospace product and parts manufacturing	33641	438,100	0.60	260
Automobile and light duty motor vehicle manufacturing	33611	227,300	0.98	230

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of occupational carpal tunnel syndrome involving days away from work for the manufacturing sector and the entire U.S. workforce were 0.56 and 0.25 cases/1000 full-time workers/year, respectively.

Table M10. Manufacturing industries (5- and 6-digit NAICS codes) with the highest incidence rates of occupational tendonitis involving days away from work, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Rubber and plastic footwear manufacturing	316211	2,400	8.92	20
Glass product manufacturing made of purchased glass	327215	54,900	1.74	90
Men's and boy's cut and sew work clothing manufacturing	315225	12,100	1.72	20

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of occupational tendonitis involving days away from work for the manufacturing sector and the entire U.S. workforce were 0.18 and 0.09 cases/1000 full-time workers/year, respectively.

Table M11. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational illnesses by manufacturing subsector, 2003

Manufacturing subsector	NAICS code	Skin diseases and disorders	Respiratory conditions	Poisonings	All other illnesses
Food	311	1,100 (0.72)	600 (0.42)	<50 (0.02)	20,800 (13.87)
Beverage and Tobacco Products	312	100 (0.76)	100 (0.28)	<15	500 (2.60)
Textile Mills	313	200 (0.62)	<15	<15	1,300 (4.97)
Textile Product Mills	314	100 (0.56)	<15	<15	400 (2.61)
Apparel	315	100 (0.28)	100 (0.23)	<15	1,200 (4.48)
Leather and Allied Products	316	100 (1.55)	<15	<15	500 (11.64)
Wood Products	321	200 (0.38)	100 (0.28)	<15	2,500 (4.75)
Paper	322	200 (0.29)	100 (0.22)	<15	2,100 (3.93)
Printing and Related Support Activities	323	300 (0.40)	100 (0.16)	<15	1,600 (2.47)
Petroleum and Coal Products	324	<50 (0.13)	<15	<15	300 (2.49)
Chemical	325	600 (0.64)	300 (0.37)	100 (0.08)	3,300 (3.59)
Plastics and Rubber Products	326	700 (0.81)	200 (0.29)	<50 (0.03)	3,300 (4.09)
Nonmetallic Mineral Products	327	500 (0.98)	100 (0.17)	<50 (0.04)	1,400 (2.89)
Primary Metal	331	300 (0.59)	100 (0.22)	<50 (0.06)	3,500 (7.32)
Fabricated Metal Products	332	1,600 (1.11)	300 (0.21)	100 (0.06)	5,700 (3.95)
Machinery	333	1,000 (0.86)	300 (0.23)	100 (0.05)	5,000 (4.36)
Computer and Electronic Products	334	500 (0.41)	200 (0.14)	100 (0.11)	5,000 (3.80)
Electrical Equipment, Appliance, and Components	335	300 (0.73)	100 (0.17)	<15	2,800 (6.31)
Transportation Equipment	336	2,000 (1.17)	600 (0.33)	100 (0.06)	29,500 (16.86)
Furniture and Related Products	337	200 (0.39)	100 (0.23)	100 (0.11)	4,000 (7.35)
Miscellaneous	339	500 (0.86)	100 (0.24)	<15	3,100 (4.97)
Total		10,500 (0.74)	3,600 (0.25)	700 (0.05)	97,900 (6.88)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR10](#) and [SNR08](#); highest three values are in bold font.

Table M12A. Manufacturing industries (5- and 6-digit NAICS codes) with the highest incidence rates of nonfatal occupational respiratory conditions, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Flour milling and malt manufacturing	31121	20,200	3.22	100
All other miscellaneous food manufacturing	311999	27,200	2.25	100
Mattress manufacturing	33791	30,200	1.79	100

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of nonfatal occupational respiratory conditions, regardless whether workdays were lost, for the manufacturing sector and the entire U.S. workforce were 0.25 and 0.22 cases/1000 full-time workers/year, respectively.

Table M12B. Manufacturing industry (5-digit NAICS codes) with the highest numbers of nonfatal occupational respiratory conditions, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Animal slaughtering and processing	31161	512,400	0.52	300
Other plastics product manufacturing	32619	374,200	0.41	200

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of nonfatal occupational respiratory conditions, regardless whether workdays were lost, for the manufacturing sector and the entire U.S. workforce were 0.25 and 0.22 cases/1000 full-time workers/year, respectively.

Table M13A. Manufacturing industries (5- and 6-digit NAICS codes) with the highest incidence rates of nonfatal occupational skin diseases and disorders, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Concrete block and brick manufacturing	327331	20,700	5.93	100
Precision turned product manufacturing	332721	42,300	5.46	200
Motor vehicle brake system manufacturing	33634	45,900	4.54	200

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of nonfatal occupational skin diseases and disorders, regardless whether workdays were lost, for the manufacturing sector and the entire U.S. workforce were 0.74 and 0.49 cases/1000 full-time workers/year, respectively.

Table M13B. Manufacturing industry (5-digit NAICS codes) with the highest number of nonfatal occupational skin diseases and disorders, 2003

Manufacturing industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Animal slaughtering and processing	31161	512,400	0.82	400

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of nonfatal occupational skin diseases and disorders, regardless whether workdays were lost, for the manufacturing sector and the entire U.S. workforce were 0.74 and 0.49 cases/1000 full-time workers/year, respectively.

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al. 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al. 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest

that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Appendix 5. Surveillance Summary for Mining

Mining Sector Fatal and Non-Fatal Injury and Illness Surveillance Information

The following summary of fatality, injury, and illness rates in the Mining sector is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) ([BLS, 2005a](#); [BLS, 2005b](#)). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments that do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies; and comprehensive reporting by the Mine Safety and Health Administration (MSHA) for the mining sector (except for oil and gas extraction and related support activities). Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

The mining sector (NAICS 21), as presented in this summary, includes establishments MSHA rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates for other industries.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators ([BLS, 1997](#)). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 500,100 workers in the mining sector in 2003 ([Table MG1](#)). Workers in the mining subsector comprised 40% of the sector workforce. Of these, 34% were coal miners.

Table MG1. Annual employment numbers by mining subsectors and industry groups, 2003

Mining subsectors and industry groups	NAICS code	Number of workers
Oil and gas extraction	211	120,300
Mining (except oil and gas)	212	200,300
Coal mining	2121	68,800
Metal ore mining	2122	26,300
Nonmetallic mineral mining and quarrying	2123	105,100
Support activities for mining	213	179,500
Total for mining sector	21	500,100

Numbers were obtained from 2003 BLS Table [SNR10](#); numbers of workers were rounded to the nearest 100 workers and are derived primarily from the BLS-Quarterly Census of Employment and Wages (QCEW) program. These worker numbers differ from full-time worker numbers (see discussion in introduction). QCEW captures only those workers covered by unemployment. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Table MG2. Comparison of incidence rates (cases/1000 full-time workers/year) of occupational fatalities, injuries, and illnesses for the mining sector and U.S. workforce, 2003

Health outcome	Incidence rate for the mining sector	Incidence rate for the U.S. workforce	Incidence rate ratio	Comment (pertains to the mining sector)	Table reference
Fatal occupational injuries	0.27*	0.04*	6.8	Most fatal occupational injuries were due to transportation accidents and contact with objects and equipment.	MG3
Traumatic nonfatal occupational injuries involving days away from work	13.11	13.79	1.0	The greatest proportion (46%) of the cases was due to trauma to muscles, tendons, ligaments, and joints.	Special Request
Total nonfatal occupational injuries	31	47	0.7	This rate was more than 2-fold larger than incidence rate of traumatic injuries involving days away from work.	MG5
Occupational back pain (without a medical diagnosis) involving days away from work	0.18	0.43	0.4	This rate was highest in the Support Activities for Mining (NAICS 213) subsector.	MG8
All occupational pain (without a medical diagnosis) involving days away from work	0.79	1.18	0.7	This rate was highest in the Coal Mining (NAICS 2121) industry group.	MG8
Occupational musculoskeletal system and connective tissue diseases and disorders involving days away from work	0.32	0.22	1.5		Special Request

Table MG2 (Continued)

Health outcome	Incidence rate for the mining sector	Incidence rate for the U.S. workforce	Incidence rate ratio	Comment (pertains to the mining sector)	Table reference
Nonfatal occupational skin diseases and disorders	0.08	0.49	0.2		MG9
Nonfatal occupational respiratory conditions	0.23	0.22	1.0	The incidence rate of respiratory conditions for the Coal Mining (NAICS 2121) industry group was nearly 6-fold larger than the mining sector average.	MG9
Nonfatal occupational poisonings	0.05	0.04	1.3		MG9

* Fatality data are from the BLS Occupational and Safety and Health (OSH)/Census of Fatal Occupational Injuries (CFOI) 2003 Profiles and Charts. Employment data for 2003 are based on estimates derived from BLS Current Population Survey (CPS) monthly microdata files. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Fatal occupational injuries

Transportation accidents accounted for 34% of fatal occupational injuries in the mining sector (58% of these fatalities were due to highway accidents). Contact with objects and equipment accounted for 32% of fatal occupational injuries in the mining sector (71% of these fatalities were due to the worker being struck by an object) ([Table MG3](#)).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work with an incidence rate within the mining sector of 6.04 cases per 1000 full-time workers per year ([Table MG4](#)). Coal Mining (NAICS 2121) subsector had an incidence rate of sprains and strains of 19.16 cases/1000 full-time workers/year, which was more than three-fold larger than the mining sector average. Bituminous Coal Underground Mining (NAICS 212112), Dimension Stone Mining and Quarrying (NAICS 212311), and Drilling Oil and Gas Wells (NAICS 213111) had incidence rates of fractures involving days away from work ranging from 3.85 to 8.64 cases/1000 full-time workers/year, which were 2 to 4.5 times larger than the mining sector average ([Table MG7](#)). The highest amputation rate involving days away from work was in Bituminous Coal Underground Mining (NAICS 212112), which had an incidence rate of 5.1 cases/1000 full-time workers/year ([2003 BLS Table R5](#)).

Total nonfatal occupational injuries

The highest incidence rate of total nonfatal occupational injuries was in the Bituminous Coal Underground Mining (NAICS 212112) industry, which had an incidence rate of 84 cases/1000 full-time workers/year ([Table MG6](#)).

Within the mining sector, the incidence rate of traumatic injuries and disorders involving days away from work was 13.11 cases/1000 full-time workers/year, compared to an incidence rate of total nonfatal injuries of 31 cases/1000 full-time workers/year (Special Request and [Table MG5](#)). This suggests that the total injury rate was more than two-fold larger than the injury rate involving days away from work.

Nonfatal occupational injuries and illnesses involving days away from work

The incidence rate of occupational back pain (without a medical diagnosis) involving days away from work was highest in the Support Activities for Mining (NAICS 213) subsector ([Table MG8](#)) with a rate of 0.28 cases/1000 full-time workers/year. However, the incidence rate for Bituminous Coal Underground Mining (NAICS 212112) was much higher at 5.1 cases/1000 full-time workers/year ([2003 BLS Table R5](#)).

Nonfatal occupational illnesses

Bituminous Coal Underground Mining (NAICS 212112) and Bituminous Coal and Lignite Surface Mining (NAICS 212111) industries had incidence rates of nonfatal occupational respiratory conditions of 2.08 and 0.63 cases/1000 full-time workers/year,

respectively, compared to the mining sector average of 0.23 cases/1000 full-time workers/year (Tables [MG9](#) and [MG10](#)). The incidence rate of nonfatal skin diseases and disorders was highest in the Support Activities for Mining (NAICS 213) industry group, with the Drilling Oil and Gas Wells (NAICS 213112) industry having the highest incidence rate (0.55 cases/1000 full-time workers/year) within this industry group (Tables [MG9](#) and [MG11](#)).

The incidence rates of all other nonfatal occupational illnesses were highest in the Bituminous Coal Underground Mining (NAICS 212112) and Iron Ore Mining (NAICS 21221) industries, which had incidence rates of 3.91 and 3.72 cases/1000 full-time workers/year, respectively ([Table MG12](#)).

Table MG3. Number and percent of fatal occupational injuries in the mining sector by event or exposure, 2003

Event or exposure	Number of fatal injuries	Percent of total fatal occupational injuries in the mining sector
Contact with objects and equipment	45	32
Struck by object	32	
Caught in or compressed by equipment or objects	10	
Caught in or crushed in collapsing materials	3	
Falls	10	7
Exposure to harmful substances or environments	10	7
Contact with electric current	7	
Contact with wiring, transformers, or other electrical component	3	
Transportation accidents	48	34
Highway accident	28	
Non-highway accident(farm, industrial premises)	10	
Worker struck by vehicle, mobile equipment	3	
Aircraft accident	6	
Fires and explosions	25	18
Fires	9	
Explosions	16	
Total	141	

Totals for major categories may include subcategories not shown separately; 2003 data were specially requested from BLS.

Table MG4. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries involving days away from work by mining subsectors and industry groups, 2003

Mining subsector and industry group	NAICS code	Sprains, strains	Fractures	Cuts, punctures	Bruises	Amputations
Oil and gas extraction	211	390 (3.27)	-	-	-	-
Mining (except oil and gas)	212	2,400 (10.62)	720 (3.19)	400 (1.77)	490 (2.17)	60 (0.27)
Coal mining	2121	1,500 (19.16)	430 (5.49)	220 (2.81)	340 (4.34)	30 (0.38)
Metal ore mining	2122	170 (6.62)	50 (1.95)	20 (0.78)	20 (0.78)	-
Nonmetallic mineral mining and quarrying	2123	730 (5.99)	250 (2.05)	160 (1.31)	130 (1.07)	30 (0.25)
Support activities for mining	213	570 (2.70)	280 (1.33)	80 (0.38)	190 (0.90)	20 (0.09)
Total for mining sector	21	3,360 (6.04)	1,060 (1.91)	550 (0.99)	690 (1.24)	80 (0.14)

Numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest values are in bold font. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Table MG5. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries by mining subsectors and industry groups, 2003

Mining subsector and industry group	NAICS code	Total nonfatal occupational injuries	
Oil and gas extraction	211	1,900	(16)
Mining (except oil and gas)	212	9,800	(43)
Coal mining	2121	4,500	(57)
Metal ore mining	2122	900	(35)
Nonmetallic mineral mining and quarrying	2123	4,400	(36)
Support activities for mining	213	5,500	(26)
Total for mining sector	21	17,300	(31)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Table [SNR05](#); highest value is in bold font. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Table MG6. Mining industries (5- and 6-digit NAICS codes) with the highest nonfatal occupational injury incidence rates, 2003

Mining industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Bituminous coal underground mining	212112	35,800	84	3,300
Anthracite mining	212113	600	58	100
Dimension stone mining and quarrying	212311	6,700	53	400

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Table [SNR05](#); the incidence rate of nonfatal occupational injury rates, regardless whether workdays were lost for the mining sector was 31 cases/1000 full-time workers/year. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Table MG7. Mining industries (5- and 6-digit NAICS codes) with the highest incidence rates of nonfatal occupational fractures involving days away from work, 2003

Mining industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Bituminous coal underground mining	212112	35,800	8.64	340
Dimension stone mining and quarrying	212311	6,700	4.36	30
Drilling oil and gas wells	213111	51,500	3.85	230

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rate of nonfatal occupational fractures, regardless whether workdays were lost, for the mining sector was 6.04 cases/1000 full-time workers/year. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Table MG8. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries and illnesses involving days away from work by mining subsectors and industry groups, 2003

Mining subsector and industry group	NAICS code	Multiple traumatic injuries and disorders	Back pain (without a medical diagnosis)	Back pain and non-back pain (without a medical diagnosis)
Oil and gas extraction	211	-	-	180 (1.51)
Mining (except oil and gas)	212	300 (1.33)	40 (0.18)	170 (0.75)
Coal mining	2121	160 (2.04)	20 (0.26)	100 (1.28)
Metal ore mining	2122	-	-	-
Nonmetallic mineral mining and quarrying	2123	130 (1.07)	-	60 (0.49)
Support activities for mining	213	-	60 (0.28)	90 (0.43)
Total for mining sector	21	340 (0.61)	100 (0.18)	440 (0.79)

Numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest values are in bold font. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Table MG9. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational illnesses by mining subsectors and industry groups, 2003

Mining subsector and industry group	NAICS code	Skin diseases and disorders	Respiratory conditions	Poisonings	All other illnesses
Oil and gas extraction	211	<15	<15	<15	200 (1.92)
Mining (except oil and gas)	212	<15	100 (0.53)	<15	400 (1.61)
Coal mining	2121	<15	100 (1.35)	<15	200 (2.75)
Metal ore mining	2122	<15	<15	<15	100 (2.30)
Nonmetallic mineral mining and quarrying	2123	<15	<15	<15	100 (0.73)
Support activities for mining	213	<50 (0.18)	<15	<50 (0.10)	100 (0.49)
Total for mining sector	21	<50 (0.08)	100 (0.23)	<50 (0.05)	700 (1.25)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR10](#) and [SNR08](#); highest values are in bold font. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Table MG10. Mining industries (5- and 6-digit NAICS codes) with the highest incidence rates of nonfatal occupational respiratory conditions, 2003

Mining industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Bituminous coal underground mining	212112	35,800	2.08	100
Bituminous coal and lignite surface mining	212111	32,400	0.63	<50

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR10](#) and [SNR08](#); the incidence rate of nonfatal occupational respiratory conditions, regardless whether workdays were lost, for the mining sector was 0.23 cases/1000 full-time workers/year. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Table MG11. Mining industry (5- and 6-digit NAICS codes) with the highest incidence rate of nonfatal occupational skin diseases and disorders, 2003

Mining industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Drilling oil and gas wells	213111	51,500	0.55	<50

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rate of nonfatal occupational skin diseases and disorders, regardless whether workdays were lost, for the mining sector was 0.08 cases/1000 full-time workers/year. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Table MG12. Mining industries (5- and 6-digit NAICS codes) with the highest incidence rates of all other nonfatal occupational illnesses, 2003

Mining industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Bituminous coal underground mining	212112	35,800	3.91	200
Iron ore mining	21221	5,300	3.72	<50
Other nonmetallic mineral mining and quarrying	21239	14,300	2.08	<50

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rate of all other nonfatal occupational illnesses, regardless whether workdays were lost, for the mining sector was 1.25 cases/1000 full-time workers/year. The mining sector (NAICS 21) includes establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the MSHA, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes OSHA made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest

that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Appendix 6. Surveillance Summary for Services

Services Sectors Fatal and Non-Fatal Injury and Illness Surveillance Information

The following summary of fatality, injury, and illness rates in the Services sectors is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 44,822,300 workers in the services sectors in 2003 ([Table S1](#)). Workers in Accommodation and Food Services, Administrative and Support Services, and Professional, Scientific, and Technical Services comprised 23%, 16%, and 15% of services sectors workforce, respectively.

Table S1. Annual employment numbers by services sectors and subsectors, 2003

Services sector or subsector	NAICS code	Number of workers
Information	51	3,180,800
Finance and Insurance	52	5,782,100
Real Estate and Rental and Leasing	53	2,044,900
Professional, Scientific, and Technical Services	54	6,638,700
Management of Companies and Enterprises	55	1,660,100
Administrative and Support Services	561	7,241,400
Waste Management and Remediation Services	562	318,200
Educational Services	61	2,016,200
Arts, Entertainment, and Recreation	71	1,816,900
Accommodation and Food Services	72	10,345,300
Other Services	81	3,777,700
Total		44,822,300

Numbers were obtained from 2003 BLS Table [SNR10](#); numbers of workers were rounded to the nearest 100 workers and are derived primarily from the BLS-Quarterly Census of Employment and Wages (QCEW) program. These worker numbers differ from full-time worker numbers (see discussion in introduction). QCEW captures only those workers covered by unemployment.

BLS [2005a]. Census of fatal occupational injuries (CFOI) - current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Table S2. Comparison of incidence rates (cases/1000 full-time workers/year) of occupational fatalities, injuries, and illnesses for the services sectors and the U.S. workforce, 2003

Health outcome	Incidence rate for the services sectors*	Incidence rate for the U.S. workforce	Incidence rate ratio	Comment (pertains to the services sectors)	Table reference
Fatal occupational injuries	0.02 †	0.04 §	0.5	Transportation accidents were responsible for the greatest proportion (49%) of fatalities.	S3
Traumatic nonfatal occupational injuries involving days away from work	2.23 to 15.21	13.79	0.2–1.1	Administrative and Waste Services (NAICS 56) and Arts, Entertainment, and Recreation (NAICS 71) sectors had the highest rates.	S4
Total nonfatal occupational injuries	9 to 80	47	0.2–1.7	Waste Management and Remediation Services (NAICS 562) subsector had the highest rate.	S5
Occupational back pain (without a medical diagnosis) involving days away from work	0.11 to 0.62	0.43	0.3–1.4	Waste Management and Remediation Services (NAICS 562) had the highest rate.	S8
Occupational carpal tunnel syndrome cases involving days away from work	0.07 to 0.36	0.25	0.3–1.4	Finance and Insurance (NAICS 52) sector had the highest rate.	S8
Occupational musculoskeletal system and connective tissue diseases and disorders involving days away from work	0.07 to 0.23	0.22	0.3–1.0	Other Services (NAICS 81) sector had the highest rate.	S8
Occupational mental disorders involving days away from work	0.02 to 0.09	0.05	0.4–1.8	Finance and Insurance (NAICS 52) sector had the highest rate.	S8

Table S2 (Continued)

Health outcome	Incidence rate for the services sectors	Incidence rate for the U.S. workforce	Incidence rate ratio	Comment (pertains to the services sectors)	Table reference
Nonfatal occupational skin diseases and disorders	0.04 to 0.96	0.49	0.1–2.0	Arts, Entertainment, and Recreation (NAICS 71) sector had the highest rate.	S11
Nonfatal occupational respiratory conditions	0.06 to 0.23	0.22	0.3–1.0	Waste Management and Remediation Services (NAICS 562) subsector had the highest rate.	S11
Nonfatal occupational poisonings	<0.005 to 0.07	0.04	<0.1–1.8	Arts, Entertainment, and Recreation (NAICS 71) sector had the highest rate.	S11

* Service sector-grouping rates were not available from BLS; what is provided is the range of rates for the component service sectors and the Administrative and Support Services (NAICS 561) and Waste Management and Remediation Services (NAICS 562) service subsectors.

† Fatality data are from BLS Census of Fatal Occupational Injuries (CFOI) special research file. Data exclude information for New York City and are preliminary. Employment data are from BLS Current Population Survey monthly microdata files. Fatality totals include all workers regardless of age. Workers under the age of 16 and active duty military were not included in the rate calculations to maintain consistency with the employment data. Both Public and Private Services were included. Rates were calculated by NIOSH and may differ from previously published BLS CFOI rates.

§ Fatality data are from the BLS Occupational and Safety and Health (OSH)/Census of Fatal Occupational Injuries (CFOI) 2003 Profiles and Charts. Employment data for 2003 are based on estimates derived from BLS Current Population Survey (CPS) monthly microdata files.

Fatal occupational injuries

Transportation accidents accounted for 49% of fatal occupational injuries in the Services sectors (66% of these were due to highway accidents). Assaults and violent acts accounted for 24% of fatal occupational injuries in the Services sectors (76% of these were due to homicides) ([Table S3](#)).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work for all service sectors with sector incidence rates ranging from 0.85 cases/1000 full-time workers/year in the Finance and Insurance (NAICS 52) sector to 15.73 cases/1000 full-time workers/year in the Waste Management and Remediation Services (NAICS 562) subsector ([Table S4](#)). The Waste Collection (NAICS 5621) industry group had the highest incidence rate of amputations involving days away from work with a rate of 0.67 cases/1000 full-time workers/year ([Table S7](#)).

Total nonfatal occupational injuries

Amusement Parks and Arcades (NAICS 7131), Waste Collection (NAICS 5621), and Consumer Electronics and Appliances Rental (NAICS 53221) were the industry groups and industries that had the highest total nonfatal occupational injury rates, ranging from 82 to 108 cases/1000 full-time workers/year ([Table S6](#)).

Nonfatal occupational injuries and illnesses involving days away from work

The highest incidence rate of occupational carpal tunnel syndrome involving days away from work was 1.09 cases/1000 full-time workers/year in the Direct Life, Health, and Medical Insurance Carriers (NAICS 52411) industry ([Table S9](#)). The highest incidence rate of tendonitis involving days away from work was 0.21 cases/1000 full-time workers/year in the Spectator Sports (NAICS 7112) industry group ([Table S10](#)). The incidence rate of musculoskeletal system and connective tissue diseases and disorders involving days away from work was highest in the Other Services (NAICS 81) sector which had an incidence rate of 0.23 cases/1000 full-time workers/year; 28% of these cases were diagnosed as tendonitis (Special Request). The highest incidence rate of back pain (without a medical diagnosis) involving days away from work was 0.91 cases/1000 full-time workers/year in the Waste Treatment and Disposal (NAICS 5622) industry group ([2003 BLS Table R5](#)). Finance and Insurance (NAICS 52) had the highest sector incidence rate of mental illness, with a rate of 0.09 cases/1000 full-time workers/year ([Table S8](#)).

Nonfatal occupational illnesses

The incidence rate of nonfatal occupational skin disease was highest in the Recreational Vehicle Parks and Recreational Camps (NAICS 7212) industry group, which had an incidence rate of 11.82 cases/1000 full-time workers/year ([Table S12](#)).

The incidence rate of nonfatal occupational respiratory conditions was highest in Hotels and Motels (NAICS 72111), Amusement Parks and Arcades (NAICS 7131), and General Rental Centers (NAICS 5323) industry groups and industries, which had incidence rates ranging from 0.48 to 0.57 cases/1000 full-time workers/year ([Table S13](#)).

The incidence rate of nonfatal occupational poisonings was highest in the Lessors of Other Real Estate Property (NAICS 53119) industry, which had an incidence rate of 8.7 cases/1000 full-time workers/year ([Table S14](#)).

The incidence rate of all other nonfatal occupational illnesses was highest in the Satellite Communications (NAICS 5174) industry group, which had an incidence rate of 11.22 cases/1000 full-time workers/year ([Table S15](#)).

Table S3. Number and percent of fatal occupational injuries in the services sectors by event or exposure, 2003

Event or exposure	Number of fatal injuries	Percent of total fatal occupational injuries in the services sectors
Contact with objects and equipment	289	10
Struck by object	191	
Caught in or compressed by equipment or objects	65	
Caught in or crushed in collapsing materials	21	
Falls	234	8
Exposure to harmful substances or environments	192	6
Contact with electric current	74	
Contact with temperature extremes	16	
Exposure to caustic, noxious, or allergenic substances	60	
Oxygen deficiency	39	
Transportation accidents	1,467	49
Highway accident	973	
Nonhighway (farm, industrial premises)	83	
Worker struck by vehicle, mobile equipment	177	
Aircraft accident	170	
Water vehicle	29	
Railway	33	
Assaults and violent acts	734	24
Homicides	556	
Suicides, self-inflicted injury	152	
Assaults by animals	22	
Fires and explosions	85	28
Total for services sectors	3,013	

Totals for major categories may include subcategories not shown separately; 2003 data were specially requested from BLS.

Table S4. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries involving days away from work by services sectors or subsectors, 2003

Services sector or subsector	NAICS code	Sprains, strains	Fractures	Cuts, punctures	Bruises	Amputations	Traumatic injuries
Information	51	9,380 (3.32)	1,610 (0.57)	920 (0.33)	2,290 (0.81)	40 (0.01)	19,680 (6.97)
Finance and Insurance	52	4,540 (0.85)	1,220 (0.23)	410 (0.08)	1,080 (0.20)	-	11,850 (2.23)
Real Estate and Rental and Leasing	53	11,600 (6.79)	1,410 (0.83)	2,190 (1.28)	2,180 (1.28)	60 (0.04)	22,800 (13.35)
Professional, Scientific, and Technical Services	54	8,410 (1.41)	1,710 (0.29)	1,570 (0.26)	2,050 (0.34)	90 (0.02)	19,760 (3.32)
Management of Companies and Enterprises	55	6,850 (4.45)	1,300 (0.84)	780 (0.51)	1,030 (0.67)	150 (0.10)	12,860 (8.35)
Administrative and Support Services	561	22,620 (6.02)	3,390 (0.90)	5,480 (1.46)	5,940 (1.58)	240 (0.06)	62,130 (15.21)
Waste Management and Remediation Services	562	5,110 (15.73)	750 (2.31)	980 (3.02)	920 (2.83)	90 (0.28)	
Educational Services	61	4,950 (3.45)	1,260 (0.88)	490 (0.34)	960 (0.67)	-	10,600 (7.38)
Arts, Entertainment, and Recreation	71	7,930 (6.83)	1,430 (1.23)	1,520 (1.31)	1,780 (1.53)	60 (0.05)	17,110 (14.74)
Accommodation and Food Services	72	31,000 (4.51)	4,960 (0.72)	11,560 (1.68)	10,390 (1.51)	270 (0.04)	82,660 (12.03)
Other Services	81	12,070 (4.08)	2,160 (0.73)	3,420 (1.16)	2,320 (0.78)	170 (0.06)	29,610 (10.01)

Numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); data for traumatic injuries involving days away from work were specially requested of BLS; highest two values are in bold font.

Table S5. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries by services sectors or subsectors, 2003

Services sector or subsector	NAICS code	Total nonfatal occupational injuries	
Information	51	56,200	(20)
Finance and Insurance	52	49,100	(9)
Real Estate and Rental and Leasing	53	64,500	(38)
Professional, Scientific, and Technical Services	54	73,400	(12)
Management of Companies and Enterprises	55	42,300	(27)
Administrative and Support Services	561	128,900	(34)
Waste Management and Remediation Services	562	26,000	(80)
Educational Services	61	37,000	(26)
Arts, Entertainment, and Recreation	71	65,200	(56)
Accommodation and Food Services	72	332,300	(48)
Other Services	81	96,900	(33)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Table [SNR05](#); highest two values are in bold font.

Table S6A. Services industry groups and industries (4- and 5- digit NAICS codes) with the highest nonfatal occupational injury incidence rates, 2003

Services industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Amusement parks and arcades	7131	152,900	108	10,700
Waste collection	5621	113,000	97	11,600
Consumer electronics and appliances rental	53221	29,000	82	2,300

Number of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Table [SNR05](#).

Table S6B. Services industry groups (4- digit NAICS codes) with the highest numbers of nonfatal occupational injuries, 2003

Services industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Full-service restaurants	7221	4,072,100	44	116,600
Limited-service eating places	7222	3,612,200	48	109,900
Traveler accommodation	7211	1,705,900	64	81,900

Number of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Table [SNR05](#).

Table S7. Services industry groups and industries (4- and 5-digit NAICS codes) with the highest nonfatal occupational amputation incidence rates involving days away from work, 2003

Services industry group or industry	NAICS Code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Waste collection	5621	113,000	0.67	80
Employment services	5613	3,227,300	0.26	140
Other amusement and recreation industries	7139	1,034,500	0.10	60
Drycleaning and laundry services	8123	355,700	0.10	30

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded off to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#).

Table S8. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries and illnesses involving days away from work by services sector or subsector, 2003

Services sector or subsector	NAICS code	Carpal tunnel syndrome	Tendonitis	Back pain (without a medical diagnosis)	Occupational musculoskeletal system and connective tissue diseases and disorders	Mental disorders
Information	51	580 (0.21)	160 (0.06)	500 (0.18)	330 (0.12)	100 (0.04)
Finance and Insurance	52	1,910 (0.36)	310 (0.06)	560 (0.11)	690 (0.13)	470 (0.09)
Real Estate and Rental and Leasing	53	260 (0.15)	-	580 (0.34)	150 (0.09)	80 (0.05)
Professional, Scientific, and Technical Services	54	1,570 (0.26)	200 (0.03)	760 (0.13)	420 (0.07)	90 (0.02)
Management of Companies and Enterprises	55	290 (0.19)	70 (0.05)	390 (0.25)	260 (0.17)	60 (0.04)
Administrative and Support Services	561	450 (0.12)	200 (0.05)	1,380 (0.37)	670 (0.16)	90 (0.02)
Waste Management and Remediation Services	562	80 (0.25)	-	200 (0.62)		
Educational Services	61	100 (0.07)	60 (0.04)	280 (0.19)	100 (0.07)	60 (0.04)
Arts, Entertainment, and Recreation	71	110 (0.09)	100 (0.09)	570 (0.49)	230 (0.20)	-
Accommodation and Food Services	72	770 (0.11)	320 (0.05)	2,390 (0.35)	730 (0.11)	470 (0.07)
Other Services	81	680 (0.23)	190 (0.06)	750 (0.25)	670 (0.23)	100 (0.03)

Numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); data for musculoskeletal system and connective tissue diseases and disorders and mental disorders were specially requested from BLS; highest two values are in bold font.

Table S9. Services industry groups and industries (4- and 5-digit NAICS codes) with the highest incidence rates of occupational carpal tunnel syndrome involving days away from work, 2003

Services industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Direct life, health, and medical insurance carriers	52411	661,000	1.09	670
Legal services	5411	1,146,200	0.62	630
Direct insurance (except life, health, and medical carriers)	52412	607,300	0.56	310

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of occupational carpal tunnel syndrome involving days away from work for the entire U.S. workforce was 0.25 cases/1000 full-time workers/year.

Table S10. Services industry groups and industries (4- and 5-digit NAICS codes) with the highest incidence rates of occupational tendonitis involving days away from work, 2003

Services industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Spectator sports	7112	131,000	0.21	20
Direct life, health, and medical insurance carriers	52411	661,000	0.20	120
Newspaper, periodical, book, and directory publishers	5111	692,200	0.15	900

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of occupational tendonitis involving days away from work for the entire U.S. workforce was 0.09 cases/1000 full-time workers/year.

Table S11. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational illnesses by services sector or subsector, 2003

Services sector or subsector	NAICS code	Skin diseases and disorders	Respiratory conditions	Poisonings	All other illnesses
Information	51	400 (0.14)	200 (0.06)	100 (0.02)	4,300 (1.54)
Finance and Insurance	52	200 (0.04)	500 (0.09)	<50 (<0.005)	6,100 (1.16)
Real Estate and Rental and Leasing	53	600 (0.33)	300 (0.17)	100 (0.06)	1,100 (0.63)
Professional, Scientific, and Technical Services	54	1,300 (0.22)	600 (0.10)	200 (0.03)	3,900 (0.65)
Management of Companies and Enterprises	55	200 (0.11)	200 (0.10)	<50 (0.02)	2,800 (1.82)
Administrative and Support Services	561	-	-	<50 (0.01)	4,500 (1.19)
Waste Management and Remediation Services	562	100 (0.42)	100 (0.23)	<15	600 (1.85)
Educational Services	61	700 (0.48)	300 (0.18)	<50 (0.02)	1,000 (0.71)
Arts, Entertainment, and Recreation	71	1,100 (0.96)	200 (0.21)	100 (0.07)	2,000 (1.71)
Accommodation and Food Services	72	3,300 (0.48)	1,100 (0.16)	200 (0.02)	5,500 (0.80)
Other Services	81	1,200 (0.39)	300 (0.10)	100 (0.03)	2,200 (0.73)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR10](#) and [SNR08](#); highest two values are in bold font.

Table S12. Services industry group and industries (4- and 5-digit NAICS codes) with the highest incidence rates of nonfatal occupational skin diseases and disorders, 2003

Services industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Recreational vehicle parks and recreational camps	7212	50,500	11.82	400
Amusement parks and arcades	7131	152,900	3.30	300
Surveying and mapping	54137	58,300	2.86	200

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rate of nonfatal occupational skin diseases and disorders, regardless whether workdays were lost, for the entire U.S. workforce was 0.49 cases/1000 full-time workers/year.

Table S13. Services industry groups and industries (4- and 5-digit NAICS codes) with the highest incidence rates of nonfatal occupational respiratory conditions, 2003

Services industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Hotels and motels	72111	1,402,400	0.57	600
Amusement parks and arcades	7131	152,900	0.55	100
General rental centers	5323	61,600	0.48	<50

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of occupational respiratory conditions, regardless whether workdays were lost, for the entire U.S. workforce was 0.22 cases/1000 full-time workers/year.

Table S14. Services industry group and industries (4- and 5-digit NAICS codes) with the highest incidence rates of nonfatal occupational poisonings, 2003

Services industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Lessors of other real estate property	53119	42,4000	8.7	<50
Other commercial and industrial machinery and equipment rental and leasing	53249	37,300	4.5	<50
Real estate managers	53131	393,800	1.4	<50

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rate of nonfatal occupational poisonings, regardless whether workdays were lost, for the entire U.S. workforce was 0.04 cases/1000 full-time workers/year.

Table S15. Services industry group and industries (4- and 5-digit NAICS codes) with the highest incidence rates of all other nonfatal occupational illnesses, 2003

Services industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Satellite communications	5174	17,200	11.22	200
All other waste management services	56299	28,800	7.44	200
Other publishers	51119	31,800	5.29	100

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rate of all other occupational illnesses, regardless whether workdays were lost, for the entire U.S. workforce was 2.32 cases/1000 full-time workers/year.

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest

that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Appendix 7. Surveillance Summary for Transportation, Warehousing and Utilities

Transportation, Warehousing, and Utilities Sectors Fatal and Non-Fatal Injury and Illness Surveillance Information

The following summary of fatality, injury, and illness rates in the Transportation, Warehousing, and Utilities sectors is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) ([BLS, 2005a](#); [BLS, 2005b](#)). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators ([BLS, 1997](#)). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program, there were 3,946,200 workers in the Transportation and Warehousing sectors and 575,900 workers in the Utilities sector in 2003 ([Table TR1](#)). Workers in Truck Transportation comprised 33% of the combined Transportation/Warehousing workforce.

Table TR1. Annual employment numbers by transportation, warehousing, and utilities subsectors, 2003

Transportation, warehousing, and utilities subsector	NAICS code	Number of workers
Air transportation	481	527,000
Rail transportation†	482	-
Water transportation	483	53,100
Truck transportation	484	1,322,400
Transit and ground passenger transportation	485	375,400
Pipeline transportation	486	40,300
Scenic and sightseeing transportation	487	26,700
Support activities for transportation	488	513,200
Couriers and messengers	492	565,100
Warehousing and storage	493	519,600
Total for Transportation and Warehousing†	48, 49	3,946,200
Utilities	22	575,900

† Data for employers in railroad transportation are provided to BLS by the Federal Railroad Administration. These data do not reflect the changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

Numbers were obtained from [2003 BLS Table SNR10](#); numbers of workers were rounded to the nearest 100 workers and are derived primarily from the BLS-Quarterly Census of Employment and Wages (QCEW) program. These worker numbers differ from full-time worker numbers (see discussion in introduction). QCEW captures only those workers covered by unemployment, which may impact the number of workers in the Truck transportation sector.

BLS [2005a]. Census of fatal occupational injuries (CFOI) – current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Table TR2. Comparison of incidence rates (cases/1000 full-time workers/year) of occupational fatalities, injuries, and illnesses for the transportation, warehousing, and utilities sectors and the U.S. workforce, 2003

Health outcome	Incidence rate (and incidence rate ratio) for the transportation and warehousing sectors	Incidence rate (and incidence rate ratio) for the utilities sector	Incidence rate for the U.S. workforce	Comment (pertains to the transportation, warehousing, and utilities sectors)	Reference
Fatal occupational injuries	0.12* (3.0)		0.04†	75% of fatal occupational injuries were due to transportation accidents.	TR3
Traumatic nonfatal occupational injuries involving days away from work	33.49 (2.4)	11.11 (0.8)	13.79	52% and 57% of these cases were due to trauma to muscles, tendons, ligaments, and joints for the Transportation and Warehousing sectors and the Utilities sector, respectively.	Special Request
Total nonfatal occupational injuries	74 (1.6)	40 (0.9)	47	These rates were 2.2 and 3.6-fold larger than the incidence rates of traumatic injuries involving days away from work for the Transportation and Warehousing sectors and the Utilities sector, respectively.	TR5
Occupational back pain symptom (without a medical diagnosis) involving days away from work	1.27 (3.0)	0.20 (0.5)	0.43	The subsector with the highest incidence rate was Couriers and Messengers (NAICS 492), which had an incidence rate of 4.88/1000 full-time workers/year.	TR8
Occupational hernia involving days away from work	0.59 (2.3)	0.13 (0.5)	0.26	This includes inguinal and ventral hernias.	Special Request

Table TR2. (Continued)

Health outcome	Incidence rate (and incidence rate ratio) for the transportation and warehousing sectors	Incidence rate (and incidence rate ratio) for the utilities sector	Incidence rate for the U.S. workforce	Comment (pertains to the transportation, warehousing, and utilities sectors)	Reference
Occupational carpal tunnel syndrome involving days away from work	0.27 (1.1)	0.14 (0.6)	0.25	The highest rate was in the Couriers and Messengers (NAICS 492) subsector.	Special Request
Occupational musculoskeletal and connective tissue diseases and disorders syndrome cases involving days away from work	0.31 (1.4)	0.13 (0.6)	0.22	Within the Transportation and Warehousing sectors, most cases were due to rheumatism (non-back).	Special Request
Nonfatal occupational skin diseases and disorders	-	0.74 (1.5)	0.49	The industry group with the highest incidence rate was Water Sewage and Other Systems (NAICS 2213), which had a rate that was about 3-fold larger than the Utilities sector average.	TR10 , TR11
Nonfatal occupational respiratory conditions	0.22 (1.0)	0.22 (1.0)	0.22	The subsector with the highest incidence rate was Transit and Ground Passenger Transportation (NAICS 485), which had an incidence rate about 2.5-fold larger than the Transportation and Warehousing sectors average.	TR10

Table TR2. (Continued)

Health outcome	Incidence rate (and incidence rate ratio) for the transportation and warehousing sectors	Incidence rate (and incidence rate ratio) for the utilities sector	Incidence rate for the U.S. workforce	Comment (pertains to the transportation, warehousing, and utilities sectors)	Reference
Nonfatal occupational poisonings	0.06 (1.5)	0.04 (1.0)	0.04	The subsector with the highest incidence rate was Couriers and Messengers (NAICS 492).	TR10
All other nonfatal occupational illnesses	2.76 (1.2)	3.17 (1.4)	2.32	The subsector with the highest incidence rate was Air Transportation (NAICS 481).	TR10

*Fatality data are from BLS Census of Fatal Occupational Injuries (CFOI) special research file. Data exclude information for New York City and are preliminary. Employment data are from BLS Current Population Survey monthly microdata files. Fatality totals include all workers regardless of age. Workers under the age of 16 and active duty military were not included in the rate calculations to maintain consistency with the employment data. Rates were calculated by NIOSH and may differ from previously published BLS CFOI rates.

† Fatality data are from the BLS Occupational and Safety and Health (OSH)/Census of Fatal Occupational Injuries (CFOI) Profiles and Charts. Employment data for 2003 are based on estimates derived from BLS Current Population Survey (CPS) monthly microdata files.

Fatal occupational injuries

Transportation accidents accounted for 75% of fatal occupational injuries in the Transportation, Warehousing, and Utilities sectors (69% of these were due to highway accidents) ([Table TR3](#)).

Nonfatal occupational injuries involving days away from work

Sprains and strains were the most frequent nonfatal injury type involving days away from work. Within the Transportation and Warehousing sectors, the incidence rate of sprains and strains was 17.32 cases/1000 full-time workers/year ([Table TR4](#)). However, the Couriers and Messengers (NAICS 492) subsector had an incidence rate of 23.42 cases/1000 full-time workers/year. The incidence rate of amputations involving days away from work was highest in the Local General Freight Trucking (NAICS 48411) industry, which had an incidence rate of 0.44 cases/1000 full-time workers/year.

Total nonfatal occupational injuries

The subsectors with the highest incidence rates of total nonfatal occupational injuries were Couriers and Messengers (NAICS 492) and Air Transportation (NAICS 481) ([Table TR5](#)). The incidence rates of total nonfatal occupational injuries were highest in Refrigerated Warehousing and Storage (NAICS 49312), Couriers (NAICS 4921), and Scheduled Air Transportation (NAICS 4811) industry groups and industries, which had incidence rates 47% to 73% higher than the Transportation and Warehousing sectors average ([Table TR6A](#)).

Within the Transportation and Warehousing sectors and the Utilities sector the incidence rates of traumatic occupational injuries involving days away from work were 33.49 and 11.11 cases/1000 full-time workers/year (Special Request) compared to 74 and 40 cases of total nonfatal occupational injuries/1000 full-time workers/year ([Table TR5](#)), respectively. This suggests that the total injury rates were 2.2 and 3.6 fold larger than the injury rates involving days away from work for these sectors, respectively.

Nonfatal occupational injuries and illnesses involving days away from work

The subsector with the highest incidence rates of occupational carpal tunnel syndrome and tendonitis involving days away from work was Warehousing and Storage (NAICS 493), which had incidence rates of 0.42 and 0.34 cases/1000 full-time workers/year, respectively ([Table TR8](#)). The industry with the highest incidence rate of occupational carpal tunnel syndrome involving days away from work was the Long Distance Specialized Freight (except used goods) Trucking (NAICS 48423) industry, which had an incidence rate of 1.13 cases/1000 full-time workers/year, approximately 4 times larger than the Transportation and Warehousing sectors average ([Table TR9](#)).

Within the Transportation and Warehousing sectors, the incidence rate of the symptom of back pain (without a medical diagnosis) involving days away from work was 1.27 cases/1000 full-time workers/year ([Table TR8](#)). This incidence rate was highest in the

Couriers and Messengers (NAICS 492) subsector. The incidence rate of hernia (including inguinal and ventral hernias) involving days away from work for the Transportation and Warehousing sectors was 0.59 cases/1000 full-time workers/year.

Nonfatal occupational illnesses

The incidence rate of nonfatal occupational skin diseases and disorders was highest in the Water Sewage and Other Systems (NAICS 2213) industry group, which had an incidence rate of 2.03 cases/1000 full-time workers/year ([Table TR11](#)).

The incidence rate of nonfatal occupational respiratory conditions was highest in the Urban Transit System (NAICS 4851) industry group, which had an incidence rate of 2.83 cases/1000 full-time workers/year ([Table TR12](#)).

Table TR3. Number and percent of fatal occupational injuries in the transportation, warehousing, and utilities sectors by event or exposure, 2003

Event or exposure	Number of fatal injuries	Percent of total fatal occupational injuries in the transportation, warehousing, and utilities sectors
Contact with objects and equipment	64	7
Struck by object	44	
Caught in or compressed by equipment or objects	14	
Caught in or crushed in collapsing materials	4	
Falls	28	3
Exposure to harmful substances or environments	31	3
Transportation accidents	658	75
Highway accident	452	
Non-highway accident (farm, industrial premises)	19	
Worker struck by vehicle, mobile equipment	82	
Aircraft accident	63	
Water vehicle	20	
Railway	22	
Fires and explosions	12	1
Assaults and violent acts	82	9
Homicides	62	
Suicides, self-inflicted injuries	17	
Total	877	

Totals for major categories may include subcategories not shown separately; 2003 data were specially requested from BLS.

Table TR4. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries involving days away from work by transportation, warehousing, and utilities subsectors, for 2003

Transportation, warehousing, and utilities subsector	NAICS code	Sprains, strains	Fractures	Cuts, punctures	Bruises	Amputations
Air transportation	481	16,060 (37.12)	670 (1.55)	750 (1.73)	2,710 (6.26)	80 (0.18)
Rail transportation†	482	2,440 (10.86)	420 (1.87)	290 (1.29)	660 (2.94)	30 (0.13)
Water transportation	483	-	-	-	-	-
Truck transportation	484	21,460 (15.70)	4,750 (3.47)	1,950 (1.43)	4,400 (3.22)	380 (0.28)
Transit and ground passenger transportation	485	3,870 (13.80)	360 (1.28)	180 (0.64)	570 (2.03)	-
Pipeline transportation	486	100 (2.53)	-	-	-	-
Scenic and sightseeing transportation	487	120 (6.79)	-	100 (5.66)	-	-
Support activities for transportation	488	4,650 (9.74)	800 (1.67)	760 (1.59)	1,670 (3.50)	40 (0.08)
Couriers and messengers	492	10,080 (23.42)	1,010 (2.35)	720 (1.67)	2,010 (4.67)	20 (0.05)
Warehousing and storage	493	6,630 (13.93)	1,010 (2.12)	970 (2.04)	1,400 (2.94)	40 (0.08)
Total for Transportation and Warehousing†	48, 49	65,920 (17.32)	9,120 (2.40)	5,770 (1.52)	13,520 (3.55)	600 (0.16)
Utilities	22	3,520 (6.32)	480 (0.86)	240 (0.43)	480 (0.86)	-

† data for railroad transportation was provided to BLS by the Federal Railroad Administration of the US Department of Transportation, therefore estimates for this industry are not comparable to estimates in other industries; number of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest two values are in bold font.

Table TR5. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries by transportation, warehousing, and utilities subsectors, 2003

Transportation, warehousing, and utilities subsector	NAICS code	Total nonfatal occupational injuries	
Air transportation	481	44,600	(103)
Rail transportation†	482	6,400	(28)
Water transportation	483	-	
Truck transportation	484	91,400	(67)
Transit and ground passenger transportation	485	17,500	(62)
Pipeline transportation	486	700	(17)
Scenic and sightseeing transportation	487	700	(39)
Support activities for transportation	488	25,100	(53)
Couriers and messengers	492	49,300	(114)
Warehousing and storage	493	45,100	(95)
Total for Transportation and Warehousing†	48, 49	282,600	(74)
Utilities	22	22,200	(40)

† data for railroad transportation was provided to BLS by the Federal Railroad Administration of the US Department of Transportation, therefore estimates for this industry are not comparable to estimates in other industries; numbers of nonfatal occupational injuries were rounded to the nearest 100 workers; numbers were extracted from [2003 BLS Table SNR05](#); highest two values are in bold font.

Table TR6A. Transportation, warehousing, and utilities industry groups and industries (4-, 5-, and 6-digit NAICS codes) with the highest nonfatal occupational injury incidence rates, 2003

Transportation, warehousing, and utilities industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Refrigerated warehousing and storage	49312	41,900	128	5,300
Couriers	4921	517,600	121	47,100
Scheduled air transportation	4811	484,100	109	43,300

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from [2003 BLS Table SNR05](#); the incidence rates of nonfatal occupational injuries, regardless whether workdays were lost, for the transportation and warehousing sectors and the entire U.S. workforce were 74 and 47 cases/1000 full-time workers/year, respectively.

Table TR6B. Transportation, warehousing, and utilities industry groups (4-digit NAICS codes) with the highest numbers of nonfatal occupational injury cases, 2003

Transportation, warehousing, and utilities industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
General freight trucking	4841	931,400	70	67,800
Couriers	4921	517,600	121	47,100
Warehousing and storage	4931	519,600	95	45,100

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from [2003 BLS Table SNR05](#); the incidence rates of nonfatal occupational injuries, regardless whether workdays were lost, for the transportation and warehousing sectors and the entire U.S. workforce were 74 and 47 cases/1000 full-time workers/year, respectively.

Table TR7. Transportation, warehousing, and utilities industry groups and industries (4-, 5-, and 6-digit NAICS codes) with the highest nonfatal occupational amputation incidence rates involving days away from work, 2003

Transportation, warehousing, and utilities industry group or industry	NAICS Code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
General freight trucking, local	48411	230,300	0.44	100
Specialized freight trucking	4842	391,000	0.33	130

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded off to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of nonfatal occupational amputations involving days away from work for the transportation and warehousing sectors and the entire U.S. workforce were 0.16 and 0.09 cases/1000 full-time workers/year, respectively.

