

MINUTES
NIOSH Board of Scientific Counselors
395 E Street, SW
Washington, DC 20201
September 5, 2014

Remarks from the Designated Federal Official

Mr. John Decker, the Designated Federal Official and Executive Secretary for the NIOSH BSC, provided an overview of the NIOSH BSC operating procedures under the Federal Advisory Committee Act, including issues relating to potential conflicts of interest. Board members present were Dr. David Bonauto, Mr. Lamont Byrd, Dr. Bradley Evanoff, Mr. James Frederick, Dr. Kitty Gelberg, Dr. Clarion Johnson, Dr. Michael Larranaga, Dr. John Mendeloff, Dr. Corinne Peek-Asa, Dr. James Platner, Dr. James Ramsay, and Dr. Carol Rice. Dr. Bradley Evanoff and Dr. Darryl Hill were present by telephone and webcast. Dr. Michael Greenberg was not present. It was determined that a quorum was met to allow the meeting to proceed. No BSC member self-reported any conflicts of interest for the topics on the agenda. Safety instructions for building evacuation or shelter-in-place were also provided.

Introductions, Announcements, and Approval of Minutes

Dr. Bonnie Rogers, Chair, called the sixty-second meeting of the NIOSH Board of Scientific Counselors (BSC) to order. See Appendix A for a current roster of BSC members. The NIOSH Director (Dr. John Howard), Deputy Director for Program (Dr. Margaret Kitt) and other NIOSH staff were present in-person, including Mr. Fred Blosser, Dr. Christine Branche, Ms. Christy Spring, and Mr. John Decker (the Designated Federal Official). Several additional NIOSH staff members were present via Envision or on the webcast (Adobe Connect). Approximately five members of the public were present in-person or on the webcast. The minutes from the sixtieth-first meeting, convened on June 20, 2014, were reviewed and approved by the Board. The meeting was open to the public in its entirety.

NIOSH Director Remarks

Dr. John Howard highlighted several items provided in his talking points (see Appendix B). Items mentioned included the new coordinator for Prevention through Design, reorganization of the NIOSH Communication and Research Translation Office, the upcoming update to the NIOSH heat stress criteria document, the NIOSH disaster research initiative meeting in July, the NIOSH Ebola webpage, the development of an international travelers webpage, N95 day, electronic waste, and the upcoming update to the NIOSH hazardous drug list.

Emergency Response Health Monitoring and Surveillance Initiative (ERHMS)

Dr. Renee Funk from the NIOSH Emergency Preparedness and Response Office provided an overview of ERHMS. ERHMS is a health monitoring and surveillance framework that includes recommendations and tools to protect emergency responders during all phases of a response, including pre-deployment, deployment, and post-deployment phases. The objectives of ERHMS are to identify exposures and/or signs and symptoms early in the course of an emergency response, prevent or mitigate adverse physical and psychological outcomes, ensure workers maintain their ability to respond effectively and are not harmed during response work, evaluate protective measures, and identify responders for medical referral and possible enrollment in a long-term health surveillance program. Dr. Funk also showed a short video that provided an overview of ERHMS.

Following Dr. Funk's presentation, a board member asked if the roster system accommodates pre-disaster rostering of secondary responders, such as electrical crews. Dr. Funk indicated that the ERHMS system seeks to include these initial response worker groups, including construction crews. Another question posed was in regard to FEMA's response to including ERHMS as part of the response framework. Dr. Funk indicated NIOSH has been part of the integration group at FEMA, but there is no direct way to get ERHMS into the National Incident Management System. Another Board member commented that it was a challenge to define who is defined as a responder.

Implementation of the National Academies' Recommendations: Overview and Charge to BSC

Ms. Elizabeth Hofer, NIOSH Office of Planning and Performance, presented a slide set describing the charge to the BSC and a description of the process for scoring NIOSH programs. The BSC will be assessing the continued progress on select recommendations for six NIOSH programs that were reviewed previously by the BSC in 2011/2012. At this meeting, the BSC will receive progress reports from the following three programs: Respiratory Disease, Construction, and Traumatic Injuries research programs.

Ms. Hofer indicated the BSC work groups have reached agreement on scores for previously presented programs (Personal Protective Technologies, Health Hazard Evaluations, and Hearing Loss Prevention research program), which will be discussed and voted on today. The remaining programs will be voted on at the November 7, 2014 meeting. All work group members consisted of BSC members (that is, there are no non-BSC individuals participating on the work groups).

National Academies Implementation: NIOSH Construction Research Program

Dr. Christine Branche from the NIOSH Construction Research Program provided an overview of progress on the five selected National Academies' recommendations to be reviewed. Dr. Branche described the program structure and focus areas, including Research to Practice (r2p) initiatives. She also provided an overview of impacts made since 2012, including discussion of the nail gun safety initiative, a publication titled "Simple Solutions for Home Building Workers," the ladder safety application for smart phones, the Construction Safety Culture and Safety Climate workshop on June 11-12, 2013, the Buy Quiet initiative, the masonry r2p partnership, the Construction Fall Prevention Campaign, and the national safety stand-down on June 2-6, 2014.

Following Dr. Branche's presentation, Board members had several comments and questions. A Board member asked how NIOSH reaches workers in the home building sector. Dr. Branche indicated the program uses a number of methods, including blast emails, particularly through OSHA. Many workers stay connected to information sources from OSHA, and OSHA has been using NIOSH information and including it in their newsletters. These newsletters are also distributed to construction-related news media. Another question was asked about whether manufacturers are participating in the "Buy Quiet" program. Dr. Greg Lotz (present via Envision) answered this question. He indicated there has not been a strong movement from the construction equipment industry to participate in the program. However, NIOSH is working with the Center for Construction Research and Training (CPWR) to expand that effort. Dr. Lotz noted a lack of a regulatory requirement or driver for noise protection in the construction sector. Some international manufacturers have greater interest and participation in it, but for now there is no U.S. requirement to label noise reduction on equipment. Another Board member expressed concern about a need to take a macro look at construction deaths. For instance, the U.K. construction worker fatality rate is much lower than in the U.S. The Board member asked why there was such a large interest, and whether it should be researched. This difference in fatality rates raises questions about how the U.K. approaches safety resulting in much better outcomes. Questions posed included "Is it a regulatory difference?" and "Are the factors deep seated and cultural?" Dr. Branche indicated that the program is certainly aware of this issue. The program's prevention through design efforts have examined this issue. OSHA and CPWR have a lot of information and data to explore and

analyze. Culture certainly explains a large part of the difference. Another question posed was about leveraging the experience of the Construction Program with the Ladder Safety App to help develop a noise level measuring app? Dr. Lotz indicated that NIOSH is working on a noise measuring app, but of those already available, none are technologically sufficient for worksite monitoring. The program is continuing to work on the issue, but it is not a simple process and the final product is not near