Table TR8. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries and illnesses involving days away from work by transportation, warehousing, and utilities subsectors, 2003

Transportation, warehousing, and utilities subsector	NAICS code	Carpal tunnel syndrome		Tendonitis		Back pain symptom (without a medical diagnosis)	
Air transportation	481	130	(0.30)	-	-	350	(0.81)
Rail transportation†	482	-	-	-	-	-	-
Water transportation	483	-	-	-	-	-	-
Truck transportation	484	370	(0.27)	100	(0.07)	1,170	(0.86)
Transit and ground passenger transportation	485	30	(0.11)	20	(0.07)	410	(1.46)
Pipeline transportation	486	-	-	-	-	-	-
Scenic and sightseeing transportation	487	-	-	-	-	-	-
Support activities for transportation	488	90	(0.19)	30	(0.06)	340	(0.71)
Couriers and messengers	492	150	(0.35)	90	(0.21)	2,100	(4.88)
Warehousing and storage	493	200	(0.42)	160	(0.34)	380	(0.80)
Total for Transportation and Warehousing†	48, 49	1,010	(0.27)	420	(0.11)	4,830	(1.27)
Utilities	22	80	(0.14)	40	(0.07)	110	(0.20)

† Data for railroad transportation were provided to BLS by the Federal Railroad Administration of the US Department of Transportation, therefore estimates for this industry are not comparable to estimates in other industries; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#). The highest two values for sectors or subsectors are in bold font

Table TR9. Transportation, warehousing, and utilities industries (5- and 6-digit NAICS codes) with the highest incidence rates of occupational carpal tunnel syndrome involving days away from work, 2003

Transportation, warehousing, and utilities industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Specialized freight (except used goods) trucking, long-distance	48423	101,900	1.13	130
General warehousing and storage	49311	431,300	0.44	170
Refrigerated warehousing and storage	49312	41,900	0.42	20

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rates of occupational carpal tunnel syndrome involving days away from work for the transportation and warehousing sectors and the entire U.S. workforce were 0.27 and 0.25 cases/1000 full-time workers/year, respectively.

Table TR10. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational illnesses by transportation, warehousing, and utilities subsectors, 2003

Transportation, warehousing, and utilities subsector	NAICS code	Skin diseases and disorders	Respiratory conditions	Poisonings	All other illnesses
Air transportation	481	100 (0.21)	100 (0.33)	<50 (0.09)	2,800 (6.47)
Rail transportation*	482	<15	<15	<15	100 (0.29)
Water transportation	483	<15	<15	<15	<50 (.054)
Truck transportation	484	-	200 (0.14)	100 (0.08)	1,100 (0.81)
Transit and ground passenger transportation	485	<50 (0.12)	200 (0.54)	<15	200 (0.82)
Pipeline transportation	486	<15	<15	<15	200 (3.90)
Scenic and sightseeing transportation	487	<15	<15	<15	<15
Support activities for transportation	488	200 (0.46)	100 (0.19)	<50 (0.04)	1,200 (2.47)
Couriers and messengers	492	100 (0.15)	100 (0.21)	<50 (0.09)	2,500 (5.85)
Warehousing and storage	493	300 (0.57)	100 (0.31)	<15	-
Total for Transportation and Warehousing*	48, 49	-	800 (0.22)	200 (0.06)	10,500 (2.76)
Utilities	22	400 (0.74)	100 (0.22)	<50 (0.04)	1,800 (3.17)

* Data for railroad transportation were provided to BLS by the Federal Railroad Administration of the US Department of Transportation, therefore estimates for this industry are not comparable to estimates in other industries; numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); highest two values are in bold font.

Table TR11. Transportation, warehousing, and utilities industries (5- and 6-digit NAICS codes) with the highest incidence rates of nonfatal occupational skin diseases and disorders, 2003

Transportation, warehousing, and utilities industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Water sewage and other systems	2213	47,000	2.03	100
Support activities for water transportation	4883	92,700	1.24	100
Specialized freight (except used goods) trucking, long-distance	48423	101,900	1.10	100

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rate of nonfatal occupational skin diseases and disorders, regardless whether workdays were lost, for the entire U.S. workforce was 0.49 cases/1000 full-time workers/year.

Table TR12. Transportation, warehousing, and utilities industry groups and industries (4-, 5-, and 6-digit NAICS codes) with the highest incidence rates of nonfatal occupational respiratory conditions, 2003

Transportation, warehousing, and utilities industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Urban transit system	4851	36,800	2.83	100
Water supply and irrigation systems	22131	36,500	1.33	<50
Motor vehicle towing	48841	44,100	0.55	<50

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rates of nonfatal occupational respiratory conditions, regardless whether workdays were lost, for the transportation and warehousing sectors and the entire U.S. workforce were 0.22 and 0.22 cases/1000 full-time workers/year, respectively.

Appendix

Notes on Limitations and Interpretations

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003), are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or weather characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are used for planning and priority setting, we suggest

that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Appendix 8. Surveillance Summary for Wholesale and Retail Trade

Wholesale and Retail Trade Sectors Fatal and Non-Fatal Injury and Illness Surveillance Information

The following summary of fatality, injury, and illness rates in the Wholesale and Retail Trade sectors is provided in order to help identify the most important safety and health problems in this sector. The North American Industry Classification System (NAICS), which was used to designate the NORA sectors, was also used by the Bureau of Labor Statistics (BLS) during the collection of their 2003 data. NAICS codes all economic activities using a six-digit hierarchical coding system with industry sectors, subsectors, industry groups, NAICS international industries, and National industries coded with 2, 3, 4, 5, and 6 digits, respectively.

The following sector-based summary is derived from 2003 BLS Census of Fatal Occupational Injuries (CFOI), and the annual Survey of Occupational Injury and Illness (SOII) (BLS, 2005a; BLS, 2005b). BLS non-fatal injury and illness data are based on a survey of 183,700 (of an estimated 7 million) US business establishments and do not include the self-employed, farms with fewer than 11 employees, private households, and governmental agencies. Where possible, references are made to specific BLS tables. In order to encourage internal comparisons, we have converted BLS rates, which are expressed as cases/100 full-time workers/year and cases/10,000 full-time workers/year, to cases/1,000 full-time workers/year.

As with the original BLS tables, the rates reported in our tables cannot be directly calculated from the numbers of cases and numbers of workers provided in our tables. This is because BLS makes post-sampling adjustments of their data and they use the equivalent of full-time workers (not workers) in their rate denominators (BLS, 1997). Using denominators based on person-time rather than numbers of workers results in rates that provide more accurate estimates of actual risk. Full-time workers are defined as working 40 hours per week for 50 weeks. Denominators for non-fatal injury and illness rates are calculated based on work hours data BLS receives from reporting establishments. Denominators for fatal injury rates come from the Current Population Survey.

According to the BLS-Quarterly Census of Employment and Wages (QCEW) program there were 20,519,800 workers in the wholesale and retail trade sectors in 2003 ([Table T1](#)). Workers in wholesale trade and retail trade comprised 27% and 73% of the workforce for the combined trade sectors, respectively.

Table T1. Annual employment numbers by wholesale and retail grade subsectors, for 2003

Wholesale and retail trade subsector	NAICS code	Number of workers
Merchant wholesalers, durable goods	423	2,929,200
Merchant wholesalers, nondurable goods	424	1,998,400
Wholesale electronic markets and agents and brokers	425	661,400
Total for wholesale trade sector	42	5,589,000
Motor vehicle and parts dealers	441	1,878,800
Furniture and home furnishings	442	547,700
Electronics and appliance stores	443	517,600
Building material and garden equipment and supplies dealers	444	1,190,600
Food and beverage stores	445	2,842,400
Health and personal care stores	446	935,800
Gasoline stations	447	879,200
Clothing and clothing accessories stores	448	1,309,200
Sporting goods, hobby, book, and music stores	451	655,300
General merchandise stores	452	2,813,400
Miscellaneous store retailers	453	937,500
Nonstore retailers	454	423,400
Total for retail trade sectors	44, 45	14,930,800

Numbers were obtained from [2003 BLS Table SNR10](#); numbers of workers were rounded off to the nearest 100 workers and are derived primarily from the BLS-Quarterly Census of Employment and Wages (QCEW) program. These worker numbers differ from full-time worker numbers (see discussion in introduction). QCEW captures only those workers covered by unemployment.

BLS [2005a]. Census of fatal occupational injuries (CFOI) – current and revised data. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/oshcfoi1.htm]

BLS [2005b]. Nonfatal (OSHA recordable) injuries and illnesses. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, Safety and Health Statistics Program. [www.bls.gov/iif/home.htm]

BLS [1997]. BLS handbook of methods. Chapter 9. Occupational safety and health statistics. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. [www.bls.gov/opub/hom/pdf/homch9.pdf]

Table T2. Comparison of incidence rates (cases/1000 full-time workers/year) of occupational fatalities, injuries, and illnesses for the wholesale and retail trade sectors and the U.S. workforce, 2003

Health outcome	Incidence rate (and incidence rate ratio) for the wholesale trade sector	Incidence rate (and incidence rate ratio) for the retail trade sectors	Incidence rate for the U.S. workforce	Comment (pertains to the wholesale and retail trade sectors)	Table reference
Fatal occupational injuries	0.03* (0.8)		0.04†	Most fatal occupational injuries were due to assaults and violent acts and transportation accidents.	T3
Traumatic nonfatal occupational injuries involving days away from work	13.97 (1.0)	14.43 (1.0)	13.79	49% of these cases were due to trauma to muscles, tendons, ligaments, and joints for both the Wholesale Trade and Retail Trade sectors.	Special Request
Occupational back pain (without a medical diagnosis) involving days away from work	0.52 (1.2)	0.41 (1.0)	0.43	This incidence rate was highest in Nondurable Goods Merchant Wholesalers (NAICS 424) within Wholesale Trade; and in General Merchandise Stores (NAICS 452) within Retail Trade.	T8
Occupational hernia involving days away from work	0.36 (1.4)	0.31 (1.2)	0.26	This includes inguinal and ventral hernias.	Special Request
Total nonfatal occupational injuries	45 (1.0)	51 (1.1)	47	These rates were 3.2- and 3.5-fold larger than the incidence rates of traumatic injuries involving days away from work for the Wholesale Trade and Retail Trade sectors, respectively.	T5 and Special Request

Table T2. (Continued)

Health outcome	Incidence rate (and incidence rate ratio) for the wholesale trade sector	Incidence rate (and incidence rate ratio) for the retail trade sector	Incidence rate for the U.S. workforce	Comment (pertains to the wholesale and retail trade sectors)	Table reference
Occupational musculoskeletal system and connective tissues diseases and disorders cases involving days away from work	0.16 (0.7)	0.19 (0.9)	0.22	35% and 73% of these cases were diagnosed with tendonitis in the Wholesale and Retail trade sectors, respectively.	Special Request
Occupational carpal tunnel syndrome cases involving days away from work	0.19 (0.8)	0.22 (0.9)	0.25		Special Request
Nonfatal occupational skin diseases and disorders	0.31 (0.6)	0.31 (0.6)	0.49	This incidence rate was highest in Nondurable Goods Merchant Wholesalers (NAICS 424) within Wholesale Trade; and in Building Material and Garden Equipment and Supplies Dealers (NAICS 444) within Retail Trade.	T12
Nonfatal occupational respiratory conditions	0.14 (0.6)	0.10 (0.5)	0.22	This incidence rate was highest in Durable Goods Merchant Wholesalers (NAICS 423) within Wholesale Trade; and in General Merchandise Stores (NAICS 452) within Retail Trade.	T12

Table T2. (Continued)

Health outcome	Incidence rate (and incidence rate ratio) for the wholesale trade sector	Incidence rate (and incidence rate ratio) for the retail trade sector	Incidence rate for the U.S. workforce	Comment (pertains to the wholesale and retail trade sectors)	Table reference
Nonfatal occupational poisonings	0.03 (0.8)	0.05 (1.3)	0.04	This rate was highest in Building Material and Garden Equipment and Supplies Dealers (NAICS 444).	T12
All other nonfatal occupational illnesses	1.01 (0.4)	1.21 (0.5)	2.32	This rate was highest in Nonstore Retailers (NAICS 454).	T12

* Fatality data are from BLS Census of Fatal Occupational Injuries (CFOI) special research file. Data exclude information for New York City and are preliminary. Employment data are from BLS Current Population Survey monthly microdata files. Fatality totals include all workers regardless of age. Workers under the age of 16 and active duty military were not included in the rate calculations to maintain consistency with the employment data. Rates were calculated by NIOSH and may differ from previously published BLS CFOI rates.

† Fatality data are from the BLS Occupational and Safety and Health (OSH)/Census of Fatal Occupational Injuries (CFOI) 2003 Profiles and Charts. Employment data for 2003 are based on estimates derived from BLS Current Population Survey (CPS) monthly microdata files.

Fatal occupational injuries

Assaults and violent acts accounted for 41% of fatal occupational injuries in the Wholesale and Retail Trade sectors (85% of these were due to homicides). Transportation accidents accounted for 32% of fatal occupational injuries in the Wholesale and Retail Trade sectors (79% of these involved highway accidents) ([Table T3](#)).

Nonfatal occupational injuries involving days away from work

Within the Wholesale and Retail Trade sectors, sprains and strains were the most frequent nonfatal injury type involving days away from work with incidence rates of 6.78 and 6.97 cases/1000 full-time workers/year, respectively ([Table T4](#)). Building Material and Garden Equipment and Supplies Dealers (NAICS 444), Nondurable Goods Merchant Wholesalers (NAICS 424), and Food and Beverage Stores (NAICS 445) subsectors had the highest incidence rates of sprains and strains.

The incidence rate of amputations involving days away from work were 0.12 and 0.03 cases/1000 full-time workers/year for the Wholesale Trade and Retail Trade sectors, respectively ([Table T4](#)). Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233) had an amputation incidence rate of 1.03 cases/1000 full-time workers/year, which was more than 8 times larger than the Wholesale Trade sector average ([Table T7](#)).

Total nonfatal occupational injuries

General Merchandise Stores (NAICS 452), Food and Beverage Stores (NAICS 445), and Building Material and Garden Equipment and Supplies Dealers (NAICS 444) had the highest rates of total nonfatal occupational injuries, ranging from 62 to 69 cases/1000 full-time workers/year ([Table T5](#)). The Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers (NAICS 4248) industry group had an incidence rate of total nonfatal occupational injuries of 107 cases/1000 full-time workers/year, which was more than two times higher than the Wholesale Trade sector average. ([Table T6A](#)).

Within the Wholesale and Retail Trade sectors the incidence rates of traumatic occupational injuries involving days away from work were 13.97 and 14.43 cases/1000 full-time workers/year (Special Request) compared to 45 and 51 cases of total nonfatal occupational injuries/1000 full-time workers/year, respectively ([Table T5](#)). This suggests that the total injury rates were 3.2- and 3.5-fold larger than the injury rate involving days away from work for these sectors, respectively.

Nonfatal occupational illnesses and injuries involving days away from work

Incidence rates of occupational carpal tunnel syndrome and tendonitis involving days away from work incidence rates were, respectively 0.46 and 0.34 cases/1000 full-time workers/year in the Food and Beverage Stores (NAICS 445) subsector ([Table T8](#)). The highest incidence rate of carpal tunnel syndrome was in the Machinery, Equipment, and

Supplies Merchant Wholesalers (NAICS 4238) and Supermarkets and Other Grocery (except convenience) Stores (NAICS 44511), which had incidence rates of 0.63 and 0.56 cases/1000 full-time workers/year ([Table T9](#)). The highest incidence rate of tendonitis was in the Other Specialty Food Stores (NAICS 44529) industry, at 4.61 cases/1000 full-time workers/year, 42 times higher than the Retail Trade average ([Table T10](#)).

The incidence rates of the symptom of back pain (without a medical diagnosis) involving days away from work were 0.52 and 0.41 cases/1000 full-time workers/year for Wholesale Trade and Retail Trade, respectively ([Table T8](#)). The incidence rate for this symptom was highest in Nondurable Goods Merchant Wholesalers (NAICS 424) subsector and in the Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers (NAICS 4248) industry group ([Table T11](#)). For the Wholesale and Retail Trade sectors the incidence rates for hernia involving days away from work were 0.36 and 0.31 cases/1000 full-time workers/year, respectively (Special Request).

Nonfatal occupational illnesses

The incidence rate of nonfatal occupational skin diseases and disorders was 0.31 cases/1000 full-time workers/year in both Wholesale and Retail Trade sectors ([Table T12](#)). This rate was highest in the Nursery and Garden Center (NAICS 44422) industry, which had an incidence rate of 3.40 cases/1000 full-time workers/year ([Table T13](#)).

The incidence rate of nonfatal occupational respiratory conditions was 0.14 and 0.10 cases/1000 full-time workers/year in the Wholesale and Retail Trade sectors, respectively ([Table T12](#)). This rate was highest in the Camera and Photographic Supplies Stores (NAICS 44313) industry, which had an incidence rate of 3.11 cases/1000 full-time workers/year ([Table T14](#)).

The incidence rate of nonfatal occupational poisonings was 0.03 and 0.05 cases/1000 full-time workers/year in the Wholesale and Retail Trade sectors, respectively ([Table T12](#)). This rate was highest in the Outdoor Power Equipment Stores (NAICS 44421) industry, which had a rate of 4.73 cases/1000 full-time workers/year ([BLS Table SNR08](#)).

The incidence rate of all other nonfatal occupational illnesses was 1.01 and 1.21 cases/1000 full-time workers/year in the Wholesale and Retail Trade sectors, respectively ([Table T12](#)). This rate was highest in Electronic Shopping and Mail-Order Houses (NAICS 4541) industry group which had an incidence rate of 6.94 cases/1000 full-time workers/year ([Table T15](#)).

Table T3. Number and percent of fatal occupational injuries in the wholesale and retail trade sectors by event or exposure, 2003

Event or exposure	Number of fatal injuries	Percent of total fatal occupational injuries in the manufacturing sector
Contact with objects and equipment	65	12
Struck by object	37	
Caught in or compressed by equipment or objects	18	
Caught in or crushed in collapsing materials	8	
Falls	39	7
Exposure to harmful substances or environments	23	4
Transportation accidents	174	32
Highway accident	138	
Non-highway accident (farm, industrial premises)	10	
Worker struck by vehicle, mobile equipment	14	
Aircraft accident	6	
Railway	5	
Fires and explosions	12	2
Assaults and violent acts	220	41
Homicides	187	
Suicides, self-inflicted injury	31	
Total	535	

Totals for major categories may include subcategories not shown separately; 2003 data were specially requested from BLS.

Table T4. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries involving days away from work by wholesale and retail trade subsectors, 2003

Wholesale and retail trade subsector	NAICS code	Sprains, strains	Fractures	Cuts, punctures	Bruises	Amputations
Merchant wholesalers, durable goods	423	14,570 (5.19)	2,240 (0.80)	3,710 (1.32)	3,360 (1.20)	540 (0.19)
Merchant wholesalers, nondurable goods	424	18,110 (9.47)	3,160 (1.65)	1,640 (0.86)	3,440 (1.80)	90 (0.05)
Wholesale electronic markets and agents and brokers	425	†	†	†	†	†
Total for wholesale trade sector	42	36,030 (6.78)	5,800 (1.09)	5,660 (1.07)	7,030 (1.32)	660 (0.12)
Motor vehicle and parts dealers	441	10,550 (5.96)	1,980 (1.12)	2,810 (1.59)	1,850 (1.05)	-
Furniture and home furnishings	442	3,980 (8.77)	560 (1.23)	440 (0.97)	740 (1.63)	-
Electronics and appliance stores	443	1,650 (3.74)	200 (0.45)	240 (0.54)	310 (0.70)	-
Building material and garden equipment and supplies dealers	444	10,750 (9.83)	1,830 (1.67)	1,740 (1.59)	2,210 (2.02)	80 (0.07)
Food and beverage stores	445	19,310 (9.33)	2,240 (1.08)	6,840 (3.30)	4,900 (2.37)	130 (0.06)
Health and personal care stores	446	3,030 (4.29)	350 (0.50)	310 (0.44)	680 (0.96)	-
Gasoline stations	447	4,190 (5.92)	350 (0.49)	930 (1.31)	840 (1.19)	-
Clothing and clothing accessories stores	448	2,650 (2.97)	400 (0.45)	290 (0.32)	980 (1.10)	-
Sporting goods, hobby, book, and music stores	451	1,460 (3.30)	170 (0.38)	260 (0.59)	310 (0.70)	-
General merchandise stores	452	17,260 (8.24)	2,250 (1.07)	2,780 (1.33)	4,760 (2.27)	-
Miscellaneous store retailers	453	4,040 (5.78)	750 (1.07)	530 (0.76)	840 (1.20)	-
Nonstore retailers	454	2,960 (7.92)	390 (1.04)	440 (1.18)	460 (1.23)	40 (0.11)
Total for retail trade sectors	44, 45	81,810 (6.97)	11,470 (0.98)	17,590 (1.50)	18,880 (1.61)	350 (0.03)

† no data was available for this NAICS code; number of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest three values for subsectors are in bold font.

Table T5. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries by wholesale and retail trade subsectors, 2003

Wholesale and retail trade subsector	NAICS code	Total nonfatal occupational injuries	
Merchant wholesalers, durable goods	423	117,900	(42)
Merchant wholesalers, nondurable goods	424	105,400	(55)
Wholesale electronic markets and agents and brokers	425	16,400	(28)
Total for wholesale trade sector	42	239,700	(45)
Motor vehicle and parts dealers	441	88,000	(50)
Furniture and home furnishings	442	23,600	(52)
Electronics and appliance stores	443	14,200	(32)
Building material and garden equipment and supplies dealers	444	68,000	(62)
Food and beverage stores	445	136,300	(66)
Health and personal care stores	446	17,700	(25)
Gasoline stations	447	25,600	(36)
Clothing and clothing accessories stores	448	24,100	(27)
Sporting goods, hobby, book, and music stores	451	15,400	(35)
General merchandise stores	452	144,400	(69)
Miscellaneous store retailers	453	24,600	(35)
Nonstore retailers	454	19,300	(52)
Total for retail trade sectors	44, 45	601,200	(51)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Table [SNR05](#); highest three values for subsectors are in bold font.

Table T6A. Wholesale and retail trade industry groups and industries (4-, 5-, and 6-digit NAICS codes) with the highest nonfatal occupational injury incidence rates, 2003

Wholesale and retail trade industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Beer, wine, and distilled alcoholic beverage merchant wholesalers	4248	135,100	107	14,400
Warehouse clubs and superstores	45291	891,400	75	55,600
Grocery and related product merchant wholesalers	4244	677,300	74	50,200

Number of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Table [SNR05](#); the incidence rate of nonfatal occupational injuries, regardless whether workdays were lost, for the entire U.S. workforce was 47 cases/1000 full-time workers/year.

Table T6B. Wholesale and retail trade industry groups (4-digit NAICS codes) with the highest number of nonfatal occupational injuries, 2003

Wholesale and retail trade industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Grocery stores	4451	2,454,900	69	122,200
Department stores	4521	1,610,500	69	78,000
Building material and supplies dealers	4441	1,041,600	63	60,900

Number of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Table [SNR05](#); the incidence rate of nonfatal occupational injuries, regardless whether workdays were lost, for the entire U.S. workforce was 47 cases/1000 full-time workers/year.

Table T7. Wholesale and retail trade industry groups and industries (4-, 5-, and 6-digit NAICS codes) with the highest nonfatal occupational amputation incidence rates involving days away from work, 2003

Wholesale and retail trade industry group or industry	NAICS Code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Lumber and other construction materials merchant wholesalers	4233	228,400	1.03	230
Other direct selling establishments	45439	54,000	0.41	20
Machinery, equipment, and supplies merchant wholesalers	4238	645,300	0.29	180

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rate of nonfatal occupational amputations involving days away from work for the entire U.S. workforce was 0.09 cases/1000 full-time workers/year.

Table T8. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational injuries and illnesses involving days away from work by wholesale and retail trade subsector, 2003

Wholesale and retail trade subsector	NAICS code	Carpal tunnel syndrome	Tendonitis	Back pain (without a medical diagnosis)
Merchant wholesalers, durable goods	423	640 (0.23)	100 (0.04)	940 (0.33)
Merchant wholesalers, nondurable goods	424	310 (0.16)	160 (0.08)	1,440 (0.75)
Wholesale electronic markets and agents and brokers	425	†	†	†
Total for wholesale trade sector	42	1,020 (0.19)	290 (0.05)	2,780 (0.52)
Motor vehicle and parts dealers	441	220 (0.12)	100 (0.06)	1,010 (0.57)
Furniture and home furnishings	442	90 (0.20)	-	170 (0.37)
Electronics and appliance stores	443	-	-	110 (0.25)
Building material and garden equipment and supplies dealers	444	240 (0.22)	-	230 (0.21)
Food and beverage stores	445	950 (0.46)	700 (0.34)	770 (0.37)
Health and personal care stores	446	130 (0.18)	-	50 (0.07)
Gasoline stations	447	-	-	200 (0.28)
Clothing and clothing accessories stores	448	70 (0.08)	-	180 (0.20)
Sporting goods, hobby, book, and music stores	451	20 (0.05)	30 (0.07)	130 (0.29)
General merchandise stores	452	590 (0.28)	240 (0.11)	1,490 (0.71)
Miscellaneous store retailers	453	-	-	260 (0.37)
Nonstore retailers	454	110 (0.29)	90 (0.24)	230 (0.62)
Total for retail trade sectors	44, 45	2,550 (0.22)	1,330 (0.11)	4,850 (0.41)

† no data was available for this NAICS code; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [R1](#) and [R5](#); highest three values for subsectors are in bold font.

Table T9. Wholesale and retail trade industry groups and industries (4-, 5-, and 6-digit NAICS codes) with the highest incidence rates of occupational carpal tunnel syndrome involving days away from work, 2003

Wholesale and retail trade industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Machinery, equipment, and supplies merchant wholesalers	4238	645,300	0.63	390
Supermarkets and other grocery (except convenience) stores	44511	2,309,500	0.56	930
Electronic shopping and mail-order houses	4541	214,700	0.44	80

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rate of occupational carpal tunnel syndrome for the entire U.S. workforce was 0.25 cases/1000 full-time workers/year.

Table T10. Wholesale and retail trade industries (4-, 5-, and 6-digit NAICS codes) with the highest incidence rates of occupational tendonitis involving days away from work, 2003

Wholesale and retail trade industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Other specialty food stores	44529	137,800	4.61	510
Electronic shopping and mail-order houses	4541	214,700	0.38	70
Department stores	4521	1,610,500	0.14	160

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R1](#), and [R5](#); the incidence rate of occupational tendonitis involving days away from work for the entire U.S. workforce was 0.09 cases/1000 full-time workers/year.

Table T11. Wholesale and retail trade industries (4-, 5-, and 6-digit NAICS codes) with the highest incidence rates of occupational back pain (without a medical diagnosis) involving days away from work, 2003

Wholesale and retail trade industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Beer, wine, and distilled alcoholic beverage merchant wholesalers	4248	135,100	1.56	2,100
Other motor vehicle dealers	4412	149,400	1.24	1,700
Grocery and related product merchant wholesalers	4244	677,300	1.19	8,100

Numbers of workers were rounded to the nearest 100 workers; numbers of cases were rounded to the nearest 10 workers; numbers were extracted from 2003 BLS Tables [SNR10](#), [R5](#), and [R1](#); the incidence rate of occupational back pain (without a medical diagnosis) involving days away from work for the entire U.S. workforce was 0.43 cases/1000 full-time workers/year.

Table T12. Number (and incidence rates in cases/1000 full-time workers/year) of nonfatal occupational illnesses by wholesale and retail trade subsector, 2003

Wholesale and retail trade subsector	NAICS code	Skin diseases and disorders	Respiratory conditions	Poisonings	All other illnesses
Merchant wholesalers, durable goods	423	800 (0.27)	400 (0.16)	100 (0.05)	2,400 (0.84)
Merchant wholesalers, nondurable goods	424	800 (0.44)	200 (0.13)	<50 (0.02)	2,400 (1.23)
Wholesale electronic markets and agents and brokers	425	100 (0.09)	100 (0.09)	<15	600 (1.06)
Total for wholesale trade sector	42	1,700 (0.31)	700 (0.14)	200 (0.03)	5,300 (1.01)
Motor vehicle and parts dealers	441	600 (0.35)	<50 (0.02)	200 (0.09)	1,900 (1.09)
Furniture and home furnishings	442	100 (0.25)	<15	<50 (0.03)	100 (0.22)
Electronics and appliance stores	443	100 (0.19)	100 (0.13)	<15	200 (0.35)
Building material and garden equipment and supplies dealers	444	700 (0.62)	100 (0.12)	200 (0.16)	800 (0.70)
Food and beverage stores	445	500 (0.24)	200 (0.11)	<50 (0.02)	3,600 (1.72)
Health and personal care stores	446	100 (0.10)	<50 (0.05)	<15	400 (0.61)
Gasoline stations	447	200 (0.29)	<15	<50 (0.06)	200 (0.30)
Clothing and clothing accessories stores	448	100 (0.14)	100 (0.14)	<15	300 (0.32)
Sporting goods, hobby, book, and music stores	451	<50 (0.06)	<15	<15	300 (0.79)
General merchandise stores	452	1,000 (0.48)	400 (0.19)	100 (0.06)	4,700 (2.23)
Miscellaneous store retailers	453	100 (0.13)	100 (0.09)	100 (0.08)	400 (0.52)
Nonstore retailers	454	100 (0.36)	100 (0.16)	<15	1,400 (3.69)
Total for retail trade sectors	44, 45	3,700 (0.31)	1,200 (0.10)	600 (0.05)	14,200 (1.21)

Numbers of cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR10](#) and [SNR08](#); highest three values for subsectors are in bold font.

Table T13. Wholesale and retail trade industry groups and industries (4-, 5-, and 6-digit NAICS codes) with the highest incidence rates of nonfatal occupational skin diseases and disorders, 2003

Wholesale and retail trade industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Nursery and garden centers	44422	118,000	3.40	300
Chemical and allied product merchant wholesalers	4246	130,100	3.02	400
Used car dealers	44112	114,900	1.29	100

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rate of nonfatal occupational skin diseases and disorders, regardless whether workdays were lost, for the entire U.S. workforce was 0.49 cases/1000 full-time workers/year.

Table T14. Wholesale and retail trade industry groups and industries (4-, 5-, and 6-digit NAICS codes) with the highest incidence rates of nonfatal occupational respiratory conditions, 2003

Wholesale and retail trade industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Camera and photographic supplies stores	44313	20,000	3.11	<50
Men's clothing stores	44811	74,600	1.09	100
Chemical and allied products merchant wholesalers	4246	130,100	0.74	100

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rate of nonfatal occupational respiratory conditions,

regardless whether workdays were lost, for the entire U.S. workforce was 0.22 cases/1000 full-time workers/year.

Table T15. Wholesale and retail trade industry groups and industries (4-, 5-, and 6-digit NAICS codes) with the highest incidence rates of all other nonfatal occupational illnesses, 2003

Wholesale and retail trade industry group or industry	NAICS code	Number of workers	Incidence rate (cases/1000 full-time workers/year)	Number of cases
Electronic shopping and mail-order houses	4541	214,700	6.94	1,300
Warehouse clubs and superstores	45291	891,400	2.85	2,100
Tire dealers	44132	156,900	2.80	400

Numbers of workers and cases were rounded to the nearest 100 workers; numbers were extracted from 2003 BLS Tables [SNR08](#) and [SNR10](#); the incidence rate of all other nonfatal occupational illnesses, regardless whether workdays were lost, for the entire U.S. workforce was 2.32 cases/1000 full-time workers/year.

Appendix

Notes on Limitations and Interpretation

One of the limitations of occupational safety and health surveillance data is the underreporting of illnesses, which occurs because: 1) some diseases (e.g., cancer and pneumoconiosis) have long latency periods so that reporting mechanisms, such as OSHA logs, as used by BLS, fail to capture many of these events; 2) many diseases have multiple potential causes (e.g., asthma and cardiovascular diseases); and 3) workers and physicians do not recognize an occupational contribution.

BLS data sources do not allow: characterization of occupationally-related illnesses, if these illnesses are not skin diseases and disorders, respiratory conditions, or poisonings; or quantification of fatalities due to occupationally-related illnesses. Other sources have suggested that the occupational illness fatalities in the US workforce outnumber occupational injury fatalities by about 8:1. For example, using 1997 disease fatality numbers, it was estimated that occupationally-related illness and injury deaths numbered, respectively, 25,910-72,121 (Steenland et al., 2003) and 6,238 (BLS). Estimates of 1997 occupationally-related illness deaths by disease category are as follows: 6,805-26,685 for non-malignant respiratory disease; 12,086-26,244 for occupationally-related cancer deaths; 6,037-18,253 for occupationally-related coronary heart disease; and 328-580 for occupationally-related renal disease (Steenland et al., 2003). Sector-based occupationally-related illness fatality data are not provided in this surveillance data summary.

Other limitations of the data include the following. (1) Only BLS data for a single year (2003) are presented. However, data for a single year may not be representative of the long-term experience and health impacts of a sector due to economic, political, technological, or climatic characteristics of that year. (2) Many of the rates are based on small denominators, so that a few additional or a few less cases in the numerator might cause a large fluctuation in the magnitude of the rate estimate. Therefore, what may be quantified as large differences in risk may simply be the result of the “random” occurrence of a few cases. (3) Rates are not adjusted for any potential confounders, the most important of which may be age. Research has shown that younger workers may be at increased risk of injury due to a variety of factors including experience and training. Older workers may be more susceptible to certain occupational illnesses because of pre-existing medical conditions. Therefore what is perceived as a true difference in risk based upon crude rates between two groups may simply be the result of differences in their age distributions. (4) Differences among rates for subsectors and industries of the sector are not tested for statistical significance. Without statistical testing, one cannot conclude that rates are really any different than some of the other rates in the sector.

Discussion of the data focuses on rates, although many of the tables also provide data on the number of workers affected. A subsector or industry which has the highest rate of injuries or illnesses within the sector may have few total workers. Implementing prevention strategies within another subsector or industry within the sector with a high rate of injuries or illnesses and a larger number of workers, may result in a much larger public health impact. If these data are

used for planning and priority setting, we suggest that the number of adverse health outcomes and the number of workers potentially impacted be considered concurrently to identify worker groups towards which research should be directed.

Steenland K, Burnett C, Lalich N, Ward E, Hurrell J [2003]. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. *Am J Ind Med* 43:461-482.

Appendix 9. Attachment to submission E-51

(See next page)

**Nurses and Teachers:
Worker health, worker concerns
February 2006**



**A report for the Human Ecology Action League, Inc. (HEAL)
by Louise Kosta,
Chief Writer, The Human Ecologist**

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DATE: March 1, 2006

TO: John Howard, M.D.
Director, National Institute for Occupational Safety and Health

FROM: Muriel Dando, President
Human Ecology Action League, Inc. (HEAL)

RE: National Occupational Research Agenda (NORA)

Thank you for the opportunity to contribute to the National Occupational Research Agenda.

We urgently recommend that NORA undertake research to investigate work-related asthma in nurses and teachers, to identify workplace exposures related to asthma in nurses and teachers, and to recommend ways to reduce or eliminate these exposures.

Nurses and teachers are of critical importance to the nation, as they are entrusted with the well being of our most vulnerable citizens — the sick, and children. The Department of Labor anticipates a dramatic increase in demand for workers in both professions in the near future, yet current data indicate that worker turnover is high in both professions. We believe that work-related asthma may be playing a role in worker turnover in nurses and teachers, and that preventing workplace asthma exacerbations could help increase worker retention and productivity in both fields.

Our concern about the workplace health of nurses and teachers arises from the purpose and goals of the Human Ecology Action League, Inc. (HEAL). HEAL is a national nonprofit education and information organization concerned about the health effects of environmental exposures, particularly low-level exposures common in daily life and in many workplaces. One of the oldest environment and health organizations in the country, HEAL is an independent organization, funded solely by membership fees and donations. While HEAL has a primary responsibility to serve its own members, it also has an important responsibility to educate and inform the general public.

We have received reports from nurses and teachers about workplace conditions that they believe are harmful to their respiratory health. As the attached report illustrates, this perception is widespread in both professions. We believe that there is enough evidence to warrant a vigorous and extensive research effort to uncover the extent and nature of the problem of work-related asthma in nurses and teachers, to identify contributing factors that undermine respiratory health in these workers, and to recommend effective means of mitigating or eliminating these factors.

We hope that you will consider including this issue in the NORA agenda.

TABLE OF CONTENTS

Introduction	1
Respiratory health in nurses and teachers: scope of the problem	1
Work-related asthma and exposures	2
Occupational health and nursing	2
Occupational health and teaching	3
HEAL member survey responses	
explicate exposure-related problems in the workplace	6
A model intervention to improve worker health:	9
The Fragrance Controlled Workplace Policy at Brigham and Women's Hospital, Boston, Massachusetts	
Asthma and exposures —	
the same chemicals in different media can boost total exposure loads	12
Recommendations	14

Introduction

Nurses and teachers suffer from very high rates of asthma. This much is clear. That some of their asthma is work-related is also clear, though it is not known to what extent workplace exposures cause asthma in these workers. It is widely recognized that, regardless of what initially caused their asthma, workers with established asthma require good asthma management, including workplace exposure management, to remain healthy and productive. When workers are unable to work in their professions, society does not benefit from their training and skills, and the economy does not benefit from their full participation. Nurse and teacher workplace health should be of great concern to NORA, because of the high demand for these professionals in the current labor market, and the surge in demand for these workers that is anticipated by labor experts.

Identification of troublesome exposures — those that incite asthmatic responses — and mitigation or elimination of such exposures, play an important role in good asthma management, and are prudent practices in ensuring workplace health. Identification of exposures troublesome to nurses and teachers has been slow, but there is evidence these two groups of workers share similar concerns about similar workplace exposures. These exposures need to be investigated, and mitigation and elimination methods developed and implemented. Some of these same exposures are troublesome to people who report adverse health effects from low-level chemical exposures; these individuals report many exposure-related activity limitations and related adverse impacts on work. All of these workers need to be heard, understood, and helped. NORA has a vital role to play in this effort.

Respiratory health in nurses and teachers, scope of the problem.

The Bureau of Labor Statistics *Occupational Outlook Handbook 2005-2006* reports that in 2004, there were 2.4 million registered nurses in the U.S., and growth in demand for R.N.s was expected to grow rapidly, a projected 27 percent or more by 2014.¹ Teachers K-12 (not including special education teachers) numbered 3.8 million in 2004, and job opportunities were expected to grow in this sector by 9 percent to 17 percent by 2014.²

¹ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2006-07 Edition*, Registered Nurses, <http://www.bls.gov/oco/ocos083.htm>

² Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2006-07 Edition*, Teachers — Preschool, Kindergarten, Elementary, Middle, and Secondary, on the Internet at <http://www.bls.gov/oco/ocos069.htm>

However, both occupations are also currently plagued with work-related health problems. The Bureau of Labor Statistics reported that in 2004, healthcare and social assistance workers experienced 18.4 percent of all the non-fatal occupational illnesses reported, and education service workers accounted for 0.7 percent.³

Workers in both healthcare and in education settings have well-documented elevated rates of one exposure-related illness — asthma. Some data sources used in this report suggest or indicate that the asthma cases under discussion are caused by work conditions; other sources differentiate between asthma caused by work, and asthma exacerbated by work. *Regardless of the cause*, once asthma is present, it must be managed appropriately in the workplace, for the health and productivity of the worker. There is mounting evidence that nursing and teaching workplaces are failing in this regard.

A survey of asthma prevalence in U.S. industry found that while the overall prevalence of asthma in the U.S. is 6.5 percent, the prevalence of asthma among male workers in healthcare settings is 8.5 percent — and among female workers it is 10.1 percent.

Asthma prevalence among male workers in education settings (K-12 and college) is 6.0 percent — and among females it is 9.5 percent (compared with 6.5 percent in industry overall).⁴ In a recent analysis of SENSOR data, education services workers accounted for 9 percent of all SENSOR-recorded occupational asthma cases between 1993 and 2000. Nearly 70 percent of these asthma cases were new-onset, 31 percent were work-aggravated, and 8 percent were RADS. The study's authors note: "The number of WRA cases among teachers and reported from elementary and secondary schools indicate that asthma in educational settings is an occupational health problem. Workers in this industry are primarily public sector employees, and in half of the states Occupational Safety and Health Administration (OSHA) provisions do not apply."⁵

Work-related asthma and exposures

The NIOSH *Worker Health Chartbook 2004* (all workers) indicates significant associations between work-related asthma (WRA) and exposures: "During 1993 –1999, the largest proportion of WRA cases was associated with miscellaneous chemicals (19.7%). This category of agents includes many exposures that are not easily classified (for example, perfumes, odors, and glues)." Other exposures associated with work-related asthma reported in the NIOSH *Chartbook* were indoor air pollutants (9.9 percent), cleaning materials (11.6 percent), solvents not otherwise specified (8.2 percent) and polymers (5.3 percent).⁶

As noted above, regardless of the cause, once asthma is present, it must be managed appropriately in the workplace, for the health and productivity of the worker. Identification of troublesome exposures — those that incite asthmatic responses — and mitigation or elimination

³ U.S. Department of Labor, Workplace Injuries and Illnesses in 2004. USDL 05-2195. November 2005. <http://www.bls.gov/news.release/osh.nr0.htm>

⁴ Bang, K.M. et al., Prevalence of asthma by industry in the US population: a study of 2001 NHIS data. *American Journal of Industrial Medicine* 47: 500-508. June 2005

⁵ Mazurek, J.M. et al. Work-related asthma in the educational services industry-California, Massachusetts, Michigan, and New Jersey, 1993-2000. American Public Health Association, 133rd Annual Meeting & Exposition, Philadelphia, Pennsylvania. December 10-14, 2005.

⁶ NIOSH, Chapter 2. Fatal and Nonfatal Injuries, and Selected Illnesses and Conditions. *Worker Health Chartbook 2004*. Publication No. 2004-146. <http://www.cdc.gov/niosh/docs/chartbook/>

of such sources, are part of good practice in asthma management, and prudent practice in workplace health.⁷ The exposures listed in the *Chartbook* as associated with work-related asthma are strikingly similar to those about which nurses and teachers have expressed concern.

Occupational health and nursing

“Hospitals have led the list of industries reporting 100,000 or more cases [of occupational illnesses] for the past two years. The rate of illnesses experienced by workers in the hospital industry was 72.9 cases per 10,000 full-time workers, compared to 27.9 cases for private industry as a whole,” according to the Bureau of Labor Statistics.⁸

Research on nurses’ occupational health has focused on *task*-related exposures (latex, glutaraldehyde, needle sticks, lifting) but has been scant in focus on other *workplace*-related exposures. In 2001, the American Nurses Association conducted an online health and safety survey, which gathered nearly 5000 responses in about a month. Over 70 percent of respondents had been nurses for 10 years or more, and more than half worked in acute care hospitals. Nearly 80 percent reported that they do not feel entirely safe in their workplaces. Nearly half reported a work-related illness, or illness exacerbation, in the year previous to taking the survey. Over 30 percent reported little information from employer about workplace health hazards, and an additional eight percent reported receiving no hazard information at all from employers. Three-quarters of the respondents indicated that unsafe work conditions interfered with delivery of patient care. Nearly 88 percent said that health and safety considerations influence their decision to remain in the profession.⁹

In March 2005, the Massachusetts Department of Health reported that among Massachusetts workers in healthcare settings, “Cleaning products were the agents most frequently reported by [asthma] cases (74/305, 24%), but the exposures that triggered asthma varied by occupation. Nurses most commonly reported latex, followed by cleaning products then aldehydes (glutaraldehyde and formaldehyde). Office workers in health care settings most often identified miscellaneous chemicals, paints, solvents and glues, followed by cleaning products and new carpet, dust (including renovation), molds, smoke and perfume. Laboratory workers and technicians reported aldehydes (glutaraldehyde and formaldehyde) most often and dental workers reported latex.”¹⁰ The substances identified as problematic are allergens, sensitizers and irritants, all of which have potential to cause or contribute to exacerbations of worker asthma.

The increasing need for additional nurses in the U.S. workforce, plus the high rate of occupational illnesses in nursing professionals, point to the need to make workplace health in healthcare facilities a national health priority. Work-related asthma alone may be having a significant negative current impact on worker productivity, retention and recruitment in both healthcare and education occupations. Unless addressed in a timely fashion, conditions contributing to these high rates of work-related illness could have serious negative impacts in the

⁷ American Thoracic Society, Guidelines for Assessing and Managing Asthma Risk at Work, School, and Recreation. *American Journal of Respiratory and Critical Care Medicine* 169 (7): 873–881. April 1, 2004. <http://ajrccm.atsjournals.org/cgi/content/full/169/7/873>

⁸ U.S. Department of Labor, Workplace Injuries and Illnesses in 2004. USDL 05-2195. November 2005. <http://www.bls.gov/news.release/osh.nr0.htm>

⁹ American Nurses Association, Nursing World.org Health and Safety Survey. September 2001. <http://nursingworld.org/surveys/hssurvey.pdf>

¹⁰ Massachusetts Department of Public Health, *SENSOR Occupational Lung Disease Bulletin*, December 2005.

future. Prevention of workplace illness exacerbations is indicated by both the nature of the substances reported as present in the work environment, and the association between these substances and work-related asthma exacerbations.¹¹

Occupational health and teaching

Education initiatives have been a Bush administration priority: After passage of the No Child Left Behind Act in 2002, the White House announced its program, “A Quality Teacher in Every Classroom,” saying, “This program represents the largest and most comprehensive Federal investment in preparing, training and recruiting teachers and principals. Nearly \$3 billion will be made available to States through formula grants to prepare, train, and recruit high-quality teachers.” The program is authorized under the Elementary and Secondary Education Act as amended by No Child Left Behind: Title II, Part A (P.L.107-110) 2002. About \$44.5 million was appropriated for the Transition to Teaching portion of the program in the FY 2006 budget, along with \$14.7 million for the Troops to Teachers portion.¹²

However, the program contains no funds for ensuring that schools are healthy workplaces. Teacher health is clearly important to teacher retention, and this in turn is clearly necessary to achieve administration education quality goals. However, nationwide, about one in four beginning teachers leaves the profession within four years.¹³ At the end of the 1999-2000 school year, the teacher workforce lost about eight percent of its personnel, including two percent to retirement, and four percent to other occupations. The rate of teacher loss to other occupations was double the rate found at the end of the 1987-88 and 1990-91 school years; losses to retirement were double the rate at the end of the 1987-88 school year.¹⁴ Though an estimated 700,000 teachers will retire by 2010, those losses will account for less than 30 percent of the projected teacher losses during the period 2002-2010; non-retirement reasons are anticipated to outnumber retirement reasons by three to one.¹⁵

Although there is widespread recognition that environmental conditions in schools can affect student health and performance, particularly for those with asthma, data is sparse on teacher work-related health and related concerns. However, a 1999 survey conducted by the U.S. National Center for Education Statistics found that the majority of complaints about unsatisfactory environmental conditions in U.S. public schools were related to ventilation (26 percent nationwide) and indoor air quality (18 percent nationwide). Nationwide, 29 percent of schools reported inadequate ventilation systems.¹⁶

¹¹ American Thoracic Society, Guidelines for Assessing and Managing Asthma Risk at Work, School, and Recreation. *American Journal of Respiratory and Critical Care Medicine* 169 (7): 873–881. April 1, 2004. <http://ajrccm.atsjournals.org/cgi/content/full/169/7/873>

¹² The White House, A quality teacher in every classroom: Preparing, Training and Recruiting High Quality Teachers and Principals. October 11, 2005.

¹³ In Schneider, M. et al., *The Effects of School Facility Quality on Teacher Retention in Urban School Districts*. 2004. Washington D.C.: 21st Century School Fund. <http://www.edfacilities.org/pubs/teacherretention.html>

¹⁴ National Center for Education Statistics, Special Analysis 2005: Mobility in the Teacher Workforce. <http://nces.ed.gov/programs/coe/2005/analysis/sa05.asp>

¹⁵ National Commission on Teaching and America’s Future, Symposium: Unraveling the “Teacher Shortage” Problem: Teacher Retention is the Key. August 2002. http://www.nctaf.org/documents/nctaf/Unraveling_Shortage_Problem.doc

¹⁶ National Center for Education Statistics, *Condition of America’s Public School Facilities: 1999*. <http://nces.ed.gov/surveys/frss/publications/2000032/indes.asp>

In a recent analysis of SENSOR data for work-related asthma 1993-2000, researchers found that the agents most frequently reported as associated with work-related asthma in teachers and teachers' aides were indoor air pollutants (28%), cleaning products (19%), mold (18%), and mineral and inorganic dusts (18%).¹⁷

A 2003 study that surveyed teachers in Chicago and Washington D.C. found that many respondents reported health problems related to the work environment (Chicago over 25 percent; D.C. over 30 percent), with respiratory symptoms predominating. The author of this report notes that the teacher-reported rates of health problems in this study far exceed OSHA reports of such problems (4 percent), but adds that the OSHA figures are derived from *employer* reports. About half the teachers surveyed in this report rated their schools' condition at "C" or lower, and of these, 40 percent were considering changing workplaces, with 30 percent of those contemplating change considering leaving the profession altogether.¹⁸ In a subsequent study of teacher retention in Washington D.C., a study found that good school quality was nearly as important as pay scale in teacher retention.¹⁹

Teacher dissatisfaction with facility quality is also reflected in recent a Canadian survey. Sixty percent of all respondents to this (very small) Canadian online survey about school indoor air quality were teachers, and teachers reported 41 percent of the indoor air concerns expressed in the survey. In all respondents, health problems related to school indoor air quality were reported by 16 percent, and dissatisfaction with ventilation was reported by 24 percent. Health problems reported were "headaches, nausea, asthma, allergies, chronic throat problems, severe sinus infections, respiratory illness, skin rashes, eye infections, watery eyes, cold-like symptoms, drowsiness, and mental confusion."

Problem exposures identified in this survey were poor ventilation; biological contaminants (mold, dust, bacteria); thermal discomfort; "fumes from vehicles; perfume; air fresheners; Volatile Organic Compounds (VOCs) from wallboard, furniture, and building materials; smelly markers; chlorine smell in water; sewer smells; musty stale air; photocopier ink; furnace fumes; cafeteria odours; smoke and gas smells; laundry soap smells on clothing; cleaning product fumes; floor wax;" CO₂; CO; carpet (emissions from new; mold/dust/bacteria from old); asbestos building materials; pesticides; rodent excrement; leaking roofs and foundations.²⁰ Many of these are allergens and irritants having the potential to exacerbate existing respiratory conditions.²¹

¹⁷ Mazurek, J.M. et al. Work-related asthma in the educational services industry-California, Massachusetts, Michigan, and New Jersey, 1993-2000. American Public Health Association, 133rd Annual Meeting & Exposition, Philadelphia, Pennsylvania. December 10-14, 2005

¹⁸ Schneider, M., *Public School Facilities and Teaching: Washington D.C. and Chicago*. 2003. Washington D.C.: 21st Century School Fund.
http://www.21csf.org/csf-home/Documents/Teacher_Survey/SCHOOL_FACS_AND_TEACHING.pdf

¹⁹ Schneider, M. et al., *The Effects of School Facility Quality on Teacher Retention in Urban School Districts*. 2004. Washington D.C.: 21st Century School Fund.
<http://www.edfacilities.org/pubs/teacherretention.html>

²⁰ Indoor Air Quality in Canadian Schools Project, *Indoor Air Quality in Canadian Schools —Final Report*. November 2003. <http://www.ahprc.dal.ca/Final%20Report.pdf>

²¹ American Thoracic Society, Guidelines for Assessing and Managing Asthma Risk at Work, School, and Recreation. *American Journal of Respiratory and Critical Care Medicine* 169 (7): 873–881. April 1, 2004.
<http://ajrccm.atsjournals.org/cgi/content/full/169/7/873>

Two recent Scandinavian studies shed light on some of the exposures present in the school workplace. In one, dust samples obtained from known ‘problem’ schools provoked inflammation in cell cultures to a greater extent than dust from ‘no problem’ schools.²² In the other, long-lasting physiological effects were found in teachers working in a water-damaged school, effects that persisted for years after the schools were renovated.²³

HEAL member survey responses explicate exposure-related problems in the workplace.

²²Allermann, L. et al. Inflammatory potential of dust from schools associated with building related symptoms. *Occupational and Environmental Medicine* 60 (9): E5. September 2003.

<http://oem.bmjournals.com/cgi/content/full/60/9/e5> See also *Proceedings*, Ninth International Conference on Indoor Air Quality and Climate, Monterey, California. 2002. www.chps.net/info/iaq_papers/PaperV.1.pdf The authors note: “[I]nflammation could . . . be considered an integrated effect of the total biological and chemical exposure load from an indoor environment.” They collected dust samples from 20 schools (10 previously identified as having a high number of occupant health complaints (19.6% - 31.9%) and 10 with low numbers of such complaints (4.4% - 11.0%)) and added dust in different concentrations to lung cell cultures. They found a positive correlation between the inflammatory responses of the lung cells to dust obtained from schools with high occupant health complaints, and were able to distinguish high and low occupant complaint buildings by the inflammatory responses provoked by their respective dust samples. Itching eyes, nose congestion, and fatigue were positively correlated with cell inflammation, and prickly sensation of the skin, and headache were borderline correlated with it. A positive index of at least two of five symptoms of the mucous membrane and the skin, and a positive index of at least one symptom from the central nervous system, were positively correlated to inflammation in the lung cell cultures. The authors noted that, while inhalation of the dust itself may not be the culprit in the occupants’ reported health problems, the dust may serve as a characterization of problem materials in the building. The dust may have absorbed these materials, promoting inflammation. Those source materials may constitute the exposures of interest in school occupant health complaints.

²³Rudblad, S., *Nasal mucosal reactivity after long-time exposure to building dampness*. Doctoral dissertation, Karolinska University, October 2004. <http://diss.kib.ki.se/2004/91-974455-5-X/thesis.pdf> Abstract at <http://diss.kib.ki.se/2004/91-974455-5-X/> This investigation involved nasal mucosa reactivity in 28 teachers who had worked for at least five years in a school heavily damaged by moisture. Symptoms persisted in the teachers even after the school had been renovated. Compared with teachers working in a school with no known moisture problems, the teachers in the problem school had a clearly different pattern of reactivity to histamine challenge. The teachers also had a markedly different pattern of reactivity from incoming students without long exposure to the school. Two years after this phase of the study, the teachers were tested again, and again the originally hyper-reactive teachers were more reactive than teachers not exposed to the former problem conditions at the school, though the difference was less than it had been two years previously. Six years after initial testing, the reactive and non-reactive teachers were again tested, and this time the difference between the two groups was negligible. However, the reactive teachers displayed a continued difference in swelling and plasma leakage in nasal mucosa. The researcher concluded, “Consequently, longtime exposure to building dampness may increase the risk for hyper reactivity of the upper air-ways. This acquired hyper reactivity may last for years and decrease only slowly, even after the indoor climate has been properly improved.” An important finding in this study is that the students, who were also tested and followed during the study, did not show any increased reactivity — thus school environmental conditions that may be sufficient to protect student health may fail to fully protect teachers or to restore them to health after building remediation. See also: Rumbled S. et al. Nasal hyperreactivity among teachers in a school with a long history of moisture problems. *Am J Rhinol*, 2001; 15(2): 135-41. Rudblad S. et al. Slowly decreasing mucosal hyperreactivity years after working in a school with moisture problems. *Indoor Air*, 2002; 12(2): 138-44. Rudblad S. et al. Nasal mucosal histamine reactivity among young students and teachers, having no or prolonged exposure to a deteriorated indoor climate. *Allergy*, 2002; 57(11): 1029-35. Rudblad S. et al. Nasal histamine reactivity among adolescents in a remediated moisture-damaged school--a longitudinal study. *Indoor Air* 2004 Oct;14(5):342-50. Rudblad, S. et al. Nasal mucosal histamine reactivity among teachers six years after working in a moisture-damaged school. *Scand J Work Environ Health*. 2005 Feb;31(1):52-8.

For many years, HEAL has been aware that many HEAL members have multiple chemical sensitivities (MCS). In drafting a member survey in 1999, many of the questions included were directed at assessing the impact of MCS on daily activities, including work. The purpose of the survey was to assess the health and well being of the members, their life experiences with healthcare and work, their information needs and interests, and other matters.²⁴

In December 1999, a survey form was published in *The Human Ecologist*, HEAL’s flagship publication. That issue was distributed to all active HEAL members, and the survey form was also distributed to all incoming new members during 2000 (total number about 1700; response rate about 18 percent).²⁵ A noticeable number described themselves as current or former teachers and nurses, and reported difficulties with exposures related to (though not necessarily exclusive to) their work environments. (It was this pattern of response that initiated the research that resulted in this document.)

As the survey forms were returned, articles were published in *The Human Ecologist* on various topics covered by the survey. In December 2001, such an article appeared in the magazine regarding MCS and work, and could be considered a pilot study of MCS and worker health.²⁶ As far as we know, it is the first survey-based description of the impact of MCS on working life. It covered all of the member responses gathered from December 1999 to December 2000, and discussed the survey returns from all of those who answered ‘yes’ to the question, “Do you have MCS?” There were 269 surveys in this sample, age range from 26-86 years. There were 196 respondents of working age (64 and younger). Responses of the working-age group to selected survey items were compared to responses about those same items from the entire sample (269) in the article. Some information from previous articles about the survey results was used in the analysis of responses about work.

Rated on a scale of 1-10, with one being ‘nuisance’ and 10 being ‘life-threatening,’ average reported MCS severity in the entire sample was 6.55. In the working-age group, average reported MCS severity was 6.66, while in the employed sub-group it was 5.68.

In a previous article on the survey results²⁷, MCS had significant impacts on ordinary daily activities (see Table 1.) Many of these activities are also common to many workplaces.

Table 1. Activity levels reported by 8 women with self-reported MCS severity 5. (Workers with MCS self-reported MCS severity 5.68.)

MCS severity 5 “I can...	Read print material	Use a computer	*Attend meetings	Eat at restaurants	Take day trip	Over night trip	Stay hotel/motel
% usually	50.00	75.00	37.50	62.50	75.00	50.00	50.00
% sometimes	50.00	12.50	37.50	37.50	25.00	50.00	25.00
% never	0.00	12.50	12.50	0.00	0.00	0.00	12.50

From Kosta, L. MCS and work. Adapted from HEAL Member survey: MCS and activities. *The Human Ecologist* No. 90, Summer 2001.

*In the original table, this category was called “Attend worship services.” This activity has been interpreted here as the ability to remain for an hour in an enclosed space with a moderate to large group of people.

²⁴ HEAL member survey, *The Human Ecologist* No. 84, Winter 1999.

²⁵ Personal communication, Human Ecology Action League, Inc. (HEAL) 2000.

²⁶ Kosta, L. MCS and work: Data from the HEAL member survey. *The Human Ecologist* No. 92, Winter 2001.

²⁷ HEAL Member survey: MCS and activities. *The Human Ecologist* No. 90, Summer 2001.

The December 2001 article on work and MCS says, “It is plain that, even for those moderately affected by MCS, the ability to engage in activities common to many workplaces and essential for some jobs, can be severely restricted. Some workers must read and handle large quantities of print materials and use a computer for significant portions of the day. These include teachers, administrators, managers, and some technical workers.”²⁸

The survey also asked if respondents limited their activities to avoid exposures that exacerbated their symptoms. See Table 2 for the responses to this question. “These reported limitations on time spent using equipment, having unlimited contact with people, restrictions on destinations, and the use of devices to reduce contact with problematic substances have serious potential to disrupt or limit the working life of people with MCS.”²⁹

Table 2. Activity limitations reported by 8 women with self-reported MCS severity 5

Limitation	% reported MCS severity 5
Limit contact with people	50.0
No smoking	37.5
Limit time	25.0
Limit destination	12.5
Use device (filter, mask)	12.5
No fragrance	12.5
Air out items	12.5
Ill from activity	12.5

Kosta, L. HEAL member survey: MCS and activities. *The Human Ecologist* No.90 Summer 2001.

These limitations are also consistent with survey respondents’ reports of their “most troublesome” exposures reported in a previous sample from the same survey. (This question was open-ended in the survey, so respondents did not receive prompting or make a selection from a list.) In that sample, the top-ranking troublesome exposures were fragrance (40%), formaldehyde (8%), and mold (6%), with other troublesome exposures reported as well: pesticides, paint, carpet, cleaning products, building materials, volatile organic compounds, sprays, plastics, air fresheners, inks, printed materials and new textiles.³⁰

All of these are very common in many working environments, and many have been independently identified by nurses and teachers as being troublesome in their workplaces. The limitations reported by HEAL respondents can be seen as efforts to avoid exposures to these substances. In the HEAL survey, avoidance of troublesome exposures was, by far, the intervention reported as most helpful (72%). Other surveys have found similar responses from people with MCS: 95% in the Johnson survey; 74% in the Gibson survey.³¹ However in some workplaces, avoidance is very difficult — if not impossible — to achieve. (It is important to note that many people with MCS also report drug allergies and intolerances, and thus are unable

²⁸ Kosta, L. MCS and work: Data from the HEAL member survey. *The Human Ecologist* No. 92, Winter 2001.

²⁹ Kosta, L. MCS and work: Data from the HEAL member survey. *The Human Ecologist* No. 92, Winter 2001.

³⁰ Kosta, L. HEAL member survey: difficult exposures, helpful interventions. *The Human Ecologist* No.88, Winter 2000.

³¹ Kosta, L. Interventions for MCS: reports from three large surveys. *The Human Ecologist* No. 100 Winter 2003. See also Gibson, P.R., *Multiple Chemical Sensitivities—A survival guide*. Oakland California: New Harbinger Press. 2000. Johnson, A. MCS Survey. 1997. <http://www.conceptmed.com/Johnson>

to rely on pharmacological tools to manage their responses to exposures in the workplace and elsewhere.³²⁾

In the working age sample, 37 percent of the respondents were employed at the time of the survey. (Of the others in the working age sample, 33.2 percent received Social Security Disability benefits, most of them for MCS; their average reported MCS severity was 7.9 (nearly “severe.”). Nearly half of all respondents reported having lost a job because of MCS, 35 percent said they had taken early retirement because of MCS (often with a smaller-than-anticipated pension), and over 24 percent said they had had to make a career change because of MCS.

In the working-age sample, there were 63 survey responses that contained enough information to allow an estimate of the respondents’ lost earnings from MCS-related inability to work at their former jobs. In this subgroup, 27 percent were former teachers, and 10 percent were former nurses. Thus nearly 40 percent of these former workers were qualified to work in occupations in which there are currently worker shortages. For teachers K-12, personal earned income was reduced by 82%; for the nurses, it was reduced by 78%.

The picture that emerged from the HEAL member survey was of people who, though they themselves described their MCS as moderate, were unable to tolerate conditions common in many workplaces, had suffered financial and professional losses because of MCS, and were, in some cases, formerly employed in nursing and teaching — occupations that are highly respected in society, and greatly needed at this time and in the future.

The cost of MCS to individuals and society appears to be high, based on this sample. When the worker is unable to work in his or her profession, society does not benefit from the worker’s training and skills, and the economy does not benefit from the full participation of these workers.

The prevalence of MCS in the general population is unknown, but (other) surveys (all of them small) indicate that “unusual sensitivity to chemicals” may affect from 6% to 37% of the population.³³ Even at the low end of this range, chemical sensitivity in some form may be hindering many workers from full participation in the workforce, and it is possible that it is having a disproportionate impact on nurses and teachers. “Unusual sensitivity to chemicals” may be responsible for some of the work-related asthma that afflicts nurses and teachers in the U.S. For these workers, as for people with MCS, exposure control and avoidance is critical to maintaining health and preventing work-related exacerbations.

A model intervention to improve worker health: The Fragrance Controlled Workplace Policy at Brigham and Women’s Hospital, Boston, Massachusetts

³² Ashford, N. and Miller, C. *Chemical Exposure: Low levels and high stakes*. 2nd edition. New York et al.: Van Nostrand Reinhold. 1997. “[T]here seems to be an important overlap between individuals who react badly to medications and chemically sensitive patients.” This may be a particularly important observation, given the number of adverse drug reactions reported annually in the U.S. (245,750 reported to FDA in 2000 alone; see <http://www.fda.gov/cder/reports/RTN2000/RTN2000-3.HTM>).

³³ See: Caress, S. et al. Prevalence of Multiple Chemical Sensitivities: A Population-Based Study in the Southeastern United States. *American Journal of Public Health* 94:746–747. 2004.
Kreutzer, R. et al. Prevalence of people reporting sensitivities to chemicals in a population-based survey. *American Journal of Epidemiology* 150:1–12. 1999.
Meggs, W. J. et al. Prevalence and nature of allergy and chemical sensitivity in a general population. *Archives of Environmental Health* 51:275–282 1996.

The Human Ecologist published a series of articles beginning in 1992 regarding fragrance and health, and in 1998 published a book on the subject. One section of the book is called “Fragrance in the workplace: Who shouldn’t use it?” It notes that “some occupations are particularly unsuited to on-the-job fragrance use, because of the nature of the work, the people involved, or both.” The article identifies health care and educational facilities as two workplaces that should institute fragrance-free policies, noting that both employers and employees have an interest in protecting the health of susceptible individuals, and thus promoting the mission of the organization’s enterprise.³⁴ In 2000, one such workplace, Brigham and Women’s Hospital in Boston, independently came to the same conclusion and instituted a fragrance controlled workplace policy.

In December 2002, *The Human Ecologist* published an interview about this policy with Marlene Freeley R.N., M.S., Director of Occupational Health Services at Brigham and Women’s Hospital, Boston, Massachusetts.³⁵ Brigham and Women’s, a major teaching hospital of Harvard Medical School, employs 9000 workers, and has a daily occupant load of 20,000 people.

At Brigham and Women’s, policies for managing indoor contaminants were set in place in the 1990s, together with a beeper system for workers to report unfavorable working conditions. Worker awareness of indoor air quality issues is high, and workers are very likely to report health problems related to indoor air to the hospital’s Occupational Health Service. Such workers fill out a questionnaire about their views of what caused the problem, and their answers enabled the Occupational Health Service to notice a pattern of workers complaining about fragrance exposures on the job. “The pattern was so pronounced that we felt we had to look into fragrance and health. When I did, I found reasons for trying to reduce the exposures that both our patients and our workers were having to fragrance,” Freeley said.

The hospital’s senior management assigned Freeley to chair a task force to draft a fragrance policy for the hospital. The task force determined that, while they could not control all of the fragrance use of every one who came to the hospital, they “agreed that we could and should have a policy to control fragrance use within the hospital by people who work in the hospital.... We also agreed that we should take steps to limit fragrance use by inpatients.”

“We had clear evidence that our workers were having problems with fragrance exposures and that this was affecting their productivity [...] ... a bottom-line issue for managers. We also had scientific evidence that fragrance was causing these problems. It wasn’t hard to see that if workers were being affected, patients were also.... and this was very important to us as a premier health care organization. Finally, the policy was so clear-cut that...management was comfortable being responsible for it. We weren’t promising anything that we weren’t able to deliver, and we were committed to delivering what we knew we could: control of fragrance exposures in our workplace.”³⁶

³⁴ Kosta, L. *Fragrance and Health*. Atlanta, Georgia: HEAL Presents. 1998.

³⁵ Kosta, L. Fragrance control and health care facilities: an interview with Marlene Freeley R.N., M.S., Director of Occupational Health Services, Brigham and Women’s Hospital, Boston, Massachusetts. *The Human Ecologist* No.96, Winter 2002.

³⁶ As noted above, workers, in general, nurses, teachers, and HEAL members have all identified cleaning products as problematic. Freeley discussed the challenges involved in obtaining unscented cleaning products for use in the hospital. Noting that worker misuse of cleaning products (using too much, the wrong dilution, or no dilution at all) had already been identified by the hospital and addressed by the hospital’s Product Safety Committee, Freeley said that it was easy to add the requirement that cleaning products used in the hospital be unscented as well as not a threat to health or the environment. Finding the products was more difficult but was addressed though banding

The policy was accepted in September 2000, and the hospital launched an employee education campaign about it that was still ongoing in 2002. Informational brochures were distributed to all departments in the hospital, and to all incoming patients prior to their stay at the hospital. Nursing Grand Rounds were given on fragrance and health, and presentations were given to department personnel on request.³⁷

Compliance has been good. “The physicians have been very supportive, especially in the respiratory, OB/GYN and oncology services,” Freeley said, “Once the policy was in place, many of our workers ‘came out of the woodwork’ on this issue and said they’d been troubled for years by fragrance exposure on the job.” Patients report that they want to come to Brigham and Women’s in part *because* of the fragrance policy.

When asked what advice she would give to others interested in seeing similar policies adopted, she said the following:

- “It was an enormous help that our entire workplace was so aware of IAQ and health. Before we introduced the fragrance issue, workers and managers were already attuned to being aware of IAQ conditions, and used to reporting IAQ conditions that affect health, comfort and well being. Including fragrance in this context was very natural for us. So it helps to have good workplace awareness of IAQ.
- “Gathering information about worker complaints is important. It was very helpful that we were able to gather clear evidence of worker complaints about fragrance exposure. Since we already had the reporting mechanisms in place because of our IAQ awareness, it was relatively easy to see the pattern of these complaints.
- “Providing information about the impact of fragrance on health was also important. We’re a research and teaching institution, and our senior people were very interested in the science that underlies this issue. So getting and presenting reliable information is important.

together with another major hospital in Boston and using their combined purchasing power to convince product manufacturers to supply their products unscented.

³⁷ Excerpts from “Brigham and Women’s Hospital is a Fragrance-Controlled Environment,” brochure produced and distributed by Brigham and Women’s Hospital, Boston, Massachusetts: “There has been a significant increase in concerns that contact with strong scents and fragrances can cause discomfort in sensitive individuals and even cause troublesome health effects in people with certain medical conditions.”

“Moderate to strongly scented fragrance produces can adversely effect [sic] the health of individuals who have certain medical conditions such as asthma, allergies and migraine headaches. Also, individuals who are undergoing different medical therapies. . . are especially sensitive to odors and scents in the environment.”

“Some fragrances have also been shown to trigger symptoms in otherwise healthy individuals. Some of the concerns may include watery or itchy eyes, sneezing, nasal congestion, sinusitis, fatigue, dizziness, coughing, shortness of breath, difficulty with concentration, and headaches. Fortunately, these symptoms are self-limiting and will easily disappear after the individual is able to get some fresh air and *when fragrances are removed from the environment.*” (emphasis added)

“For the comfort and health of all patients cared for at the hospital, as well as all the employees who work here, BWH must provide the safest and healthiest environment. For this reason, the use of scents and fragrant products, other than minimally scented personal care products, is discouraged on all hospital property, particularly in the clinical areas.”

- “Last, but definitely not least, is that we were able to clearly state what the policy was and who was affected by it. As I said, we’re an institution that sees a lot of people coming in every day, and there was no way we could control or be responsible for what they did. But we’re a health care institution, and it was clear that we were responsible for taking action *as an institution* to protect the health of both our workers and our patients. Our policy does that.”

As noted earlier, respondents to HEAL’s member survey reported that fragrance was their “most troublesome exposure” far more often than any other exposure. We asked about the “most troublesome” exposure to capture several elements of exposure avoidance: the link with symptoms, the severity of the symptoms, and the difficulty in avoiding the exposure. It is striking that employees of Brigham and Women’s also experienced fragrance as a troublesome exposure — and that their workplace was prepared to take their concerns seriously. The symptoms shared in common between Brigham and Women’s workers, HEAL members who responded to the HEAL survey, and nurses and teachers, are also strikingly similar. It is likely that workplace interventions like the fragrance-controlled workplace policy at Brigham and Women’s Hospital could promote worker health and productivity in many workplaces, including those employing nurses and teachers.

Asthma and exposures — the same chemicals in different media can boost total exposure loads

The link between asthma exacerbations and allergen exposure is well-established, as is the association between asthma exacerbations and exposure to inhaled irritants, both chemical and particulate.³⁸ There has been a tendency to investigate the emissions of single products types (carpeting, fragrance products and the like), in order to better understand their constituents and potential for causing adverse respiratory and other responses. Many of the products investigated emit a variety of substances at comparatively low levels, after an initial ‘airing out’ period. Nevertheless, some individuals continue to experience adverse effects in environments containing comparatively low levels of irritant vapors, gases and particles emitted from products such as carpet, scented cleaning products, and other materials identified by various workers as troublesome workplace exposure sources.

Allergic responses to low-level allergen exposures are a hallmark of allergy and allergic asthma. But the reason for the exquisite sensitivity of some individuals to low-level chemical exposures remains elusive. There is one exposure factor that is easily overlooked if only single source emissions are considered as incitants of adverse responses. This is simultaneous total exposure to single chemicals from multiple sources.

The table below illustrates this factor. It shows chemicals occurring in three groups of very different substances: fragrances, building materials, and tobacco smoke. All three have been identified as sources of indoor air pollution, and two are clearly associated with asthma.³⁹ All have been identified as problematic exposures by HEAL members, workers in general, and

³⁸ American Thoracic Society, Guidelines for Assessing and Managing Asthma Risk at Work, School, and Recreation. *American Journal of Respiratory and Critical Care Medicine* 169 (7): 873–881. April 1, 2004. <http://ajrccm.atsjournals.org/cgi/content/full/169/7/873>

³⁹ EPA, Basic information about indoor air quality. Retrieved February 2006. <http://www.epa.gov/iaq/ia-intro.html>

nurses and teachers. Health effects listed are from inhalation or dermal exposures. The last column lists a few common consumer products containing the same chemicals.

Table 3. Chemicals in common — building materials, tobacco smoke, fragrance materials

Chemicals	Building materials (a)	Tobacco smoke (b)	Fragrance materials (c)	Selected health effects (d)	Contained in consumer products (e)
Aldehydes*	Formaldehyde	Formaldehyde	Formaldehyde	Respiratory irritant.	Adhesives, maintenance, pet care.
		Acetaldehyde	Acetaldehyde	Eye and respiratory irritant.	Adhesives
			Benzaldehyde	Eye and respiratory irritant.	Personal care
	Hexanal			Eye and respiratory irritant.	No record
Terpene hydrocarbons	Alpha-pinene		Alpha-pinene	Eye, mucous membrane and skin irritant.	(pine oil) cleaners, personal care, disinfectants
	Beta-pinene		Beta-pinene	Skin and mucous membrane irritant.	cleaners, personal care, disinfectants
	d-limonene	Limonene	Limonene	Skin irritant.	Auto, home, personal care
	Beta-carene			Expected effects are mucous membrane, skin irritation; sensitization among others.	No record
	Camphor			Skin, eye and mucous membrane irritant; GI and CNS effects at high doses;	Hobby; personal care (many products listed)

				sensitization.	
		Naphthalene		Skin irritation; headache, other CNS symptoms	Pesticides; auto products
	Borneol		Borneol	See camphor.	No record
Phenols		Phenols	Phenols	Skin, eye and mucous membrane irritant.	Personal care

(a) Hodgson, A.T. et al., Sources of Formaldehyde, Other Aldehydes and Terpenes in a New Manufactured House. *Indoor Air* 12 (4): 235-242. 2002. <<http://eetd.lbl.gov/IEP/viaq/pubs/LBNL-47627.pdf>>

(b) IOM, *Clearing the Smoke: Assessing the Science Base for Tobacco Harm Reduction*. Washington DC: National Academies Press. 2001 <http://www.nap.edu/catalog/10029.html>

(c) Kosta, L. *Fragrance and Health*. Atlanta, Georgia: HEAL Presents. 1998.

(d) TOXNET, Hazardous Substances Database. <http://toxnet.nlm.nih.gov/> Retrieved February 2006.

(e) National Library of Medicine, Household product database. <http://hpd.nlm.nih.gov/> Retrieved February 2006.

*Note that aldehydes are present in some foods and are also produced by both fixed and mobile (vehicle) combustion sources; thus they truly ubiquitous in the environment, and therefore extremely difficult to avoid.

Fragrance materials are ubiquitous in personal care, cleaning, and air freshening products. Although fragrance formulas are protected by trade secrecy and their ingredients are not listed on product labels, enough is known about fragrance materials to indicate that not only do some of them have irritant, sensitizing and allergenic potential, but also that some of their constituent chemicals may be present in other, less “pleasant” substances that are also commonly encountered in the environment. Some of these have identified as problematic by HEAL members, and nurses and teachers also indicate that they are troublesome workplace exposures.

Much has been made of the “many” chemicals to which people report sensitivity. Some skeptics argue that this is an indication that claims of chemical sensitivity lack plausibility.⁴⁰ However, it may be that some people who report “unusual sensitivity” to common chemicals, or who experience IAQ-related workplace health effects, have the most difficulty with a comparatively small group of chemicals that are very difficult to avoid. It is noteworthy that the fragrance-controlled policy adopted at Brigham and Women’s not only reduced worker and building occupant exposures to fragrances as such, but also reduced their total exposures to aldehydes, terpenes, and phenols. No-smoking policies have a similar effect on total exposure reductions.

It is certainly likely that, in some environments, worker exposures to single chemicals emitted from multiple sources could approach, or even exceed, health-based limits. It is at least intriguing that products as widely divergent as building materials, tobacco smoke, and fragrance materials, share some chemical constituents in common, and that symptoms associated with these common chemicals resemble symptoms reported by HEAL members, teachers, nurses, and employees of Women’s and Brigham Hospital (see note 27).

⁴⁰ For example, see Staudenmayer, H. *Environmental Illness: Myth and Reality*. Boca Raton, Florida: Lewis Publishers. 1999.

Recommendations

NORA can engage in multiple activities to investigate nurse and teacher respiratory health, with the goal of producing real-world, fact-based recommendations for nurse and teacher workplace health and worker retention.

1. Survey nurses and teachers about their respiratory health, and about the workplace exposures that they think cause adverse effects. Recruit participants from nurse and teacher professional associations, to provide cross-sections of workers from a variety of workplaces.
2. Compile data on suspect exposures and exposure sources identified in 1.
3. Do a literature search on materials known to be present in school and health care facilities, and their potential health effects. Look for commonalities between the two workplaces.
4. Do a literature search on the exposure sources identified as troublesome by nurses and teachers in 2., looking for links (or lack thereof) between what is known about the sources and their possible connection to nurse and teacher health complaints. Pay particular attention to those sources present in both work environments.
5. If the results of 1-4 justify it, conduct health and work satisfaction surveys of nurses and teachers who work in buildings of several different kinds:
 - Conventional buildings in good repair
 - Conventional buildings that have implemented comprehensive indoor environment policies (e.g. Brigham and Women's indoor air policy, including its fragrance controlled workplace policy; schools that have EPA Tools for Schools, health care facilities that have implemented EPA/NIOSH Building Air Quality — A guide for building owners and facility managers.)
 - Conventional buildings in poor repair.
 - New buildings built to “green” standards such as those promulgated by LEED.

Compare the survey results among all types of these buildings, matching survey responses for age, length of time in the workplace, plans to continue at that workplace, plans to continue in the profession.

6. Identify factors (from the surveys conducted in 5.) that contribute to worker health, satisfaction, and retention.
7. Formulate and publicize recommendations for health-promoting strategies that favor teacher and nurse workplace health based on 1-6.

This is an ambitious plan, but can be spread over several years, thus limiting its budget impact. It also provides many opportunities to publish results obtained from steps along the way to final completion in 7. These results should be disseminated widely to nurse and teacher professional organizations, to ensure continued public support for the effort.

Appendix 10. Attachment to submission E-24

(See next page)

Preventing Needless Work Disability by Helping People Stay Employed

A Report from the

Stay-at-Work & Return-to-Work Committee

of the

American College of Occupational & Environmental Medicine

TABLE OF CONTENTS

Executive Summary

Overview of the Report

Introduction

Background

What is the SAW/RTW Process?

Table 1 – The SAW/RTW Process Begins Simply But Can Become Very Complex

Table 2 – Examples of the Variability of Medical Conditions and Their Impact on Work

Table 3 – Five Parallel Processes Triggered by a Health event That Affects Ability to Function

Observations and Recommendations

I. *Adopt a Disability Prevention Model*

1. Need to Increase Awareness of How Rarely Work Disability is Medically REQUIRED
Table 4 – When is Disability Medically Required, Medically Discretionary, and Medically Unnecessary?
2. Urgency is Required Because Prolonged Time Away From Work is Harmful

II. *Address Behavioral and Circumstantial Realities that Create and Prolong Work Disability*

3. People's Normal Human Reactions Need to Be Acknowledged & Dealt With
4. Investigate and Address Social and Workplace Realities
5. Find a Way to Address Psychiatric Conditions Effectively

III. *Acknowledge the Powerful Contribution that Motivation Makes to Outcomes and Make changes that Improve Incentive Alignment*

6. Pay Doctors for Disability Prevention Work to Increase Their Professional Commitment to It
7. Support Appropriate Patient Advocacy by Getting Doctors out of a Loyalties Bind
8. Increase availability of On-The-Job Recovery or Transitional Work Programs
9. Reduce Distortion of the Medical Treatment Process by Hidden Financial Agendas
10. Be Rigorous, Fair and Kind to Reduce Minor Abuses and Cynicism
11. Devise Better Strategies to Deal with Bad Faith Behavior

IV. *Invest in System and Infrastructure Improvements*

12. Educate Physicians on How to Play Their Role in Preventing Disability
13. Disseminate Evidence on the Benefits for Recovery of Staying Active and At Work
14. Improve/Standardize Methods of Information Exchange Between Employers/Payers & Medical Offices
15. Improve and Standardize the Methods and Tools that Provide Data for SAW/RTW Decision-Making
Table 5 – Examples of Methods Currently Used By Physicians
16. Increase the Study of and Knowledge About SAW/RTW

Summary and Final Comments

Appendix A: List of Members, ACOEM Stay at Work and Return to Work Process Improvement Committee

Appendix B: References and Bibliography

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Preventing Needless Work Disability by Helping People Stay Employed

A Report from the Stay-at-Work and Return-to-Work Committee of the American College of Occupational & Environmental Medicine

EXECUTIVE SUMMARY

As physicians our fundamental precept is “first, do no harm.” However, we see daily the contrast between well- and poorly managed health-related employment situations and the harm that results. Identical medical problems end up having very different impacts on people’s lives. The differences in impact cannot be explained by the biology alone. We know that much work disability is not required from a strictly medical point of view. We see devastating psychological, medical, social, and economic effects caused by unnecessarily prolonged work disability and loss of employability. We also see wasted human and financial resources and lost productivity.

Finding better ways of handling key non-medical aspects of the process that determines if an injured or ill person will stay at work or return to work will improve outcomes. Until now, the distinct nature and importance of the stay at work and return to work process (SAW/RTW) has been overlooked. Improvements to that process will support optimal health and function for more individuals, encourage their continuing contribution to society, help control the growth of disability program costs, and protect the competitive vitality of the North American economy.

The first half of our Committee’s report provides the groundwork for readers to understand the second half. Most importantly, the first half describes the SAW/RTW process, how it works and how it parallels other related processes. The second half discusses factors that lead to needless work disability and what can be done about them. Sixteen sections with our observations and specific recommendations are grouped under these four general recommendations:

1. Adopt a disability prevention model.
2. Address behavioral and circumstantial realities that create and prolong work disability.
3. Acknowledge the powerful contribution that motivation makes to outcomes and make changes that improve incentive alignment.
4. Invest in system and infrastructure improvements.

A committee of 21 physicians prepared this report because we feel compelled to speak.¹ The insights we have gleaned about the preventable nature of much work disability must be shared. Our primary goals at this time are to draw attention to the SAW/RTW process and shift the way many people think. Our intent is to open a dialogue between the American College of Occupational and Environmental Medicine (ACOEM) and other stakeholders in the workers’ compensation and non-work-related disability benefits systems: employers, unions, working people, the insurance industry, policymakers, the healthcare industry, lawyers, and healthcare professionals, especially all physicians. We invite you to work with us towards solutions.

¹ We are all members of the American College of Occupational and Environmental Medicine, and are specialists in emergency medicine, family practice, internal medicine, occupational medicine, orthopedics, physiatry, and psychiatry. We are in private medical practice, government, academia, heavy industry, as well as workers’ compensation and disability insurance companies. We work in Canada and 15 of the United States.

Preventing Needless Work Disability by Helping People Stay Employed

OVERVIEW OF THE REPORT

The fundamental questions this paper is designed to answer are these:

1. Why do some people who develop common everyday problems like backache, wrist pain, depression, fatigue, and aging have trouble staying at work or returning to work?
2. How can employers and insurers work more effectively with healthcare providers to reduce the disruptive impact of injury, illness and age on people's daily lives and work, and help them remain fully engaged in society as long as possible?

This report is the end product of extensive and vigorous deliberation by the 21 physician members of the ACOEM Stay at Work and Return to Work Committee. The Committee used a collaborative and consensus-seeking process to develop the observations and recommendations.. The report has been approved by ACOEM.

In order to build a more profound awareness among all stakeholders that collaboration is required to make the SAW/RTW process work better, we request that you read our report in its entirety. Every stakeholder will be more familiar with some parts than others, so we suggest that you focus on the portions with which you are less familiar.

The report begins with an introduction that describes the growing pressures in North America caused by an aging workforce, rising medical costs and lengthening periods of disability. It also describes the Committee that produced the report and the American College of Occupational and Environmental Medicine's growing commitment to help meet the needs of workers, employers and insurers in the twenty-first century by working collaboratively with all parties to keep the workforce healthy and productive.

Next comes the background section that defines key terms like "disability" and "disability benefits systems" and the SAW/RTW process, and describes in very broad terms how malfunction of the SAW/RTW process is causing harm to the health and well-being of the same people that these systems were designed to protect – and harm to their families, employers, communities, and society as a whole. Lastly, the background materials explain why the Committee chose to develop this report.

The third section describes in detail how the SAW/RTW process works by using a simple case example. There are two tables: one that shows how the process can escalate and increase in complexity through a series of iterations due to circumstances; and a second one with examples of different kinds of medical conditions that have very different impacts on function and work over time. Next the relationship of the SAW/RTW process to four other parallel processes is described. Three are much more well-known and studied; the other has been studied in academia but largely ignored by disability benefits programs. The failure to distinguish among these separate processes underlies much current system dysfunction. These four other processes are:

- The ill or injured individual's personal adjustment (coping) process.
- The medical care process.
- The benefits administration process.
- The reasonable accommodation process under the ADA.

The second half of the paper consists of observations and recommendations about the current status of and potential improvements to the SAW/RTW process in North America today. Sixteen specific recommendations are described in groups under the four general recommendations. Each of the 16 specific recommendation sections:

- Identifies specific challenges and non-medical factors that now combine to create needless disability and its negative consequences.
- Recommends ways that many of the issues can be addressed.
- Points out initiatives underway and best practices in preventing needless disability among working people who are faced with injury or illness.

The major points and recommendations made in this report are:

- I. Adopt a disability prevention model.
 - Legislators, regulators, policymakers, and benefits program designers should address the reality that much work disability is preventable, and that successful SAW/RTW requires collaboration among several parties.

- Shift the focus of the SAW/RTW process away from certifying or evaluating work disability towards preventing it. Unless complete work avoidance is medically-required for healing or for protection of the worker, co-workers or the public, we should be looking for ways to prevent or reduce absence from work. Expecting and allowing people to contribute what they can at work and keeping them active as productive members of society is good for them -- and for us all.
- Instill a sense of urgency to normalize daily routine because prolonged time away from work is often harmful. In only a few weeks, most people make adjustments and adopt a new view of themselves and their situation. Some people begin to think they are permanently disabled regardless of the medical facts. Once that idea is implanted, it is hard to shake.
- Employers, unions, and insurance carriers should devote more attention and resources to preventing disability by focusing on the “front end” of disability episodes while the window of opportunity to make the most difference is still open. In practice, this means ensuring that the right things happen during the first few days and weeks of work absence. Injured/ill workers should routinely receive the support and services they need to get their daily lives back to normal as soon as possible.

II. Address behavioral and circumstantial realities that create and prolong work disability.

- Acknowledge and address people’s normal human reactions to illness and injury. Life disruption may be significant and hard for some to cope with. Failure to acknowledge this distress or offer help breeds trouble. Common courtesy may be all that is needed.
- Rather than ignore them, investigate and address social and workplace realities. Scientific research shows that workplace factors like job dissatisfaction or poor job fit have a powerful effect on disability outcomes. Despite reluctance to intervene, some issues can be readily resolved once brought to the surface.
- Reduce distortion of the medical treatment process by hidden financial and legal agendas. A physician who is kept in the dark is not necessarily more independent, and is vulnerable to manipulation.
- Find a way to effectively reduce disability due to psychiatric conditions, whether occurring in isolation or in combination with physical ailments. Do so in a manner that avoids creating more harm and pouring resources into ineffective physical or mental health treatment.

III. Acknowledge the powerful contribution that motivation makes to outcomes and make changes that improve incentive alignment.

- Pay doctors for disability prevention work in order to increase their commitment to it.
- Support appropriate patient advocacy by getting treating doctors out of a loyalties bind Stop asking treating doctors to “certify” disability or to set a return to work date. Instead ask them about functional ability (unless there is a clear reason why it would be medically-inappropriate for the worker to do all work of any kind.)
- Increase availability of on-the-job recovery and transitional work programs. Make it faster and easier to arrange permanent job modifications since workers who stay active during recovery have better outcomes. Requirements or incentives for employer participation will be required.
- Good faith efforts should be required of the patient / employee, the doctor, and the employer to prevent or mitigate disability.
- Reduce cynicism and improve customer service to injured and ill employees by being more rigorous, more authentic and helpful, fairer, and kinder.
- Restore integrity to programs rife with minor abuse. Make people aware how minor benefits abuse breeds still more abuse and cynicism that in turn leads to negative and prejudicial treatment of innocent people.
- Devise better strategies to deal with bad faith behavior/exploitation/fraud. In particular, provide workers who believe they need help with alternatives to lawyers.

IV. Invest in system and infrastructure improvements.

- Programs are needed that will provide basic training to practicing clinicians on why and how to prevent disability, as well as why and when to disqualify patients from work. This education should encourage physicians and other healthcare professionals to broaden the focus of their care to include disability prevention and to develop clinical skills in this arena.

- Disseminate the scientific evidence regarding the benefit of staying at work and being active on recovery and preserving function. Doctors, patients and employers all need to know this.
- Improve information exchange between employers/payers and medical offices.
- Improve and standardize the methods and tools that provide data for SAW/RTW decision-making.
- Increase the study of and knowledge about the SAW / RTW process. Policymakers, government agencies, labor organizations, employers, insurance carriers, and interested citizens should underwrite efforts to learn more about how the SAW/RTW process works and to understand its outcomes, and should support research to develop methods that prevent disability more often or more effectively.

The basis for each recommendation, along with suggestions for how to implement it, is described in the full report that follows. The bibliography of literature references is arranged in groups that correspond to the sixteen specific recommendation sections. Full implementation of many recommendations will require collaboration among all system participants, but forward progress can and is already being made by committed individuals and companies on their own.

This report is the latest in a series of initiatives launched by ACOEM (www.acoem.org) to better meet the needs of patients, employers and insurers in the twenty-first century. We are doing what we can to help keep the workforce as healthy and productive as possible.

INTRODUCTION

The North American workforce has been aging. The burden of chronic disease in the population and its resulting impact on function has been rising. Episodes of prolonged disability due to common conditions such as depression and low back pain are becoming more common. As the population is aging, the fraction of the US population now receiving social security disability payments is also rising. Although the incidence of work-related injuries and illnesses has been falling steadily for the last several decades, the length of disability following work-related injury has been climbing, as have the number of medical services and their costs. Paradoxically, employers are paying for more -- and more expensive -- medical services but people are nevertheless losing more time from work for medical reasons.

Until now, mitigating the impact of illness and injury on everyday life and work – with the goal of preventing needless disability, preserving function, and protecting quality of life – has not been within the traditional purview of medicine. We think it is time to broaden the scope.

We believe that this report is the first ever description of the workings (and failings) of the SAW/RTW process. Our Committee is well-qualified to address these matters from an informed and fact-based perspective because of the unusual breadth and depth of our cumulative experience:

- All of us have practiced medicine and have seen the SAW/RTW process in action first hand, since all of the disability benefit programs require a doctor's participation and signature at one point or another.
- As physicians involved in occupational medicine, the members of our Committee deal every day with work concerns that people have because of their health, as well as health concerns caused by their work.
- As physicians, we have all been trained to distinguish what is medical from what is not.
- We come at the SAW/RTW process from multiple vantage points. We are specialists in emergency medicine, family practice, internal medicine, occupational medicine, orthopedics, physiatry, and psychiatry. We are in private medical practice, government, academia, heavy industry, as well as workers' compensation and disability insurance companies. We are hands-on clinicians, executives, thought leaders, and consultants. We work in Canada and 15 of the United States.

The development of this report is one concrete example of ACOEM's commitment to meet the needs of workers, employers and insurers in the twenty-first century. Our members have begun moving beyond our specialty's traditional role in preventing and treating work-related health problems. Increasingly, we will be working collaboratively with all parties to keep the workforce healthy and productive. That means taking on a broader role in preventing, treating, and mitigating the impact of all types of health conditions on function, particularly on occupations.

This particular document is intended to begin an on-going dialogue between ACOEM and employers, payers (insurers, third party claims administrators and self-insured employers), and regulators of the work-related and non-work-related disability benefits systems. Given that there are so few of us available (occupational medicine is among the smallest of medical specialties), we are interested in exploring how ACOEM can best demonstrate leadership and its members can best assist the nation's workers, employers, and insurers in preventing needless disability.

For more discussion of the implications of the SAW/RTW process for the hands-on practice of medicine, please see:

- ACOEM's "Consensus Opinion on the Attending Physician's Role in Helping Patients Return to Work After an Illness or Injury" (www.acoem.org/guidelines/article.asp?ID=55)
- The 2nd edition of the ACOEM Practice Guidelines, Chapter 5 entitled "Cornerstones of Disability Prevention and Management" (www.acoem.org/education/tools/pracguide.asp).
- The American Medical Association's new book "A Physician's Guide to Return to Work" edited by Drs. James Talmage and Mark Melhorn who are ACOEM members as well as members of our Committee.

BACKGROUND

Each year, millions of American workers develop health problems that have the potential to temporarily or permanently prevent them from working. In the large majority of cases, these employees are either able to stay at work in spite of the condition, or return to productive work after a brief recovery period. For the balance, roughly a tenth, significant work absence and life disruption occurs, sometimes leading to prolonged or permanent withdrawal from work. During the period while they are not working, these individuals are described as "disabled" and many of them become involved with one or more disability benefits systems.

The disability benefits systems we refer to include all the programs that protect workers when they become unable to work for medical reasons – especially those that provide financial support – such as sick leave, workers' compensation, short-term disability (STD), long-term disability (LTD), and Social Security Disability Income (SSDI). Other closely related programs include the Family Medical Leave Act (FMLA) and ADA (in the US) and their Canadian counterparts, though they do not pay benefits per se. The estimated total annual cost of disability benefits paid under all these systems in the US exceeds \$100 billion.

Every disability benefit program usually requires a physician's signature on a letter, note, or form of some kind before benefits can be awarded or denied. Other than that one similarity, disability benefit programs and the processes for administering them are better characterized by their many differences. Each has its own complex rules and processes for eligibility determination and for administration of benefits. Experts in one system often do not know much about the others. Each of the programs has generally received significant study and attention on process improvements and benefit program design, but each one has been considered in isolation. The programs are not knit together into a coherent, coordinated whole, and the whole has not received similar attention to potential improvements.

In this paper, we use the word "disability" the same way that employers use it in their benefits programs and employment policies, and the same way that insurance laws, regulations, and policies do. We use "disabled" to mean someone who is absent from work or not working at full productive capacity for reasons related to a medical condition. Please note that confusion is common regarding the word "disability" since it is sometimes used to describe physical or functional impairments. For example, a person who has an impairment that affects one or more life functions is considered to have a disability under the Americans with Disabilities Act (ADA). However, people with ADA-qualifying impairments who are working at full productive capacity would NOT be considered disabled according to our definition, because they are at work.

The focus of this paper is on the surprisingly large number of people who end up with prolonged or permanent withdrawal from work due to medical conditions that normally would cause only a few days of work absence. Many of those who end up receiving long-term disability benefits of one sort or another have conditions that began as common everyday problems like sprains and strains of the low back, neck, shoulder, knee and wrist, or depression and anxiety. As we will discuss below, prolonged work withdrawal (disability absence) by itself can produce unfortunate consequences, and this is one of our major concerns.

On the other hand, many of the people who receive disability benefits have severe illnesses like a major cancer or schizophrenia or have suffered catastrophic injuries such as amputations, blinding, major burns, or spinal cord injuries, or have had major surgery. These people, too, are susceptible to the influences described in this paper, although the effects may be overshadowed by the obvious difficulties of coping with medical problems of this magnitude, and the need to learn skills and methods to deal with any resulting impairments. In these cases, a prolonged period of work absence is often unavoidable. The traditional rehabilitation approach delivered by an array of professionals was designed to meet the needs of these people. The question still sometimes arises: what amount of this work disability could be prevented?

We contend that a considerable amount of the work disability due to common everyday conditions (and an unknown fraction of the disability that follows more serious conditions) is avoidable, as are its social and economic consequences. We believe that a lot of work disability can be prevented or reduced by finding new ways of handling important non-medical factors that are fueling its growth.

In particular, we want to draw attention to a little-known but fundamental process shared by all the disability benefits systems in the US and Canada today – what we call the Stay at Work and Return to Work (SAW/RTW) process. It is a fundamental underlying set of actions and decisions that determines whether a worker will stay at work in spite of a medical condition, and if not, determines whether, when, and how the worker will return to work during or after recovery. This SAW/RTW process is the topic of this paper. We abbreviate this process as SAW/RTW and will define and describe it fully later in this paper.

Some non-medical aspects of the SAW/RTW process are causing harm to the health and well-being of the same people that these systems were designed to protect – and harm to their families, employers, communities, and society as a whole. We see how often participation in the disability benefits system is counterproductive in our patients' lives, some of whom are particularly susceptible. The disability system typically turns an impersonal face towards a person whose life has been disrupted and who may need guidance in managing a new life situation. We also see how often the SAW/RTW process is both openly and surreptitiously distorted by other interests. As a result, the disability benefits system too often:

- fails to provide non-financial support to people who need help because their life has been disrupted by illness or injury
- fails to help people adapt or understand the course of their illness and their future life options, and defeats what would otherwise be a successful medical result
- wastes resources on people who do not need them
- causes people to refocus their lives and adopt a new identity as a disabled person, resulting in society's loss of potentially productive members.

As physicians our fundamental precept is “first, do no harm.” Because we see harm occurring in this arena, with physicians as unwilling or unwitting participants, we feel compelled to speak. We also see how disability programs affect costs, productivity, and the competitive viability of companies and states as well as national economies. An ineffective SAW/RTW process causes damage at many levels.

We are in agreement that the word needs to be spread: work disability is potentially preventable, there are good ways to prevent it, and collaboration across professional boundaries is part of the solution. In this paper we are speaking to policymakers, legislators, and regulators, to business and industry, to insurers and other payers, to lawyers, organized labor and working people directly, in addition to all our colleagues in medicine and the other healthcare professions. As more and more people come to see things from this perspective, creative efforts to address the major issues will become possible.

Some employers, insurers, healthcare providers and employees achieve better-than-expected outcomes under difficult circumstances, and some deliver better-than-usual program or system results. Their success stories are the proof that much disability is preventable. They can serve as models for others to follow. In most instances, a simple formula of kindness, straightforward communication, common sense practicality, and good management is all that is required to make the system work better and achieve better outcomes for all.

In summary, the results produced by the SAW/RTW process have a profound impact on the overall health and well-being of our patients, and also their families, employers, communities, and ultimately society as a whole. It determines whether people stay engaged in or withdraw from work and all the consequences that derive from that decision. However, the SAW/RTW process has been hidden amidst all the complex technical, financial, and legal details of multiple disability benefit programs. This little-studied and under-resourced process has enormous personal and economic consequences for the lives of millions and for American society, and deserves attention in its own right.

WHAT IS THE SAW/RTW PROCESS?

At its heart, the stay-at-work/return-to-work process is a very common, everyday process. Every working person who wakes up with a cold or a backache has to decide whether to go to work, and if the answer is yes, how to get through the day. Let's walk through the usual steps in this process by considering the simple case of a worker named Tom.

1. The SAW/RTW process is triggered whenever a medical condition arises or another precipitating event occurs, and the question arises whether the worker can or should do his usual job today. *In Tom's case, he woke up with a badly infected cut on his foot.*
2. The worker's current ability to work is assessed on three important dimensions, either formally or informally:

- Functional capacity – what can he do today? *Has Tom's infection made him so sick he simply can't function at all and has to be in bed? If not, what can he do in his current condition?*
 - Functional impairments or limitations – what can't the worker do now that he normally can? *In Tom's case, the acute pain he is experiencing means he is too uncomfortable to wear his normal shoes and do any activities that require him to be on his feet – prolonged standing, walking, jumping, etc.*
 - Medically-based restrictions – what he should not do lest specific medical harm occur? *In Tom's case, would walking, standing, and being on his feet all day actually worsen the infection or delay healing?*
3. The next question is whether the worker's temporarily-altered capacities, limitations, and restrictions are sufficient to perform the tasks required by his job.
- In order to answer this question, the functional demands of the job must be known. Functional demands include the knowledge, skills, and abilities – physical, cognitive and social – required to perform a job. *In our case example, Tom already knows what it takes to do his usual job.*
4. The last question is what must occur in order for the situation to be resolved and the worker actually go to work?
- If it is clear that the worker can be safe and comfortable doing his usual job, or if he can make any necessary modifications himself, he simply goes to work. *In Tom's case, that is what he decided to do, since he works at a desk all day and can keep his foot elevated on a chair.*
 - However, there may be legal requirements, company policies, or concerns about the safety of co-workers, the public, or the business that will affect what happens. Examples of medical qualification standards include those for airline pilots, truck drivers, school bus drivers, crane operators, scuba divers, and the like. Examples of company policies include performance standards especially for those with customer or public contact, fiduciary responsibilities, or executive authority.
 - If a temporary alternative task or job is possible but would require the cooperation of others, it has to be arranged and implemented.
 - If a satisfactory temporary arrangement is made available, the worker goes to work.
 - If not, the worker remains out of work until something changes: his condition (and thus his functional capacities, restrictions, and limitations), the available options for working under those conditions, or the motivation to find a solution to achieve return-to-work.

Usually all these steps are completed in an instant because most medical conditions are minor, the job doesn't put too much demands on the impaired body part or function, and the worker is willing to go to work. But sometimes the situation cannot be acceptably resolved on the first pass, and additional steps are required. At this stage, the SAW/RTW process evolves into a de facto negotiation between the employee (and his advisors) and the employer (and its advisors) about whether the employee will be able to come back to work.

The SAW/RTW process is often *iterative* – meaning that finding a solution may take more than one try, and may even require going over the same ground several times as the situation escalates. Steps 2 through 4 above may need to be repeated at each level. During each repetition, more participants tend to become involved, and progressively more opinions, data, resources and time are required in order to figure out what to do.

Escalation Level #0: Tom goes through the process in his mind in an informal way. It will simply seem like he is deciding whether he should go to work or not. He will take cues from those around him – his doctor, supervisors, and friends – and will be influenced by his own realistic and unrealistic fears, motives, and life history. His thinking will also be constrained by his current personal life situation.

Escalation Level #1: If Tom decides he can't work or is unsure what to do, his supervisor, the claims adjuster and/or his doctor get involved. The employer may be asked to send the doctor a job description or list of tasks. The doctor may be asked to provide information about Tom's medical restrictions or his work capacity. The employer then decides whether or not it is able to (or will) provide transitional work that matches what Tom can do.

Escalation Levels #2 and 3: In more difficult situations, successive passes add progressively more participants and more specialized assistance: a nurse case manager, a physical therapist, the employer or insurer’s medical consultant, an occupational medicine physician, an independent medical examiner, a vocational rehabilitation consultant, union representatives, lawyers, and/or other experts. Functional capacity evaluations may be done to document work capacity. Job analyses including ergonomic measurements and even video photography may be done to document the nature of the job demands. With each pass, the time and money consumed increases along with the amount of information assembled. Because there is usually no one in charge and the participants have not agreed on the goal of finding an optimal resolution to the situation, the additional effort and resources often have a paradoxical effect: clouding the situation rather than clarifying it, obscuring basic issues, causing confusion, hardening positions and polarizing the participants.

Table 1 displays the escalation levels of the SAW/RTW process, moving from simplest to most complex. In reality, the process often occurs as a ragged continuum rather than a structured series of rounds. As soon as there is a definitive answer – the worker returns to work or it becomes clear that will never happen – the process stops. Every time the process reaches the end without a definitive answer, we go back to the beginning – but the complexity goes up: the number of participants increases, more detailed data is used as the basis for decision-making, and the formality of the resolution process increases dramatically. However, the three basic issues that need factual answers always remain the same:

- What are the worker’s current work capacity, medical restrictions, and functional limitations?
- What are the functional demands of the intended job?
- If the workers’ functional capacity is adequate to meet the functional demands, what is required to make an actual return to work happen?

Table 1				
The Stay at Work / Return to Work Process Begins Simply But Can Become Very Complex				
<i>The SAW/RTW process is triggered whenever a precipitating event, usually health-related, raises the question whether a worker can or should remain at work.</i>				
Escalation Level #	Who is involved?	How is current work capacity determined?	How are job demands determined (both usual job and alternatives)?	What triggers the actual return to work?
0	<ul style="list-style-type: none"> • Worker 	<ul style="list-style-type: none"> • Personal knowledge 	<ul style="list-style-type: none"> • Personal knowledge 	<ul style="list-style-type: none"> • Personal decision
1	<ul style="list-style-type: none"> • Worker and Supervisor 	<ul style="list-style-type: none"> • Discussion 	<ul style="list-style-type: none"> • Discussion 	<ul style="list-style-type: none"> • Discussion
	<ul style="list-style-type: none"> • Worker and Doctor 	<ul style="list-style-type: none"> • Discussion • RTW note by MD 	<ul style="list-style-type: none"> • Verbal description of usual job 	<ul style="list-style-type: none"> • Discussion
2	<ul style="list-style-type: none"> • Worker • Doctor • Claims Adjuster / Case Manager 	<ul style="list-style-type: none"> • Formal inquiry • Simple physical capacities form completed by MD 	<ul style="list-style-type: none"> • List of functional demands for job 	<ul style="list-style-type: none"> • Discussion
3	<ul style="list-style-type: none"> • Worker • Doctor • Claims Adjuster/Case Manager • Physical Therapist • Ergonomist or Vocational Consultant • IME Examiner • Union Steward • Lawyer 	<ul style="list-style-type: none"> • Objective testing • Functional Capacity Evaluation • Independent Medical Opinion 	<ul style="list-style-type: none"> • Video of job • Ergonomic analysis of job • On-site workplace visit 	<ul style="list-style-type: none"> • Written offer of employment • Formal return to work plan • Sign-off by all parties

There is a lot of variability in medical conditions, and also a lot of variability in their impact on work. Table 2 below shows examples of the wide range of circumstances under which the SAW / RTW process is taking place.

Table 2
Examples of the Variability of Medical Conditions and Their Impact on Work

Medical Condition	“A Cold” or Acute Food Poisoning	Sprained Ankle or Influenza or Asthma Attack	Femur Fracture or Abdominal Surgery or Treatable Cancer or Major Depression	Bipolar Disorder or Multiple Sclerosis or Congestive Heart Failure
Length of time away from work	None/Days	Days	Weeks	Weeks/Months
Biological Impairment	Trivial Isolated episodes	Minor Isolated episode	Moderate Isolated episode May recur	Moderate /Severe Chronic/Recurring May be progressive
Medical care required	None	Single provider 1-2 visits	Several providers Several curative visits/service Relapse prevention may be necessary s	Multiple providers On-going services Relapse prevention is required
Likelihood of full resolution	Always	Always	Usually Some residual impairment is possible	Unlikely Fluctuation in functional ability is common
Time course of the illness/condition	Days	Days	Weeks	Months/Years
Career Impact	None	Irrelevant	Significant temporary impact (Residual but stable permanent impairment may affect ability to perform essential job functions)	Progressive impairment often affects ability to perform essential job functions long term
Number of other professionals involved	0-1	0 - 2	0 - 3	Multiple
SAW/RTW information exchanges required	0-1	0 - 1	0 - 3	Multiple

The SAW/RTW process does not occur in isolation. It is closely tied to, but distinct from, four other important, related processes:

- Perhaps most importantly, the injured or ill worker is engaged in a **personal adjustment process**, dealing with the disrupted life situation around the illness or injury. Getting sick or hurt suddenly disturbs the equilibrium that life was in before the change occurred. Often workers are dealing simultaneously with a mixture of things in different dimensions: physical, logistical, financial, emotional, social, and psychological. Virtually everyone has to cope with at least some transient disruption even though some medical conditions are so minor there is little objective impact to cope with. However, not everyone has the same resilience and level of coping skill, so some people find it hard to adjust to things that others barely notice.
- If the medical situation calls for treatment, the SAW/RTW process occurs in parallel with the **medical care process** that consists of diagnosis and treatment.
- If the initial SAW/RTW process results in the worker staying at home and if there is a possibility of coverage under one or more disability benefit programs (sometimes there is not), the **benefits administration process** will begin, and will operate in parallel with SAW/RTW. Benefits administration may include initial and ongoing eligibility and compensability investigation and determination, benefit calculations and payments, and benefit termination, among other activities.
- If a permanent or long-lasting alteration of work capacity occurs, the **ADA “reasonable accommodation” process** will probably be triggered. It will operate in parallel with SAW/RTW, and if ADA is determined to apply, will heavily influence what occurs in SAW/RTW.

These four other processes (summarized in Table 3 below) involve many of the same participants as SAW/RTW, but exist to address different questions, employ different activities, and have different end-points.

The first process – personal adjustment, which is the natural human response to injury and illness – is neither explicitly acknowledged nor addressed in any of the other processes. Ironically, unresolved issues in the poorly-known personal adjustment process often foul up all four of the other processes. The failure to attend to the human needs of people who are normal but lack the resilience and coping skills required by their circumstances probably accounts for much of the system dysfunction we are discussing.

The other three processes – medical treatment, benefit administration, and ADA reasonable accommodation – have each received much more attention than SAW/RTW. Each has a coherent body of strong advocates with an interest in improving their process and advancing their agendas. The SAW/RTW process has been overlooked because so much attention is focused on the other well-known processes, and because of a longstanding but incorrect assumption that if the medical condition is promptly and properly treated, the worker will naturally return to work.

The SAW/RTW process deserves more attention in its own right. Those whose interest centers in another process need to become more attuned to and supportive of the SAW/RTW process because of its potential impact on their area.

Table 3 Five Parallel Processes Triggered By A Health Event That Affects Ability To Function					
	Personal Adjustment Process	SAW/RTW Process	Medical Care Process	Disability Benefits Administration Process	ADA Reasonable Accommodations Process
Fundamental Issues	<ul style="list-style-type: none"> • Dealing with life disruption: <ul style="list-style-type: none"> • physical • logistical • financial • emotional • social • psychological • Can I cope with this life challenge? • Am I healthy or sick? • Am I in charge here? • What does this mean for my future? 	<ul style="list-style-type: none"> • Will this person recover on the job? • When is it medically safe to resume normal activity? • What adjustments to the usual job will be required & for how long? • Will this person ever return to the same job/employer/vocation? 	<ul style="list-style-type: none"> • What is the diagnosis & prognosis? • Is this curable or treatable? • What treatment is warranted? 	<ul style="list-style-type: none"> • Does this episode qualify under the rules of our plan? • Is this person eligible for benefits? • How much benefit is due? • Is there any evidence of benefit fraud? 	<ul style="list-style-type: none"> • Will this change in work capacity be longstanding? • Does this person qualify for protection under the ADA law? • Is there an accommodation that can make full productivity possible? Is it “reasonable”?
Participants <i>(Leader is in italics)</i>	<ul style="list-style-type: none"> • <i>Employee</i> 	<ul style="list-style-type: none"> • <i>Employer</i> • <i>Employee</i> • <i>Treating Clinician</i> • Benefit or claims agent 	<ul style="list-style-type: none"> • <i>Treating Clinician</i> • Employee 	<ul style="list-style-type: none"> • <i>Benefit or claims agent</i> • Employee • Healthcare provider 	<ul style="list-style-type: none"> • <i>Employee</i> • <i>Employer</i>
Activities	<ul style="list-style-type: none"> • Thinking • Feeling • Reacting • Talking • Coping • Adapting 	<ul style="list-style-type: none"> • (See Table I) • Fact-finding • Negotiation • Making arrangements 	<ul style="list-style-type: none"> • Delivery of medical care services 	<ul style="list-style-type: none"> • Fact-finding • Data-gathering • Claim processing • Calculation 	<ul style="list-style-type: none"> • Fact-finding • Data-gathering • Negotiations
Results	<ul style="list-style-type: none"> • Interpretation • Decisions/ strategies • Possible change in self-concept (identity) 	<ul style="list-style-type: none"> • Staying home • Staying at work • Going back to work • New job 	<ul style="list-style-type: none"> • Healing • Resolution of symptoms • Failure to improve • Monitoring 	<ul style="list-style-type: none"> • Benefit decisions and exchange of money • Claim closure 	<ul style="list-style-type: none"> • Employment decision

Below is an example that illustrates the circumstances that lead to optimal versus sub-optimal outcomes, using the cases of two fictitious but typical men with identical medical conditions and treatment. Mr. A. and Mr. B. both had back problems severe

enough to require surgery, but Mr. B. returns to work in 6 weeks while Mr. A. ends up on permanent disability. Mr. A. was not supported through his personal adjustment process and the workplace environment did not support functional recovery.

MR. A	MR. B
• Mediocre work history	• Mediocre work history
• Bad back, herniated disc	• Bad back, herniated disc
• Treatment: surgery	• Treatment: surgery
• Supervisor never called: “Let George do it”	• Supervisor kept in touch: “We need you”
• Weak supervisor	• Good supervisor
• Teasing by co-workers	• Support from co-workers
• Naïve doctor: “Stay home until you’re able to do your job.”	• Function-oriented MD: “Stay as active as possible.”
• PERMANENT DISABILITY	• On-the-job recovery; adaptive equipment
	• BACK TO WORK IN 6 WEEKS

OBSERVATIONS AND RECOMMENDATIONS

The first half of this report described the SAW/RTW process, how it works, and how it is related to the other processes that often are running in parallel with it. The second half of the report describes our Committee’s observations and recommendations, which are divided into 16 sections. Each section begins with a specific recommendation concerning a single feature or aspect of the process. The 16 sections are grouped under four general recommendations:

- I. Adopt a disability prevention model.
- II. Address behavioral and circumstantial realities that create and prolong work disability.
- III. Acknowledge the powerful contribution that motivation makes to outcomes and make changes that improve incentive alignment.
- IV. Invest in system and infrastructure improvements.

For each of the 16 specific recommendations, we describe how the status quo currently interferes with achieving optimal outcomes, discuss the reasoning for our recommendation, and make suggestions for ways to implement the recommendations. Where available and as space permits, we give concrete examples of improvement initiatives underway or programs getting better-than-average results by using best practices. Note that many of the issues and suggested solutions are interrelated, so there is some duplication and overlap in the text.

In the extensive deliberations of our committee, a number of the issues raised were agreed to be important but applicable only to specific sub-segments of the overall disability benefits system – e.g. particular industries, benefit programs, labor arrangements, medical conditions, patient types, job types. We decided to exclude those narrower issues from this report, and only include those aspects of the SAW/RTW process that are pervasive, applying across most or all of the various disability systems. The deferred issues are still important and should be discussed and addressed at some future time.

I. ADOPT A DISABILITY PREVENTION MODEL

1. Increase Awareness of How Rarely Disability is Medically-REQUIRED

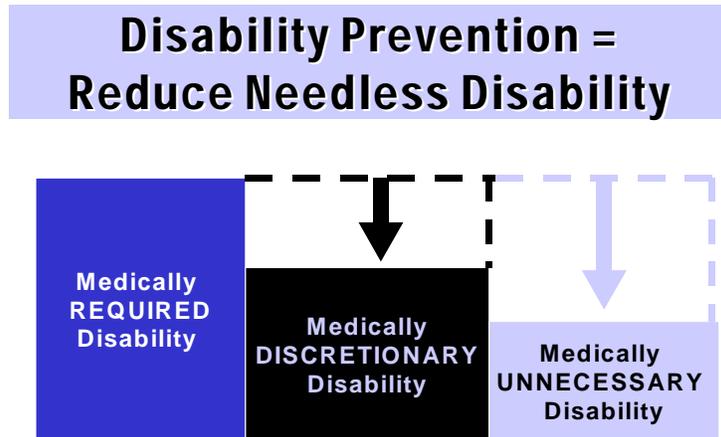
At least one formal survey and numerous informal polls of treating physicians consistently estimate that only a small fraction of medically excused days off work are medically *required* – meaning that all work of any kind is medically contraindicated. The rest of the days off work are caused by a variety of non-medical factors such as administrative delays of treatment and specialty referral, lack of transitional work, ineffective communications, lax management, logistical problems, and so on. These days off work are discretionary – the result of decisions that are fundamentally non-medical – or just plain unnecessary.

Participants in the disability benefits system seem largely unaware that so much disability is not medically required. Absence from work is “excused” and benefits are generally awarded based on a doctor’s signature on a letter or form confirming that a medical condition exists, implying that a diagnosis creates disability. However, from a strictly medical point of view, people can generally work at something productive as soon as there is no specific medical contraindication to them being out of bed and back out in the “real” world (see Table 4).

The key question is: work doing what? Many obstacles that look like they are medical are really situation-specific. For example, an employee with a cast on the right foot cannot drive a forklift, but that worker could do a lot of other potentially

useful tasks until the cast comes off. Someone who has had recent surgery may not be able to work a full day in the office yet, but could come back half days or do some work at home.

In fact, people often end up sitting at home collecting benefits because their employers have made the discretionary business decision not to take advantage of their available work capacity. Today, these decisions are generally misclassified as “medical” and so are not examined. Sometimes those discretionary decisions make good business sense, but often they do not for reasons that will be discussed in more detail later in this report.



As shown in the figure above, there is much more opportunity to reduce medically-discretionary and medically-unnecessary disability than there is to prevent medically-required disability. Although it is unlikely that all of the discretionary and unnecessary disability can be prevented, substantial reductions are possible.

Recommendation: Stop assuming that absence from work is medically-required, and that correct medical diagnosis and treatment are the only ways to reduce disability. Pay attention to the non-medical causes that underlie discretionary and unnecessary disability. Reduce discretionary disability by increasing the likelihood that employers will provide on-the-job recovery. Reduce unnecessary disability by removing administrative delays and bureaucratic obstacles, strengthening flabby management, and by following other recommendations in this report. Participants should be educated about the nature and extent of preventable disability. Employers in particular should be educated about their powerful role in determining SAW/RTW results.

Current Initiatives and Best Practices: Clinicians, employers, and insurers can all now use the criteria in Table 4 below to determine whether disability is medically-required, discretionary or unnecessary. The definitions in Table 4 come from Chapter 5, the disability prevention and management chapter, in the 2nd edition of the ACOEM Practice Guidelines. If all parties begin using these definitions, clearer communication and better decision-making will result. In particular, physicians will no longer be asked to make employment decisions, and employers will stop misclassifying business decisions as medical ones.

<p align="center">Table 4</p> <p align="center">When is Disability Medically-Required, Medically-Discretionary and Medically-Unnecessary?</p> <p align="center">(Source: ACOEM Practice Guidelines, 2nd edition, Chapter 5, Cornerstones of Disability Prevention and Management, pp 80-82)</p>		
Medically-Required	Medically-Discretionary	Medically-Unnecessary
<p>Typically, absence is medically required when:</p> <ul style="list-style-type: none"> Attendance is required at a place of care (hospital, doctor’s office, physical therapy). Recovery (or quarantine) requires 	<p>Medically-discretionary disability is time away from work at the discretion of a patient or employer that is:</p> <ul style="list-style-type: none"> Associated with a diagnosable medical condition that may have created some functional impairment but left other 	<p>Medically-unnecessary disability occurs whenever a person stays away from work because of non-medical issues such as:</p> <ul style="list-style-type: none"> The perception that a diagnosis alone (without demonstrable functional impairment) justifies work absence.

<p>confinement to bed or home.</p> <ul style="list-style-type: none"> • Being in the workplace or traveling to work is medically contraindicated (poses a specific hazard to the public, coworkers, or to the worker personally, i.e., risks damage to tissues or delays healing). 	<p>functional abilities still intact.</p> <ul style="list-style-type: none"> • Most commonly due to a patient's or employer's decision not to make the extra effort required to find a way for the patient to stay at work during illness or recovery. 	<ul style="list-style-type: none"> • Other problems that masquerade as medical issues, e.g., job dissatisfaction, anger, fear, or other psychosocial factors. • Poor information flow or inadequate communications. • Administrative or procedural delay.
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2. Urgency Required Because Prolonged Time Away From Work is Harmful

Unnecessary prolonged absence from work can cause needless but significant harm to well-being. While on extended disability, many patients lose their footing in three major dimensions: they lose social relationships with co-workers, lose the self-respect that comes from earning a living, and lose a major identity component for most people – what they do for a living.

As treating physicians, we have often seen patients voluntarily and unnecessarily take on a new identity as a disabled person. This is sad for us to watch, since our patients' quality of life deteriorates significantly as a result.

Taking a few days off work may seem harmless enough, and most of us occasionally take advantage of a cold or a sore back to get a needed break from stressful or boring work. The problem is that for some people, a few days off stretches out and becomes needlessly extended disability and leads to significant harm. The quandary is how to tell in advance whose life will go that way and whose will not. Experienced disability claims handlers report that more than three-quarters of their most problematic cases started out as seemingly-minor problems.

Some may argue that it is not worth trying to prevent unnecessary disability in all cases because it will only lead to harm in some. However, there are good examples where as a society we endorse universal prevention activities under similar circumstances. Not every smoker will get lung cancer, not every driver who fails to wear a seatbelt will be injured as a result, and not every worker who flaunts safety rules will get hurt. But, we still tell everyone to stop smoking, wear seatbelts, and follow safety rules. Needless disability should be treated in the same way.

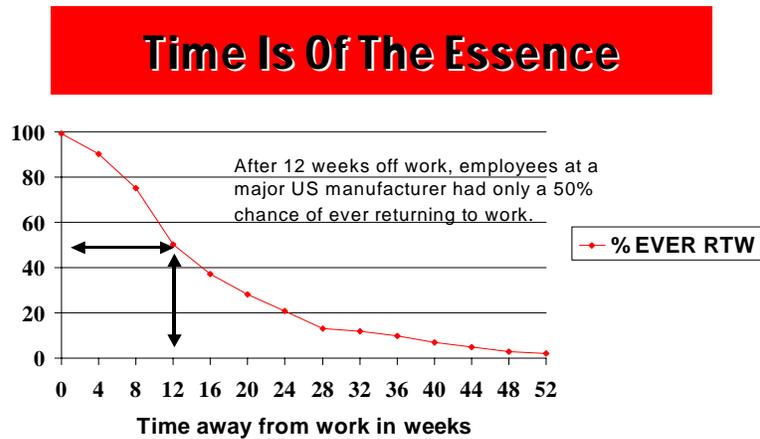
Many of the key players in the SAW/RTW process (patients/workers, their employers, physicians and claims administrators) are not sufficiently aware of the potential harmful effects of prolonged medically excused time away from work. Many think that being away from work reduces stress or allows healing. Many think getting disability benefits is just an administrative or financial issue, and they simply don't consider the fact that the worker's daily life has been disrupted. With these attitudes, iatrogenic or system-induced disability becomes a significant risk.

A recent article by Harris et al in the Journal of the American Medical Association has confirmed again what we doctors have known for years: people who are receiving disability benefits of some kind recover less quickly and have poorer clinical outcomes than those with the same medical conditions but who are not receiving disability benefits. The Harris study was a meta-analysis of all studies with data on surgical outcomes by compensation status. The researchers reported that 175 out of the 211 studies that met their inclusion criteria reported worse surgical outcomes for the patients on workers' compensation or in litigation. (Only one study reported better outcomes in compensated patients, and 35 studies reported no difference.) In the 86 studies where patients in litigation were excluded, the odds of an unsatisfactory outcome were more than three and a half times higher for the patients on workers' compensation than for those not receiving compensation. These are similar to findings of multiple other studies, including two previous meta-analyses of studies of outcomes, one for workers with chronic pain and the other for closed-head injuries.

The current practice of focusing disability management effort on those who have already been out of work a long time is rarely successful. After months of providing "proof of disability" and regular doctor's notes to justify their on-going compensation, these individuals have usually revised their view of themselves and taken on a new identity as disabled. This new identity justifies their life style and protects their financial security. In the meantime, the employer has moved on and filled that person's job slot, and no longer sees the individual as one of their workers.

The key to preventing disability is intervening while the situation is still fresh and fluid. Research has confirmed that people who never lose time from work have better outcomes than people who lose some time from work. Several studies confirm that the odds of returning to work drop with every passing day not at work. Some studies have shown that the odds for return to work to full employment drop to 50-50 by the time 6 months of absence has occurred. Even less encouraging is the study

behind Figure 1, showing the decay curve for workers' compensation cases at a major US manufacturer. In this population, the odds of a worker ever returning to work had dropped to 50% by just the 12th week. The author of a recent meta-analysis of research on the factors that predict prolonged disability reported that the window of opportunity for successful intervention may be as short as 6 weeks.



Recommendations: Shift the focus and shorten the response time. The way that all of us think about disability needs to shift from “managing” it to “preventing” it. Disability benefits systems need to be revamped to reflect the reality that resolving disability episodes is an urgent matter because the window of opportunity to re-normalize life is short. Emphasis needs to be placed on preventing or immediately ending unnecessary time away from work for everyone, because that will prevent the development of the disabled mindset. An educational campaign supporting this position needs to be formulated and widely disseminated. The SAW/RTW process needs to incorporate mechanisms to ensure withdrawal from work is prevented whenever possible, and its effects minimized when not.

On the individual level, all treating physicians, along with the other healthcare professionals on the healthcare team, should keep all of their patients’ lives as normal as possible during illness and recovery, and establish as a universal goal of treatment the fastest possible return to function and resumption of the fullest possible participation in life.

Current Initiatives and Best Practices: Many employers and some insurers now begin return to work efforts within 72 hours and some now begin on the day of injury -- rather than the more traditional approach of waiting to intervene until after 90 days of work disability. One large workers’ compensation insurer has a group of “pre-injury consultants” who work with employers to set up plans and systems beforehand so that they are prepared to respond promptly to avert needless lost work days from the moment of injury.

Attempts are also underway in several quarters to detect workers with pre-existing risk factors for prolonged disability and then manage those cases more intensively right from the onset. Dr. Alan Colledge (a member of this Committee) and some colleagues developed and published a Disability Apgar test, in which a few features of a situation are evaluated and then a risk score can be assigned. The State Fund of California has recently completed a pilot of a program that assesses risk factors at claim intake and makes suggestions for claim management. A workers’ compensation insurer in the Australian Northern Territory uses a situation assessment tool at claim intake and revisits it at intervals, in order to speed detection (and intervention) on claims that have signs of delayed recovery.

II. ADDRESS BEHAVIORAL & CIRCUMSTANTIAL REALITIES THAT CREATE & PROLONG WORK DISABILITY

3. People’s Normal Human Reactions Need to Be Acknowledged and Dealt With

In order to return to work, an injured or ill worker must navigate the Personal Adjustment Process described earlier in this paper. Most people accomplish this without problems. But for those who have difficulty handling that process on their own – coming up with a strategy for coping and adapting and reaching the decision to try to return to work – the other processes in the disability management system do a very poor job of providing assistance. (Some of the issues to be addressed in the Personal Adjustment Process are practical or logistical – how to get to work, who will mow the lawn. The need for better assistance in resolving such problems is discussed in the next section.)

In this section, we focus on a different critical issue – the normal human response to upset and change, and the variability in our ability to cope and adapt. We are not talking about mental illnesses here, such as depression – though psychiatric conditions will be addressed in a later section. We are talking about normal human emotional reactions that are experienced to a greater or lesser degree by every person in these circumstances.

People who have been injured or become ill have had their life disrupted. Even a minor injury may seem like a big event to the person who is injured because it is out of the ordinary. People may suddenly find themselves in pain, upset, worried, dependent on strangers. They may suddenly feel uncertain or uneasy because they don't know where to turn for help, or what doctor to go to. They may be angry at the person who caused their injury, or embarrassed and mad at themselves for being careless or breaking a safety rule. They may be afraid that they will get in trouble, may need surgery, or may never be able to walk again, or that this will mean the end of their career. They may be worried about who is going to pick the kids up from the sitter. Most of the time, they also have to figure out how to deal with an unfamiliar bureaucracy and set of rules – the workers' comp or disability benefits system.

Other parties often contribute to the uncertainty involved. Employers and insurers often neglect to tell or intentionally choose not to tell injured or ill employees very much about how their disability benefit programs work, what to expect, and what they can do to make the process work smoothly. Doctors often do not tell their patients much about their condition – how it will affect their daily life and work, what the eventual outcome and options are likely to be, the expected timeline for treatment and recovery, and what they can do to achieve the best possible result.

These issues and uncertainties can be a lot to cope with, and many workers with a significant illness or injury experience it as a stressful predicament. According to the Holmes Stress Scale, most human beings would find it quite stressful to get sick or be injured, and also stressful to change jobs or work responsibilities. People who are absent from work due to illness or injury are contending with both kinds of stress simultaneously. Of course, the amount of stress felt by a specific individual in a specific situation will vary widely based on factors like the magnitude of the medical problem, the personal and family situation at the time, and the job situation.

According to the view of medical anthropologists, the patient takes on the Sick Role and the Dependent Patient Role after becoming ill or injured. In order to recover, these roles must be relinquished. Since the Sick Role carries with it exemption from normal responsibilities, the right to receive care from others, and freedom from fault, it is a seductive role. Those who have trouble coping with their circumstances are very likely to resist relinquishing those roles, using them instead to feel good about themselves and ensure their future security.

A person's native ability to function and deal with life's problems varies from individual to individual, even without injury or illness involved. People under stress are less able to function well and have been shown to be more prone to illness or injury than those not under stress. If the demands of a situation exceed the individual's ability to cope under those circumstances and no assistance is provided, the Personal Adjustment Process will get stalled. Recovery and return to work will be delayed, needless loss of function occur, or permanent disability created.

In our experience, the current processes do not acknowledge these emotional realities. The medical care, benefit administration, and SAW/RTW processes do not powerfully and openly acknowledge the existence of these issues. Workers are typically left alone to cope regardless of their situation and their coping skills. Little empathy is provided to help bolster their strength and resilience. Little effort has been devoted to reducing uncertainty and other sources of stress. Individuals who are caught up in stress and complexity that they cannot handle by themselves are not identified. This is unfortunate because emotional adjustment has a profound effect on the largely discretionary effort at recovery made by the worker in the Personal Adjustment Process.

Even when emotional factors are recognized by today's participants in SAW/RTW, effective assistance is not usually available. In non-occupational disability, since medical treatment costs are not covered by the benefit program, there is generally no thought given to paying for supportive services that will aid recovery and return-to-work. In workers' compensation, claims adjusters are reluctant to acknowledge these issues and authorize care in the form of mental health services out of concern that it will lead to a claim for a psychological illness and drastically increased claim cost. In fact, though, most of these sick or injured people do not really need psychiatric care. They need the kind of simple education, minor supportive counseling, and reassurance that would normally be provided by a wise friend, a caring family member, a pro-active customer service department, a social worker, an employee assistance program, an ombudsman, or so on. Also, much uncertainty and stress would be removed if treating physicians were pragmatic and clear in pointing out the functional aspects of medical conditions, options, and time frames over the course of treatment, and actively empowered people to cope on their own.

Recommendations: All participants need to expand their model of SAW/RTW to include appropriate handling of the normal human emotional reactions that accompany temporary disability in order to prevent it becoming permanent. Payers need to devise methods to provide these services themselves or pay for reasonable aids to recovery along these lines.

Current Initiatives and Best Practices: Some US employers are creating linkages between their disability benefit programs (workers' compensation, short- and long-term disability) and their employee assistance programs (EAPs) and/or their disease management programs in order to assure that employees are made aware of the option to tap into existing support services. An insurance agency in New Jersey makes immediate solicitous inquiries after a work-related injury occurs to ensure that injured workers feel cared for and all their questions are answered.

4. Investigate and Address Social and Workplace Realities

Research is steadily accumulating showing that the social realities of an individual's connection to the workplace provide powerful predictors for the occurrence of injury and illness as well as for the outcome of the SAW/RTW process. Does the worker like his job? How much pressure and how much decision latitude does the employee have at work? Does the worker get along with her supervisor? Is he perceived as a good employee? Does the employer want her back? Do co-workers respect him, or instead cause him distress? Has she had performance or discipline problems? Is the workplace a hostile or unsafe environment? These factors can have a major impact on the parties' willingness to work towards SAW/RTW, especially when coupled with the emotional adjustment issues raised in the section above. The fact that job dissatisfaction has been shown to be one of the strongest statistical predictors of disability underlines this point.

Home and family life may also pose problems for the worker entering the SAW/RTW process – such as the need to care for aging parents or children, or logistical problems getting to and from work. The worker may be tempted to resolve such problems by prolonging disability benefits. A similar but 180° opposite situation occurs when the family or personal situation leads workers to insist on remaining at work when they medically should not. They may be desperate for money, workaholic, or so identified with their work role that they want to hide illness or incapacity and keep working even though it may harm them, pose a danger to co-workers or the public, or put their employer in violation of the law.

Still another dimension of unacknowledged workplace realities is that employers are often unwilling to admit they are unsure or ignorant of what to do. For example, it is much easier for a supervisor to flatly refuse to provide temporary transitional work than to ask for help because he doesn't know how to interpret the doctor's note, figure out appropriate tasks, and manage the worker who will be performing that assignment.

Though many players in the SAW/RTW process acknowledge the importance of these factors, little has been done to effectively address them in the SAW/RTW process. In fact, a significant problem for SAW/RTW is that employers and workers alike often use the disability benefit system as a way to sidestep difficult workplace issues. Typically these issues are obvious to the employer and/or employee but not disclosed to the outside parties – the doctor, the insurance adjuster – unless they exert significant effort to discover the underlying truths. As a result, these facts are seldom acknowledged or discussed so interventions to address the real issues are seldom attempted.

When key parties to the SAW/RTW process do not know what is really going on because they are not privy to this “inside information,” their effort expended on SAW/RTW will often be misguided or futile. Resources and time are wasted.

Recommendations: The SAW/RTW process should routinely involve inquiry into and articulation of workplace and social realities, since hidden issues rarely resolve themselves. The bio-psycho-social model of disease currently on the ascendant in medicine takes into account these issues. Better communication pathways between SAW/RTW parties should be established. Screening instruments that flag situations where workplace and social issues should be investigated or addressed should be developed and disseminated. Pilot programs that explore the effectiveness of various interventions should be conducted.

Current Initiatives and Best Practices: An innovative program developed by David Brown, a member of our Committee, is now being used successfully by several employers and insurers, particularly in Canada. It has as its centerpiece face-to-face conversations between the employee and the first line supervisor in structured sessions conducted by a trained facilitator. The focus of each session is “what part of your job can you do today?” All other parties (human resources and benefits staff, doctors, unions, etc.) become resources and advisors for the two key participants as they work towards a resolution of the situation. Among the many other positive outcomes of this process have been substantial increases in both employee and supervisor satisfaction with how potentially-disabling situations are being handled – and a near-total demedicalization of the SAW/RTW process.

Pilot studies are underway or complete in British Columbia and Alberta, Scotland, and Victoria (Australia) to intervene early in cases that are showing signs of delayed recovery. Both the evaluation and the intervention consider dimensions other than the medical. Initial results are very promising.

5. Find a Way to Address Psychiatric Conditions Effectively

A substantial minority of the population has undiagnosed / untreated psychiatric illness. When a potentially disabling physical illness or injury occurs to a person with underlying psychiatric illness, the risk of permanent disability increases unless the psychiatric problem is treated. A clinically significant psychiatric disorder becomes symptomatic during a period of serious medical illness in over 50% of cases, especially in those with a prior history of a major psychiatric disorder. In addition, many more previously-undiagnosed workers are vulnerable to developing their first frank episode of anxiety or depression when sick or injured. In these cases, the physical illness or injury precipitates the psychiatric episode.

Mental health treatment is required for these cases because the mental condition significantly affects the patient's reaction to the illness, adherence to medical treatment, the course of illness, its impact on function, and functional recovery from the physical condition. For example, symptoms of depression often include pain, fatigue, poor sleep and apathy. Poor sleep in turn increases sensitivity to pain. In short, psychiatric factors make a significant contribution to the risk of permanent disability unless there is active and effective treatment.

Psychiatric issues are usually undetected, ignored, or ineffectively addressed in the current SAW/RTW process. As a result, many people "stuck" in the disability benefit system have undiagnosed / untreated psychiatric conditions, experiencing the poor outcomes predicted in the paragraphs above.

The reluctance of treating physicians to make a psychiatric diagnosis comes primarily from lack of awareness and stigma. Patients often do not want these diagnoses.

Even when a psychiatric diagnosis is made, whether for a primary mental condition or one that is accompanied by a physical ailment, treatment is often inadequate or inappropriate. Limited benefits coverage and shortages of skilled mental health professionals often mean that expert treatment is unavailable. And, although all healthcare professionals understand the need to protect and foster role functioning in personal relationships, the similar importance of role functioning at work is often overlooked. Faced with a patient who talks about marital stress, few therapists would suggest a separation as the first step, but when a patient describes stress due to difficulties at work, leaving work is often seen as the solution rather than good faith attempts at conflict resolution and preservation of relationships.

There have been dramatic improvements in psychiatric diagnosis and the effectiveness of treatment over the past 15 years. Some employers are well aware of the potential cost-effectiveness of psychiatric treatments, but they also have spent considerable sums on ineffective and expensive therapy. They correctly feel that many mental health providers do not focus on functional recovery and continue overlong with treatments that have no apparent objective benefit. Payers for their part have not conditioned access and payment on providers' adherence to current treatment principles. Like other chronic conditions, psychiatric disorders may intermittently require intensive early treatment of new episodes as well as long-term low-level treatment for prevention of recurrence.

Recommendations: Effective means of acknowledging and treating psychiatric co-morbidities need to be found and widely adopted. Participants in SAW/RTW need to be educated about the interaction of psychiatric and physical problems, and be better prepared to deal with it. Psychiatric assessments of people with slower-than-expected recoveries should become routine. Whether for primary or secondary mental health conditions, payment for psychiatric treatment should be made conditional on the use of evidence-based and cost-effective treatments as well as demonstrated effectiveness.

Current Initiatives and Best Practices: An innovative program to make needed psychiatric services available to injured workers has been pioneered by the Washington State Department of Labor & Industries. This agency handles all the workers' compensation claims and pays all the benefits on behalf of insured employers in the state. The Department has made an agreement with the State Medical Association to pay for up to 90 days of psychiatric treatment "as an aid to cure" of a physical work-related injury as long as the initial evaluation, the treatment plan, and the ongoing progress notes meet certain specifications. It is essential to show a clear connection between the diagnosis and specific barriers to return to work, as well as a connection between the treatment plan and the removal of those barriers. As long as progress is clearly documented in the ongoing treatment notes, payment continues up to 90 days.

6. Reduce Distortion of the Medical Treatment Process by Hidden Financial Agendas

We often observe the medical treatment process being distorted by non-medical factors in cases where the disability benefit system is involved. This most often takes the form of patients seeking particular diagnoses or treatment pathways in order to obtain or maximize benefits. (The specific approach taken will vary based on the details of the benefit plans involved.) Another example of distortion occurs when employers or benefits claims administrators ask precise questions and elicit particular language from naive physicians that is subsequently used as the basis for benefit, claim, or employment determinations.

One cause is the complex and differing sets of rules for eligibility and benefit determination in the various disability benefit programs. Since there are thousands of different disability benefit plan designs, few doctors are ever able to accurately or clearly see the impact their actions may have on a given patient's benefit payments, and where hidden agendas may lie.

Doctors are often aware, either explicitly or subliminally, when patients, employers or payers make requests based on hidden agendas, and it makes them uncomfortable. But they seldom have a clear understanding of what is at stake, do not want to take the time and energy to become more informed, and do not want to risk offending their patient. Treating clinicians often find it simplest to practice a version of “don’t ask, don’t tell” in these situations, particularly because they will not be compensated for time spent learning more about the situation.

Recommendations: Develop effective ways and best practices for dealing with these situations. Treating clinicians should be trained what to do when they sense hidden agendas. Employers and payers should educate the provider about financial aspects that could distort the process. Procedures meant to ensure independence of medical caregivers should not keep the doctor “above it all” and in the dark about the actual factors at work. Limited and non-adversarial participation by impartial doctors may be helpful (for example, ask an occupational medicine physician to brief the treating clinician).

Where possible, the differences between benefit programs that create incentives to distort treatment should be reduced. Employers are in a better position to do this than other payers. However, we understand that some differences exist for important reasons, and that little change is likely to occur here.

Current Initiatives and Best Practices: Many employers are now examining their various benefit programs to see how they dovetail with one another, and whether they create unwanted incentives for employees to behave in a certain way. For example, some employers have set up paid time off banks in lieu of sick leave in order to decrease abuse and increase the predictability of employee absence. Others have redesigned their short-term disability program benefits to more closely match the workers’ compensation benefit and vice versa. An increasing number of employers who provide salary continuation or short-term disability coverage are expanding their workers’ compensation return-to-work programs to cover non-occupational conditions as well.

III. ACKNOWLEDGE THE POWERFUL CONTRIBUTION THAT MOTIVATION MAKES TO OUTCOMES AND MAKE CHANGES THAT IMPROVE INCENTIVE ALIGNMENT

7. Pay Doctors For Disability Prevention Work to Increase Their Professional Commitment to It

Disability prevention and management takes both physician time and cognitive work; it requires a lot more than just filling out a form. Yet doctors are seldom paid extra for collaborating in the SAW/RTW process. This in part reflects reluctance of payers to pay for these services, and in part is due to doctors not knowing how, or whether, to ask for payment. In either case, the doctor is prone to presume this work is unimportant because it has no market value, and give it low priority. For routine cases this has only minor impact. In more complex situations that could benefit from the doctor's initiative or active participation, the monetary disincentive reflected by lack of payment often deters the doctor from responding quickly or making the extra effort, often delaying SAW/RTW.

Since most doctors don’t consider disability prevention their responsibility, their passivity does not represent a failure to carry out their perceived duty. Although employers and insurers may assert that disability management should be included in the price of the medical visit, those words have little impact on physician behavior.

Recommendation: Develop ways to compensate physicians for the cognitive work and time spent on evaluating patients and providing needed information to employer and insurers, and on resolving SAW/RTW issues. ACOEM has developed a proposal for new multi-level CPT codes for disability management that reveals the variety and extent of the intellectual work that physicians must do in performing this task. Simple adoption of a new CPT code (and payment schema) for functional assessment and triage of patients could achieve similar goals. Payers may be understandably reluctant to pay all doctors new fees for disability management because of reasonable concerns about billing abuses -- extra costs without improvement in outcomes. We recommend that the ability to bill for these services be a privilege, not a right, for providers, and that the privilege be contingent on completion of training and an on-going pattern of evidence-based care and good faith effort at achieving optimal functional outcomes.

Current Initiatives and Best Practices:

- An innovative operation in Victoria and New South Wales, Australia, builds working relationships between selected local providers and employers. Instead of contracting for discounted fees, the employer customers agree to pay full fees in exchange for the selected providers’ agreement to learn about the employer’s programs, and collaborate and communicate promptly. The selected providers are also paid additional fees for the extra effort spent on communications. Under

Australian state law, the employers cannot direct the employee where to go for injury care, but are nevertheless generally able to voluntarily channel more than 85% of injured workers to the selected providers.

- A workers' compensation insurer in Massachusetts selected and trained a network of primary occupational medicine providers (POPs) and asked them to help manage the situation caused by the injury or illness as well as manage the medical condition. The insurer paid these doctors their full fee-schedule rates for medical care PLUS a modest fixed fee for "situation management" for every case they handled. Half of the new fee was held back and paid as a bonus if the doctor's overall pattern of care revealed good overall results – appropriate medical costs, good patient and employer satisfaction, and low disability rates. Another aspect of the program was a very aggressive effort at teaching employers to channel to the POPs. Many employers were able to channel more than 85%. The net results were good: the fraction of workers' compensation injuries that became lost time injuries was 6-8% lower when the treating physician was a POP.

8. Support Appropriate Patient Advocacy by Getting Treating Doctors Out of a Loyalties Bind

Governmental agencies, insurers and employers expect doctors to provide unbiased information that verifies what their claimants / employees have said about their medical conditions and ability to work. Some of this information will be used as a means to validate claims and manage attendance, and may be used to award or deny monetary or other benefits, or as the basis for personnel actions. Doctors are often made aware of this by their patients. The medical profession does not acknowledge any duty to play this role as corroborator of fact for third parties, especially considering that negative financial consequences for patients may result. In fact, the doctor has a sworn and solemn duty to advocate for the patient, and to consider the patient's interest before his or her own.

That said, many doctors have not thought carefully about what patient advocacy means in the context of SAW/RTW. Most of the time, being an effective advocate for a patient's health and safety would mean promoting employment and full social participation. But the scope of "patient advocacy" varies from doctor to doctor, with some using their role as physician to advocate for whatever their patient wants, or their economic well-being, or even for social justice. Historically, the main way that employers and insurers have dealt with this is through the independent medical examination process.

Recommendations: The SAW / RTW process needs to recognize the treating doctor's allegiance, reinforce the primacy of the commitment to the patient / employee's health and safety and avoid putting the treating doctor in a bind of conflicting loyalties. Focusing on function will reduce split loyalties and avoid breaches of confidentiality. Simpler, quicker, and less adversarial means of obtaining corroborative information need to be employed. Creative ways to allow treating physicians to participate in SAW/RTW without betraying their sense of loyalty to patients need to be developed.

Current initiatives and best practices:

Employers and insurers who get the best return-to-work results and have the lowest disability rates:

- Take charge of the process from the start, not letting it ever appear the doctor is in charge of making employment decisions.
- Inform treating doctors that the employer has a temporary transitional work program and that most workers are expected to recover on the job.
- Make it clear that they can provide work within a wide range of functional abilities, and will be careful to abide by any guidelines set by the doctor.
- Stop asking doctors to set return to work dates, and instead ask the doctors to provide functional capacities, restrictions, and limitations.
- Use metrics such as work days lost per 100 injury/illness episodes to track the effectiveness of their programs.

9. Increase "Real-Time" Availability of On-The-Job Recovery, Transitional Work Programs, and Permanent Job Modifications

A cornerstone of disability prevention is allowing workers to recover on the job. Most commonly this takes the form of transitional work programs (sometimes referred to by other terms such as temporary modified work, alternative duties, or light duty) that let workers return to work at partial capacity during their recuperation period. On-the-job recovery usually involves a temporary change in job tasks, work schedule, or work environment, and often requires a reduction in performance expectations for the limited duration of the assignment, generally not more than 90 days. Workers in on-the-job recovery programs are expected to return to their usual jobs, with or without permanent accommodations, once the temporary assignment is complete.

Permanent job modifications such as task re-design or a switch to ergonomically-designed tools may also allow for recovery on the job. However, permanent modifications are usually made to enable employees to continue working their usual jobs without interruption, and to meet the regular performance expectations of that job.

Currently, the main problems that get in the way of workers recovering on the job are:

- Employers whose formal or informal practice is not to take workers back until they can do their regular jobs, and employers who have return to work programs on paper only. There are many employers who still refuse to provide temporarily modified work, and there are many labor agreements that prohibit it. Insurers that give discounts to employers who say they have transitional work programs typically fail to confirm that the programs are actually used. Few employers provide financial incentives to supervisors to make arrangements for on-the-job recovery by subsidizing the labor cost of transitional work programs. Few also appropriately allocate the cost of disability benefits to the operating units whose failure to keep workers safe or provide transitional work has created the lost workdays.
- The bad reputation of “light duty.” Based on their past experience, both employers and workers may see light duty as a dead-end, a permanent sinecure, a parking lot for favorites and aging workers who can no longer keep up. Others have seen light duty used as a punishment. They resist it out of fear they will be given nothing or only meaningless work to do, or will be ordered or pressured to violate their work restrictions, or will be left isolated, or teased and harassed.
- Long lag times. Many companies that do have return to work programs do not use them promptly. They are reactive rather than pro-active. When one of their workers becomes ill or injured, they do not anticipate the need for transitional work assignments but instead wait to hear what is needed. After the doctor writes restrictions or the physical or occupational therapist recommends job modifications, the employer has the responsibility to make concrete arrangements for return to work – but the employer often has no internal resource with expertise, operational processes and budget authority to make it happen quickly. This is true for both temporary and permanent job modifications.

Recommendations: Employers should be encouraged, incentivized, or required to have **and actually use** transitional work programs. Employers need to have clearly-written policies and procedures that provide instruction and direction to people in carrying out their responsibilities. Supervisors should be held accountable for the cost of benefits if temporary transitional work is not made available to their injured/ill employees when possible. Where applicable, unions should be consulted in the design of on-the-job recovery programs. Program participation by workers should either be required or strongly incentivized, with ombudsman services made available to protect against abuse. Expert resources should be made available to employers to assist them in implementing and managing these programs on an on-going basis.

Current initiatives and best practices: Successful transitional work programs are now in place in many well-managed organizations, large and small. Over the last several years, these organizations can point to concrete and significant reductions in costs and absenteeism rates caused by implementing transitional work programs. They generously share their success stories at industry conferences.

The Ohio Bureau of Workers’ Compensation has made a remarkable investment in statewide Transitional Work Program (TWP) Grants. Under this program, employers are eligible for a state-funded grant of up to \$5200 to develop a TWP. Employer participation has been enthusiastic, and program results have improved. Many of the employers have used vocational rehabilitation professionals or physical/occupational therapists to develop the transitional work program for them, and they maintain ongoing service relationships.

California’s recent workers’ compensation reform legislation includes a program to reimburse small employers who purchase adaptive equipment or otherwise modify jobs for injured workers for up to \$2500.

An employer consortium sponsored and led by the occupational medicine program at a clinic in Illinois provides guidance and support to small- and medium-sized local employers in setting up and running their transitional work programs. Employers are grateful and provide enthusiastic support.

The Australian state of New South Wales requires all employers with more than 200 employees to appoint an in-house injury manager who is responsible for creating return to work plans.

10. Be Rigorous Yet Fair and Kind to Reduce Minor Abuses and Cynicism

As described earlier, the disability benefit system is often used inappropriately as a means to solve other problems – taking sick leave in order to stay home and care for a child, using sick leave for “mental health days”, developing a headache and staying home the day after a disappointing or upsetting event at work – and the rules are stretched in order to receive benefits when there is no real medical justification.

The more this is allowed to happen, the more people start to assume that everyone is engaging in such behavior. Eventually, anyone who files a claim is treated with cynicism or suspicion. Those with legitimate needs may be treated unkindly and the SAW/RTW process may become unpleasant for them. In many industries, such an attitude is widespread and seriously hampers the SAW/RTW process. Additionally, if transitional work programs are allowed to become permanent havens for non-productive workers, both employees and supervisors lose enthusiasm for them. Likewise, if light duty is used to demean, harass, or ostracize workers, the programs may become counterproductive.

Recommendations: Programs that allow employees to take occasional time off without the need of a medical excuse (such as paid time off programs) should be encouraged. The negative effect of turning a blind eye to inappropriate use of disability benefit programs should be more widely understood. Petty corruption should be discouraged by means of consistent and rigorous program administration. Methods of reducing widespread cynicism among management and workers about disability benefit programs should be devised and deployed. All parties should be trained how to face situations squarely without becoming adversarial. Workers involved in the SAW/RTW process should be treated with courtesy, kindness, and fairness.

11. Devise Better Strategies To Deal With Bad Faith Behavior

There are many parties to individual cases in the disability benefits system: employees, their families, their supervisors, employer management, treating clinician(s), insurance carriers, benefits administrators, case managers, union representatives, and lawyers.

A few individuals in each group step beyond the line of appropriate behavior, manipulating the SAW/RTW process to the point of serious abuse or clearly fraudulent activity. For example, some employers pressure workers not to report work-related injuries, fire those who do, force recovering workers to work beyond their limits, or continue to put injured workers in unsafe work environments. Some insurers take advantage of unsophisticated workers or employ unethical claims practices. Some employees manufacture injuries, intentionally exaggerate symptoms, or fraudulently claim benefits for prolonged periods. Some treating clinicians attempt to maximize their fees by continuing treatment and authorizing disability past the point of medical necessity, sometimes to the detriment of the patient and sometimes in collusion with the patient. Other clinicians have lost their independence and simply do the bidding of employers, insurers, or lawyers.

Employers and insurers exert a lot of effort identifying and dealing with employees who take advantage of the system, and to a lesser extent with doctors that do the same. In comparison, little attention has been paid to the harm done to injured or ill employees when their claims adjuster or employer gives them poor service or engages in inappropriate or illegal behavior.

Often, the only recourse available to the injured worker or employee with a complaint is a lawyer. Most people who seek counsel do so only after a problem has arisen. The legal system is a poor substitute for good customer service and fair treatment. Judicial remedies are not usually therapeutic in nature or in timing. People who feel they have been ill-served and retain lawyers get involved in a system that by its adversarial nature hardens and polarizes positions, delays resolution until after the window of opportunity to prevent needless disability has closed, and increases the likelihood of poor functional outcomes.

One multi-state insurer's analysis shows that the median cost of a workers' compensation claims in which the claimant has legal representation is about \$30,000 more than those without lawyers involved. The median cost of represented claims is between 10 and 20 times higher than the median cost of unrepresented ones.

Recommendations: In addition to continuing efforts to rein in bad behavior by claimants and doctors, more effort needs to be devoted to identifying and dealing with employers or insurers who do not play fair in SAW/RTW efforts and do not respect the legitimate needs of employees who are dealing with a medical condition. We recommend that some form of complaint investigation and resolution service, such as ombudsman services, be made available to employees who feel they have received poor service or are being treated unkindly, inappropriately, or unfairly.

IV. INVEST IN SYSTEM AND INFRASTRUCTURE IMPROVEMENTS

12. Educate Physicians on Why and How to Play Their Role in Preventing Disability

Few doctors have ever received training in disability prevention and management. Virtually no medical school courses address this area, and neither do residencies and internships. Two specialties are the exception: occupational medicine and psychiatry, both of which consider the issue of functional ability a major focus of their work.

Doctors in most other specialties don't clearly understand how the process works; don't see SAW/RTW as part of the practice of medicine; don't see it as their duty; and so are uninterested in it. Yet the average doctor who treats working-age adults usually signs five or more work-related letters or notes to employers and payers per week, and is by definition a regular participant in SAW/RTW. Because of this, they may allow workers to return to work who should not, and then disable those who could be working.

Medical educators are already overwhelmed by the volume of knowledge that must be transmitted to students and practitioners. Although function is now acknowledged as having a greater impact on quality of life than serious illness, most requests to medical schools from employers and insurers to integrate evaluation of function in their teaching and testing of skills have been politely ignored.

Recommendations: All treating physicians should be educated in the basics of disability prevention, disability management, and their role in the SAW/RTW process. Advanced training should also be provided using methods and modes that will be attractive to and effective with physicians. Most likely, such training will have to take place at the behest of employers and insurers – not the medical profession itself. Appropriate privileges and reimbursements should be available to physicians who have been trained (e.g. membership in special networks). Treatment guidelines should routinely include attention to function where adequate supporting medical evidence exists. Note that the knowledge and skills to be imparted are consistent with current recommendations that medicine in general shift from a reactive disease-oriented paradigm to a proactive health-oriented one.

Current Initiatives and Best Practices: ACOEM and the American Academy of Orthopedic Surgeons have active educational efforts underway within their professional societies, with courses on disability-related topics at all annual conferences.

As part of a larger initiative to focus disease management and benefit cost reduction programs at the community level, several employers in West Virginia and Idaho have embarked on an initiative to award quality points towards bonuses to those local physicians who attend a live training session or take a short web-based course in disability prevention and return to work communications.

Two workers' compensation healthcare provider networks in California and Florida have already strongly encouraged their physicians to take a course in disability prevention. Other networks have similar programs now in development. The State Compensation Insurance Fund of California has recently decided to make disability management training a requirement for key clinicians in its medical provider network (MPN).

13. Disseminate Medical Evidence Regarding the Benefits on Recovery of Staying at Work and Being Active

There is strong evidence that activity is necessary for optimal recovery from injury / illness / surgery, while inactivity delays it. Moreover, for an array of conditions including depression, chronic pain, fibromyalgia, and chronic fatigue syndrome, simple aerobic physical activity has been shown to be an effective treatment. There also is evidence that remaining at or promptly returning to some form of productive work improves clinical outcomes as compared to passive medical rehabilitation programs. Therefore, the ACOEM Practice Guidelines consistently recommend exercise, active self-care, and the earliest possible safe return to work. In spite of this evidence, inactivity, work avoidance, and passive medical rehabilitation programs are often prescribed as treatment, leading to adverse patient outcomes.

Recommendations: Large scale educational efforts need to be undertaken so that treating clinicians and other system participants prescribe inactivity only when medically required, and activity recommendations become a routine part of all medical treatment plans. Wherever possible, regulations or policies should specify that medical care must be consistent with current medical best practices, or even better, an evidence-based guideline should be adopted as the standard of care.

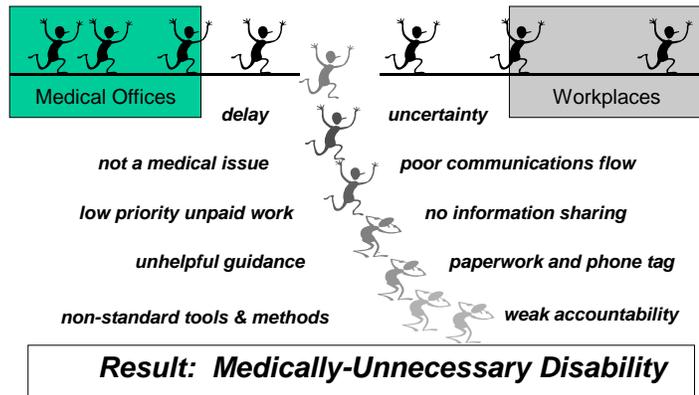
Current Initiatives and Best Practices: The State of California has recently adopted ACOEM's Practice Guidelines as the best available evidence-based standard of care for new workers' compensation injuries. California law says that the Guidelines shall be "presumptively correct on the issue of extent and scope of medical treatment." (www.dir.ca.gov/dwc/DWCPropRegs/UR_ISOR.doc) The State of Colorado also has developed evidence-based treatment guidelines, and requires those who perform independent medical evaluations to take a rigorous state-sponsored training course. Their opinions must conform to state standards.

14. Simplify and Standardize Methods of Information Exchange between Employers/Payers and Medical Offices

Though doctors play an important role in the SAW/RTW process, they are typically given too little information to play their role effectively. Often the employee is the doctor's only source of information, because the employer is not visible. Employers usually do not send any information to the doctor about an employee's functional job requirements, their SAW/RTW programs, their commitment (or lack of it) to employee well-being, or how to get questions quickly answered or problems addressed.

Claim administrators often request information from the doctor to help in managing their claim. They tend to use a generic approach that does not match up the information requested with the actual simplicity or complexity of the situation. Questions often seem designed to determine eligibility for benefits rather than to find a way to help the worker return to work. Not enough focus is placed on discussion of patient functionality, which is not subject to confidentiality restrictions. Employers and claims administrators often find it easier and more efficient to send volumes of material to the doctor instead of paring it down to the essential questions for the doctor's convenience.

This Gap Creates Disability



For their part, many doctors seem unaware of employers' and benefit administrators' legitimate needs for information. Then, when doctors receive poorly-conceived requests for guidance or opinions, they have little tolerance or time for poring through irrelevant or redundant information to find the few useful pieces of data. Many doctors are simply unaware of the impact of their delays or inadequate responses on achieving optimal functional outcomes for their patients. Both sides of the communication divide are exasperated by the enormous variability in the other's paper forms.

Recommendations: Employers, insurers and benefits administrators should stop using communication methods that are convenient for them but waste the doctor's (largely unpaid) time. They should spend the time to digest, excerpt, or highlight key information so the doctor can quickly and easily spot the key issues and meet the need for prompt and pertinent information in return. In particular, prior medical records should always be sent to the doctor prior to the appointment, since the lack of any documented historical information is a very common problem. Focusing communications more on function will provide a better justification for disability benefit payments and foster return to employment. All parties need to learn to discuss the issues, verbally or in writing, in terms of function, and engage in a mutual search for ways to resolve obstacles.

Current Initiatives and Best Practices: Training can make employer and insurer staff more aware of the practical realities of the doctor's office, and teach how to make information requests that will succeed by fitting in with this rhythm. Successful case managers often fax a single page sheet to the doctor's office the day before a patient's appointment. The sheet contains one or a handful of questions or options, accompanied by checkboxes the doctor can use to answer them. Several new companies are seeking to link medical provider offices with employers and insurers, using various business models to help make the process valuable for all participants

15. Improve and Standardize the Methods and Tools that Provide Data for SAW-RTW Decision-Making

As soon as other people get involved in a worker's SAW/RTW process, they need data about work capacity and job demands on which to base their decisions or take action. Existing methods and tools for obtaining and analyzing data are non-standard and rather crude considering the impact they have on hundreds of thousands of work disability episodes per year.

In the time-pressured setting of everyday patient care, treating doctors typically just improvise and use some form of informed guesswork to come up with work capacity, medical restrictions, and functional limitations on the spur of the moment. Similarly, employees and employers typically use informed guesswork to describe the functional demands of workplace tasks. Most of the time, this method seems to work well enough.

However, whenever ability to work is uncertain or disputed, everyone, especially the courts, develops an appetite for "hard facts" and data. Most of the wide variety of proprietary methods and technologies for determining work capacity now in current use were developed by the private sector.

Although almost all commercial methods and machines claim to have been "scientifically tested," very little high quality research has been published in rigorously peer-reviewed scientific journals. Most of the studies relating tests to work are not published in the leading testing journals because the studies are typically produced for a single employer or entrepreneur under contract. As a result, there is little incentive to publish the results.

Paradoxically, one major study showed that functional capacity evaluations (FCEs) were worse than no testing at all at facilitating appropriate job placement. In that study, a group of patients all underwent functional capacity evaluations. Those whose doctors used data from the FCEs as the basis for their return to work advice did worse than those whose doctors ignored the FCE results and simply reassured and returned the workers to their usual jobs.

Testing of almost any kind is more accurate when people want to pass rather than fail it (for example, when they want to be hired for a job, rather than when the insurance company wants to cut off their benefits). It is ironic, therefore, that work capacity testing is most often done because someone suspects and wants to document weak motivation or malingering – the circumstances under which the technology is weakest. The lack of rigorous scientific support for the accuracy and practical usefulness of existing work capacity measurement methods has not deterred the measurement industry, because its customers continue to think that “objective hard data” is better than no data.

Table 5 provides examples of the methods commonly used by physicians to obtain the data needed for SAW/RTW decision-making. For each question or issue to be resolved, the table shows the fast and low cost or simple method typically used in an everyday medical office visit compared to a high cost or complex method that is typically used in a complex or litigated situation. As can be inferred from the table, the range in technical sophistication, time required, and cost is considerable.

Preparing this table made us realize that one important reference has not yet been developed. Physicians who are looking for authoritative information have no resource for the occupational implications of various specific medical conditions or descriptions of patient-specific or task-specific considerations that would generate the need for specific medical restrictions.

Table 5		
Examples of Methods Currently Available to Physicians		
Question/Issue To Be Resolved	Low-Cost and/or Simple Method	High-Cost and/or Complex Method
What are the functional demands of the worker’s usual job?	Doctor asks the worker what he/she usually does at work.	Doctor relies on data from a job analysis. Doctor reads a multi-page comprehensive functional job description possibly with digital photos/video. The report has been prepared by a trained expert hired by the employer or insurer. The expert did a formal job analysis including making actual measurements at the worksite.
What is the worker’s current work capacity and functional limitations?	Doctor asks what the worker can’t do; observes the worker’s behavior in the exam room; performs a physical exam – and then mentally projects those answers and observations into likely workplace activities	Use data from tests such as treadmill testing (aerobic exercise capacity), functional capacity evaluation (musculoskeletal work capacity) or neuropsychological testing (cognitive ability). Tests of other capacities are available but much more rarely used. Doctor reads a report of the worker’s visit to a special testing facility, in which he/she performed a set of maneuvers to ascertain the worker’s maximum work capacity.
Is there a medical reason why the worker should be removed from work? Is there any specific activity/exposure the worker should avoid for medical reasons?	Doctor uses his/her own knowledge of workplaces and jobs, then thinks about potential situations that might pose a risk to the health / safety of the worker or others -- and writes medical restrictions to avoid them.	Other than disability duration guidelines that specify the length of time people are typically absent from work for various conditions, no clinical resource is available. We are unaware of any reference that systematically reviews the occupational implications (medical concerns and functional issues) of various medical conditions. Neither a consensus-based encyclopedic reference nor a systematic and comprehensive review of evidence-based medical literature exists yet.
Can this worker with this functional capacity and these medical restrictions do this particular job?	Make an informed guess. The doctor uses whatever information is available to decide whether the worker’s current capabilities match with the job demands. <i>OR</i> The employer or insurer looks for a match. They compare the employee’s abilities as portrayed in a doctor’s note with the demands of available jobs	Doctor relies on data from functional testing. Using information about a particular job, a testing facility devises a set of maneuvers that duplicate the maximum functional demands required by the tasks of that particular job. Then the worker attempts to perform those critical tasks. The areas of mismatch are the tasks that the worker cannot perform.
Ways of modifying jobs/ making accommodations	The doctor makes a suggestion based on his/her previous life and practice experience. The employer may seek advice from a consulting physician with occupational medicine expertise.	Doctor relies on data in a report written by a vocational counselor or similarly trained and qualified professional who has evaluated the situation in detail and made recommendations.

Recommendations: Standardization of key information and processes could help doctors participate more efficiently in SAW/RTW. Sending functional job descriptions to doctors at onset of disability should become routine. In order to be available at time of need, these descriptions must be prepared ahead of time by employers and stockpiled at the benefit administrator. They should focus on critical (meaning maximum) functional demands of individual job tasks, and be both accurate and up-to-date. Practical “bedside” methods of determining and documenting functional capacity should be routinely taught to doctors. Purveyors of functional capacity evaluation methods and machines should be required to provide published evidence of high quality peer-reviewed trials comparing their adequacy to other methods. Government, employers, insurers, or foundations may be appropriate sources for funding that research.

Current best practices and initiatives: Many occupational medicine physicians ask workers carefully-designed questions about everyday activities or observe them while they perform a simple set of office-based maneuvers in order to quickly obtain objective information on which to base their opinions. Occupational medicine specialists commonly tour the plants of their industrial clients in order to familiarize themselves with the physical work environment and the tasks of specific jobs. Many employers have already developed detailed functional job descriptions as part of their ADA compliance program. Some have modified their claim intake process to include mailing the worker’s job description to the treating physician. Some large companies are developing a computerized database of all tasks including each task’s critical (most difficult) functional demands. A few companies are using job-specific functional testing at time of hire as well as at routine intervals after injury or illness in order to assure that workers are assigned tasks within their capabilities. Both vendors and purchasers of evaluation methodologies are beginning to see the necessity of demonstrating validity and reliability in well-designed and controlled peer-reviewed trials.

16. Increase the Study of and Knowledge About SAW/RTW

The SAW / RTW process has not been systematically and formally studied in much detail, and certainly not in proportion to its significance for the well-being of millions of workers. Little data exists describing process metrics or patient outcomes. There is a dearth of solid methodological foundation or medical evidence to support methods and tools commonly in use, or to form the basis for improving them.

Many millions of public health dollars have been spent studying the adequacy of healthcare services and experimenting with ways to improve outcomes for the poor in Medicaid programs, and the elderly in Medicare programs. Virtually no public health funding or research has asked or answered similar questions regarding the adequacy of healthcare services and resulting outcomes for the employed population served by the workers’ compensation system. The failure of the states and the private sector to address these issues is good fodder for those who think that workers’ compensation should be federalized, or who argue for a larger federal role in regulating it.

With regard to disability benefits, some publicly-funded published research has been done only on the long-term disabled population served by Social Security disability insurance in the United States. This is in contrast to Europe, which distinguishes between the long-term disabled and the newly or temporarily disabled, and does research on both. Virtually no U.S. research money or effort has been devoted to studying the adequacy of medical services and outcomes of care for the people served by the state-based and private disability benefits systems. As with workers’ compensation, the failure to address these issues may point to a need for a federal agenda.

Recommendations: A description of the SAW/RTW process should be compiled and widely disseminated, along with recommendations on how to best implement change to achieve desired results in disability outcomes. Industry-specific as well as broad-based research programs should be established and funded, perhaps in the form of independent institutes or as enhancements to university-based programs. Existing research findings should be collected, tabulated, and the findings should be analyzed and published. Research agendas should be formulated in order to gain a richer understanding of current practices and outcomes, to determine best practices, and to test alternative solutions to addressing problems. A dissemination framework should be developed that effectively communicates the findings of completed research to all stakeholders, especially decision-makers. This framework should also solicit needs for future research.

A sampling of research topics of interest might include:

- Screening tools that accurately predict relative risk of long-term functional disability, and provide a basis for therapeutic interventions.
- The long term natural history of prolonged absence or withdrawal from work. What does happen to these people?
- Controlled trials of various claims and clinical interventions designed to improve medical and functional outcomes.
- A systematic assessment and catalogue of the functional implications and occupational considerations related to the 300 or so medical conditions that most commonly cause disability.
- Comparison of means to assess work ability/capacity.

- Ways to standardize and increase the availability and usability of functional job descriptions.
- Study of physician behavior in dealing with role conflict.
- Controlled trials that compare different methods for training physicians in disability prevention, and assess the impact of that training on clinical, functional, and financial outcomes.
- Ways to increase the recognition and effective treatment of psychiatric co-morbidities.
- Effective ways to streamline communications between participants in SAW/RTW.
- Comparison of different methods to reward physicians for active participation in the SAW/RTW process.

SUMMARY AND CONCLUDING REMARKS

It is our opinion that the current SAW/RTW process too often fails to meet the needs of patients, their employers, benefits payers, and society as a whole.

Although most people with injury or illness are able to cope with their problem and receive the support needed to adjust their life and work either temporarily or permanently, a very important minority of them are not. These people do not recover successfully, do adopt a disabled self-concept, and end up either with needlessly prolonged absence or permanent withdrawal from work – and are lost to the productive side of the economy. In problematic situations, the SAW/RTW process is usually inadequate and ill-suited to detect and effectively address the issues that are most important to the outcome. The small fraction of troublesome situations accounts for the vast bulk of needless expenditures for disability benefits. Because this small number of claims accounts for such a large portion of all disability program costs, a one percent reduction in cases with prolonged disability should generate a substantially larger reduction in overall system cost.

In keeping with our roots as a preventive specialty, we recommend that the focus of the SAW/RTW process shift away from “managing” or “evaluating” disability towards preventing it. We contend that the fundamental reason for a considerable fraction of lost workdays and lost jobs is not medical necessity but rather non-medical decision-making and poor functioning of the SAW/RTW process.

Employers, insurance carriers and governmental agencies that are currently burdened by the costs of preventable disability, and that are worried about the implications of an aging workforce for future trends, should consider underwriting efforts to prevent disability more effectively.

As is reflected in the recommendations we have made throughout this paper, improving the SAW/RTW process will require:

- A sense of urgency
- Attention and priority
- Research
- Experimentation with new methods and interventions
- Infrastructure development
- Policy revision
- Methodological improvement and dissemination
- Education and training
- Incentive alignment
- Funding

Common sense evidence abounds that keeping people at work and productively contributing to society is good for them and for society. To avoid the unfortunate outcome of iatrogenic or system-induced disability is worthwhile. To improve the appropriateness and usefulness of services available to people who are coping with illness and injury in their lives is also of value. And it is sensible, if not urgent, for us as a society to curtail the needless use of resources and loss of personal and industrial productivity.

Making improvements in the SAW/RTW process will require sustained attention and effort, and a willingness to explore new ways of doing things. We hope that our report will stimulate thinking and begin a regular dialogue with other stakeholders to explore this topic in progressively more depth. We also hope that the national and international conversation about the societal issue of disability will be more informed and fruitful as a result, and that this will catalyze productive changes in the system.

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ATTACHMENT B: TOPICAL BIBLIOGRAPHY

Below is a list of references that we have used in educating ourselves and preparing this document. This topical bibliography is divided into sections that correspond roughly with the sections of the report. Some references are applicable to more than one area. In general, these materials corroborate the major points made in this paper. The SAW/RTW process has itself not been the subject of as much scientific research as other medical and public policy areas of comparable import to society. Some of our major concerns lie in areas that have not been rigorously investigated yet, probably due to lack of interest or availability of funding. (This in itself is one of our major concerns.) As a result, some topics have fewer or weaker supporting references than would be available if more research had already been done.

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Appendix 11. Attachment to submission E-49

Potential Prevalence of Occupational EMF Exposures

Source	Frequency bands	Proportion of Workforce Possibly Exposed	US Workers Possibly Exposed (millions)	Sector
Electric motors	ELF	0.169	21.7	All sectors
Industrial heating equipment to bond or seal or weld	DC, ELF, MF-HF, HF-VHF	0.093	11.9	Manufacturing
Electrical machinery constructed, repaired or maintained	ELF	0.059	7.5	Services & Manufacturing
Industrial heating equipment to melt or dry or cure	ELF, VLF-LF, MF-HF, UHF-mw	0.047	6.1	Manufacturing
Industrial heating equipment for food	ELF, VLF-LF, UHF-mw	0.040	5.1	Services & Manufacturing
Electric transport	DC, ELF	0.020	2.6	Transportation
Electric company	ELF	0.019	2.4	Utilities
Medical Diagnosis & Treatment	all	0.019	2.4	Healthcare
Electrician	ELF	0.016	2.1	Services & Construction
Radar	UHF/microwave	0.014	1.8	Transportation
Telecommunication antennas	VLF-LF, MF-HF, HF-VHF, UHF-mw	0.012	1.5	Services
Semiconductor	ELF, HF-VHF	0.007	0.9	Manufacturing
Aviation	ELF	0.005	0.7	Transportation
Totals:				
ELF only		0.288	36.9	
Possible RF/microwave		0.232	29.7	

Appendix 12. Table compiled by Malecha (comment 4570.01)

(See next page)

Nurses and Stressors

Author(s) Year Title	Purpose of Study	Study Design Sample, Setting	Instruments	Findings & Conclusions
<p>Anderson (2002). <i>Workplace violence: Are some nurses more vulnerable?</i></p>	<p>Describe <i>workplace violence events</i> (WPVE) by type, frequency, perpetrator, and contributing factors and explore relationship between WPVE and <i>history of childhood or adult abuse</i></p>	<p>Randomly selected RNs from BNE; mailed out 800, N=70 responded, final n=67 88% Caucasian, 95.4% female, 46-years-old, mostly BS degree</p>	<p><u>Workplace violence</u> = Workplace Violence Questionnaire & Demographics (WVQD); modified version (n=26) <u>History of abuse</u> = Child Abuse & Trauma (CAT); modified (n=41)</p>	<p>58.2% childhood abuse; primarily sexual abuse (89%) 41.8% witness adult abuse 37.3% victim of adult abuse 1.5% perp of abuse 71% emotional/verbal WPVE 41.8% sexual WPVE 38.8% physical WPVE 41.3% from physician 20.6% from nurses 20.6% from pts. Nurses with a history of abuse reported more WPVE</p>
<p>Anderson & Parish (2003). <i>Report of workplace violence by Hispanic nurses</i></p>	<p>Explore association between <i>workplace violence</i> (WPV) and <i>victim characteristics</i> (prior childhood or adult violence)</p>	<p>Random selection of 900 Hispanic nurses representing 3 counties in Texas; names obtained from BNE and STTI. N=90 (10%) responded 91% female, 43% BS degree, 49-years-old, experienced their first significant WPV event at less than 4 years in the profession</p>	<p><u>Workplace violence</u> = Workplace Violence Questionnaire & Demographics (WVQD) developed by the researcher</p>	<p>94% emotional-verbal WPV 66% sexual WPV 43% physical WPV 63.9% child or adult abuse All male nurses (n=8) reported child or adult abuse Nurses with a history of abuse, more emotional-verbal WPV</p>

<p>Hayhurst, Saylor, Stuenkel (2005). <i>Work environmental factors and retention of nurses</i></p>	<p>Describe factors in work environment (peer cohesion, supervisory support, autonomy, and work pressure) and relate these factors to retention on RNs</p>	<p>Descriptive, correlational RNs, who provide inpatient bedside care, from large county hospital in Northern California. 692 questionnaires sent out, N=272 (39%) returned. 96% female, in 40s, 43% Caucasian, 60% BS degrees</p>	<p>Perceptions of work environment = Moos' Work Environment Scales (WESs), 90-items true/false examines: peer cohesion, supervisory support, autonomy, work pressure</p>	<p>Did not find statistical differences between nurses who stay or nurses who leave.</p>
<p>Lynn & Redman (2005) <i>Faces of the nursing shortage: Influences on staff nurses' intentions to leave their position or nursing</i></p>	<p>Examine the relationship between nurses' organizational commitment, job satisfaction, professional satisfaction, and intent to leave Examine if nurses' organizational commitment, professional and job satisfaction predict intent to leave position or nursing as a career</p>	<p>Mailed survey to staff nurses (N=3000) in acute care settings in 8 states. Received 787 usable surveys (26% return rate) 44-year-old, European American, BS degree, in current position for 8 years</p> <p>Stepwise multiple regression</p>	<p>Surveys from a larger study, Canaries in the Coalmine. Measurements: Professional satisfaction = 6 items focusing on career choice and meaningfulness of work Job satisfaction = Satisfaction in Nursing Scales (SINS), 54-item Likert scale measures workload, intrinsic satisfiers, collegiality, and administrative support Organizational commitment = Organizational Commitment Questionnaire (OCQ), 15-item Likert scale. used in hundreds of studies Intent to leave = 2 questions for intent to leave position and 3 question for intent to leave nursing</p>	<p>Intent to leave position = Negative predictors: professional satisfaction, satisfaction with workload, extent to which nurse liked the work, satisfaction with colleagues. Positive predictor: satisfaction with administration Intent to leave nursing = Negative predictors: professional satisfaction, satisfaction with intrinsic rewards, financial situation. Positive predictor: reason for working</p>

<p>McVicar (2003) <i>Workplace stress in nursing: A literature review</i></p>	<p>To identify nurses' perceptions of workplace stress, effectiveness to reduce distress, and identify directions for future research</p>	<p>Literature search from January 1985 to April 2003: nursing, stress, distress, stress management, job satisfaction, staff turnover, coping. Search restricted to adult and pediatric nursing.</p>	<p>6 Main Sources of Stress: <u>Workload, leadership/management style, professional conflict, emotional cost of caring, lack of reward, shift work</u></p>	<p>Organizational intervention and their effectiveness likely to be limited Lack of understanding how stress varies between practice areas Lack of understanding how personal and workplace factors interact Essential that personal/workplace interactions be researched</p>
<p>Reinech & Furino (2005) <i>Nursing career fulfillment: Statistics and statements from registered nurses</i></p>	<p>To describe the complexity and intensity of the nursing experience</p>	<p>Qualitative analysis from a larger study, the Texas RN Career Fulfillment Survey. Content analysis on 495 RNs out of 1,111 employed and unemployed RNs who responded to the survey with written comments 44.5-year-old, 91% female, mostly ADN nurses from Texas. 51% primary wage earners in households 80% full-time 63% work in acute care</p>	<p>Majority of handwritten comments related to <u>economic needs</u>. Health = 66% rated general health as very good to excellent 44% have <u>chronic health conditions</u> 12% wrote about stress <u>Work environment</u> = increasing aged, severely ill, and obese patients, paperwork, turnover, overtime, need for 2nd language skills, gov't regulations, workplace violence and harassment</p>	<p>Several themes emerged: Nurses love the intrinsic rewards of nursing. Negative aspects = compensation, recruitment valued over retention, stressors such as paperwork, patient complexity, turnover, and overtime.</p>

<p>Ruggiero (2005) <i>Health, work variables, and job satisfaction among nurses</i></p>	<p>Explore relationships of work, health, and demographic variables to job satisfaction</p>	<p>Descriptive, correlational Random, national sample of critical care RNs; female RN members of the AACN. 500 nurses invited and N=247 (49%) consented. Data from a study of chronic fatigue among critical care nurses 43-year-old, European-American, BS degrees</p>	<p>Job satisfaction = General Job Satisfaction Scale (GJSS), 5-item Likert scale Sleep quality = Pittsburgh Sleep Quality Index (PSQI), 19-items Depression = Beck Depression Inventory-II (BDI-II), 21-items Demographic data = Standard Shiftwork Index General Biographic Information Section. Age, domestic situation, shift, schedule, emotional stress, work load details, care of people after work, # of weekends off/month.</p>	<p>No significant differences between shift workers (day, night, rotating) and study variables. Nurses' emotional stress, depression, and number of weekends off per month influence job satisfaction. 65% nurses met criteria for "poor sleeper." 41% met criteria for clinical depression Possible overlap between sleep quality and depression.</p>
<p>Sofield & Salmond (2003). <i>A focus on verbal abuse and intent to leave the organization</i></p>	<p>Describe the experience of verbal abuse and examine the relationship of verbal abuse with intent to leave</p>	<p>Descriptive correlational survey Randomized list of 1000 RNs (33% of total population) from a 3-hospital health system. List provided by Human Resources. Consisted of equal number of RNs from each campus. N=461 usable surveys (46.1% responded), 95% female, 90% staff RNs</p>	<p>Verbal abuse and intent to leave = Cox's Verbal Abuse Survey, modified to 40-items</p>	<p>67% reported experiencing 1-5 verbally abusive incidents in last month 50% verbal abuse unrelated to high stress incidents Physicians most common source of verbal abuse, then pts., families, peers, supervisors, and subordinates Nurses' feeling response: Anger, powerlessness, harassment, embarrassment, desire to problem-solve 56% RNs not able to handle verbal abuse 13.6% left due to verbal</p>

				abuse
Ulrich, Buerhaus, Donelan (2005). <i>How RNs view the work environment</i>	To determine RNs views of the <i>work environment</i>	Sample of 3500 RNs randomly drawn from national database of licensed RNs in US. N=1783 (53%) returned survey 96% female, 84% Euro-American, 44-years-old, 45% work in an urban setting, 65% direct patient care	<u>Workplace health and safety</u> = back or musculoskeletal injuries, unprotected contact with blood-borne pathogens, workplace violence, sexual harassment, hostile work environment, stress <u>Professional practice</u> = only 19% rated excellent/very good opportunities to influence workplace organization <u>Work relationships</u> = relationships among nurses 71% excellent/very good, nurse-physician relationships 11% excellent, 34% very good, nurse-mgmt relationships 27% excellent/very good <u>Respect, support, recognition</u> =	Health, safety, violence remain major problems. Sexual harassment, hostile work environments, discrimination experienced by substantial number of RNs. Nurses need more influence and control over their practice. Working relationships between nurses have improved; need to improve with physicians and management.

Appendix 13. Vossen's attachment 1

(See next page)

Risk of Musculoskeletal Disorders Among Hotel Housekeeping Workers

UNITEHERE!

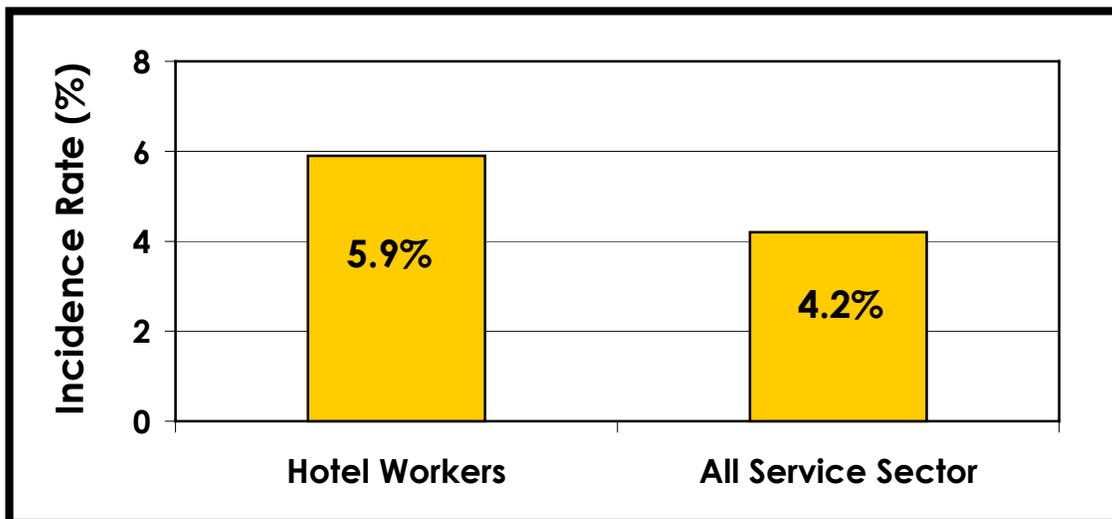
October 19, 2006

Eric Frumin, MA, and Pamela Vossen, MPH, UNITE HERE, New York City

Introduction: Hotel Housekeeper Characteristics

- 1.3M hotel employees in U.S., 23% hotel housekeepers (Source: BLS)
- Hotel Housekeepers are overwhelmingly female
- Hotel Housekeepers are predominantly women of color and largely immigrant
- Hotel housekeeping work is low-wage work
2004 annual earnings = \$17,340 (below the poverty line)
(Source: BLS)

**Injury/Illness Incidence Rates,
Hotel Workers vs. Service Sector, 2004**



Source: BLS

- Worker injury/illness incidence rate is 40% higher than the rate for all service workers

Trends in Work Organization

New and upgraded room amenities

Hotels have upgraded existing and added new amenities like coffeepots, robes, slippers and other items. Most prominent among these changes are the **introduction of luxury beds**, with heavy mattresses, thick duvets, triple sheeting and extra pillows.

Luxury beds exceed NIOSH's safe lifting index:

NIOSH JOB ANALYSIS WORKSHEET											
Department	Housekeeping					Job Description					
Job Title	Housekeeper					Making a king bed					
Analyst	G. Orr										
Date	11/11/2004										
STEP 1. Measure and record task variables											
Object Weight (lbs)		Hand Location (in)				Vertical Distance (in)	Asymmetric Angle (deg)		Freq. Rate (Lifts/Min)	Duration (hours)	Object Coupling
		Origin		Destination			Origin	Destination			
L(AVG)	L(MAX)	H	V	H	V	D	A	A	F	C	
32	35	14	15	14	18	3	0	0	0.2	8	poor
STEP 2. Multipliers – Recommended Weight Limits											
	RWL	=	LC x	HM x	VM x	DM x	AM x	FM x	CM		
ORIGIN	RWL (lbs)	=	51	0.71	0.89	1.00	1.00	0.85	0.90	⇒	24.73
DESTINATION	RWL (lbs)	=	51	0.71	0.91	1.00	1.00	0.85	0.90	⇒	25.36
STEP 3. LIFTING INDEX (L.I.)											
ORIGIN	L.I.	=	Object Weight (L)		=	32	=		=		1.29
			RWL			24.73					
DESTINATION	L.I.	=	Object Weight (L)		=	32	=		=		1.26
			RWL			25.36					

Source: Orr, 2004

Lumbar Motion Monitor: Analysis of Hotel Housekeeping Tasks

- This Lumbar Motion Monitor (LMM) analysis identifies jobs with high and low incidence of low back injuries and assesses the probability that a job will be in the “high” risk group. “High” risk is defined as 12 or more new low back injuries per 200,000 hours of exposure.
- The LMM results are expressed as a percentage, e.g. a score of 50% means that the job has a 50% chance of being in the high risk category of low back disorders.
- The overall hotel housekeeping job has a very high likelihood (79%) of high risk of low back injuries. This exceeds the risks associated with all 20 manufacturing jobs previously studied as well as nursing/patient handling. Only some warehousing jobs had a higher risk.

<p>Probability of High Risk of Lower Back Disorders: Hotel Housekeeping vs. Selected Other Occupations</p>

Sources: Ohio State Univ., 2006; Ferguson et al, 2006 (Housekeeper data only)

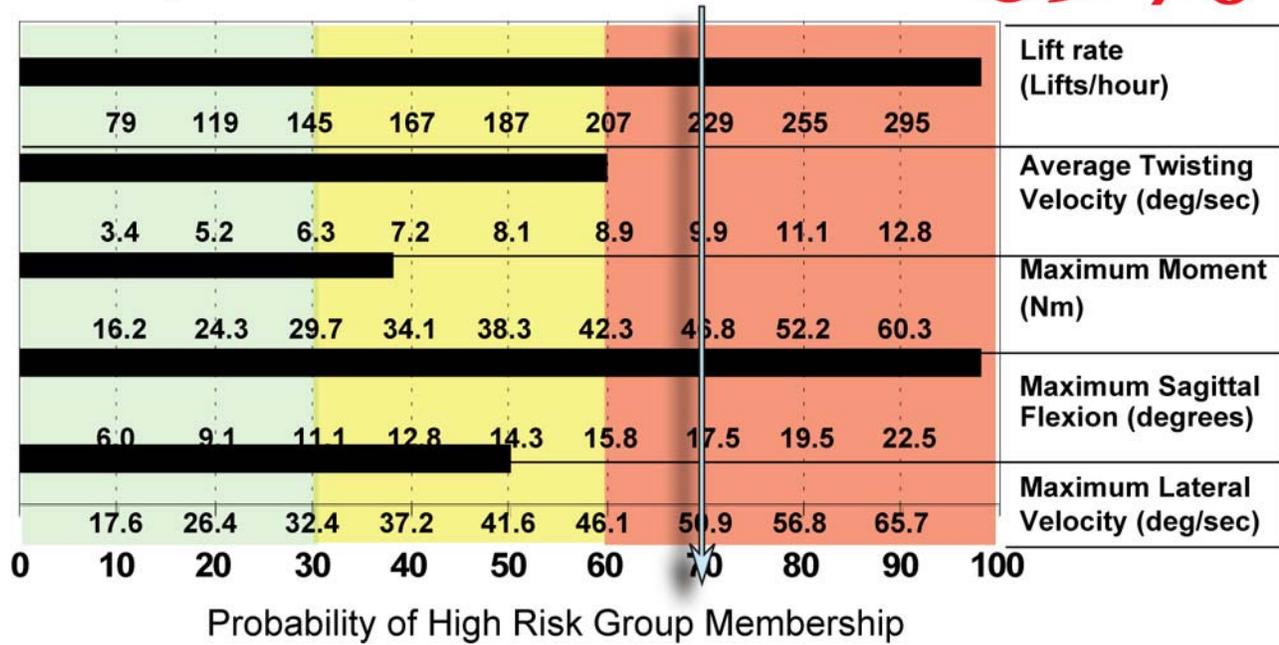
- Certain tasks of the housekeeper's job are associated with particularly high risk:
 - Bed making (69%)
 - Bathroom Cleaning (66%)



Photo: Clark Jones

Overall Bed Task Risk **69%**

Average Probability of Low Back Disorder Risk



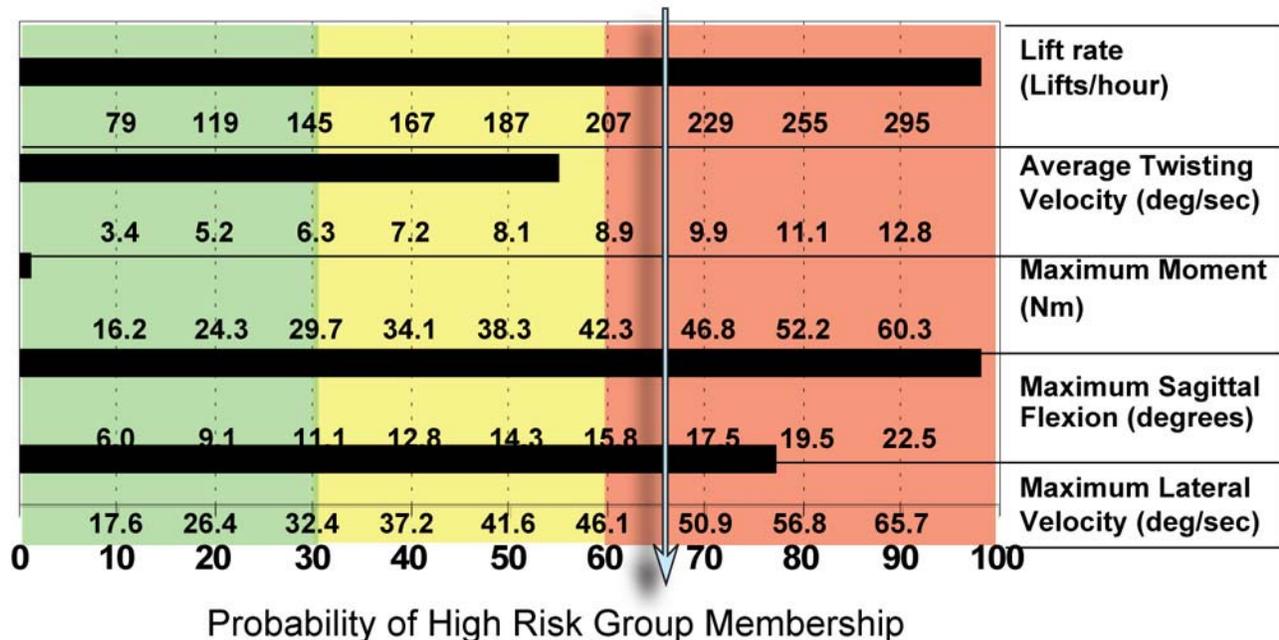
Source: Ferguson et al



Photo: Earl Dotter

Overall Bathroom Task Risk

Average Probability of Low Back Disorder Risk **66%**



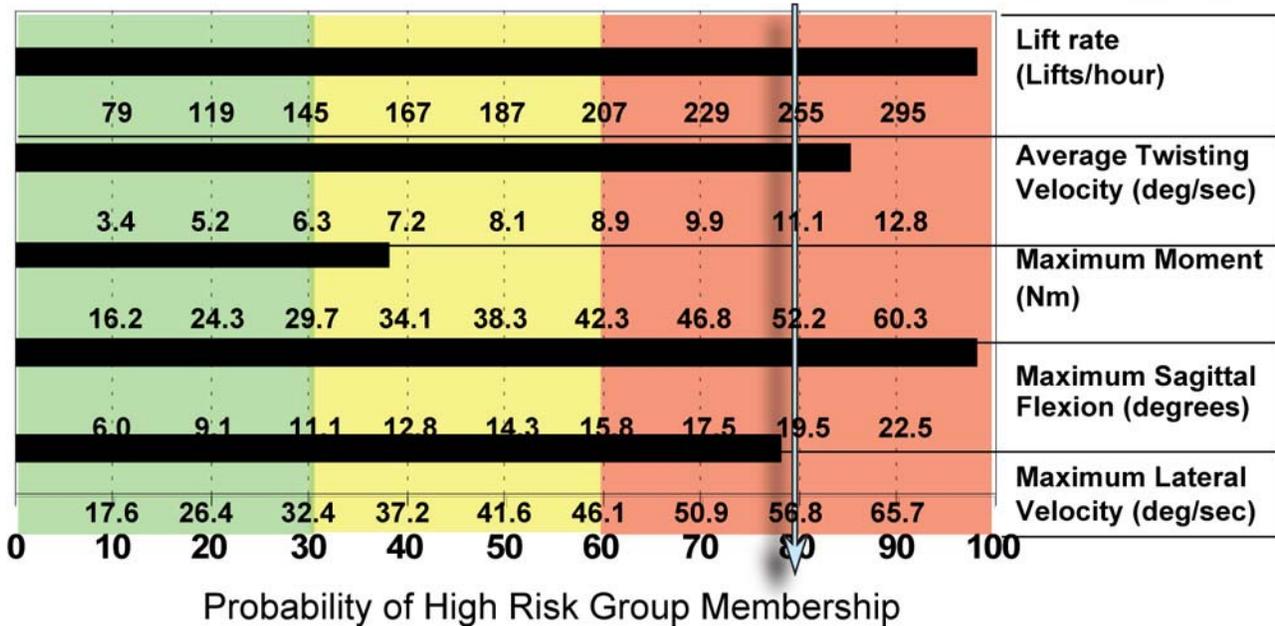
Source: Ferguson et al



Photo: Earl Dotter

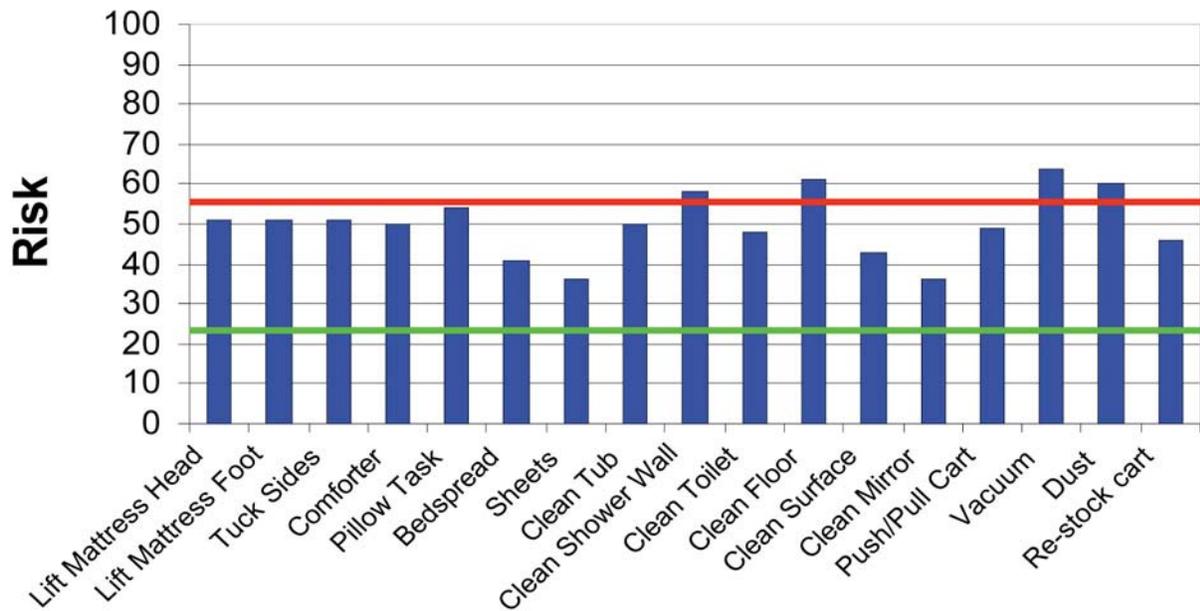
Overall Job Risk -No Push/Pull Cart **79%**

Average Probability of Low Back Disorder Risk



Source: Ferguson et al; note: including cart push/pull task raises the probability to 86%

Summary of Task Risks



Source: Ferguson et al.

Discussion

LMM evaluation predicts that hotel housekeepers face high risks of Low Back Disorders (LBD).

Housekeeping LBD risks are as high or higher than those found in LMM analyses of other well-documented high-risk populations (manufacturing jobs; Nursing/Patient Handling)

Individual housekeeping tasks pose especially high risks: vacuuming, lifting mattresses, cleaning floors and pushing carts.

Simple interventions are readily available to reduce these risks, such as use of mops or other handled cleaning tools, motorized carts, and fitted sheets. But implementation has been limited to initiatives by isolated hotels.

Such interventions are only part of the solution; further workload reductions such as reducing the number of rooms cleaned and beds made need to be considered as part of a comprehensive solution to a serious occupational health problem.

Hotel management is obliged to consider the effects of increased workloads when designing new beds, furnishings and tasks for housekeepers -- and to use available technology to reduce existing risks.

Recommendations

Hotel employers must improve the organization of hotel housekeeping work:

- Humane workloads & reasonable quotas
- Comprehensive re-design (i.e. beds, carts)
- Ergonomically designed tools (i.e. long handles)
- Increased staffing
- Enforced break time
- Joint labor/management health & safety training for supervisors and employees

Increased support for studies on hotel housekeeper hazards and interventions, by NIOSH, industry and academia is needed.

Sources

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Appendix 14. Vossen's attachment 2

(See next page)

Estado Libre Asociado de Puerto Rico
 Departamento del Trabajo y Recursos Humanos
 Administración de Seguridad y Salud Ocupacional
 AREA DE SAN JUAN
 577 AVE. PONCE DE LEON
 ANTIGUO EDIF. REAL HERMANOS
 HATO REY, PR 00918
 Teléfono: (787)754-6207 FAX: (787)764-1427



Citación y Notificación de Penalidad

A:
 Pulsar PR/DBA Diamond Palace Hotel & Casino
 y sus sucesores
 PO Box 13637
 San Juan, PR 00908

Número de Inspección: 307930065
Fecha(s): 05/03/2006 - 07/11/2006

Fecha de Emisión: 08/03/2006
CSHO ID: F9698
Núm. Opcional del Informe: 132

Sitio de la Inspección:
 Ave. Condado #55
 San Juan, PR 00908

Atm: Sr. Wilfredo Rodríguez
 Presidente

La(s) violación(es) que se describe(n) en esta Citación y Notificación de Penalidad alegadamente ocurrieron en o alrededor de la fecha en que se realizó la inspección a menos que se indique lo contrario en la descripción de la violación.

Esta Citación y Notificación de Penalidad describe violaciones a la Ley de Seguridad y Salud en el Trabajo de Puerto Rico (Ley Número 16 del 5 de agosto de 1975, según enmendada). La(s) penalidad(es) indicada(s) en esta Citación está(n) basada(s) en dicha(s) violación(es). Usted tiene que corregir las violaciones mencionadas en esta Citación para las fechas límite indicadas y pagar las penalidades propuestas, a menos que dentro de 15 días laborables (excluyendo sábados, domingos y días feriados) después de recibir esta Citación y Notificación de Penalidad usted envíe un aviso de impugnación a la Administración de Seguridad y Salud Ocupacional del Departamento del Trabajo y Recursos Humanos, a la dirección arriba indicada. Favor de referirse al folleto adjunto (OSHO 3000) que esboza sus derechos y responsabilidades y el cual usted debe leer, además de este formulario. La emisión de esta Citación no constituye una decisión de que se ha encontrado una violación a la Ley, a menos que se deje de impugnar según

This Citation and Notification of Penalty describes violations to the Puerto Rico Occupational Safety and Health Act (Act No. 16 of August 5, 1975 as amended). The penalty(ies) listed herein is (are) based on these violations. You must abate the violations referred to in this Citation by the dates listed and pay the penalties proposed, unless within 15 working days (excluding weekends and holidays) from your receipt of this Citation and Notification of Penalty you mail a notice of contest to the Occupational Safety and Health Office, Department of Labor and Human Resources, at the address shown above. Please refer to the enclosed booklet (OSHO 3000) which outlines your rights and responsibilities and which should be read in conjunction with this form. Issuance of this Citation does not constitute a finding that a violation of the Act has occurred unless there is a failure to contest as provided for in the Act or, if contested, unless this Citation is affirmed by the Secretary of Labor.

REFIERASE A LAS PAGINAS 1 A LA 5 DE ESTA CITACION Y NOTIFICACION DE PENALIDAD PARA MAS INFORMACION SOBRE LOS DERECHOS Y RESPONSABILIDADES DEL PATRONO Y LOS EMPLEADOS.

se provee en la Ley o, de ser impugnada, a menos que la Citación sea confirmada por el Secretario del Trabajo

Fijación - La Ley exige que inmediatamente se exhiba una copia de esta Citación y Notificación de Penalidad en un sitio conspicuo en o cerca de la localización de la(s) violación(es) citada(s) o, si no es posible debido a la naturaleza de las operaciones del patrono, donde pueda ser fácilmente visible por todos los empleados afectados. Esta Citación deberá permanecer expuesta hasta que las violaciones citadas aquí hayan sido corregidas, o por 3 días laborables (excluyendo sábados, domingos y días feriados), lo que ocurra más tarde. Las penalidades no tienen que ser exhibidas y pueden ser tachadas o cubiertas antes de exhibir la Citación.

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Si está considerando solicitar una conferencia informal para discutir cualquier asunto relacionado con esta Citación y Notificación de Penalidad, debe programarla lo antes posible para que disponga de tiempo suficiente luego de la conferencia informal para impugnar, si así lo decide. Recuerde que la Notificación de Impugnación deberá ser sometida al Director de Area dentro de los 15 días laborables luego de recibir esta Citación. **El periodo de impugnación no se interrumpirá por una conferencia informal.**

Si decide solicitar una conferencia informal, por favor complete, remueva y fije la página 5, 5, (Notificación de Conferencia Informal a los Empleados) al lado de la Citación y Notificación de Penalidad, tan pronto se haya determinado la fecha y hora de la conferencia informal. Asegúrese de traer a la conferencia toda la documentación que apoye las condiciones existentes, así como las medidas de corrección tomadas hasta ese momento. Si las condiciones lo permiten, podemos entrar en un acuerdo de transacción informal, el cual puede resolver este asunto sin necesidad de impugnar o litigar.

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Posting - The law requires that a copy of this Citation and Notification of Penalty be posted immediately in a prominent place at or near the location of the violation(s) cited herein, or, if it is not practicable because of the nature of the employer's operations, where it will be readily observable by all affected employees. This Citation must remain posted until the violation(s) cited herein has (have) been abated, or for 3 working days (excluding weekends and holidays), whichever is longer. The penalty dollar amounts need not be posted and may be marked out or covered up prior to posting.

Informal Conference - An informal conference is not required. However, if you wish to have such a conference you may request one with the Area Director during the 15 working day contest period. During such an informal conference you may present any evidence or views which you believe would support an adjustment to the citation(s) and/or penalty(ies).

If you are considering a request for an informal conference to discuss any issues related to this Citation and Notification of Penalty, you must take care to schedule it early enough to allow time to contest after the informal conference, should you decide to do so. Please keep in mind that a written letter of intent to contest must be submitted to the Area Director within 15 working days of your receipt of this Citation. The contest period is not interrupted by an informal conference.

If you decide to request an informal conference, please complete, remove and post page 5 (Notice to Employees of Informal Conference) next to this Citation and Notification of Penalty as soon as the time, date, and place of the informal conference have been determined. Be sure to bring to the conference any and all supporting documentation of existing conditions as well as any abatement steps taken thus far. If conditions warrant, we can enter into an informal settlement agreement which amicably resolves this matter without litigation or contest.

Right to Contest - You have the right to contest this Citation and Notification of Penalty. You may contest all citation items or only individual items. You may also contest proposed penalties and/or abatement dates without

REFIERASE A LAS PAGINAS 1 A LA 5 DE ESTA CITACION Y NOTIFICACION DE PENALIDAD PARA MAS INFORMACION SOBRE LOS DERECHOS Y RESPONSABILIDADES DEL PATRONO Y LOS EMPLEADOS.

impugnar las penalidades propuestas y/o fechas de corrección sin impugnar las violaciones señaladas. Además, se le notifica que a menos que usted informe por escrito al Director de Area que desea impugnar la(s) citación(es) y/o penalidad(es) propuesta(s) dentro de 15 días laborables desde la fecha en que la recibe, esta citación y la(s) penalidad(es) propuesta(s) se convertirán en la orden final del Secretario y no estarán sujetas a revisión por ningún tribunal o agencia.

Pago de Penalidades - Las penalidades vencen dentro de 15 días calendarios, después de la fecha de expiración de los 15 días laborables del período de impugnación (Véase folleto adjunto). Envíe cheque certificado o giro pagadero a nombre del "Secretario de Hacienda". Por favor, indique el Número de Inspección en su remesa.

OSHO no está de acuerdo con restricciones o condiciones o endosos puestos en cualquier cheque o giro por menos de la cantidad total adeudada, y se cobrará el cheque o giro como si estas restricciones, condiciones o endosos no existieran.

Notificación de Acción Correctiva - Para las violaciones que usted no impugne, deberá notificar prontamente por escrito a la Administración de Seguridad y Salud Ocupacional del Departamento del Trabajo y Recursos Humanos, que usted ha tomado la acción correctiva pertinente dentro del tiempo señalado en esta Citación. Favor de informar por escrito al Director de Area las medidas correctivas tomadas y las fechas en que se corrigieron las condiciones junto con la documentación adecuada para sustentarlas; por ejemplo: fotografías o dibujos de las condiciones corregidas, órdenes de compra/trabajo relacionadas con estas medidas, resultados de muestreos de aire, etc..

Discriminación por parte del Patrono es Práctica Prohibida - La Ley prohíbe la discriminación por un patrono contra cualquier empleado que radique una querrela o ejercite sus derechos bajo la Ley. El empleado que crea que ha sido víctima de discriminación puede radicar una querrela ante el Secretario del Trabajo, dentro de los 30 días siguientes a la fecha en que ocurrió la discriminación, a través de la Administración de Seguridad y Salud Ocupacional antes indicada.

Derechos y Responsabilidades del Patrono - El folleto adjunto (OSHO 3000) esboza los derechos y responsabilidades del patrono y debe leerse como parte de esta notificación.

contesting the underlying violations. Furthermore, you are notified that unless you inform the Area Director in writing that you intend to contest the citation(s) and/or proposed penalty(ies) within 15 working days after receipt, the citation(s) and the proposed penalty(ies) will become a final order of the Secretary of Labor and may not be reviewed by any court or agency.

Penalty Payment - Penalties are due within 15 calendar days after the date of the expiration of the 15-working-day contest period (See the enclosed booklet). Make your check or money order payable to "Secretary of Treasury". Please indicate the Inspection Number on the remittance.

OSHO does not agree to any restrictions or conditions or endorsements put on any check or money order for less than the full amount due, and will cash the check or money order as if these restrictions, conditions, or endorsements do not exist.

Notification of Corrective Action - For violations which you do not contest, you should notify the Occupational Safety and Health Office of the Department of Labor and Human Resources, promptly by letter that you have taken appropriate corrective action within the time frame set forth on this Citation. Please inform the Area Director in writing of the abatement steps you have taken and of their dates, together with adequate supporting documentation, e.g., drawings or photographs of corrected conditions, purchase/work orders related to abatement actions, air sampling results, etc.

Employer Discrimination Unlawful - The law prohibits discrimination by an employer against an employee for filing a complaint or for exercising any rights under this Act. An employee who believes that he/she has been discriminated against may file a complaint no later than 30 days after the discrimination occurred with the Secretary of Labor, through the Area Office afore mentioned.

Employer Rights and Responsibilities - The enclosed booklet (OSHO 3000) outlines additional employer rights and responsibilities and should be read in conjunction with this notification.

REFIERASE A LAS PAGINAS 1 A LA 5 DE ESTA CITACION Y NOTIFICACION DE PENALIDAD PARA MAS INFORMACION SOBRE LOS DERECHOS Y RESPONSABILIDADES DEL PATRONO Y LOS EMPLEADOS.

Aviso a los Empleados - La Ley ofrece al empleado o a su representante la oportunidad de objetar cualquier fecha límite fijada para corregir una violación si la cree irrazonable. La impugnación se deberá enviar a la Administración de Seguridad y Salud Ocupacional del Departamento del Trabajo y Recursos Humanos, a la dirección antes indicada, dentro de 15 días laborables (excluyendo sábados, domingos y días feriados) a partir del recibo de esta Citación y Notificación de Penalidad por el patrono.

Notice to Employees - The law gives an employee or his/her representative the opportunity to object to any abatement date set for a violation if he/she believes the date to be unreasonable. The contest must be mailed to the Occupational Safety and Health Office of the Department of Labor and Human Resources, at the address afore mentioned and postmarked within 15 working days (excluding weekends and holidays) of the receipt by the employer of this Citation and Notification of Penalty.

REFIERASE A LAS PAGINAS 1 A LA 5 DE ESTA CITACION Y NOTIFICACION DE PENALIDAD PARA MAS INFORMACION SOBRE LOS DERECHOS Y RESPONSABILIDADES DEL PATRONO Y LOS EMPLEADOS.

Estado Libre Asociado de Puerto Rico
 Departamento del Trabajo y Recursos Humanos
 Administración de Seguridad y Salud Ocupacional



Notificación de Conferencia Informal a los Empleados
Notice to Employees of Informal Conference

Se ha programado una conferencia informal con la Administración de Seguridad y Salud Ocupacional (OSHA), para discutir la(s) citación(es) emitida(s) el 08/03/2006. Esta conferencia tendrá lugar en la Administración de OSHA localizada en 577 AVE. PONCE DE LEON, ANTIGUO EDIF. REAL HERMANOS, HATO REY, PR 00918, en la fecha y hora abajo indicada. Los empleados y/o sus representantes tienen el derecho a asistir a la conferencia informal.

An informal conference has been scheduled with the Occupational Safety and Health Administration (OSHA) to discuss the citation(s) issued on 08/03/2006. This conference will be held at the OSHA office located at 577 AVE. PONCE DE LEON, ANTIGUO EDIF. REAL HERMANOS, HATO REY, PR 00918, on the date and time indicated below. Employees and/or representatives of employees have a right to attend an informal conference.

FECHA (Date) _____

HORA (Time) _____

REFIERASE A LAS PAGINAS 1 A LA 5 DE ESTA CITACION Y NOTIFICACION DE PENALIDAD PARA MAS INFORMACION SOBRE LOS DERECHOS Y RESPONSABILIDADES DEL PATRONO Y LOS EMPLEADOS.



CITACION Y NOTIFICACION DE PENALIDAD

COMPANIA: Pulsar PR/DBA Diamond Palace Hotel & Casino
SITIO DE LA INSPECCION: Ave. Condado #55, San Juan, PR 00908

CITACION 1 RENGLON 1 TIPO DE VIOLACION: Seria

Section 6(a) of the Puerto Rico Occupational Safety and Health Act: The employer did not furnish employment and a place of employment which were free from recognized hazards that were causing or likely to cause death or physical harm to employees in that employees were exposed to:

Sección 6(a) de la Ley de Seguridad y Salud en el Trabajo de Puerto Rico: El patrono no proveyó empleo y un sitio de empleo libre de riesgos reconocidos que estén causando o que puedan causar muerte o daño físico a los empleados, por cuanto empleados estaban expuestos a:

At Pulsar PR/DBA Diamond Palace Hotel & Casino, bar area, it was evidence of water spots on the acoustic panels and walls due to water ceiling filtrations. The employees served beverages to customers, they cleaned and performed services in that area.

Hazard: Slips and falls.

Among other correction methods, one feasible and acceptable to correct this hazard is repair the ceiling.

En Pulsar PR/ DBA Diamond Palace Hotel & Casino, área de la barra, existía evidencia de manchas de agua en los plafones acústicos y paredes debido a filtraciones de agua por el techo. Los empleados servían bebidas a clientes, limpiaban y realizaban servicios en dicha área.

Riesgo: Resbalones y caídas.

Entre otros métodos de corrección, uno factible y aceptable para corregir este riesgo es reparar el techo.

FECHA LIMITE PARA CORREGIR VIOLACION: 09/20/2006
PENALIDAD: \$ 975.00

LEER PAGINAS 1 A LA 5 DE ESTA CITACION Y NOTIFICACION DE PENALIDAD PARA INFORMACION SOBRE LOS DERECHOS Y RESPONSABILIDADES DEL PATRONO Y DE EL EMPLEADO.

U.S. Department of Labor
Occupational Safety and Health Administration

NUMERO DE INSPECCION: 307930065
FECHA INSP: 05/03/2006 - 07/11/2006
FECHA DE EMISION: 08/03/2006



CITACION Y NOTIFICACION DE PENALIDAD

COMPANIA: Pulsar PR/DBA Diamond Palace Hotel & Casino
SITIO DE LA INSPECCION: Ave. Condado #55, San Juan, PR 00908

CITACION 1 RENGLON 2 TIPO DE VIOLACION: Seria

4 OSH 1910.141(a)(5): A continuing and effective extermination program was not instituted where rodents, insects or other vermin were detected:

4 OSH 1910141(a)(5): No se instituyó un programa continuo y efectivo de exterminación, cuando se detectó ratas, insectos u otras sabandijas:

At Pulsar PR/DBA Diamond Palace, the employees by declarations indicated the presence of roaches and others vermin in they work's areas. The employees performed cleaning and maintenance to all areas of the hotel.

Hazard: Contact with vermin

En Pulsar PR/DBA Diamond Palace, los empleados mediante declaraciones indicaron la presencia de cucarachas y otras sabandijas en sus áreas de trabajo. Los empleados realizaban limpieza y mantenimiento a todas las áreas del hotel.

Riesgo: Contacto con sabandijas.

FECHA LIMITE PARA CORREGIR VIOLACION:	08/29/2006
PENALIDAD:	\$ 975.00

LEER PAGINAS 1 A LA 5 DE ESTA CITACION Y NOTIFICACION DE PENALIDAD PARA INFORMACION SOBRE LOS DERECHOS Y RESPONSABILIDADES DEL PATRONO Y DE EL EMPLEADO.

U.S. Department of Labor
Occupational Safety and Health Administration

NUMERO DE INSPECCION: 307930065
FECHA INSP: 05/03/2006 - 07/11/2006
FECHA DE EMISION: 08/03/2006



CITACION Y NOTIFICACION DE PENALIDAD

COMPANIA: Pulsar PR/DBA Diamond Palace Hotel& Casino
SITIO DE LA INSPECCION: Ave. Condado #55, San Juan, PR 00908

CITACION 1 RENGLON 3 TIPO DE VIOLACION: Seria

4 OSH 1910.1200(h)(1): Employees were not provided with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new physical or health hazard was introduced into their work area:

4 OSH 1910.1200(h)(1): Empleados no fueron provistos con información y adiestramiento en químicos peligrosos en su área de trabajo al tiempo de su asignación inicial o siempre que se introdujera un nuevo riesgo físico o de salud a su área de trabajo:

At Pulsar PR/DBA Diamond Palace, the employer didn't provide employees training in the Hazard Communication Program that contained the material safety data sheets to evaluate and recognize the hazard condition caused by chemical substances, personal protection equipment and emergencies situation. The employees cleaned and used the following products: Snapour, Kleen All, NDC Morning Fresh, Kontrol SE (liquid), Carpet Estraction, Kontrol SE (spray), Tri Star L-2000, Eco-Star Destainer and F222, that contained chemicals substances such as: Ethoxylated Alcohols, Sodium Metasilicate, Dypropylene Glycol Monomethyl Ether, Amphoteric Surfactant, Trisodium Phosphate Dodecahydrate, Didecyl Dimethyl Ammonium Chloride, Sodium hydroxide, Sodium hypochlorite, among others, in the laundry and maintenance areas.

Hazard: Contact with hazardous chemical substances.

En Pulsar PR/DBA Diamond Palace el patrono no proveyó adiestramiento a empleados en el Programa de Comunicación de Riesgos que contenía la hojas seguridad de materiales para evaluar y reconocer las condiciones de riesgos causadas por las sustancias químicas, equipo de protección personal y situaciones de emergencia. Los empleados limpiaban y utilizaban productos tales como: "Snapour", "Kleen All", "NDC Morning Fresh", "Kontrol SE (liquid)", "Carpet Estraction", "Kontrol SE (spray)", "Tri Star L-2000", "Eco-Star Destainer" y F222, que contenían sustancias químicas tales como: "Ethoxylated Alcohols", "Sodium Metasilicate", "Dypropylene Glycol Monomethyl Ether", "Amphoteric Surfactant", "Trisodium Phosphate Dodecahydrate", "Didecyl Dimethyl Ammonium Chloride", "Sodium hydroxide", "Sodium hypochlorite", entre otros, en las áreas de lavandería y mantenimiento.

Riesgo: Contacto con sustancias químicas peligrosas.

FECHA LIMITE PARA CORREGIR VIOLACION:	08/29/2006
PENALIDAD:	\$ 975.00

LEER PAGINAS 1 A LA 5 DE ESTA CITACION Y NOTIFICACION DE PENALIDAD PARA INFORMACION SOBRE LOS DERECHOS Y RESPONSABILIDADES DEL PATRONO Y DE EL EMPLEADO.

U.S. Department of Labor
Occupational Safety and Health Administration

NUMERO DE INSPECCION: 307930065
FECHA INSP: 05/03/2006 - 07/11/2006
FECHA DE EMISION: 08/03/2006



CITACION Y NOTIFICACION DE PENALIDAD

COMPANIA: Pulsar PR/DBA Diamond Palace Hotel& Casino
SITIO DE LA INSPECCION: Ave. Condado #55, San Juan, PR 00908

LYDIA SOTOMAYOR CINTRON
Directora de Area

LEER PAGINAS 1 A LA 5 DE ESTA CITACION Y NOTIFICACION DE PENALIDAD PARA INFORMACION SOBRE LOS DERECHOS Y RESPONSABILIDADES DEL PATRONO Y DE EL EMPLEADO.

Estado Libre Asociado de Puerto Rico
 Departamento del Trabajo y Recursos Humanos
 Administración de Seguridad y Salud Ocupacional
 AREA DE SAN JUAN
 577 AVE. PONCE DE LEON
 ANTIGUO EDIF. REAL HERMANOS
 HATO REY, PR 00918
 Teléfono: (787)754-6207 FAX: (787)764-1427



Factura Aviso de Recaudación de Deuda

Nombre del Establecimiento: Pulsar PR/DBA Diamond Palace Hotel & Casino
Lugar de la Inspección: Ave. Condado #55, San Juan, PR 00908
Fecha de Emisión: 08/03/2006

SUMA DE PENALIDADES PARA NUM. INSPECCION
307930065

Citation 1, Seria	= \$	2925.00
TOTAL PROPOSED PENALTIES	= \$	2925.00

~~Por favor, remita el pago prontamente a esta Administración de Área por la cantidad total de las penalidades resumidas arriba que usted no impugne. Envíe cheque certificado ó giro pagadero a nombre del "Secretario de Hacienda".~~

Por favor, indique el número de inspección (arriba indicado) en su remesa.

OSHA no está de acuerdo con ninguna restricción, condiciones ó endosos en cualquier cheque certificado ó giro por menos de la cantidad total adeudada, y se cobrará el cheque certificado ó giro como si estas restricciones, condiciones o endosos no existieran.

LYDIA SOTOMAYOR CINTRON
 Directora de Área

Fecha

Appendix 15. Vossen's attachment 3

(See next page)



Estado Libre Asociado de Puerto Rico
Cuerpo de Bomberos de Puerto Rico
 Negociado de Prevención de Incendios
 DIVISION DE: San Juan



INFORME DE INSPECCION

Página 1 de 1 Pág. b

CLAVE: <u>05</u>	FECHA: <u>3</u> de <u>Mayo</u> de <u>2006</u>	Clasificación: <u>Residencial</u>	Serie Ref:
Nombre del Edificio: <u>Diamond Palace Hotel & Casino</u>	Solar: <u>Establecimiento</u>	Dueño del Establecimiento: <u>Diamond Palace & Casino</u>	
Dirección Física: <u>55 Condado Ave.</u>		Dirección Postal: <u>P.O. Box 13637</u>	
Pueblo: <u>Condado</u>		Tel: <u>721-0810</u>	
Dueño del Edificio y Tel:		Tipo de Uso: <u>Hotel y Casino</u>	
Asegurada con:	Tipo de Construcción: Paredes Exta Paredes Int: <u>Armaspán</u>	Piso Cuadrado: <u>147 Habs.</u>	Capacidad Máx:
		Núm Piso: <u>13</u>	

Salidas de Emergencia	Adecuado	Deficiente	Multa	N/A
001 Cantidad Existente	/			
002 Distancia de Recorrido	/			
003 Dirección al Abrir	/			
004 Condiciones	/			
005 Rotulaciones	/			
006 Cierre Automático	/			
007 Cerradura	/			
008 Iluminación	/			
009 Abastecido de Emergencia	/			
010 Otros		/	<u>D</u>	

Riesgos de Incendios	Adecuado	Deficiente	Multa
111 Líquidos / Gases Inflamables	/		
112 Sustancias Combustibles	/		
113 Materiales Peligrosos	/		
114 Sistema Eléctrico	/		
115 Limpieza y Orden	/		<u>P</u>
116 Maquinaria y Equipo	/		
117 Equipo de Cocina	/		
118 Areas de No Fumar	/		
119 Operación de Mantas G.L.P.	/		
120 Operación Estaciones de Descarga	/		
121 Otros			

Planes de Emergencia	Adecuado	Deficiente	Multa
331 Planes de Emergencia	/		
332 Plano de Desplazo	/		
333 Brigadas / Escuadras de Incendio	/		
334 Adiestramiento	/		
335 Simulacros	/		
336 Capacidad Máxima Permitida	/		
400 Precauciones Generales	/		

Equipo de Protección Contra Incendios	Adecuado	Deficiente	Multa	N/A
211 Rotadores Automáticos	/			
212 Sirenas	/			
221 Manguera de Incendios	/			
224 Extintores Portátiles	/			
225 Detectores de Humo	/			
226 Alarmas	/			
227 Hidrantes	/			
228 Líneas para Servicio	/			
229 Otros	/			

Endosos, Certificaciones y Permisos	Adecuado	Deficiente	Multa
500 Solicitud Nueva / Renovación	/		

OBSERVACIONES:
 La estufa ubicada en 5to piso esta localizada en un cuarto apropiado ya que esta protegido por rociadores automáticos y es resistente al fuego.
 Fecha de Re-inspección: 18-5-06 Deberá cumplir con los siguientes requerimientos o condiciones en la fecha indicada:

Código	Descripción	Fecha M
010	Debe remover obstrucción de la puerta de salida del "Jobby" y mantener la puerta accesible para poder abrirse.	18 5

NOTIFICACION DE ORDEN Y ORDEN
 DE NO PROCEDER CONFORME A LOS REQUERIMIENTOS EN EL TIEMPO CONCEDIDO, PODRA SER MULTADO Y/O SE PODRA ORDENAR EL CIERRE TEMPORERO DEL ESTABLECIMIENTO HASTA TANTO CUMPLA CON TODOS Y CADA UNO DE LOS REQUERIMIENTOS HECHOS POR BOMBEROS DE PUERTO RICO CONFORME A LA LEY 43 DEL 21 DE JUNIO DE 1988 Y DEL CODIGO PARA LA PREVENCION DE INCENDIO

ARTICULO _____ SECCION _____ ARTICULO _____ SECCION _____ ARTICULO _____ SECCION _____
 ARTICULO _____ SECCION _____ ARTICULO _____ SECCION _____ ARTICULO _____ SECCION _____

TIENE DERECHO A SOLICITAR UNA RECONSIDERACION DE ORDEN DEL TÉRMINO SEÑALADO PARA CUMPLIR LOS REQUERIMIENTOS

Certifico: Que este Informe de Inspección ha sido entregado por mí Dulcinea Lagares Jefe / Administrador / Encargado de la referida propiedad, hoy 06 de Mayo de 2006 a las 9:15 AM P.M. en Condado P.R. Para que cumpla con cada uno de los requerimientos señalados de este Informe dentro de los (10) días calendario, comenzando dicho término al recibo de este documento y vencido en la fecha de la reinspección señalada. Que ha sido advertido por mí de su derecho a solicitar por escrito una Vista Administrativa dentro del término señalado para realizar dichas correcciones ante el Jefe del Cuerpo de Bomberos de Puerto Rico de entender que no se ha actuado correctamente con alguno o todos los requerimientos establecidos en el presente documento.

Recibido por: Dulcinea Lagares Firma Inspectora: Dulcinea Lagares / Num. ID: _____
 Advertencia: El Jefe del Cuerpo de Bomberos podrá ir por los sanciones que correspondan por incumplimiento de las obligaciones aquí requeridas. (Ley 43 del 21 de Junio de 1988)



Estado Libre Asociado de Puerto Rico
Cuerpo de Bomberos de Puerto Rico
Negociado de Prevención de Incendios
DIVISION DE Inspección



CONTINUACIÓN INFORME DE INSPECCION Pagina 2 de 2 Págs

CLAVE 05 FECHA 3 de mayo de 2004 Clasificación: Residencia
Nombre del Edificio: McMort Palace Establecimiento: McMort Palace Serie Ref: 93869

Deberá cumplir con los siguientes requerimientos o condiciones, en la fecha indicada a continuación:			Código	
Código			D	M
114	Deberá proveer certificación eléctrica por los trabajos que se hicieron temporalmente en la sub-estación de la luz.		18	5
221	Deberá mantener todo cubierto los rociadores fuera de los acústicos ya que en algunos pisos se encuentran tapados.		18	50
222	Deberá identificar la siamaca del edificio mediante rótulo.		18	50
331	Deberá redactar un plan de acción para casos de incendios.			
332	Deberá proveer plano de Desarrollo (evakys) en el interior de las habitaciones de modo que indique los accesos a las salidas.		18	50
335	Deberá realizar ensayos de incendio por lo menos dos (2) veces al año. Deberá mantener información escrita de cada ensayo para ser revisada por representantes del Cuerpo de Bomberos de Puerto Rico.		18	50

NOTIFICACIÓN DE ORDEN Y ORDEN

DE NO PROCEDER CONFORME A LOS REQUERIMIENTOS EN EL TIEMPO CONCEDIDO, PODRA SER MULTADO Y/O SE PODRA ORDEN EL CIERRE TEMPORERO DEL ESTABLECIMIENTO HASTA TANTO CUMPLA CON TODOS Y CADA UNO DE LOS REQUERIMIENTOS HECH POR BOMBEROS DE PUERTO RICO CONFORME A LA LEY 43 DEL 21 DE JUNIO DE 1988 Y DEL CODIGO PARA LA PREVENCION DE INCENDIO

ARTICULO _____ SECCION _____ ARTICULO _____ SECCION _____ ARTICULO _____ SECCION _____
 ARTICULO _____ SECCION _____ ARTICULO _____ SECCION _____ ARTICULO _____ SECCION _____
 TIENE DERECHO A SOLICITAR UNA RECONSIDERACIÓN DE ORDEN DEL TÉRMINO SEÑALADO PARA CUMPLIR LOS REQUERIMIENTOS

Certifico: Que este Informe de Inspección ha sido entregado por mí a Dorian Lopez dueño Administrador / Encargado. / cada uno de los requerimientos señalados de este Informe, dentro de los (10) días calendario, comenzando dicho término al recibir este documento y en la fecha de la reinspección arriba señalada. Que he sido advertido por Mí de su derecho a solicitar por escrito una Vista Administrativa dentro del término señalado para realizar dichas correcciones ante el Jefe del Cuerpo de Bomberos de Puerto Rico de entender que no se ha actuado correctamente con algún todos los requerimientos establecidos en el presente documento.

Recibido por: Dorian Lopez Firma Inspector: Dorian Lopez /Núm. ID: _____
 Advertencia: El Jefe del Cuerpo de Bomberos podrá imponer las sanciones que correspondan por incumplimiento de las correcciones aquí requeridas. (Ley 43 del 21 de junio de 1988)



Estado Libre Asociado de Puerto Rico
Cuerpo de Bomberos de Puerto Rico
 Negociado de Prevención de Incendios
 DIVISION DE: San Juan

01 JUN 2006 17:21

Pg. 8



INFORME DE INSPECCION

Página 1 de 1 Páginas

CLAVE: <u>07</u>	FECHA: <u>7</u> de <u>Junio</u> de <u>2006</u>	Clasificación: <u>Residencial</u>	Serie Ref: <u>93869</u>																																																																																																																			
Nombre del Edificio: <u>Diamond Palace Hotel & Casino</u>		Dueño del Establecimiento: <u>Diamond Palace & Casino</u>																																																																																																																				
Dirección Física: <u>Calle Condado #55</u>		Dirección Postal: <u>P.O. Box 13637 San Juan, P.R. 00908</u>																																																																																																																				
Pueblo: <u>San Juan</u>		Tel: <u>721-0816</u>																																																																																																																				
Dueño del Edificio y Tel: <u>Diamond Palace & S.S.</u>		Tipo de Uso: <u>Hotel & Casino</u>																																																																																																																				
Asegurado con: <u>---</u>	Tipo de Construcción: Paredes Ext: <u>Alum.</u>	Pies Cuadrados: <u>147,000</u>	Capacidad Max: <u>---</u>																																																																																																																			
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OBSERVACIONES: Durante la re-inspección habían cumplido con el número 010-222. Los requerimientos 114-221-331-332-335 en el proceso de cumplimiento.

Fecha de Re-inspección: 17-6-06 Deberá cumplir con los siguientes requerimientos o condiciones en la fecha indicada.

Código	Descripción	Fecha		
		D	M	A
	El requerimiento 221. es su subsiguiente en este.			
	<u>17 JUNIO 06</u>			

NOTIFICACIÓN DE ORDEN Y ORDEN

DE NO PROCEDER CONFORME A LOS REQUERIMIENTOS EN EL TIEMPO CONCEDIDO, PODRA SER MULTADO Y/O SE PODRA ORDENAR EL CIERRE TEMPORERO DEL ESTABLECIMIENTO HASTA TANTO CUMPLA CON TODOS Y CADA UNO DE LOS REQUERIMIENTOS HECHOS POR BOMBEROS DE PUERTO RICO CONFORME A LA LEY 43 DEL 21 DE JUNIO DE 1988 Y DEL CODIGO PARA LA PREVENCION DE INCENDIOS

ARTICULO _____ SECCION _____, ARTICULO _____ SECCION _____, ARTICULO _____ SECCION _____
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TIENE DERECHO A SOLICITAR UNA RECONSIDERACION DE ORDEN DEL TÉRMINO SEÑALADO PARA CUMPLIR LOS REQUERIMIENTOS

Certifico: Que este Informe de Inspección ha sido entregado por mí a JOSE COLON, dueño --- Administrador --- Encargado --- de referida propiedad, hoy 17 de Junio de 2006. A las --- AM --- PM / en --- P.R. Para que cumpla con cada uno de los requerimientos señalados de este Informe, dentro de los (10), días calendario, comenzando dicho término al recibo de este documento y ver en la fecha de la reinspección arriba señalado. Que ha sido advertido por mí de su derecho a solicitar por escrito una Vista Administrativa dentro del término señalado para realizar dichas correcciones ante el Jefe del Cuerpo de Bomberos de Puerto Rico de entender que no se ha actuado correctamente con alguno de los requerimientos establecidos en el presente documento.

Recibido por: [Firma] Firma Inspector: [Firma] Núm.ID: ---
 Advertencia: al Jefe del Cuerpo de Bomberos de Puerto Rico por incumplimiento de las sanciones que correspondan por incumplimiento de los requerimientos (Ley 43 del 21 de junio de 1988)

Appendix 16. Davis reference 1

(See next page)

Emerging Issues

Introduction

The NIOSH HLR program has a history of identifying and advancing an agenda of research on the most important issues related to occupational hearing loss. The 1998 NIOSH criteria document on occupational noise exposure identified nine research needs: noise control, impulsive noise, non-auditory effects of noise exposure, auditory effects of ototoxic chemical exposures, exposure monitoring, hearing protectors, training and motivation, program evaluation, and rehabilitation. With the exception of non-auditory effects, the HLR program has implemented specific research efforts to address each one of the topic areas since the criteria document's publication. The HLR research goals outlined in this evidence package originated from these topic areas, with some goals overlapping multiple topics in the earlier set of nine research needs. However, the field of hearing loss prevention is broad and continues to evolve and the work done so far has been insufficient to resolve the issues identified previously. Several new areas of importance to occupational hearing loss have emerged over the last several years, and the research focus in long-standing issues needs to be reexamined. The NORA Hearing Loss Team has been active in evaluating research priorities (see Appendix H). With the work of the NORA team, and earlier NIOSH research needs as a backdrop, the HLR program hosted the "Hearing Loss Prevention – Futures Workshop" in April 2005 to seek input from a variety of outside experts as another step toward identifying emerging issues and redefining the HLR program research priorities.

New developments in engineering noise control hold the promise of reducing hazardous noise exposures through identification of noise hazards at the source and targeting solutions to create a quieter workplace. Promulgation of new regulations for noise exposure¹, recordability of hearing loss² and the potential for updated rules related to hearing protection devices³ change the dynamics for hearing loss prevention programs and require new approaches to protecting the hearing health of workers. In the area of causative mechanisms, pharmacologic treatment of acute noise exposure and genetic testing for susceptibility represent new fields of research with challenges for occupational safety and health. Progress in the area of training research, motivation and evaluation of hearing loss prevention program effectiveness brings the challenge and opportunities to address affected workers by transforming research into practical implementations that protect workers' hearing.

The following emerging research issues are presented in relation to the four general HLR program research goals.

Research Goal 1: Contribute to the Development, Implementation, and Evaluation of Effective Hearing Loss Prevention Programs

Training tools based on social psychology have proven to be effective for communicating hearing loss prevention messages to worker populations such as carpenters and other construction workers. The future challenges will be to translate the lessons learned from reaching one audience to reaching more diverse audiences. Because of a unique opportunity to partner with the U.S. Navy and the University of Washington, our near-term efforts will focus on reaching shipyard construction workers. Research questions which need to be addressed include: Will the same training and motivational elements be effective with workers in other sectors? How can a hearing loss prevention program be designed to communicate to the broad spectrum of ages and to those who have already suffered a hearing loss? The work to create and evaluate effective training materials is one of the components of the HLR program that is further down the path in the effort to translate research findings into a comprehensible message that can be practiced in the workplace.

Conduct economic cost/benefit analyses of hearing conservation programs/noise controls.

Occupational safety and health managers often lack the evidence for the cost-effectiveness of engineering noise control solutions and hearing conservation programs in order to aggressively pursue full implementation. Cost-benefit analysis tools could be used to demonstrate the advantages of comprehensive hearing loss prevention programs for specific industrial case studies. The results of the case study analyses could be transferred to safety and health professionals through downloadable electronic documents made available on the NIOSH internet website and through other venues for information transfer.

Establish a centralized repository of audiometric data that can be accessed by professionals.

For over ten years the HLR program has recognized that one of the problems facing itinerant workforces is the inability to track the status of their hearing ability. Past efforts to develop a practical system where workers could carry their health data with them were limited by technology. However, with newer smart card/chip technology and the internet, the concept of workers carrying a key fob or a smart card which includes biometric identification technology is now more feasible. Establishing such a program could develop the repository of audiometric data, job description information, and provide workers with an access method. This information would enable providers to have access to more comprehensive hearing test results. Hearing conservation data may be able to be integrated with new national initiatives to centralize all medical records. NIOSH needs to be proactive and be sure that hearing information (as well as all occupational health information) is incorporated into the new national databases.

Collaborate with partners in education to reach young workers with prevention information and skills.

NIOSH is a member of the Wise Ears![®] program that was developed at the National Institute on Deafness and Other Communication Disorders (NIDCD). Wise Ears![®] was intended to reach school-aged children with health communication messages to promote healthy hearing. NIOSH is also working to develop materials and curricula that will target young workers to make them aware of the consequences harmful noise exposures.

Strengthen efforts to transfer and disseminate information.

The new NIOSH Research to Practice (r2p) initiative focuses on the transfer and translation of research findings, technologies, and information into prevention practices and products for the workplace. The HLR program will use r2p to strengthen its communication efforts with workers about hearing health risks. Some specific examples of this include:

- Develop guidelines to train workers to maximize residual hearing (e.g., listening strategies, lip-reading, optimal utilization of hearing aids, use of alternative communication methods). This research need was identified in the 1998 criteria document. The recommendation resulted from focus group study participants who indicated the extent of their reliance on non-verbal communication techniques. Because these techniques must be learned, new workers in particular may be at a disadvantage and possibly at increased risk for accidents. Training in nonverbal communication techniques could be useful for hearing-impaired workers.
- Develop guidelines defining hearing-critical jobs. Consistent and reliable methods of determining minimum auditory requirements for a particular job must be established in order to (a) ensure that the safety of the employee and other workers is not compromised, and (b) prevent undue discrimination against persons with hearing loss when such loss would not compromise safety or productivity.

Research Goal 2: Reduce Hearing Loss through Interventions Targeting Personal Protective Equipment

The greatest challenges in the area of personal hearing protection will no longer be in the traditional technology of passive earplugs and earmuffs. The integration of communication systems with hearing protection have resulted in highly sophisticated equipment that necessitate the development of yet another generation of new measurement and rating standards. The development of recommendations for the accommodation of hearing impaired workers will continue. The use of personal music players with the ability to produce potentially damaging sound pressure levels presents additional challenges in hearing loss prevention particularly if such devices are used as both hearing protection and entertainment. Practical workplace recommendations will require targeted research involving cooperation between our industrial partners and hearing protector manufacturers.

Refine hearing protector fit-testing methods.

A more effective fit-testing protocol is needed for hearing loss prevention programs. Several aspects of fit-testing must be improved: error checking during threshold assessment, coupling occluded testing with audiometric testing to reduce testing times and using workers' noise exposures to estimate adequacy of protection. Laboratory and field research have demonstrated that fit-testing can improve the attenuations workers achieve. Fit-testing coupled with the targeted training materials will improve the effectiveness of HLP programs.

Research Goal 3: Develop Engineering Controls to Reduce Noise Exposures

NIOSH's efforts in developing engineering noise controls are relatively recent, and were initially focused on the mining and construction sectors. While we will continue our efforts on those sectors, there is a need for engineering control technology efforts to be directed toward other sectors as well. Implementation of noise controls must not diminish production or interfere with operation when integrated with the equipment design. Infrastructure development has provided laboratory measurement capabilities that were not in place in 2001 when the HLR program commenced the NORA research in noise control. External partnerships between government, academia and industry are being pursued to institute a consortium for noise control solutions. Results in construction and mining will have application to similar problems in other sectors. Technology advances in both microprocessors and control theory hold the promise of low-cost implementation of active noise control at the source. While noise controls are considered to be of primary importance in protecting the worker, safety and health professionals cannot implement noise control solutions if they lack information. Toward that purpose, we will publish practical noise control solutions and noise emission levels from noisy products on the internet and in a compendium of noise control materials.

Develop basic guidelines on engineering controls and the maintenance of those controls, and provide leadership for noise education in undergraduate and graduate programs in engineering, industrial hygiene, and architecture.

Currently, engineers, industrial hygienists, and architects receive little or no training in the area of noise control. This results in a lack of understanding of its importance to the health of noise-exposed workers. Establishing curriculum guidelines and requiring more noise control related coursework will help create a better qualified professional workforce.

Publish available noise control solutions and updates.

In 1978, NIOSH published an Industrial Noise Control Manual which has 61 case studies of noise control solutions. This manual is being updated in a format that is web-accessible and searchable. Additionally, a feedback mechanism will be created so that users can contribute additional solutions.

Develop engineering noise controls for small businesses.

NIOSH has a wealth of information on noise control solutions that were developed in the 1970s. They are available but not in an easily accessible format. Developing a new web-based noise control solution site could provide simple solutions that manufacturers and engineering personnel could easily access and implement. The web provides a means of distributing noise-control tools to small business owners and managers allowing them to proactively choose quieter machines and environments for their workers.

Encourage manufacturers to provide noise labels.

The lack of regulatory requirements to provide product labels that carry information about the product's noise emissions leaves workers and consumers unaware of potential hazards to their hearing. The label should be based on sound power, and it should include the exposure level that the product user receives at the ear. The HLR program can work with the Institute of Noise Control Engineering and standards setting bodies to effect consensus standards for such labels.

Research Goal 4: Contribute to Reductions In Hearing Loss through the Understanding of Causative Mechanisms

In the past decade, basic research in hearing science has witnessed the advent of many significant findings. While genetic linkage of specific syndromes has been recognized for several decades, the identification of genetic markers for hearing loss susceptibility is relatively new. Although noise-induced hearing loss has been believed to be an equal-opportunity disease, genetic testing for susceptibility presents practical and ethical issues for the protection of workers in noisy environments. In the area of mixed exposures, the HLR program has been successful in bringing attention to the effects of ototoxic chemical exposure in combination with noise exposures. The European Union, Department of Defense and ACGIH have recognized the potential hazards, but research in mixed exposures to define the risk must continue before it will be possible to establish safe exposure limits. NIOSH can develop recommended exposure limits and provide technical support to regulatory agencies to establish national policy for mixed exposures which cause hearing loss. There continues to be a need to examine the normative data collected by surveillance activities. Due to its representative sampling, NHANES will prove to be valuable in revisiting the risk assessment that is the basis of the standards for occupational hearing loss and the effects of aging. Finally, basic research in functional hearing assessment such as measuring otoacoustic emissions and wide band reflectance of the middle ear may lead to practical techniques to better identify workers that have suffered noise exposure and are at risk of developing hearing loss. Early identification of risk through impaired auditory function can provide the opportunity for a health professional to intervene before hearing loss becomes a permanent reality.

With the cost of digital computing on an ever downward spiral and the capabilities doubling every 18 months, the prospect of developing an "impulse meter" and "impulse dosimeter" is achievable. These hardware tools will allow researchers to better analyze the workers acoustic environment and lead to development of a damage risk criterion for impulsive noise. For the near future these instruments must be experimental and will include a number of proposed metrics including, for example, kurtosis, AHAH modeling, and analytic wavelet transform.

Establish ongoing surveillance programs for occupational hearing loss and noise exposure; repeat large epidemiologic survey of industry (e.g., the NIOSH National Occupational Exposure Survey of the 1980's); and collect industry/job task specific noise exposure data.

One of the deficiencies of hearing loss research is the paucity of accurate noise exposure data for workers in a variety of industries. The last attempts at comprehensive noise surveys for large target industries were conducted in the 1970s. New tools must be developed to obtain surveillance data to determine the appropriate target audience (i.e. identify which jobs are at risk) for HLR program activity.

Establish the effectiveness of prophylactic treatments for noise-exposed workers.

Cheap, safe and effective prophylactic compounds should be developed for workers who cannot avoid high level noise exposure. These compounds do not substitute for an effective hearing loss prevention program. These compounds interfere with apoptotic events in the inner ear and maintain hearing function. The U.S. Department of Defense is currently looking at such compounds for high noise operations (e.g. combat infantry, pilots). Whether these compounds would remain safe and effective for the entire 30-40 year career of a manufacturing worker or miner is an important question.

Establish recommended exposure limits for mixed exposures of ototoxic chemicals and noise.

With acceptance of chemical ototoxicity by the European Union, Australia/New Zealand, the U.S. Army and the American Council of Government Industrial Hygienists (ACGIH), American regulators need to recognize the importance of protecting workers from solvents and noise. Without solid epidemiologic risk assessments, recommendations for regulatory action cannot proceed. NIOSH will continue to work towards better understanding and quantification of the interaction. NIOSH will also continue to encourage rules and regulations to protect workers who might be exposed to both agents in the workplace.

Conclusion

We recognize that the HLR program cannot address all of these potential research areas in isolation. As the principles that guide the NORA program into its second decade state, occupational safety and health progress depends on a collective effort of all parties involved. NIOSH has a leadership role as well as a research role to leverage resources and utilize the work of other researchers in an effort to transfer the collective research findings into the workplace for more effective prevention of occupational hearing loss. The HLR program researchers will continue to create and advance partnerships which will provide that leverage to arrive at solutions that have ownership with both labor and management. Some of the potential research efforts proposed above are relatively short-term while others are expected to require many years to accomplish. We will continue to develop the HLR program with decisions based on research priorities established in partnership with the many stakeholders who share our commitment to reducing the prevalence of occupational hearing loss through a focused program of research and prevention.

References

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- ¹ ANSI A10.46 [2005]. Draft Standard for Hearing Loss Prevention In Construction And Demolition Workers, (American National Standards Institute, New York).
- ² OSHA 29 CFR Part 1904.10 [2002]. Occupational Injury and Illness Recording and Reporting Requirements. Federal Register, 67:77165-77170.
- ³ U.S. Environmental Protection Agency [2004]. CFR Title 40, subchapter G, 211, subpart B—Hearing Protective Devices, U.S. EPA.

Appendix 17. Davis reference 2

(See next page)

TABLE SNR07. Nonfatal occupational illnesses by major industry sector and category of illness, private industry, 2004

Industry sector	Total cases		Skin diseases or disorders		Respiratory conditions		Poisonings		[REDACTED]		All other illnesses	
	Number of cases (thousands)	Incidence rate ¹	Number of cases (thousands)	Incidence rate ¹	Number of cases (thousands)	Incidence rate ¹	Number of cases (thousands)	Incidence rate ¹	Number of cases (thousands)	Incidence rate ¹	Number of cases (thousands)	Incidence rate ¹
Private industry ²	249.0	27.9	38.9	4.4	17.6	2.0	3.3	0.4	28.4	3.2	160.9	18.0
Goods producing ²	117.6	53.5	14.0	6.4	4.6	2.1	1.3	.6	24.3	11.1	73.4	33.4
Natural resources and mining ^{2,3}	3.7	25.8	1.0	7.2	.2	1.7	.3	2.3	.2	1.5	1.9	13.1
Construction	8.7	13.8	2.3	3.7	.6	1.0	.5	.9	.3	.4	4.9	7.9
Manufacturing	105.2	73.8	10.6	7.4	3.8	2.6	.4	.3	23.8	16.7	66.6	46.7
Service providing	131.5	19.6	24.9	3.7	13.0	1.9	2.0	.3	4.1	.6	87.4	13.0
Trade, transportation, and utilities ⁴	37.9	17.5	6.1	2.8	2.9	1.3	.5	.2	3.2	1.5	25.2	11.6
Information	4.3	15.4	.6	2.0	.3	1.0	.1	.4	.3	1.0	3.1	10.9
Financial activities	8.5	12.0	.9	1.3	.6	.9	.3	.4	(⁵)	(⁶)	6.6	9.4
Professional and business services	16.5	13.9	4.7	4.0	1.6	1.3	.3	.3	.4	.3	9.5	8.0
Education and health services	47.6	38.2	7.4	6.0	6.0	4.8	.5	.4	.2	.1	33.5	26.9
Leisure and hospitality	13.1	15.8	4.4	5.3	1.1	1.4	.2	.2	(⁵)	(⁶)	7.4	8.9
Other services, except public administration	3.5	12.1	.8	2.6	.5	1.7	.1	.4	(⁵)	.1	2.1	7.2

¹ The incidence rates represent the number of illnesses per 10,000 full-time workers and were calculated as: (N/EH) x 20,000,000, where

N = number of illnesses
 EH = total hours worked by all employees during the calendar year
 20,000,000 = base for 10,000 equivalent full-time workers (working 40 hours per week, 50 weeks per year)

² Excludes farms with fewer than 11 employees.

³ Data for Mining (Sector 21 in the *North American Industry Classification System-- United States, 2002*) include establishments not governed by the Mine Safety and Health Administration rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the Mine Safety and Health Administration, U.S. Department of Labor.

Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore, estimates for these industries are not comparable to estimates in other industries.

⁴ Data for employers in railroad transportation are provided to BLS by the Federal Railroad Administration, U.S. Department of Transportation.

⁵ Fewer than 50 cases.

⁶ Incidence rate less than 0.05.

NOTE: Because of rounding, components may not add to totals.

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor
 November 2005

OSHA 300 Log, 2004

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Private industry ⁵		107,551.8	27.9	4.4	2.0	0.4	3.2	18.0
Goods producing ⁵		22,655.5	53.5	6.4	2.1	.6	11.1	33.4
Natural resources and mining ^{5,6}		1,481.7	25.8	7.2	1.7	2.3	1.5	13.1
Agriculture, forestry, fishing and hunting ⁵	11	961.8	34.6	11.7	2.0	1.4	1.2	18.3
Crop production ⁵	111	429.8	41.5	13.8	2.1	1.6	(7)	23.7
Oilseed and grain farming ⁵	1111	11.7	(7)	(7)	(7)	(7)	(7)	(7)
Greenhouse, nursery, and floriculture production ⁵	1114	150.8	40.8	18.9	2.2	3.2	(7)	16.5
Animal production ⁵	112	141.1	21.8	4.7	4.3	(7)	2.1	9.7
Cattle ranching and farming ⁵	1121	72.0	13.4	2.9	(7)	(7)	(7)	7.9
Beef cattle ranching and farming, including feedlots ⁵ ..	11211	22.4	7.9	(7)	(7)	(7)	(7)	(7)
Dairy cattle and milk production ⁵	11212	49.6	15.9	4.1	(7)	(7)	(7)	10.1
Hog and pig farming ⁵	1122	16.0	34.0	(7)	11.8	(7)	(7)	9.9
Poultry and egg production ⁵	1123	38.5	34.1	7.1	4.2	(7)	3.9	16.5
Other animal production ⁵	1129	10.6	27.9	(7)	(7)	(7)	(7)	-
Support activities for agriculture and forestry	115	309.2	32.2	14.5	1.1	1.0	2.0	13.7
Support activities for crop production	1151	268.1	32.7	14.3	.9	1.1	2.3	14.1
Support activities for crop production	11511	268.1	32.7	14.3	.9	1.1	2.3	14.1
Soil preparation, planting, and cultivating	115112	22.5	35.1	31.3	(7)	(7)	(7)	(7)
Crop harvesting, primarily by machine	115113	10.5	(7)	(7)	(7)	(7)	(7)	(7)
Postharvest crop activities (except cotton ginning) ..	115114	69.9	43.5	11.5	(7)	(7)	8.4	21.3
Farm labor contractors and crew leaders	115115	140.1	28.7	17.1	(7)	(7)	(7)	11.3
Farm management services	115116	15.5	(7)	(7)	(7)	(7)	(7)	(7)
Support activities for animal production	1152	25.6	12.0	(7)	(7)	(7)	(7)	10.3
Support activities for forestry	1153	15.5	61.6	41.0	(7)	(7)	(7)	12.3
Mining ⁶	21	519.9	12.6	.5	1.1	3.8	1.8	5.3
Oil and gas extraction	211	121.3	22.3	(7)	(7)	17.2	(7)	3.6
Oil and gas extraction	2111	121.3	22.3	(7)	(7)	17.2	(7)	3.6
Oil and gas extraction	21111	121.3	22.3	(7)	(7)	17.2	(7)	3.6
Crude petroleum and natural gas extraction	211111	117.1	23.1	(7)	(7)	17.8	(7)	3.7
Mining (except oil and gas) ⁸	212	204.2	16.1	(7)	2.4	(7)	2.8	10.5
Coal mining ⁸	2121	70.0	28.3	(7)	4.7	(7)	5.1	18.4
Coal mining ⁸	21211	70.0	28.3	(7)	4.7	(7)	5.1	18.4
Bituminous coal and lignite surface mining ⁸	212111	32.7	18.0	(7)	(7)	(7)	(7)	13.8
Bituminous coal underground mining ⁸	212112	36.7	38.6	(7)	8.5	(7)	6.9	23.2
Anthracite mining ⁸	212113	.6	(7)	(7)	(7)	(7)	(7)	(7)
Metal ore mining ⁸	2122	27.4	15.3	(7)	(7)	(7)	(7)	12.3

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Iron ore mining ⁸	21221	5.2	(7)	(7)	(7)	(7)	(7)	(7)
Gold ore and silver ore mining ⁸	21222	9.4	18.9	(7)	(7)	(7)	(7)	15.9
Gold ore mining ⁸	212221	8.5	(7)	(7)	(7)	(7)	(7)	(7)
Silver ore mining ⁸	212222	.9	(7)	(7)	(7)	(7)	(7)	(7)
Copper, nickel, lead, and zinc mining ⁸	21223	9.3	(7)	(7)	(7)	(7)	(7)	(7)
Lead ore and zinc ore mining ⁸	212231	1.4	(7)	(7)	(7)	(7)	(7)	(7)
Copper ore and nickel ore mining ⁸	212234	7.8	(7)	(7)	(7)	(7)	(7)	(7)
Other metal ore mining ⁸	21229	3.5	(7)	(7)	(7)	(7)	(7)	(7)
Uranium-radium-vanadium ore mining ⁸	212291	.5	(7)	(7)	(7)	(7)	(7)	(7)
All other metal ore mining ⁸	212299	3.0	(7)	(7)	(7)	(7)	(7)	(7)
Nonmetallic mineral mining and quarrying ⁸	2123	106.8	8.2	(7)	(7)	(7)	1.5	4.9
Stone mining and quarrying ⁸	21231	48.7	8.3	(7)	(7)	(7)	(7)	4.8
Dimension stone mining and quarrying ⁸	212311	7.1	(7)	(7)	(7)	(7)	(7)	(7)
Crushed and broken limestone mining and quarrying ⁸	212312	26.4	6.7	(7)	(7)	(7)	(7)	(7)
Crushed and broken granite mining and quarrying ⁸	212313	5.3	(7)	(7)	(7)	(7)	(7)	(7)
Other crushed and broken stone mining and quarrying ⁸	212319	9.9	(7)	(7)	(7)	(7)	(7)	(7)
Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying ⁸	21232	44.3	6.8	(7)	(7)	(7)	(7)	4.0
Construction sand and gravel mining ⁸	212321	32.4	5.3	(7)	(7)	(7)	(7)	(7)
Kaolin and ball clay mining ⁸	212324	4.2	(7)	(7)	(7)	(7)	(7)	(7)
Clay and ceramic and refractory minerals mining ⁸ ..	212325	4.3	(7)	(7)	(7)	(7)	(7)	(7)
Other nonmetallic mineral mining and quarrying ⁸	21239	13.9	13.0	(7)	(7)	(7)	(7)	(7)
Potash, soda, and borate mineral mining ⁸	212391	3.5	(7)	(7)	(7)	(7)	(7)	(7)
Phosphate rock mining ⁸	212392	2.0	(7)	(7)	(7)	(7)	(7)	(7)
Other chemical and fertilizer mineral mining ⁸	212393	3.0	(7)	(7)	(7)	(7)	(7)	(7)
All other nonmetallic mineral mining ⁸	212399	5.4	(7)	(7)	(7)	(7)	(7)	(7)
Support activities for mining	213	194.4	3.3	1.2	(7)	(7)	1.3	.7
Support activities for mining	2131	194.4	3.3	1.2	(7)	(7)	1.3	.7
Support activities for mining	21311	194.4	3.3	1.2	(7)	(7)	1.3	.7
Drilling oil and gas wells	213111	57.3	(7)	(7)	(7)	(7)	(7)	(7)
Support activities for oil and gas operations	213112	128.2	4.1	1.6	(7)	(7)	1.8	-
Construction		6,916.4	13.8	3.7	1.0	.9	.4	7.9
Construction	23	6,916.4	13.8	3.7	1.0	.9	.4	7.9
Construction of buildings	236	1,618.5	13.4	3.1	.9	.3	.4	8.8
Residential building construction	2361	894.8	13.8	2.5	1.4	(7)	.2	9.6
Nonresidential building construction	2362	723.7	13.0	3.7	.3	.6	.5	7.9

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Heavy and civil engineering construction	237	895.0	16.2	4.7	1.2	1.1	1.3	7.9
Utility system construction	2371	373.4	19.9	6.5	1.2	1.9	.5	9.8
Land subdivision	2372	86.7	11.0	2.6	(⁷)	(⁷)	—	8.0
Highway, street, and bridge construction	2373	336.1	15.8	3.5	1.6	.5	2.9	7.4
Other heavy and civil engineering construction	2379	98.8	7.1	3.9	(⁷)	(⁷)	—	1.9
Specialty trade contractors	238	4,402.9	13.4	3.7	1.0	1.0	.2	7.5
Foundation, structure, and building exterior contractors ..	2381	1,004.6	14.8	2.5	.7	.5	(⁷)	11.0
Poured concrete foundation and structure contractors	23811	214.9	16.0	1.7	(⁷)	2.1	(⁷)	11.9
Structural steel and precast concrete contractors	23812	83.1	23.6	(⁷)	2.3	(⁷)	(⁷)	21.0
Framing contractors	23813	157.1	10.0	(⁷)	1.1	(⁷)	(⁷)	8.6
Masonry contractors	23814	230.9	15.3	6.0	(⁷)	(⁷)	(⁷)	8.3
Glass and glazing contractors	23815	53.3	—	—	(⁷)	(⁷)	(⁷)	(⁷)
Roofing contractors	23816	182.8	19.3	3.2	(⁷)	(⁷)	(⁷)	15.2
Siding contractors	23817	43.3	14.2	(⁷)	(⁷)	(⁷)	(⁷)	14.2
Other foundation, structure, and building exterior contractors	23819	39.1	6.9	5.0	(⁷)	(⁷)	(⁷)	(⁷)
Building equipment contractors	2382	1,848.2	11.3	2.3	1.1	1.0	.4	6.5
Electrical contractors	23821	850.9	10.4	1.9	.9	.5	.3	6.9
Plumbing, heating, and air-conditioning contractors	23822	891.2	12.7	2.6	1.6	1.3	.6	6.7
Other building equipment contractors	23829	106.0	6.7	2.5	(⁷)	2.5	(⁷)	1.6
Building finishing contractors	2383	928.1	14.0	5.4	1.1	1.7	—	5.9
Drywall and insulation contractors	23831	339.5	9.1	1.3	(⁷)	.8	—	6.9
Painting and wall covering contractors	23832	221.5	13.2	5.6	1.9	(⁷)	(⁷)	5.2
Flooring contractors	23833	82.5	25.4	3.3	(⁷)	14.7	(⁷)	5.7
Tile and terrazzo contractors	23834	64.5	34.7	16.7	4.7	(⁷)	(⁷)	13.2
Finish carpentry contractors	23835	155.5	12.2	8.9	(⁷)	(⁷)	(⁷)	3.3
Other building finishing contractors	23839	64.6	11.9	8.8	(⁷)	(⁷)	(⁷)	—
Other specialty trade contractors	2389	622.0	16.8	7.5	.8	.6	(⁷)	7.6
Site preparation contractors	23891	326.0	17.0	6.5	1.2	.5	(⁷)	8.4
All other special trade contractors	23899	296.1	16.7	8.8	(⁷)	.8	(⁷)	6.7
Manufacturing		14,257.4	73.8	7.4	2.6	.3	16.7	46.7
Manufacturing	31-33	14,257.4	73.8	7.4	2.6	.3	16.7	46.7
Food manufacturing	311	1,490.4	141.9	7.3	4.7	.3	30.3	99.3
Animal food manufacturing	3111	49.1	81.7	5.9	5.1	5.5	37.6	27.9
Animal food manufacturing	31111	49.1	81.7	5.9	5.1	5.5	37.6	27.9
Dog and cat food manufacturing	311111	17.6	66.8	12.5	(⁷)	(⁷)	8.5	41.9
Other animal food manufacturing	311119	31.5	90.0	(⁷)	6.0	8.5	53.5	20.1
Grain and oilseed milling	3112	60.9	48.5	(⁷)	(⁷)	(⁷)	28.3	16.6

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Flour milling and malt manufacturing	31121	19.7	54.5	—	(⁷)	(⁷)	17.5	32.7
Flour milling	311211	14.4	38.6	(⁷)	(⁷)	(⁷)	24.2	11.8
Starch and vegetable fats and oils manufacturing	31122	26.9	27.3	—	(⁷)	(⁷)	18.6	6.3
Soybean processing	311222	11.0	22.8	(⁷)	(⁷)	(⁷)	19.4	(⁷)
Breakfast cereal manufacturing	31123	14.2	84.0	(⁷)	(⁷)	(⁷)	65.0	13.2
Sugar and confectionery product manufacturing	3113	81.0	56.0	3.8	3.2	(⁷)	25.8	22.8
Sugar manufacturing	31131	14.2	83.9	(⁷)	16.7	(⁷)	50.6	10.0
Sugarcane mills	311311	4.7	34.9	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Cane sugar refining	311312	2.9	55.0	(⁷)	(⁷)	(⁷)	48.9	(⁷)
Chocolate and confectionery manufacturing from cacao beans	31132	8.2	41.5	(⁷)	(⁷)	(⁷)	19.0	20.2
Confectionery manufacturing from purchased chocolate	31133	37.4	51.8	5.7	(⁷)	(⁷)	19.0	27.1
Nonchocolate confectionery manufacturing	31134	21.1	48.6	(⁷)	(⁷)	(⁷)	21.9	26.2
Fruit and vegetable preserving and specialty food manufacturing	3114	181.3	64.9	6.1	13.4	(⁷)	33.0	12.4
Frozen food manufacturing	31141	91.4	67.9	2.4	19.4	(⁷)	31.5	14.6
Frozen fruit, juice, and vegetable manufacturing	311411	36.0	111.2	(⁷)	44.5	(⁷)	42.3	21.8
Frozen specialty food manufacturing	311412	55.4	39.2	(⁷)	2.8	(⁷)	24.5	9.7
Fruit and vegetable canning, pickling, and drying	31142	89.9	61.9	9.7	7.5	(⁷)	34.4	10.2
Fruit and vegetable canning	311421	67.4	45.5	7.3	9.6	(⁷)	17.0	11.7
Dried and dehydrated food manufacturing	311423	12.0	160.3	29.0	(⁷)	(⁷)	125.7	—
Dairy product manufacturing	3115	131.5	73.9	6.0	4.8	(⁷)	17.5	45.7
Dairy product (except frozen) manufacturing	31151	109.7	69.2	5.6	4.1	(⁷)	14.6	44.8
Fluid milk manufacturing	311511	55.1	33.7	3.6	(⁷)	(⁷)	9.1	19.5
Cheese manufacturing	311513	37.6	146.8	10.3	4.2	(⁷)	26.9	105.7
Dry, condensed, and evaporated dairy product manufacturing	311514	14.8	20.2	(⁷)	11.5	(⁷)	(⁷)	(⁷)
Ice cream and frozen dessert manufacturing	31152	21.8	99.6	7.6	9.0	(⁷)	33.2	50.3
Animal slaughtering and processing	3116	505.6	288.8	11.4	5.0	(⁷)	49.0	223.3
Animal slaughtering and processing	31161	505.6	288.8	11.4	5.0	(⁷)	49.0	223.3
Animal (except poultry) slaughtering	311611	150.8	504.2	14.2	10.0	(⁷)	94.5	385.1
Meat processed from carcasses	311612	111.4	148.7	5.2	3.0	(⁷)	23.6	116.6
Poultry processing	311615	235.1	226.0	12.9	2.6	(⁷)	32.8	177.6
Seafood product preparation and packaging	3117	42.9	94.4	17.1	(⁷)	(⁷)	10.5	63.1
Seafood product preparation and packaging	31171	42.9	94.4	17.1	(⁷)	(⁷)	10.5	63.1
Fresh and frozen seafood processing	311712	36.9	106.8	18.2	(⁷)	(⁷)	12.1	72.3
Bakeries and tortilla manufacturing	3118	283.7	57.5	1.5	.6	(⁷)	8.7	46.6
Bread and bakery product manufacturing	31181	210.8	36.7	2.0	.8	(⁷)	8.2	25.7
Retail bakeries	311811	68.3	27.4	(⁷)	(⁷)	(⁷)	(⁷)	27.4
Commercial bakeries	311812	132.4	39.2	2.9	(⁷)	(⁷)	11.8	23.6

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Frozen cakes, pies, and other pastries manufacturing	311813	10.1	50.8	—	(7)	(7)	(7)	45.0
Cookie, cracker, and pasta manufacturing	31182	56.5	128.3	(7)	(7)	(7)	12.2	115.9
Cookie and cracker manufacturing	311821	34.2	200.1	(7)	(7)	(7)	15.4	184.4
Flour mixes and dough manufacturing from purchased flour	311822	14.8	39.8	(7)	(7)	(7)	9.5	29.1
Tortilla manufacturing	31183	16.4	67.9	(7)	(7)	(7)	(7)	63.4
Other food manufacturing	3119	154.5	53.5	7.8	3.0	(7)	18.5	24.1
Snack food manufacturing	31191	46.2	66.1	(7)	(7)	(7)	39.8	24.8
Roasted nuts and peanut butter manufacturing	311911	11.2	48.0	(7)	(7)	(7)	33.8	13.3
Other snack food manufacturing	311919	35.0	72.1	(7)	(7)	(7)	41.7	28.3
Coffee and tea manufacturing	31192	13.5	63.1	(7)	(7)	(7)	29.1	33.2
Flavoring syrup and concentrate manufacturing	31193	10.7	(7)	(7)	(7)	(7)	(7)	(7)
Seasoning and dressing manufacturing	31194	28.5	57.0	21.1	10.4	(7)	(7)	21.8
Mayonnaise, dressing, and other prepared sauce manufacturing	311941	12.5	27.7	12.3	(7)	(7)	(7)	(7)
Spice and extract manufacturing	311942	16.0	79.0	28.5	18.4	(7)	(7)	32.7
All other food manufacturing	31199	55.6	48.1	9.8	(7)	(7)	10.4	27.0
Perishable prepared food manufacturing	311991	28.4	32.3	13.1	(7)	(7)	(7)	15.6
All other miscellaneous food manufacturing	311999	27.2	63.4	6.7	(7)	(7)	18.3	37.7
Beverage and tobacco product manufacturing	312	193.7	38.0	2.8	2.4	(7)	22.2	10.4
Beverage manufacturing	3121	165.9	34.7	2.9	2.6	(7)	19.2	9.8
Soft drink and ice manufacturing	31211	100.9	35.5	(7)	2.1	(7)	22.1	10.4
Soft drink manufacturing	312111	77.7	43.1	(7)	2.7	(7)	28.4	10.9
Bottled water manufacturing	312112	15.8	12.4	(7)	(7)	(7)	(7)	12.4
Breweries	31212	26.5	39.8	(7)	5.8	(7)	21.3	7.7
Wineries	31213	31.5	17.5	(7)	(7)	(7)	(7)	8.4
Tobacco manufacturing	3122	27.8	57.6	(7)	(7)	(7)	40.2	13.7
Tobacco product manufacturing	31222	24.8	57.4	(7)	(7)	(7)	37.7	15.2
Cigarette manufacturing	312221	17.3	65.2	(7)	(7)	(7)	45.2	14.7
Other tobacco product manufacturing	312229	7.5	39.5	(7)	(7)	(7)	20.4	(7)
Textile mills	313	237.8	37.1	3.2	1.0	(7)	19.0	13.9
Fiber, yarn, and thread mills	3131	53.9	59.2	5.4	(7)	(7)	37.7	15.9
Fiber, yarn, and thread mills	31311	53.9	59.2	5.4	(7)	(7)	37.7	15.9
Yarn spinning mills	313111	39.4	70.9	6.1	(7)	(7)	49.7	14.3
Yarn texturizing, throwing, and twisting mills	313112	11.9	25.5	—	(7)	(7)	(7)	19.6
Fabric mills	3132	115.0	37.9	1.9	(7)	(7)	20.6	15.2
Broadwoven fabric mills	31321	69.0	48.2	(7)	(7)	(7)	29.8	16.8
Narrow fabric mills and schiffli machine embroidery	31322	13.6	29.3	(7)	(7)	(7)	(7)	15.0
Narrow fabric mills	313221	12.4	33.4	(7)	(7)	(7)	(7)	17.1
Nonwoven fabric mills	31323	17.1	29.4	(7)	(7)	(7)	9.1	17.0

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Knit fabric mills	31324	15.2	(7)	(7)	(7)	(7)	(7)	(7)
Textile and fabric finishing and fabric coating mills	3133	68.9	18.4	3.7	3.1	(7)	(7)	10.2
Textile and fabric finishing mills	31331	58.7	20.5	4.3	3.0	(7)	(7)	12.0
Broadwoven fabric finishing mills	313311	33.1	18.4	7.7	(7)	(7)	(7)	8.3
Textile product mills	314	176.2	66.1	18.3	4.3	(7)	5.5	38.0
Textile furnishings mills	3141	101.1	69.4	24.6	7.0	(7)	6.4	31.3
Carpet and rug mills	31411	48.8	51.6	(7)	9.9	(7)	4.8	35.4
Curtain and linen mills	31412	52.3	88.5	49.6	3.8	(7)	8.0	27.1
Curtain and drapery mills	314121	17.0	21.0	(7)	(7)	(7)	(7)	15.6
Other household textile product mills	314129	35.4	116.9	70.4	(7)	(7)	10.5	31.9
Other textile product mills	3149	75.1	61.4	9.1	(7)	(7)	4.2	47.7
Textile bag and canvas mills	31491	31.1	73.4	13.5	(7)	(7)	(7)	59.9
Canvas and related product mills	314912	22.5	92.6	18.9	(7)	(7)	(7)	73.7
All other textile product mills	31499	44.0	52.8	6.0	(7)	(7)	7.2	39.0
All other miscellaneous textile product mills	314999	34.4	40.5	6.9	(7)	(7)	(7)	29.0
Apparel manufacturing	315	284.7	42.3	4.3	1.2	(7)	3.6	32.9
Apparel knitting mills	3151	41.6	84.1	10.5	(7)	(7)	14.4	56.5
Hosiery and sock mills	31511	26.3	116.0	14.5	(7)	(7)	20.2	77.0
Other hosiery and sock mills	315119	16.9	131.9	22.4	(7)	(7)	20.0	83.0
Other apparel knitting mills	31519	15.3	24.4	(7)	(7)	(7)	(7)	17.9
Cut and sew apparel manufacturing	3152	220.5	30.0	2.2	.9	(7)	-	26.1
Men's and boys' cut and sew apparel contractors ...	315211	22.1	21.8	(7)	(7)	(7)	(7)	16.2
Men's and boys' cut and sew apparel manufacturing ...	31522	54.3	64.1	(7)	(7)	(7)	(7)	58.6
Men's and boys' cut and sew suit, coat, and overcoat manufacturing	315222	11.5	57.6	(7)	(7)	(7)	(7)	46.9
Men's and boys' cut and sew work clothing manufacturing	315225	12.2	162.3	(7)	(7)	(7)	(7)	154.3
Women's and girls' cut and sew apparel manufacturing	31523	50.3	4.7	(7)	(7)	(7)	(7)	3.3
Women's and girls' cut and sew other outerwear manufacturing	315239	25.3	7.6	(7)	(7)	(7)	(7)	(7)
Apparel accessories and other apparel manufacturing	3159	22.7	75.6	11.4	-	(7)	12.9	50.9
Apparel accessories and other apparel manufacturing	31599	22.7	75.6	11.4	-	(7)	12.9	50.9
Men's and boys' neckwear manufacturing	315993	2.2	(7)	(7)	(7)	(7)	(7)	(7)
Leather and allied product manufacturing	316	42.5	110.5	22.6	(7)	(7)	(7)	84.4
Footwear manufacturing	3162	19.2	175.3	(7)	(7)	(7)	(7)	167.4
Footwear manufacturing	31621	19.2	175.3	(7)	(7)	(7)	(7)	167.4
Women's footwear (except athletic) manufacturing	316214	5.3	175.6	(7)	(7)	(7)	(7)	169.5
Other leather and allied product manufacturing	3169	16.0	22.8	20.9	(7)	(7)	(7)	-

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Other leather and allied product manufacturing	31699	16.0	22.8	20.9	(7)	(7)	(7)	-
Wood product manufacturing	321	548.0	54.8	5.6	.8	(7)	22.9	25.4
Sawmills and wood preservation	3211	117.4	38.0	6.7	(7)	(7)	24.3	6.5
Sawmills and wood preservation	32111	117.4	38.0	6.7	(7)	(7)	24.3	6.5
Sawmills	321113	105.7	36.9	3.8	(7)	(7)	26.3	6.3
Wood preservation	321114	11.8	48.6	34.5	(7)	(7)	(7)	(7)
Veneer, plywood, and engineered wood product manufacturing	3212	117.6	35.1	4.4	(7)	(7)	15.0	14.2
Veneer, plywood, and engineered wood product manufacturing	32121	117.6	35.1	4.4	(7)	(7)	15.0	14.2
Hardwood veneer and plywood manufacturing	321211	24.3	42.6	8.9	(7)	(7)	16.1	17.7
Softwood veneer and plywood manufacturing	321212	20.1	34.6	-	(7)	(7)	23.9	9.8
Truss manufacturing	321214	46.1	12.7	3.5	(7)	(7)	(7)	6.1
Reconstituted wood product manufacturing	321219	18.4	57.2	(7)	(7)	(7)	18.9	28.1
Other wood product manufacturing	3219	313.0	69.3	5.6	.9	(7)	25.6	37.3
Millwork	32191	155.9	93.4	7.4	1.2	(7)	34.3	50.5
Wood window and door manufacturing	321911	76.0	101.0	6.4	(7)	(7)	26.7	66.8
Cut stock, resawing lumber, and planing	321912	19.9	56.8	13.7	(7)	(7)	28.4	10.0
Other millwork (including flooring)	321918	60.0	95.7	6.9	(7)	(7)	45.4	43.2
Wood container and pallet manufacturing	32192	58.0	58.0	5.0	(7)	(7)	10.1	42.9
All other wood product manufacturing	32199	99.1	38.0	3.0	(7)	(7)	20.7	13.5
Manufactured home (mobile home) manufacturing	321991	45.1	43.2	(7)	(7)	(7)	28.7	10.9
Prefabricated wood building manufacturing	321992	26.0	24.3	(7)	(7)	(7)	(7)	14.7
All other miscellaneous wood product manufacturing	321999	27.9	42.5	(7)	(7)	(7)	23.3	16.6
Paper manufacturing	322	493.3	41.9	1.6	2.2	(7)	15.5	22.5
Pulp, paper, and paperboard mills	3221	145.5	39.7	(7)	1.3	(7)	28.9	9.1
Paper mills	32212	99.7	52.0	(7)	1.4	(7)	38.7	11.1
Paper (except newsprint) mills	322121	90.7	50.4	(7)	(7)	(7)	38.0	10.6
Paperboard mills	32213	39.3	13.7	(7)	(7)	(7)	8.4	5.3
Converted paper product manufacturing	3222	347.9	42.9	2.1	2.5	(7)	9.6	28.5
Paperboard container manufacturing	32221	184.5	29.6	1.2	(7)	(7)	10.0	18.1
Corrugated and solid fiber box manufacturing	322211	116.4	31.0	(7)	(7)	(7)	10.6	18.9
Folding paperboard box manufacturing	322212	35.8	32.2	(7)	(7)	(7)	7.8	22.2
Fiber can, tube, drum, and similar products manufacturing	322214	12.1	17.1	(7)	(7)	(7)	17.1	(7)
Nonfolding sanitary food container manufacturing	322215	15.0	26.9	(7)	(7)	(7)	(7)	19.7
Paper bag and coated and treated paper manufacturing	32222	74.5	50.3	5.3	2.6	(7)	6.9	35.5

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Coated and laminated packaging paper and plastics film manufacturing	322221	16.4	136.7	12.1	(7)	(7)	14.0	110.0
Coated and laminated paper manufacturing	322222	32.1	25.5	(7)	(7)	(7)	(7)	18.0
Uncoated paper and multiwall bag manufacturing ...	322224	12.8	15.0	(7)	(7)	(7)	11.3	(7)
Stationery product manufacturing	32223	35.8	91.7	(7)	(7)	(7)	12.5	75.7
Die-cut paper and paperboard office supplies manufacturing	322231	11.1	74.1	(7)	(7)	(7)	23.2	50.9
Envelope manufacturing	322232	19.2	69.9	(7)	(7)	(7)	(7)	61.3
Other converted paper product manufacturing	32229	53.1	48.6	-	12.7	(7)	10.0	25.6
Sanitary paper product manufacturing	322291	33.6	34.3	(7)	(7)	(7)	15.5	15.5
All other converted paper product manufacturing	322299	19.5	75.0	(7)	30.6	(7)	(7)	44.4
Printing and related support activities	323	658.5	34.6	7.2	1.2	(7)	6.8	19.3
Printing and related support activities	3231	658.5	34.6	7.2	1.2	(7)	6.8	19.3
Printing	32311	602.4	36.8	7.6	.9	(7)	7.4	20.9
Commercial lithographic printing	323110	259.8	33.3	6.7	1.3	(7)	11.8	13.5
Commercial gravure printing	323111	16.8	69.3	(7)	(7)	(7)	8.6	55.6
Commercial flexographic printing	323112	41.0	16.6	5.5	(7)	(7)	(7)	8.1
Commercial screen printing	323113	65.4	42.7	15.9	(7)	(7)	2.6	24.0
Quick printing	323114	69.4	8.2	(7)	(7)	(7)	(7)	6.1
Digital printing	323115	19.5	56.7	(7)	(7)	(7)	(7)	53.6
Books printing	323117	33.2	92.1	5.1	(7)	(7)	18.7	68.0
Blankbook, looseleaf binders, and devices manufacturing	323118	10.5	-	(7)	(7)	(7)	(7)	-
Other commercial printing	323119	47.1	44.6	27.0	(7)	(7)	(7)	14.7
Support activities for printing	32312	56.1	10.3	3.4	4.7	(7)	(7)	-
Tradebinding and related work	323121	24.2	13.8	(7)	10.8	(7)	(7)	-
Prepress services	323122	31.9	7.3	6.0	(7)	(7)	(7)	-
Petroleum and coal products manufacturing	324	112.3	29.0	1.5	3.4	(7)	18.9	5.1
Petroleum and coal products manufacturing	3241	112.3	29.0	1.5	3.4	(7)	18.9	5.1
Petroleum refineries	32411	69.2	27.8	2.3	2.8	(7)	18.1	4.3
Asphalt paving, roofing, and saturated materials manufacturing	32412	28.6	33.1	(7)	(7)	(7)	21.2	8.3
Asphalt paving mixture and block manufacturing	324121	14.5	23.2	(7)	(7)	(7)	(7)	17.5
Other petroleum and coal products manufacturing	32419	14.6	26.9	-	(7)	(7)	18.8	(7)
All other petroleum and coal products manufacturing	324199	5.2	59.6	(7)	(7)	(7)	52.2	(7)
Chemical manufacturing	325	881.8	49.7	9.7	4.9	.2	4.7	30.2
Basic chemical manufacturing	3251	155.4	23.7	6.9	1.9	(7)	7.4	7.4
Petrochemical manufacturing	32511	30.5	24.6	5.0	(7)	(7)	5.7	11.0
Industrial gas manufacturing	32512	21.7	(7)	(7)	(7)	(7)	(7)	(7)
Synthetic dye and pigment manufacturing	32513	18.6	38.0	28.0	(7)	(7)	(7)	(7)

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Inorganic dye and pigment manufacturing	325131	10.9	27.6	23.6	(7)	(7)	(7)	-
Other basic inorganic chemical manufacturing	32518	43.6	26.1	8.3	(7)	(7)	6.1	9.0
All other basic inorganic chemical manufacturing	325188	32.9	27.4	11.1	(7)	(7)	-	12.0
Other basic organic chemical manufacturing	32519	41.1	26.7	(7)	(7)	(7)	16.4	8.7
All other basic organic chemical manufacturing	325199	33.0	27.5	(7)	(7)	(7)	14.8	10.7
Resin, synthetic rubber, and artificial and synthetic fibers and filaments manufacturing	3252	106.6	35.6	3.8	2.1	(7)	4.8	24.8
Resin and synthetic rubber manufacturing	32521	71.3	18.5	2.8	2.2	(7)	4.9	8.6
Plastics material and resin manufacturing	325211	57.3	18.6	3.5	2.6	(7)	3.1	9.4
Synthetic rubber manufacturing	325212	14.0	17.8	(7)	(7)	(7)	11.9	-
Artificial and synthetic fibers and filaments manufacturing	32522	35.4	71.5	5.5	(7)	(7)	4.7	59.0
Cellulosic organic fiber manufacturing	325221	10.5	22.5	(7)	(7)	(7)	(7)	(7)
Noncellulosic organic fiber manufacturing	325222	24.8	89.8	(7)	(7)	(7)	(7)	79.5
Pesticide, fertilizer, and other agricultural chemical manufacturing	3253	42.0	64.2	13.1	(7)	(7)	21.6	26.2
Fertilizer manufacturing	32531	24.8	40.7	(7)	(7)	(7)	18.8	18.4
Nitrogenous fertilizer manufacturing	325311	8.4	25.3	(7)	(7)	(7)	25.3	(7)
Pesticide and other agricultural chemical manufacturing	32532	17.2	98.8	31.8	(7)	(7)	25.9	38.2
Pharmaceutical and medicine manufacturing	3254	287.2	70.8	7.9	8.4	(7)	2.5	51.9
Pharmaceutical and medicine manufacturing	32541	287.2	70.8	7.9	8.4	(7)	2.5	51.9
Medicinal and botanical manufacturing	325411	22.9	107.0	37.6	(7)	(7)	12.4	52.6
Pharmaceutical preparation manufacturing	325412	225.5	56.8	6.0	10.1	(7)	2.0	38.6
Biological product (except diagnostic) manufacturing	325414	24.3	31.7	-	(7)	(7)	(7)	30.1
Paint, coating, and adhesive manufacturing	3255	69.0	46.4	22.0	5.4	(7)	(7)	19.0
Paint and coating manufacturing	32551	45.4	56.9	22.5	7.4	(7)	(7)	27.0
Soap, cleaning compound, and toilet preparation manufacturing	3256	115.3	26.5	4.0	3.7	(7)	4.8	13.7
Soap and cleaning compound manufacturing	32561	58.5	33.9	4.3	5.7	(7)	6.9	16.8
Soap and other detergent manufacturing	325611	25.8	49.9	(7)	(7)	(7)	11.6	32.9
Polish and other sanitation good manufacturing	325612	27.2	23.1	(7)	9.6	(7)	(7)	(7)
Toilet preparation manufacturing	32562	56.9	18.6	3.5	(7)	(7)	(7)	10.2
Other chemical product and preparation manufacturing ..	3259	106.2	66.5	21.4	5.3	(7)	2.6	37.3
All other chemical product and preparation manufacturing	32599	87.6	74.9	20.5	6.0	(7)	3.1	45.3
Photographic film, paper, plate, and chemical manufacturing	325992	30.3	140.7	8.9	13.0	(7)	(7)	117.4
All other miscellaneous chemical product and preparation manufacturing	325998	35.5	48.9	38.5	(7)	(7)	5.8	(7)

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Plastics and rubber products manufacturing	326	803.7	63.5	10.4	2.7	(⁷)	16.8	33.6
Plastics product manufacturing	3261	631.8	60.9	9.9	3.2	(⁷)	15.1	32.7
Unsupported plastics film, sheet, and bag manufacturing	32611	87.7	43.2	2.9	3.9	(⁷)	10.3	26.0
Unsupported plastics bag manufacturing	326111	27.0	18.1	5.4	6.1	(⁷)	(⁷)	6.1
Unsupported plastics film and sheet (except packaging) manufacturing	326113	51.7	61.8	(⁷)	3.3	(⁷)	17.3	41.0
Plastics pipe, pipe fitting, and unsupported profile shape manufacturing	32612	57.2	52.2	3.0	2.9	(⁷)	22.2	24.3
Unsupported plastics profile shape manufacturing ..	326121	27.7	47.3	(⁷)	5.8	(⁷)	9.2	29.6
Plastics pipe and pipe fitting manufacturing	326122	29.6	56.7	(⁷)	(⁷)	(⁷)	34.8	19.2
Polystyrene foam product manufacturing	32614	31.2	33.9	(⁷)	(⁷)	(⁷)	(⁷)	29.5
Urethane and other foam product (except polystyrene) manufacturing	32615	31.2	15.5	(⁷)	(⁷)	(⁷)	5.8	8.8
Plastics bottle manufacturing	32616	35.4	49.1	(⁷)	(⁷)	(⁷)	47.1	(⁷)
Other plastics product manufacturing	32619	368.5	71.3	14.9	3.4	(⁷)	11.8	41.2
Plastics plumbing fixture manufacturing	326191	23.7	21.4	(⁷)	(⁷)	(⁷)	(⁷)	16.4
All other plastics product manufacturing	326199	338.9	75.4	15.9	3.7	(⁷)	12.8	42.9
Rubber product manufacturing	3262	172.0	72.7	11.8	1.2	(⁷)	23.0	36.7
Tire manufacturing	32621	69.0	83.9	5.0	(⁷)	(⁷)	41.9	35.9
Tire manufacturing (except retreading)	326211	61.4	93.5	4.8	(⁷)	(⁷)	47.1	40.2
Rubber and plastics hoses and belting manufacturing	32622	27.8	36.2	(⁷)	(⁷)	(⁷)	11.0	20.2
All other rubber product manufacturing	326299	29.0	63.0	21.8	(⁷)	(⁷)	14.2	26.7
Nonmetallic mineral product manufacturing	327	498.5	44.6	6.6	4.3	.3	11.7	21.5
Clay product and refractory manufacturing	3271	64.8	81.9	9.2	(⁷)	(⁷)	11.5	59.0
Vitreous china, fine earthenware, and other pottery product manufacturing	327112	15.3	28.3	(⁷)	(⁷)	(⁷)	(⁷)	21.1
Brick and structural clay tile manufacturing	327121	13.2	48.4	(⁷)	(⁷)	(⁷)	24.6	23.9
Glass and glass product manufacturing	3272	112.0	74.0	1.9	14.4	(⁷)	13.7	43.7
Glass and glass product manufacturing	32721	112.0	74.0	1.9	14.4	(⁷)	13.7	43.7
Flat glass manufacturing	327211	13.2	33.2	(⁷)	(⁷)	(⁷)	18.5	-
Other pressed and blown glass and glassware manufacturing	327212	25.3	86.6	(⁷)	36.9	(⁷)	16.8	28.9
Glass container manufacturing	327213	19.0	41.2	-	(⁷)	(⁷)	26.6	12.0
Glass product manufacturing made of purchased glass	327215	54.5	88.9	(⁷)	9.4	(⁷)	6.7	71.6
Cement and concrete product manufacturing	3273	229.7	29.6	9.9	1.6	.7	12.0	5.4
Ready-mix concrete manufacturing	32732	118.0	16.2	3.4	2.0	1.3	4.7	4.7
Concrete pipe, brick, and block manufacturing	32733	33.5	34.6	8.7	(⁷)	(⁷)	24.0	-
Concrete block and brick manufacturing	327331	21.9	31.3	(⁷)	(⁷)	(⁷)	28.8	(⁷)

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Concrete pipe manufacturing	327332	11.6	40.7	20.4	(7)	(7)	14.9	—
Other concrete product manufacturing	32739	62.0	56.2	26.6	(7)	(7)	17.1	10.3
Lime and gypsum product manufacturing	3274	19.2	29.4	(7)	(7)	(7)	23.2	—
Gypsum product manufacturing	32742	15.0	38.0	(7)	(7)	(7)	29.9	—
Other nonmetallic mineral product manufacturing	3279	72.9	17.7	3.0	(7)	(7)	4.5	9.7
All other nonmetallic mineral product manufacturing ...	32799	61.5	8.4	3.2	(7)	(7)	(7)	4.2
Cut stone and stone product manufacturing	327991	25.1	(7)	(7)	(7)	(7)	(7)	(7)
Mineral wool manufacturing	327993	19.9	(7)	(7)	(7)	(7)	(7)	(7)
Primary metal manufacturing	331	466.0	86.1	10.5	2.8	.6	40.1	32.1
Iron and steel mills and ferroalloy manufacturing	3311	95.4	29.0	(7)	(7)	(7)	21.2	5.7
Iron and steel mills and ferroalloy manufacturing	33111	95.4	29.0	(7)	(7)	(7)	21.2	5.7
Iron and steel mills	331111	92.5	28.8	(7)	(7)	(7)	20.7	5.9
Steel product manufacturing from purchased steel	3312	60.1	122.0	3.8	(7)	(7)	86.2	32.2
Iron and steel pipe and tube manufacturing from purchased steel	33121	26.7	33.2	(7)	(7)	(7)	23.2	6.3
Rolling and drawing of purchased steel	33122	33.4	193.3	(7)	(7)	(7)	136.8	53.0
Rolled steel shape manufacturing	331221	24.3	161.7	(7)	(7)	(7)	157.7	(7)
Alumina and aluminum production and processing	3313	73.5	55.6	7.7	2.7	(7)	26.6	18.5
Alumina and aluminum production and processing	33131	73.5	55.6	7.7	2.7	(7)	26.6	18.5
Primary aluminum production	331312	13.2	48.6	(7)	(7)	(7)	25.7	17.2
Aluminum sheet, plate, and foil manufacturing	331315	16.8	32.8	(7)	(7)	(7)	22.8	(7)
Aluminum extruded product manufacturing	331316	28.8	71.9	12.8	(7)	(7)	25.6	33.5
Nonferrous metal (except aluminum) production and processing	3314	71.7	66.6	3.6	2.8	2.6	19.8	37.8
Nonferrous metal (except aluminum) smelting and refining	33141	10.2	32.3	(7)	(7)	(7)	(7)	19.9
Primary smelting and refining of nonferrous metal (except copper and aluminum)	331419	8.3	40.8	(7)	(7)	(7)	(7)	25.2
Copper rolling, drawing, extruding, and alloying	33142	39.0	77.5	5.0	(7)	(7)	18.2	50.4
Copper rolling, drawing, and extruding	331421	15.8	108.9	(7)	(7)	(7)	31.0	62.0
Copper wire (except mechanical) drawing	331422	21.8	57.3	(7)	(7)	(7)	8.4	44.7
Nonferrous metal (except copper and aluminum) rolling, drawing, extruding, and alloying	33149	22.5	62.6	(7)	(7)	(7)	30.4	23.1
Nonferrous metal (except copper and aluminum) rolling, drawing, and extruding	331491	14.1	55.3	(7)	(7)	(7)	37.5	15.0
Foundries	3315	165.3	130.1	23.0	4.8	(7)	50.3	51.4
Ferrous metal foundries	33151	91.8	145.4	29.0	3.6	(7)	49.2	62.9
Iron foundries	331511	60.7	173.0	20.3	4.8	(7)	57.5	89.8
Steel investment foundries	331512	12.4	36.9	(7)	(7)	(7)	34.5	—
Steel foundries (except investment)	331513	18.6	120.4	76.5	(7)	(7)	30.6	11.2
Nonferrous metal foundries	33152	73.5	109.9	15.1	6.4	(7)	51.7	36.3

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Aluminum foundries (except die-casting)	331524	21.9	138.6	8.3	10.0	(⁷)	65.6	54.7
Fabricated metal product manufacturing	332	1,488.7	55.1	10.1	2.4	.2	18.2	24.2
Forging and stamping	3321	108.9	93.2	11.9	2.8	(⁷)	47.0	31.0
Forging and stamping	33211	108.9	93.2	11.9	2.8	(⁷)	47.0	31.0
Iron and steel forging	332111	24.6	91.6	(⁷)	5.9	(⁷)	43.9	36.6
Metal stamping	332116	57.7	114.8	16.0	2.6	(⁷)	64.9	30.2
Powder metallurgy part manufacturing	332117	10.5	62.0	(⁷)	(⁷)	(⁷)	18.4	33.9
Cutlery and flatware (except precious) manufacturing	332211	10.4	56.1	(⁷)	(⁷)	(⁷)	24.3	26.2
Architectural and structural metals manufacturing	3323	386.5	35.4	3.6	2.3	.6	9.8	19.0
Plate work and fabricated structural product manufacturing	33231	163.8	26.0	1.6	2.0	(⁷)	13.7	8.8
Prefabricated metal building and component manufacturing	332311	31.2	44.4	(⁷)	(⁷)	(⁷)	24.3	17.5
Fabricated structural metal manufacturing	332312	87.6	21.3	(⁷)	(⁷)	(⁷)	11.1	8.8
Plate work manufacturing	332313	44.9	22.6	5.0	3.3	(⁷)	11.4	(⁷)
Ornamental and architectural metal products manufacturing	33232	222.7	42.5	5.0	2.6	1.1	6.9	26.9
Metal window and door manufacturing	332321	84.4	48.1	8.8	3.6	(⁷)	11.3	24.3
Sheet metal work manufacturing	332322	100.8	49.6	3.0	2.7	2.6	5.5	35.9
Ornamental and architectural metal work manufacturing	332323	37.6	11.1	(⁷)	(⁷)	(⁷)	(⁷)	9.5
Boiler, tank, and shipping container manufacturing	3324	90.6	50.7	5.7	(⁷)	(⁷)	21.4	21.8
Power boiler and heat exchanger manufacturing	33241	19.9	21.4	13.0	(⁷)	(⁷)	(⁷)	-
Metal tank (heavy gauge) manufacturing	33242	23.7	27.0	(⁷)	(⁷)	(⁷)	10.2	(⁷)
Metal can, box, and other metal container (light gauge) manufacturing	33243	47.0	75.8	3.1	(⁷)	(⁷)	33.5	39.1
Metal can manufacturing	332431	24.3	106.1	5.7	(⁷)	(⁷)	31.2	69.6
Other metal container manufacturing	332439	22.8	39.5	(⁷)	(⁷)	(⁷)	36.3	(⁷)
Hardware manufacturing	3325	37.9	158.8	5.5	(⁷)	(⁷)	32.4	120.6
Hardware manufacturing	33251	37.9	158.8	5.5	(⁷)	(⁷)	32.4	120.6
Spring and wire product manufacturing	3326	61.7	48.5	14.0	4.8	(⁷)	5.8	23.7
Spring and wire product manufacturing	33261	61.7	48.5	14.0	4.8	(⁷)	5.8	23.7
Spring (light gauge) manufacturing	332612	12.2	61.4	15.3	(⁷)	(⁷)	18.8	27.3
Other fabricated wire product manufacturing	332618	45.3	44.7	9.8	6.5	(⁷)	(⁷)	25.1
Machine shops; turned product; and screw, nut, and bolt manufacturing	3327	325.6	50.8	13.2	1.0	(⁷)	15.7	20.8
Machine shops	33271	239.5	31.4	14.8	.7	(⁷)	5.7	10.3
Bolt, nut, screw, rivet, and washer manufacturing	332722	42.6	76.2	7.2	4.0	(⁷)	52.9	12.1
Coating, engraving, heat treating, and allied activities	3328	143.3	45.8	13.7	3.8	(⁷)	11.2	17.0

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Coating, engraving, heat treating, and allied activities	33281	143.3	45.8	13.7	3.8	(7)	11.2	17.0
Metal heat treating	332811	17.8	12.0	10.4	(7)	(7)	(7)	(7)
Metal coating, engraving (except jewelry and silverware), and allied services to manufacturers ..	332812	50.8	32.8	8.1	4.7	(7)	(7)	20.0
Electroplating, plating, polishing, anodizing, and coloring	332813	74.6	62.9	18.3	4.1	(7)	21.3	19.3
Other fabricated metal product manufacturing	3329	276.0	68.3	16.0	3.1	(7)	24.4	24.8
Metal valve manufacturing	33291	97.5	61.3	13.5	(7)	(7)	19.6	27.5
Fluid power valve and hose fitting manufacturing	332912	36.6	66.4	18.1	(7)	(7)	24.4	22.8
Plumbing fixture fitting and trim manufacturing	332913	15.7	42.9	(7)	(7)	(7)	(7)	29.9
Other metal valve and pipe fitting manufacturing	332919	21.6	77.9	11.5	(7)	(7)	18.7	47.6
All other fabricated metal product manufacturing	33299	178.5	72.1	17.4	4.4	(7)	27.0	23.4
Ammunition (except small arms) manufacturing	332993	17.4	33.0	(7)	(7)	(7)	(7)	25.4
Fabricated pipe and pipe fitting manufacturing	332996	26.9	46.9	20.1	(7)	(7)	21.5	(7)
All other miscellaneous fabricated metal product manufacturing	332999	59.6	64.7	15.7	9.4	(7)	12.0	27.5
Machinery manufacturing	333	1,136.8	51.3	8.5	1.6	.3	12.9	27.9
Agriculture, construction, and mining machinery manufacturing	3331	193.2	66.1	8.3	(7)	(7)	19.6	37.4
Agricultural implement manufacturing	33311	78.0	98.0	7.9	(7)	(7)	27.0	61.5
Farm machinery and equipment manufacturing	333111	56.7	111.6	8.4	(7)	(7)	33.8	67.4
Lawn and garden tractor and home lawn and garden equipment manufacturing	333112	21.3	61.2	(7)	(7)	(7)	8.4	45.8
Construction machinery manufacturing	33312	62.2	69.6	13.1	(7)	(7)	20.2	36.1
Mining and oil and gas field machinery manufacturing	33313	52.9	20.6	4.0	(7)	(7)	9.4	7.3
Oil and gas field machinery and equipment manufacturing	333132	42.0	13.2	4.1	(7)	(7)	(7)	6.7
Industrial machinery manufacturing	3332	119.9	44.6	4.5	1.3	1.6	11.8	25.5
Plastics and rubber industry machinery manufacturing	33322	16.8	19.4	(7)	(7)	(7)	(7)	(7)
Other industrial machinery manufacturing	33329	96.0	45.0	3.2	1.6	2.0	7.7	30.5
Paper industry machinery manufacturing	333291	11.1	28.1	(7)	(7)	(7)	(7)	(7)
Printing machinery and equipment manufacturing ...	333293	13.5	17.8	(7)	(7)	(7)	(7)	(7)
Food product machinery manufacturing	333294	18.6	15.0	(7)	(7)	(7)	-	(7)
All other industrial machinery manufacturing	333298	27.8	43.4	(7)	(7)	(7)	12.2	25.2
Commercial and service industry machinery manufacturing	3333	114.5	30.7	3.2	(7)	(7)	2.7	24.8
Commercial and service industry machinery manufacturing	33331	114.5	30.7	3.2	(7)	(7)	2.7	24.8

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Automatic vending machine manufacturing	333311	5.8	43.8	(7)	(7)	(7)	(7)	43.8
Office machinery manufacturing	333313	11.3	44.8	(7)	(7)	(7)	(7)	43.9
Optical instrument and lens manufacturing	333314	21.7	33.5	13.4	(7)	(7)	(7)	17.7
Other commercial and service industry machinery manufacturing	333319	55.6	17.3	(7)	(7)	(7)	4.6	12.1
Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing	3334	152.2	74.8	5.3	4.2	(7)	21.2	43.7
Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing	33341	152.2	74.8	5.3	4.2	(7)	21.2	43.7
Air purification equipment manufacturing	333411	17.0	93.0	15.3	28.1	(7)	(7)	42.2
Heating equipment (except warm air furnaces) manufacturing	333414	20.2	32.6	—	(7)	(7)	16.0	14.1
Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment manufacturing	333415	104.4	81.2	4.7	1.5	(7)	22.4	52.0
Metalworking machinery manufacturing	3335	200.0	23.1	8.7	1.2	(7)	5.6	7.3
Metalworking machinery manufacturing	33351	200.0	23.1	8.7	1.2	(7)	5.6	7.3
Industrial mold manufacturing	333511	43.1	11.6	(7)	(7)	(7)	(7)	7.3
Special die and tool, die set, jig, and fixture manufacturing	333514	77.2	22.4	6.8	(7)	(7)	(7)	12.1
Cutting tool and machine tool accessory manufacturing	333515	27.8	43.9	16.5	(7)	(7)	25.3	(7)
Engine, turbine, and power transmission equipment manufacturing	3336	93.1	79.5	22.6	(7)	(7)	20.4	35.1
Engine, turbine, and power transmission equipment manufacturing	33361	93.1	79.5	22.6	(7)	(7)	20.4	35.1
Speed changer, industrial high-speed drive, and gear manufacturing	333612	12.9	30.3	25.7	(7)	(7)	(7)	—
Mechanical power transmission equipment manufacturing	333613	16.8	113.9	47.5	—	(7)	40.8	20.1
Other engine equipment manufacturing	333618	45.5	93.1	14.6	(7)	(7)	22.2	55.9
Other general purpose machinery manufacturing	3339	263.8	48.8	9.5	1.7	(7)	10.8	26.6
Pump and compressor manufacturing	33391	51.0	47.5	7.2	4.6	(7)	11.4	24.3
Pump and pumping equipment manufacturing	333911	28.2	58.0	7.7	(7)	(7)	9.4	38.4
Air and gas compressor manufacturing	333912	20.0	40.2	7.7	8.1	(7)	15.8	8.6
Material handling equipment manufacturing	33392	73.8	58.9	9.3	2.1	(7)	6.6	40.4
Conveyor and conveying equipment manufacturing	333922	29.5	26.8	6.6	(7)	(7)	(7)	17.9
Industrial truck, tractor, trailer, and stacker machinery manufacturing	333924	22.9	128.3	18.4	(7)	(7)	10.4	94.8
All other general purpose machinery manufacturing	33399	139.0	43.8	10.5	(7)	(7)	12.7	20.2

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Power-driven handtool manufacturing	333991	12.8	62.0	(7)	(7)	(7)	(7)	51.9
Welding and soldering equipment manufacturing	333992	14.4	44.6	(7)	(7)	(7)	33.8	10.8
Packaging machinery manufacturing	333993	18.0	36.5	(7)	(7)	(7)	18.8	15.6
Industrial process furnace and oven manufacturing	333994	12.3	36.8	14.7	(7)	(7)	(7)	(7)
Fluid power cylinder and actuator manufacturing	333995	15.9	57.3	33.8	(7)	(7)	(7)	15.5
Fluid power pump and motor manufacturing	333996	20.8	70.2	20.2	(7)	(7)	9.6	40.4
All other miscellaneous general purpose machinery manufacturing	333999	40.3	25.9	(7)	(7)	(7)	11.8	11.8
Computer and electronic product manufacturing	334	1,314.9	32.5	3.2	1.3	(7)	1.4	26.6
Computer and peripheral equipment manufacturing	3341	210.2	31.5	1.1	—	(7)	—	30.3
Computer and peripheral equipment manufacturing	33411	210.2	31.5	1.1	—	(7)	—	30.3
Electronic computer manufacturing	334111	113.9	36.2	—	(7)	(7)	(7)	36.1
Computer storage device manufacturing	334112	30.2	32.0	6.3	(7)	(7)	(7)	25.4
Other computer peripheral equipment manufacturing	334119	49.2	27.1	—	—	(7)	—	25.7
Communications equipment manufacturing	3342	145.3	14.8	1.6	—	(7)	—	12.8
Telephone apparatus manufacturing	33421	44.3	12.4	—	(7)	(7)	—	11.7
Radio and television broadcasting and wireless communications equipment manufacturing	33422	75.4	14.9	2.8	(7)	(7)	—	11.9
Audio and video equipment manufacturing	3343	32.7	53.9	7.5	(7)	(7)	4.7	40.2
Semiconductor and other electronic component manufacturing	3344	449.6	29.8	3.5	1.9	(7)	.7	23.7
Semiconductor and other electronic component manufacturing	33441	449.6	29.8	3.5	1.9	(7)	.7	23.7
Electron tube manufacturing	334411	9.8	52.4	(7)	(7)	(7)	(7)	22.0
Bare printed circuit board manufacturing	334412	63.1	19.0	6.9	3.2	(7)	(7)	7.5
Semiconductor and related device manufacturing ...	334413	220.5	18.8	3.1	1.2	(7)	(7)	14.1
Electronic coil, transformer, and other inductor manufacturing	334416	11.1	82.2	(7)	(7)	(7)	(7)	75.6
Electronic connector manufacturing	334417	16.4	23.4	(7)	(7)	(7)	(7)	14.1
Other electronic component manufacturing	334419	63.1	50.3	(7)	3.8	(7)	(7)	45.4
Navigational, measuring, electromedical, and control instruments manufacturing	3345	429.6	41.9	3.7	1.7	(7)	2.8	33.6
Navigational, measuring, electromedical, and control instruments manufacturing	33451	429.6	41.9	3.7	1.7	(7)	2.8	33.6
Electromedical and electrotherapeutic apparatus manufacturing	334510	54.6	41.8	4.1	(7)	(7)	(7)	36.5
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing	334511	148.6	52.4	2.6	2.8	(7)	2.1	45.0

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Automatic environmental control manufacturing for residential, commercial, and appliance use	334512	29.4	66.4	6.7	(7)	(7)	24.6	33.7
Instruments and related products manufacturing for measuring, displaying, and controlling industrial process variables	334513	58.3	8.8	-	(7)	(7)	-	7.7
Instrument manufacturing for measuring and testing electricity and electrical signals	334515	45.1	41.5	5.0	-	(7)	(7)	36.2
Analytical laboratory instrument manufacturing	334516	31.2	39.6	-	(7)	(7)	-	38.4
Irradiation apparatus manufacturing	334517	11.3	14.7	(7)	(7)	(7)	(7)	13.9
Manufacturing and reproducing magnetic and optical media	3346	47.5	14.5	8.0	(7)	(7)	-	5.2
Manufacturing and reproducing magnetic and optical media	33461	47.5	14.5	8.0	(7)	(7)	-	5.2
Prerecorded compact disc (except software), tape, and record reproducing	334612	23.4	23.9	14.2	(7)	(7)	(7)	8.0
Electrical equipment, appliance, and component manufacturing	335	443.8	63.4	4.5	1.2	1.1	12.1	44.5
Electric lighting equipment manufacturing	3351	64.1	60.7	3.4	3.7	(7)	12.9	40.6
Electric lamp bulb and part manufacturing	33511	14.0	68.2	-	14.7	(7)	(7)	45.5
Lighting fixture manufacturing	33512	50.1	58.6	3.1	(7)	(7)	15.5	39.4
Residential electric lighting fixture manufacturing	335121	14.0	20.3	(7)	(7)	(7)	(7)	(7)
Commercial, industrial, and institutional electric lighting fixture manufacturing	335122	25.2	44.9	(7)	(7)	(7)	27.3	15.7
Household appliance manufacturing	3352	89.2	102.0	4.6	(7)	(7)	21.3	74.6
Small electrical appliance manufacturing	33521	19.8	47.9	9.4	(7)	(7)	(7)	36.0
Electric housewares and household fan manufacturing	335211	13.0	32.0	12.8	(7)	(7)	(7)	15.2
Household vacuum cleaner manufacturing	335212	6.9	77.7	-	(7)	(7)	(7)	74.7
Major appliance manufacturing	33522	69.4	117.1	3.4	(7)	(7)	27.2	85.5
Household refrigerator and home freezer manufacturing	335222	23.0	87.9	(7)	(7)	(7)	29.8	55.7
Household laundry equipment manufacturing	335224	16.0	226.7	(7)	(7)	(7)	41.5	176.5
Electrical equipment manufacturing	3353	153.6	69.9	5.7	(7)	(7)	9.8	53.9
Electrical equipment manufacturing	33531	153.6	69.9	5.7	(7)	(7)	9.8	53.9
Power, distribution, and specialty transformer manufacturing	335311	25.4	85.0	9.9	(7)	(7)	14.4	60.0
Motor and generator manufacturing	335312	51.5	89.7	8.8	-	(7)	9.0	71.6
Switchgear and switchboard apparatus manufacturing	335313	32.8	85.9	(7)	(7)	(7)	15.6	65.5
Relay and industrial control manufacturing	335314	44.1	26.6	(7)	-	(7)	4.1	20.7

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Other electrical equipment and component manufacturing	3359	136.9	33.3	3.5	(⁷)	3.3	8.4	17.3
Battery manufacturing	33591	28.0	58.1	(⁷)	(⁷)	16.1	5.2	36.0
Communication and energy wire and cable manufacturing	33592	21.4	19.3	(⁷)	(⁷)	(⁷)	(⁷)	9.6
Other communication and energy wire manufacturing	335929	11.5	23.8	(⁷)	(⁷)	(⁷)	(⁷)	17.0
Wiring device manufacturing	33593	54.4	32.5	6.0	(⁷)	(⁷)	9.8	15.1
Current-carrying wiring device manufacturing	335931	41.8	22.1	3.9	(⁷)	(⁷)	(⁷)	15.3
Noncurrent-carrying wiring device manufacturing	335932	12.7	69.2	13.7	(⁷)	(⁷)	37.0	14.5
All other electrical equipment and component manufacturing	33599	33.1	22.2	—	—	(⁷)	11.1	9.9
All other miscellaneous electrical equipment and component manufacturing	335999	25.7	10.1	—	—	(⁷)	(⁷)	8.2
Transportation equipment manufacturing	336	1,763.4	157.2	9.5	3.3	.8	25.6	117.9
Motor vehicle manufacturing	3361	256.5	434.9	10.5	2.6	2.7	29.2	389.9
Automobile and light duty motor vehicle manufacturing	33611	221.5	436.3	10.4	2.2	3.0	22.4	398.2
Automobile manufacturing	336111	146.7	309.6	8.5	1.8	(⁷)	14.2	284.7
Light truck and utility vehicle manufacturing	336112	74.8	679.4	13.9	2.9	8.2	38.2	615.9
Motor vehicle body and trailer manufacturing	3362	165.4	101.7	10.3	2.3	1.7	26.8	60.7
Motor vehicle body and trailer manufacturing	33621	165.4	101.7	10.3	2.3	1.7	26.8	60.7
Motor vehicle body manufacturing	336211	64.5	72.8	9.0	(⁷)	(⁷)	29.5	30.5
Truck trailer manufacturing	336212	33.8	95.0	12.6	(⁷)	(⁷)	15.6	66.2
Travel trailer and camper manufacturing	336214	45.1	83.8	4.3	4.3	(⁷)	8.4	63.3
Motor vehicle parts manufacturing	3363	690.5	136.8	10.2	3.1	.3	30.7	92.6
Motor vehicle gasoline engine and engine parts manufacturing	33631	80.2	144.9	12.1	2.0	(⁷)	31.1	99.3
Gasoline engine and engine parts manufacturing	336312	64.1	144.7	12.3	2.5	(⁷)	38.7	90.6
Motor vehicle electrical and electronic equipment manufacturing	33632	99.3	159.8	15.7	7.4	(⁷)	9.3	126.9
Other motor vehicle electrical and electronic equipment manufacturing	336322	82.6	150.4	11.6	4.2	(⁷)	9.0	125.4
Motor vehicle brake system manufacturing	33634	44.5	46.2	6.5	(⁷)	(⁷)	15.9	22.9
Motor vehicle transmission and power train parts manufacturing	33635	84.7	279.8	14.7	5.8	(⁷)	46.5	212.3
Motor vehicle metal stamping	33637	100.5	181.2	8.2	(⁷)	(⁷)	97.7	74.3
Other motor vehicle parts manufacturing	33639	172.1	78.9	6.4	1.9	(⁷)	11.6	58.8
Motor vehicle air-conditioning manufacturing	336391	12.5	139.9	17.3	(⁷)	(⁷)	25.6	91.8
All other motor vehicle parts manufacturing	336399	159.6	73.8	5.5	1.8	(⁷)	10.4	56.1
Aerospace product and parts manufacturing	3364	438.3	81.9	7.2	2.1	.4	14.8	57.4

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Aerospace product and parts manufacturing	33641	438.3	81.9	7.2	2.1	0.4	14.8	57.4
Aircraft manufacturing	336411	206.8	118.4	6.2	3.5	.8	20.8	87.2
Aircraft engine and engine parts manufacturing	336412	78.4	34.9	5.4	—	(⁷)	9.2	20.2
Other aircraft parts and auxiliary equipment manufacturing	336413	81.9	88.5	16.6	(⁷)	(⁷)	14.4	56.0
Guided missile and space vehicle manufacturing	336414	51.5	16.2	(⁷)	(⁷)	(⁷)	(⁷)	12.6
Guided missile and space vehicle propulsion unit and propulsion unit parts manufacturing	336415	12.5	12.4	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Railroad rolling stock manufacturing	3365	24.5	95.4	(⁷)	17.3	(⁷)	38.2	37.0
Ship and boat building	3366	150.4	98.9	13.7	5.3	(⁷)	28.6	50.9
Ship and boat building	33661	150.4	98.9	13.7	5.3	(⁷)	28.6	50.9
Ship building and repairing	336611	93.0	114.4	8.7	8.2	(⁷)	39.9	56.8
Boat building	336612	57.5	71.9	22.3	—	(⁷)	8.8	40.6
Other transportation equipment manufacturing	3369	37.7	102.9	(⁷)	11.4	(⁷)	11.4	77.0
Other transportation equipment manufacturing	33699	37.7	102.9	(⁷)	11.4	(⁷)	11.4	77.0
Furniture and related product manufacturing	337	568.5	66.8	5.5	1.3	(⁷)	24.5	35.4
Household and institutional furniture and kitchen cabinet manufacturing	3371	382.7	65.9	6.3	1.4	(⁷)	24.2	33.9
Wood kitchen cabinet and countertop manufacturing	33711	161.1	35.9	8.1	1.0	(⁷)	7.0	19.5
Household and institutional furniture manufacturing	33712	221.6	88.2	4.9	1.6	(⁷)	37.0	44.6
Upholstered household furniture manufacturing	337121	87.6	105.9	6.2	(⁷)	(⁷)	27.3	71.3
Nonupholstered wood household furniture manufacturing	337122	86.9	81.3	3.2	(⁷)	(⁷)	53.4	23.8
Metal household furniture manufacturing	337124	10.4	71.0	(⁷)	(⁷)	(⁷)	37.0	32.0
Institutional furniture manufacturing	337127	27.4	85.4	7.1	7.1	(⁷)	27.1	44.4
Office furniture (including fixtures) manufacturing	3372	133.2	68.4	2.6	1.5	(⁷)	19.7	44.6
Office furniture (including fixtures) manufacturing	33721	133.2	68.4	2.6	1.5	(⁷)	19.7	44.6
Wood office furniture manufacturing	337211	24.0	47.8	7.0	(⁷)	(⁷)	(⁷)	34.7
Office furniture (except wood) manufacturing	337214	27.3	65.4	(⁷)	(⁷)	(⁷)	(⁷)	59.0
Showcase, partition, shelving, and locker manufacturing	337215	65.9	92.5	2.8	(⁷)	(⁷)	36.0	52.0
Other furniture related product manufacturing	3379	52.6	69.7	7.1	(⁷)	(⁷)	39.2	23.1
Mattress manufacturing	33791	31.2	101.1	11.3	(⁷)	(⁷)	64.6	25.2
Blind and shade manufacturing	33792	21.4	21.4	—	(⁷)	(⁷)	(⁷)	19.9
Miscellaneous manufacturing	339	653.6	50.2	5.4	2.7	(⁷)	5.0	37.0
Medical equipment and supplies manufacturing	3391	301.8	67.5	7.2	2.7	(⁷)	3.3	54.3
Medical equipment and supplies manufacturing	33911	301.8	67.5	7.2	2.7	(⁷)	3.3	54.3
Laboratory apparatus and furniture manufacturing	339111	14.4	62.2	(⁷)	(⁷)	(⁷)	15.6	38.5
Surgical and medical instrument manufacturing	339112	104.4	71.3	5.4	2.1	(⁷)	(⁷)	62.4
Surgical appliance and supplies manufacturing	339113	86.1	92.7	8.9	5.3	(⁷)	6.1	72.4
Dental equipment and supplies manufacturing	339114	15.4	35.8	(⁷)	(⁷)	(⁷)	(⁷)	20.5

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Ophthalmic goods manufacturing	339115	31.9	62.3	5.8	(7)	(7)	(7)	54.7
Dental laboratories	339116	49.6	26.9	10.4	(7)	(7)	(7)	16.7
Other miscellaneous manufacturing	3399	351.9	35.3	3.9	2.6	(7)	6.5	22.2
Jewelry and silverware manufacturing	33991	43.6	23.0	(7)	(7)	(7)	3.8	16.5
Jewelry (except costume) manufacturing	339911	29.2	18.8	(7)	(7)	(7)	(7)	15.5
Sporting and athletic goods manufacturing	33992	57.0	73.3	(7)	(7)	(7)	11.1	58.6
Doll and stuffed toy manufacturing	339931	3.0	(7)	(7)	(7)	(7)	(7)	(7)
Office supplies (except paper) manufacturing	33994	24.9	40.3	(7)	(7)	(7)	(7)	34.6
Pen and mechanical pencil manufacturing	339941	6.6	58.2	(7)	(7)	(7)	(7)	40.7
Lead pencil and art good manufacturing	339942	8.8	31.4	(7)	(7)	(7)	(7)	29.0
Sign manufacturing	33995	72.2	17.8	(7)	(7)	(7)	2.9	13.0
All other miscellaneous manufacturing	33999	134.9	30.4	7.4	3.3	(7)	8.3	11.4
Gasket, packing, and sealing device manufacturing	339991	36.4	27.6	6.4	(7)	(7)	(7)	15.9
Musical instrument manufacturing	339992	13.5	30.0	18.9	(7)	(7)	(7)	(7)
Fastener, button, needle, and pin manufacturing	339993	6.7	75.1	(7)	(7)	(7)	30.7	(7)
Broom, brush, and mop manufacturing	339994	11.6	(7)	(7)	(7)	(7)	(7)	(7)
All other miscellaneous manufacturing	339999	60.7	30.9	6.0	3.2	(7)	10.0	11.8
Service providing		84,896.3	19.6	3.7	1.9	.3	.6	13.0
Trade, transportation, and utilities⁹		25,273.3	17.5	2.8	1.3	.2	1.5	11.6
Wholesale trade	42	5,642.5	13.2	2.8	1.3	.1	1.1	8.0
Merchant wholesalers, durable goods	423	2,942.2	14.7	2.5	1.1	.2	1.3	-
Motor vehicle and motor vehicle parts and supplies merchant wholesalers	4231	338.0	22.0	6.2	2.7	(7)	.9	12.2
Furniture and home furnishing merchant wholesalers	4232	112.5	7.3	-	(7)	(7)	(7)	6.1
Lumber and other construction materials merchant wholesalers	4233	241.1	8.7	2.4	(7)	(7)	.8	5.4
Professional and commercial equipment and supplies merchant wholesalers	4234	636.3	7.6	1.4	(7)	(7)	.3	5.7
Metal and mineral (except petroleum) merchant wholesalers	4235	120.3	32.2	1.5	(7)	(7)	20.6	9.1
Electrical goods merchant wholesalers	4236	340.2	11.6	(7)	3.0	.5	(7)	7.6
Hardware, and plumbing and heating equipment and supplies merchant wholesalers	4237	234.7	5.7	2.5	(7)	(7)	(7)	3.1
Machinery, equipment, and supplies merchant wholesalers	4238	649.4	14.5	3.2	1.4	.4	.4	9.2
Miscellaneous durable goods merchant wholesalers	4239	269.7	-	3.1	(7)	(7)	1.5	31.0
Merchant wholesalers, nondurable goods	424	2,000.0	12.9	3.6	1.9	(7)	.9	6.5

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Paper and paper product merchant wholesalers	4241	150.7	13.4	(⁷)	(⁷)	(⁷)	1.3	11.4
Drugs and druggists' sundries merchant wholesalers	4242	216.8	7.3	.8	1.2	(⁷)	(⁷)	5.4
Apparel, piece goods, and notions merchant wholesalers	4243	145.8	14.0	4.1	(⁷)	(⁷)	(⁷)	8.7
Grocery and related product merchant wholesalers	4244	685.1	12.5	2.6	.4	(⁷)	.7	8.8
Farm product raw material merchant wholesalers	4245	72.8	25.8	(⁷)	4.4	(⁷)	15.4	4.6
Beer, wine, and distilled alcoholic beverage merchant wholesalers	4248	141.2	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Miscellaneous nondurable goods merchant wholesalers	4249	357.4	24.1	11.0	7.9	(⁷)	(⁷)	5.2
Wholesale electronic markets and agents and brokers	425	700.4	7.6	1.4	.9	(⁷)	.3	4.9
Wholesale electronic markets and agents and brokers ...	4251	700.4	7.6	1.4	.9	(⁷)	.3	4.9
Retail trade	44-45	15,060.7	14.5	2.5	1.1	.3	.4	10.3
Motor vehicle and parts dealers	441	1,901.3	13.4	2.2	.6	.3	1.8	8.5
Automobile dealers	4411	1,257.0	12.9	2.5	.8	.4	.4	8.9
New car dealers	44111	1,138.2	13.7	2.7	.4	.4	.4	9.7
Used car dealers	44112	119.4	5.0	(⁷)	4.0	(⁷)	(⁷)	(⁷)
Recreational vehicle dealers	44121	39.3	—	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Automotive parts, accessories, and tire stores	4413	484.0	11.7	1.8	(⁷)	(⁷)	.8	8.7
Automotive parts and accessories stores	44131	324.0	14.7	2.7	(⁷)	(⁷)	(⁷)	11.6
Tire dealers	44132	160.0	6.2	(⁷)	(⁷)	(⁷)	2.3	3.4
Furniture and home furnishings stores	442	563.8	9.3	.8	3.3	.4	(⁷)	4.8
Furniture stores	4421	292.0	14.0	1.0	5.8	(⁷)	(⁷)	6.7
Home furnishings stores	4422	271.8	3.5	(⁷)	(⁷)	(⁷)	(⁷)	2.4
Floor covering stores	44221	100.6	6.5	(⁷)	(⁷)	(⁷)	(⁷)	4.2
Other home furnishings stores	44229	171.2	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Electronics and appliance stores	443	521.8	4.8	(⁷)	(⁷)	(⁷)	(⁷)	4.2
Electronics and appliance stores	4431	521.8	4.8	(⁷)	(⁷)	(⁷)	(⁷)	4.2
Appliance, television, and other electronics stores	44311	352.1	3.5	(⁷)	(⁷)	(⁷)	(⁷)	3.0
Computer and software stores	44312	151.1	7.3	(⁷)	(⁷)	(⁷)	(⁷)	6.5
Camera and photographic supplies stores	44313	18.7	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Building material and garden equipment and supplies dealers	444	1,234.1	12.8	2.5	1.7	.4	.7	7.4
Building material and supplies dealers	4441	1,084.7	11.3	2.2	1.9	.5	.7	6.0
Home centers	44411	592.5	13.4	1.2	2.1	.8	.9	8.3
Paint and wallpaper stores	44412	40.6	9.3	(⁷)	(⁷)	(⁷)	(⁷)	9.3
Hardware stores	44413	165.6	12.2	5.0	4.3	(⁷)	(⁷)	2.4
Other building material dealers	44419	286.0	7.0	3.3	(⁷)	(⁷)	.7	2.5
Lawn and garden equipment and supplies stores	4442	149.4	25.3	5.0	(⁷)	(⁷)	(⁷)	19.1
Outdoor power equipment stores	44421	31.6	41.2	(⁷)	(⁷)	(⁷)	(⁷)	41.2

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Nursery and garden centers	44422	117.8	20.4	6.5	(⁷)	(⁷)	(⁷)	12.3
Food and beverage stores	445	2,818.3	16.3	2.7	.6	.3	(⁷)	12.6
Grocery stores	4451	2,438.3	17.8	2.8	.4	.3	-	14.3
Supermarkets and other grocery (except convenience) stores	44511	2,298.3	18.9	3.0	.4	.3	(⁷)	15.2
Convenience stores	44512	140.0	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Specialty food stores	4452	243.4	10.4	3.2	2.8	(⁷)	(⁷)	3.8
Fish and seafood markets	44522	14.5	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Fruit and vegetable markets	44523	45.5	6.5	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Health and personal care stores	446	940.7	8.1	2.5	.7	(⁷)	(⁷)	4.9
Health and personal care stores	4461	940.7	8.1	2.5	.7	(⁷)	(⁷)	4.9
Pharmacies and drug stores	44611	683.9	7.8	2.8	.8	(⁷)	(⁷)	4.3
Cosmetics, beauty supplies, and perfume stores	44612	99.2	7.2	(⁷)	(⁷)	(⁷)	(⁷)	-
Optical goods stores	44613	63.2	3.5	3.5	(⁷)	(⁷)	(⁷)	(⁷)
Other health and personal care stores	44619	94.5	14.4	(⁷)	(⁷)	(⁷)	(⁷)	13.7
Gasoline stations	447	872.9	5.5	.5	1.6	(⁷)	(⁷)	3.4
Gasoline stations	4471	872.9	5.5	.5	1.6	(⁷)	(⁷)	3.4
Gasoline stations with convenience stores	44711	748.5	6.3	.4	1.9	(⁷)	(⁷)	4.0
Other gasoline stations	44719	124.4	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Clothing and clothing accessories stores	448	1,367.6	3.1	(⁷)	.5	(⁷)	(⁷)	2.5
Clothing stores	4481	1,020.5	3.8	(⁷)	.7	(⁷)	(⁷)	3.1
Men's clothing stores	44811	72.8	-	(⁷)	(⁷)	(⁷)	(⁷)	-
Women's clothing stores	44812	257.4	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Family clothing stores	44814	469.4	7.9	(⁷)	1.4	(⁷)	(⁷)	6.2
Clothing accessories stores	44815	41.2	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Other clothing stores	44819	118.1	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Shoe stores	4482	178.0	2.3	(⁷)	(⁷)	(⁷)	(⁷)	2.1
Jewelry, luggage, and leather goods stores	4483	169.2	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Jewelry stores	44831	156.5	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Luggage and leather goods stores	44832	12.7	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Sporting goods, hobby, book, and music stores	451	646.1	8.3	.8	(⁷)	(⁷)	(⁷)	6.9
Sporting goods, hobby, and musical instrument stores	4511	438.6	9.4	1.0	(⁷)	(⁷)	(⁷)	7.7
Sporting goods stores	45111	213.5	6.0	(⁷)	(⁷)	(⁷)	(⁷)	4.9
Hobby, toy, and game stores	45112	134.7	21.6	3.1	(⁷)	(⁷)	(⁷)	17.4
Sewing, needlework, and piece goods stores	45113	55.1	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Musical instrument and supplies stores	45114	35.4	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Book, periodical, and music stores	4512	207.5	6.0	(⁷)	(⁷)	(⁷)	(⁷)	5.1
Book stores and news dealers	45121	154.6	7.7	(⁷)	(⁷)	(⁷)	(⁷)	6.7
Prerecorded tape, compact disc, and record stores	45122	52.9	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	-
General merchandise stores	452	2,851.3	28.7	5.6	2.2	.6	.3	19.9
Department stores	4521	1,613.7	32.2	6.1	2.9	.7	.3	22.4

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Other general merchandise stores	4529	1,237.6	24.7	5.1	1.5	0.5	0.3	17.3
Warehouse clubs and superstores	45291	919.2	24.5	3.8	2.0	.5	.4	17.8
Miscellaneous store retailers	453	918.5	12.0	1.6	.4	(⁷)	(⁷)	9.9
Florists	4531	106.0	35.4	(⁷)	(⁷)	(⁷)	(⁷)	32.9
Office supplies, stationery, and gift stores	4532	404.8	8.2	.8	.7	(⁷)	(⁷)	6.7
Office supplies and stationery stores	45321	179.5	7.4	(⁷)	1.4	(⁷)	(⁷)	5.1
Gift, novelty, and souvenir stores	45322	225.3	9.0	(⁷)	(⁷)	(⁷)	(⁷)	8.3
Used merchandise stores	4533	110.3	15.4	2.0	(⁷)	(⁷)	(⁷)	12.5
Other miscellaneous store retailers	4539	297.3	7.6	2.3	(⁷)	(⁷)	(⁷)	5.4
Pet and pet supplies stores	45391	84.9	4.2	2.5	(⁷)	(⁷)	(⁷)	(⁷)
Art dealers	45392	24.4	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Manufactured (mobile) home dealers	45393	26.5	25.9	(⁷)	(⁷)	(⁷)	(⁷)	23.8
All other miscellaneous store retailers	45399	161.5	7.1	2.6	(⁷)	(⁷)	(⁷)	4.5
Nonstore retailers	454	424.4	23.0	2.2	.4	(⁷)	(⁷)	20.1
Electronic shopping and mail-order houses	4541	222.4	37.4	3.2	(⁷)	(⁷)	(⁷)	33.4
Vending machine operators	4542	52.6	15.6	(⁷)	(⁷)	(⁷)	(⁷)	13.1
Direct selling establishments	4543	149.4	5.0	(⁷)	(⁷)	(⁷)	(⁷)	3.8
Fuel dealers	45431	98.1	6.8	(⁷)	(⁷)	(⁷)	(⁷)	5.6
Other direct selling establishments	45439	51.4	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Transportation and warehousing ⁹	48-49	4,006.2	26.3	1.2	1.8	.4	2.8	20.1
Air transportation	481	513.2	47.3	.8	1.9	.6	11.4	32.6
Scheduled air transportation	4811	470.2	51.2	.9	2.0	.6	12.5	35.2
Rail transportation ⁹	482	—	9.9	(⁷)	(⁷)	(⁷)	6.2	3.2
Water transportation	483	55.0	19.2	(⁷)	8.8	(⁷)	(⁷)	6.5
Deep sea, coastal, and Great Lakes water transportation	4831	34.0	14.1	(⁷)	—	(⁷)	—	9.5
Inland water transportation	4832	21.0	25.2	(⁷)	18.3	(⁷)	(⁷)	(⁷)
Truck transportation	484	1,350.8	9.2	1.0	.9	.5	—	6.8
General freight trucking	4841	949.9	8.4	1.3	.9	.3	—	5.8
General freight trucking, local	48411	230.9	2.2	1.2	(⁷)	(⁷)	(⁷)	(⁷)
General freight trucking, long-distance	48412	719.0	10.3	1.3	1.1	.4	—	7.4
Specialized freight trucking	4842	400.9	11.2	(⁷)	.7	1.0	(⁷)	9.2
Used household and office goods moving	48421	100.2	11.4	(⁷)	(⁷)	3.8	(⁷)	6.7
Specialized freight (except used goods) trucking, local	48422	195.1	13.4	(⁷)	(⁷)	(⁷)	(⁷)	13.4
Specialized freight (except used goods) trucking, long-distance	48423	105.6	6.9	(⁷)	2.2	(⁷)	(⁷)	3.7
Transit and ground passenger transportation	485	378.4	19.1	.6	7.7	(⁷)	(⁷)	10.2
Urban transit systems	4851	35.2	32.1	(⁷)	8.9	(⁷)	(⁷)	22.0
Interurban and rural bus transportation	4852	20.4	12.6	(⁷)	(⁷)	(⁷)	(⁷)	8.7

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Taxi and limousine service	4853	65.7	13.8	(7)	12.4	(7)	(7)	(7)
Taxi service	48531	29.8	(7)	(7)	(7)	(7)	(7)	-
Limousine service	48532	35.9	24.2	(7)	23.1	(7)	(7)	(7)
School and employee bus transportation	4854	166.5	18.9	(7)	8.9	(7)	(7)	7.8
Charter bus industry	4855	32.5	7.8	(7)	(7)	(7)	(7)	(7)
Other transit and ground passenger transportation	4859	58.0	25.0	(7)	3.4	(7)	(7)	21.6
Pipeline transportation	486	37.6	10.4	(7)	(7)	(7)	(7)	6.9
Pipeline transportation of natural gas	4862	25.5	11.6	(7)	(7)	(7)	(7)	6.2
Scenic and sightseeing transportation	487	27.0	10.7	-	(7)	(7)	(7)	7.0
Support activities for transportation	488	530.6	15.7	1.9	3.1	(7)	3.5	6.9
Support activities for rail transportation	4882	20.9	(7)	(7)	(7)	(7)	(7)	(7)
Support activities for water transportation	4883	93.4	26.4	(7)	4.1	(7)	9.7	11.6
Support activities for road transportation	4884	77.1	16.1	(7)	4.1	(7)	(7)	10.1
Motor vehicle towing	48841	45.8	12.3	(7)	7.0	(7)	(7)	5.5
Freight transportation arrangement	4885	169.5	9.3	(7)	4.1	(7)	(7)	3.7
Other support activities for transportation	4889	29.5	14.3	8.8	(7)	(7)	(7)	(7)
Couriers and messengers	492	557.5	78.1	.5	.7	(7)	5.5	71.3
Couriers	4921	510.0	85.0	.4	.8	(7)	6.0	77.7
Local messengers and local delivery	4922	47.5	8.9	(7)	(7)	(7)	(7)	7.3
Warehousing and storage	493	555.8	37.7	2.4	.5	.4	.9	33.4
Warehousing and storage	4931	555.8	37.7	2.4	.5	.4	.9	33.4
General warehousing and storage	49311	463.0	40.8	2.7	.6	.5	.9	36.0
Other warehousing and storage	49319	41.2	29.7	(7)	(7)	(7)	(7)	26.7
Utilities	22	563.9	59.6	22.6	2.2	(7)	18.1	16.6
Utilities	221	563.9	59.6	22.6	2.2	(7)	18.1	16.6
Electric power generation, transmission and distribution	2211	408.2	66.0	28.5	1.4	(7)	17.7	18.2
Electric power generation	22111	247.5	43.4	4.7	1.1	(7)	20.3	17.2
Electric power transmission, control, and distribution ..	22112	160.7	100.2	64.7	1.8	(7)	13.8	19.7
Natural gas distribution	2212	109.5	52.8	6.8	5.7	(7)	26.4	13.9
Water, sewage and other systems	2213	46.2	14.6	4.2	(7)	(7)	(7)	7.8
Water supply and irrigation systems	22131	35.8	13.2	5.5	(7)	(7)	(7)	6.1
Information		3,099.6	15.4	2.0	1.0	.4	1.0	10.9
Information	51	3,099.6	15.4	2.0	1.0	.4	1.0	10.9
Publishing industries (except Internet)	511	907.5	19.2	1.6	.8	.6	3.5	12.8
Newspaper, periodical, book, and directory publishers	5111	672.2	24.8	2.2	.6	.8	4.9	16.2
Newspaper publishers	51111	375.1	27.2	1.1	.9	(7)	6.2	18.9
Periodical publishers	51112	141.2	19.9	(7)	(7)	(7)	5.1	13.9

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Directory and mailing list publishers	51114	46.8	16.8	(7)	(7)	10.5	(7)	—
Other publishers	51119	28.9	43.1	(7)	(7)	(7)	(7)	36.3
Software publishers	5112	235.3	5.2	(7)	1.2	(7)	(7)	4.1
Motion picture and sound recording industries	512	380.3	11.3	1.8	.6	(7)	(7)	8.9
Motion picture and video industries	5121	358.9	12.1	1.9	.7	(7)	(7)	9.4
Motion picture and video exhibition	51213	136.4	24.4	3.8	—	(7)	(7)	20.5
Broadcasting (except Internet)	515	323.6	5.1	.7	.5	(7)	(7)	3.7
Radio and television broadcasting	5151	238.3	4.4	.8	.7	(7)	(7)	2.9
Television broadcasting	51512	127.3	6.4	1.4	1.2	(7)	(7)	3.8
Cable and other subscription programming	5152	85.4	6.8	—	(7)	(7)	(7)	6.1
Internet publishing and broadcasting	516	29.3	19.1	(7)	(7)	(7)	(7)	19.1
Telecommunications	517	1,027.0	19.5	3.4	.8	.5	(7)	14.8
Wired telecommunications carriers	5171	538.2	14.8	3.3	.3	1.0	(7)	10.1
Satellite telecommunications	5174	16.2	15.5	15.5	(7)	(7)	(7)	(7)
Internet service providers, web search portals, and data processing services	518	382.5	4.6	(7)	(7)	(7)	(7)	3.9
Data processing, hosting, and related services	5182	264.7	6.5	(7)	(7)	(7)	(7)	5.6
Other information services	519	49.4	31.5	—	29.4	(7)	(7)	—
Other information services	5191	49.4	31.5	—	29.4	(7)	(7)	—
News syndicates	51911	11.3	(7)	(7)	(7)	(7)	(7)	(7)
Financial activities		7,890.8	12.0	1.3	.9	.4	(10)	9.4
Finance and insurance	52	5,813.3	12.0	.2	.7	.4	—	10.7
Monetary authorities - central bank	521	21.6	38.4	(7)	(7)	(7)	(7)	37.9
Credit intermediation and related activities	522	2,813.1	12.7	.1	.8	.1	—	11.7
Depository credit intermediation	5221	1,751.2	13.3	(7)	1.0	.2	(7)	12.1
Commercial banking	52211	1,280.1	10.9	(7)	1.2	.2	(7)	9.5
Savings institutions	52212	244.0	27.3	(7)	(7)	(7)	(7)	26.2
Credit unions	52213	209.2	12.0	(7)	(7)	(7)	(7)	11.3
Nondepository credit intermediation	5222	755.0	13.2	(7)	.5	(7)	(7)	12.5
Credit card issuing	52221	125.0	26.6	(7)	1.7	(7)	(7)	25.0
Sales financing	52222	106.8	4.1	(7)	(7)	(7)	(7)	4.1
Other nondepository credit intermediation	52229	523.3	12.1	(7)	.4	(7)	(7)	11.5
Financial transactions processing, reserve, and clearinghouse activities	52232	86.3	13.6	(7)	(7)	(7)	(7)	11.7
Other activities related to credit intermediation	52239	92.5	11.7	—	(7)	(7)	(7)	10.8
Securities, commodity contracts, and other financial investments and related activities	523	765.2	3.4	—	(7)	(7)	(7)	3.3
Securities and commodity contracts intermediation and brokerage	5231	482.6	2.3	(7)	(7)	(7)	(7)	2.1

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Investment banking and securities dealing	52311	167.0	2.9	(7)	(7)	(7)	(7)	2.7
Securities brokerage	52312	290.2	2.1	(7)	(7)	(7)	(7)	1.8
Commodity contracts dealing	52313	11.6	(7)	(7)	(7)	(7)	(7)	(7)
Other financial investment activities	5239	273.5	5.5	(7)	(7)	(7)	(7)	5.5
Portfolio management	52392	103.7	4.7	(7)	(7)	(7)	(7)	4.7
All other financial investment activities	52399	45.8	9.8	(7)	(7)	(7)	(7)	9.8
Insurance carriers and related activities	524	2,127.9	14.2	.3	.9	.9	(7)	12.2
Insurance carriers	5241	1,272.5	20.4	.4	1.0	1.4	(7)	17.5
Direct life, health, and medical insurance carriers	52411	639.6	24.6	.4	1.0	2.8	-	20.4
Direct insurance (except life, health, and medical) carriers	52412	602.4	16.3	.5	.9	(7)	(7)	14.9
Reinsurance carriers	52413	30.5	12.4	(7)	(7)	(7)	(7)	7.7
Agencies, brokerages, and other insurance related activities	5242	855.4	4.8	(7)	.6	(7)	(7)	4.1
Insurance agencies and brokerages	52421	642.3	3.1	(7)	(7)	(7)	(7)	2.9
Other insurance related activities	52429	213.2	9.6	(7)	1.8	(7)	(7)	7.4
Funds, trusts, and other financial vehicles	525	85.5	3.9	-	(7)	(7)	(7)	3.6
Other investment pools and funds	5259	38.4	7.3	(7)	(7)	(7)	(7)	6.7
Real estate and rental and leasing	53	2,077.5	12.0	4.6	1.4	.6	.1	5.1
Real estate	531	1,410.4	13.7	5.9	1.4	.7	(7)	5.4
Lessors of real estate	5311	599.0	18.7	8.3	1.9	1.1	(7)	7.2
Lessors of residential buildings and dwellings	53111	374.5	24.8	12.4	1.6	1.5	(7)	9.4
Lessors of nonresidential buildings (except miniwarehouses)	53112	146.2	9.5	2.1	3.4	(7)	(7)	3.2
Lessors of miniwarehouses and self-storage units	53113	36.9	13.5	(7)	(7)	(7)	(7)	9.1
Lessors of other real estate property	53119	41.4	(7)	(7)	(7)	(7)	(7)	(7)
Offices of real estate agents and brokers	5312	329.4	5.8	1.4	1.1	(7)	(7)	3.1
Activities related to real estate	5313	482.1	12.9	6.2	1.2	.7	(7)	4.9
Real estate property managers	53131	405.6	15.4	7.4	1.4	.8	(7)	5.8
Offices of real estate appraisers	53132	42.3	(7)	(7)	(7)	(7)	(7)	(7)
Rental and leasing services	532	641.0	7.9	2.0	1.4	.5	(7)	3.8
Automotive equipment rental and leasing	5321	194.6	11.5	2.6	2.6	(7)	(7)	6.2
Passenger car rental and leasing	53211	134.6	13.9	3.4	2.4	(7)	(7)	7.8
Truck, utility trailer, and RV (recreational vehicle) rental and leasing	53212	59.9	6.6	(7)	3.1	(7)	(7)	2.7
Consumer goods rental	5322	280.5	7.0	2.5	1.2	(7)	(7)	3.0
Consumer electronics and appliances rental	53221	28.1	(7)	(7)	(7)	(7)	(7)	(7)
Formal wear and costume rental	53222	15.3	(7)	(7)	(7)	(7)	(7)	(7)
Video tape and disc rental	53223	152.3	3.3	(7)	(7)	(7)	(7)	3.1
Other consumer goods rental	53229	84.8	13.5	5.9	3.2	(7)	(7)	3.5

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
General rental centers	5323	61.7	5.5	(⁷)	(⁷)	3.1	(⁷)	(⁷)
Commercial and industrial machinery and equipment rental and leasing	5324	104.2	5.2	(⁷)	(⁷)	(⁷)	(⁷)	2.5
Construction, transportation, mining, and forestry machinery and equipment rental and leasing	53241	54.6	6.0	(⁷)	(⁷)	(⁷)	-	2.6
Office machinery and equipment rental and leasing	53242	10.1	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Other commercial and industrial machinery and equipment rental and leasing	53249	39.5	5.1	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Professional and business services		16,294.8	13.9	4.0	1.3	.3	.3	8.0
Professional, scientific, and technical services	54	6,768.9	10.5	2.9	.5	(¹⁰)	.2	6.9
Professional, scientific, and technical services	541	6,768.9	10.5	2.9	.5	(¹⁰)	.2	6.9
Legal services	5411	1,159.2	5.3	(⁷)	.1	(⁷)	(⁷)	5.1
Accounting, tax preparation, bookkeeping, and payroll services	5412	825.8	8.0	5.1	(⁷)	(⁷)	(⁷)	2.9
Accounting, tax preparation, bookkeeping, and payroll services	54121	825.8	8.0	5.1	(⁷)	(⁷)	(⁷)	2.9
Offices of certified public accountants	541211	372.4	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Tax preparation services	541213	93.4	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Payroll services	541214	126.3	4.8	(⁷)	(⁷)	(⁷)	(⁷)	4.8
Other accounting services	541219	233.7	24.3	17.4	(⁷)	(⁷)	(⁷)	6.8
Architectural, engineering, and related services	5413	1,255.5	11.5	6.1	.3	.2	.1	4.8
Architectural services	54131	183.7	1.2	(⁷)	(⁷)	(⁷)	(⁷)	1.2
Landscape architectural services	54132	42.0	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Engineering services	54133	787.2	6.2	2.4	(⁷)	(⁷)	.2	3.2
Building inspection services	54135	16.5	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Geophysical surveying and mapping services	54136	13.9	201.2	173.5	(⁷)	(⁷)	(⁷)	-
Surveying and mapping (except geophysical) services	54137	60.6	50.4	44.7	(⁷)	(⁷)	(⁷)	5.7
Testing laboratories	54138	141.7	22.5	4.2	1.4	(⁷)	(⁷)	16.5
Specialized design services	5414	122.3	3.9	(⁷)	(⁷)	(⁷)	(⁷)	3.9
Computer systems design and related services	5415	1,141.6	9.0	.5	.9	(⁷)	(⁷)	7.4
Computer systems design and related services	54151	1,141.6	9.0	.5	.9	(⁷)	(⁷)	7.4
Custom computer programming services	541511	504.5	14.1	(⁷)	1.6	(⁷)	(⁷)	12.5
Computer systems design services	541512	474.9	4.9	1.1	.5	(⁷)	(⁷)	3.2
Computer facilities management services	541513	56.0	10.2	(⁷)	(⁷)	(⁷)	(⁷)	8.4
Other computer related services	541519	106.3	2.4	(⁷)	(⁷)	(⁷)	(⁷)	2.0
Environmental consulting services	54162	63.6	8.2	8.2	(⁷)	(⁷)	(⁷)	(⁷)
Scientific research and development services	5417	544.1	34.1	3.4	.8	(⁷)	1.2	28.6
Advertising and related services	5418	430.4	4.7	2.4	1.2	(⁷)	(⁷)	1.2

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Marketing research and public opinion polling	54191	107.6	—	(⁷)	(⁷)	(⁷)	(⁷)	—
Photographic services	54192	82.8	10.2	5.9	(⁷)	(⁷)	(⁷)	4.1
All other professional, scientific, and technical services	54199	47.0	35.7	7.7	(⁷)	(⁷)	(⁷)	28.0
Management of companies and enterprises	55	1,696.5	16.4	1.4	1.1	.5	1.2	12.2
Administrative and support and waste management and remediation services	56	7,829.4	17.7	—	2.5	.5	.2	8.0
Administrative and support services	561	7,503.5	17.9	—	2.6	.3	.2	8.1
Employment placement agencies	56131	263.4	3.1	(⁷)	(⁷)	(⁷)	(⁷)	—
Employee leasing services	56133	806.4	16.2	8.9	(⁷)	(⁷)	(⁷)	6.5
Document preparation services	56141	39.2	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Telephone call centers	56142	359.6	37.2	1.3	4.5	(⁷)	(⁷)	31.3
Collection agencies	56144	146.7	3.1	(⁷)	(⁷)	(⁷)	(⁷)	2.1
Travel arrangement and reservation services	5615	228.1	5.1	(⁷)	(⁷)	(⁷)	(⁷)	4.4
Travel agencies	56151	113.2	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Tour operators	56152	29.8	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Other travel arrangement and reservation services	56159	85.2	11.1	(⁷)	(⁷)	(⁷)	(⁷)	9.3
Investigation and security services	5616	717.4	13.1	.8	2.8	.8	(⁷)	8.6
Services to buildings and dwellings	5617	1,675.1	—	—	4.9	.2	.1	8.8
Janitorial services	56172	871.2	—	—	2.9	(⁷)	.2	3.0
Landscaping services	56173	590.7	—	22.8	4.2	.4	(⁷)	16.5
Carpet and upholstery cleaning services	56174	45.5	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Other services to buildings and dwellings	56179	73.6	37.5	(⁷)	37.5	(⁷)	(⁷)	(⁷)
Waste management and remediation services	562	325.8	15.8	4.0	1.5	2.4	(⁷)	7.8
Waste collection	5621	117.5	20.5	6.8	(⁷)	5.0	(⁷)	8.4
Waste treatment and disposal	5622	105.7	16.5	3.6	2.6	(⁷)	(⁷)	9.9
Remediation services	56291	63.9	8.3	(⁷)	(⁷)	3.0	(⁷)	3.4
Education and health services		16,085.0	38.2	6.0	4.8	.4	.1	26.9
Educational services	61	2,079.2	11.5	2.2	2.3	.4	(⁷)	6.5
Educational services	611	2,079.2	11.5	2.2	2.3	.4	(⁷)	6.5
Elementary and secondary schools	6111	571.0	7.6	2.3	1.5	.8	(⁷)	3.1
Junior colleges	6112	44.1	17.3	(⁷)	10.9	(⁷)	(⁷)	4.4
Colleges, universities, and professional schools	6113	986.5	17.6	3.2	3.1	.3	(⁷)	10.9
Business schools and computer and management training	6114	77.5	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Business and secretarial schools	61141	15.5	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Technical and trade schools	6115	99.3	5.6	(⁷)	(⁷)	(⁷)	(⁷)	4.2

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
Other schools and instruction	6116	232.8	1.5	(7)	(7)	(7)	(7)	(7)
Fine arts schools	61161	58.9	(7)	(7)	(7)	(7)	(7)	(7)
Sports and recreation instruction	61162	59.6	(7)	(7)	(7)	(7)	(7)	(7)
Language schools	61163	14.6	(7)	(7)	(7)	(7)	(7)	(7)
All other schools and instruction	61169	99.8	3.1	(7)	(7)	(7)	(7)	(7)
Health care and social assistance	62	14,005.7	41.7	6.5	5.2	.4	.1	29.5
Ambulatory health care services	621	4,937.5	24.3	2.4	3.4	.4	.1	18.0
Offices of physicians	6211	2,052.2	20.9	1.6	4.9	.3	.1	14.1
Offices of other health practitioners	6213	524.4	9.7	(7)	(7)	(7)	(7)	9.3
Outpatient care centers	6214	444.7	28.5	3.6	3.7	(7)	(7)	21.2
Medical and diagnostic laboratories	6215	188.5	42.4	1.3	(7)	(7)	(7)	40.2
Home health care services	6216	770.7	27.4	8.2	3.2	(7)	(7)	15.7
Other ambulatory health care services	6219	199.0	106.7	2.6	9.6	5.5	(7)	88.2
Hospitals	622	4,246.7	72.9	8.9	9.2	.4	-	54.3
Nursing and residential care facilities	623	2,810.2	42.7	11.7	4.0	.3	.3	26.4
Social assistance	624	2,011.3	13.6	3.4	2.4	.2	(7)	7.5
Leisure and hospitality		12,467.6	15.8	5.3	1.4	.2	(¹⁰)	8.9
Arts, entertainment, and recreation	71	1,852.9	34.3	9.7	2.7	.7	.2	21.1
Performing arts, spectator sports, and related industries	711	380.5	13.7	3.8	1.7	(7)	-	8.0
Performing arts companies	7111	117.4	11.3	3.0	2.0	(7)	(7)	6.3
Spectator sports	7112	127.7	20.1	5.1	2.4	(7)	(7)	12.5
Promoters of performing arts, sports, and similar events	7113	77.1	12.9	(7)	(7)	(7)	(7)	9.9
Agents and managers for artists, athletes, entertainers, and other public figures	7114	15.3	(7)	(7)	(7)	(7)	(7)	(7)
Independent artists, writers, and performers	7115	43.0	7.8	7.8	(7)	(7)	(7)	(7)
Museums, historical sites, and similar institutions	712	116.9	29.3	18.2	2.0	(7)	-	8.1
Amusement, gambling, and recreation industries	713	1,355.4	40.7	10.6	3.0	.8	.2	26.0
Amusement parks and arcades	7131	154.8	176.3	32.6	6.4	(7)	(7)	136.1
Gambling industries	7132	138.7	13.2	2.6	1.6	(7)	-	8.7
Other amusement and recreation industries	7139	1,061.9	19.4	7.9	2.6	1.1	(7)	7.7
Accommodation and food services	72	10,614.7	12.8	4.6	1.1	.1	-	6.9
Accommodation	721	1,785.0	20.2	7.3	3.8	.2	-	8.9
Traveler accommodation	7211	1,723.1	20.8	7.5	3.9	.2	-	9.2
Hotels (except casino hotels) and motels	72111	1,422.1	23.3	8.3	4.6	(7)	(7)	10.3
Casino hotels	72112	275.3	11.2	4.7	.9	(7)	(7)	5.1
Other traveler accommodation	72119	25.6	(7)	(7)	(7)	(7)	(7)	(7)

See footnotes at end of table.

TABLE SNR08. Incidence rates¹ of nonfatal occupational illness, by industry and category of illness, 2004 — Continued

Industry ²	NAICS code ³	2004 Annual average employment ⁴ (thousands)	Incidence rates per 10,000 full-time workers					
			Total cases	Skin diseases or disorders	Respiratory conditions	Poisonings	Hearing loss	All other illnesses
RV (recreational vehicle) parks and recreational camps ..	7212	50.8	—	—	(⁷)	(⁷)	(⁷)	(⁷)
Rooming and boarding houses	7213	11.1	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)
Food services and drinking places	722	8,829.6	11.1	4.0	.5	.1	(⁷)	—
Full-service restaurants	7221	4,194.9	—	4.1	.6	.2	(⁷)	—
Limited-service eating places	7222	3,737.3	—	4.5	.6	(⁷)	(⁷)	—
Special food services	7223	531.3	6.7	2.7	(⁷)	(⁷)	(⁷)	3.7
Other services		3,785.2	12.1	2.6	1.7	.4	.1	7.2
Other services, except public administration	81	3,785.2	12.1	2.6	1.7	.4	.1	7.2
Repair and maintenance	811	1,222.0	8.5	1.8	1.2	.9	.3	4.3
Automotive repair and maintenance	8111	884.7	5.6	1.3	.3	.8	.2	3.0
Electronic and precision equipment repair and maintenance	8112	101.2	7.2	(⁷)	(⁷)	3.2	(⁷)	4.1
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	8113	157.7	23.1	4.6	6.2	(⁷)	1.2	11.0
Personal and household goods repair and maintenance	8114	78.4	11.6	4.4	2.9	(⁷)	(⁷)	4.3
Personal and laundry services	812	1,266.1	12.9	3.3	2.0	.2	(⁷)	7.4
Personal care services	8121	560.0	5.8	1.3	(⁷)	(⁷)	(⁷)	4.5
Death care services	8122	137.0	21.6	4.4	(⁷)	(⁷)	(⁷)	15.5
Drycleaning and laundry services	8123	349.7	20.9	5.0	5.7	(⁷)	(⁷)	10.1
Other personal services	8129	219.3	9.5	4.4	(⁷)	(⁷)	(⁷)	4.6
Religious, grantmaking, civic, professional, and similar organizations	813	1,297.2	15.7	3.0	2.0	.3	(⁷)	10.5

¹ The incidence rates represent the number of illnesses per 10,000 full-time workers and were calculated as: (N/EH) x 20,000,000, where

N = number of illnesses
 EH = total hours worked by all employees during the calendar year
 20,000,000 = base for 10,000 equivalent full-time workers (working 40 hours per week, 50 weeks per year)

² Totals include data for industries not shown separately.

³ North American Industry Classification System — United States, 2002

⁴ Employment is expressed as an annual average and is derived primarily from the BLS-Quarterly Census of Employment and Wages (QCEW) program.

⁵ Excludes farms with fewer than 11 employees.

⁶ Data for Mining (Sector 21 in the North American Industry Classification System— United States, 2002) include establishments not governed by the Mine Safety and Health Administration rules and reporting, such as those in Oil and Gas Extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the Mine Safety and Health

Administration, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore, estimates for these industries are not comparable to estimates in other industries.

⁷ Fewer than 15 cases.

⁸ Data for mining operators in this industry are provided to BLS by the Mine Safety and Health Administration, U.S. Department of Labor. Independent mining contractors are excluded. These data do not reflect the changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore, estimates for these industries are not comparable to estimates in other industries.

⁹ Data for employers in railroad transportation are provided to BLS by the Federal Railroad Administration, U.S. Department of Transportation.

¹⁰ Incidence rate less than 0.05.

NOTE: Because of rounding, components may not add to totals. Dash indicates data not available.

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor
 November 2005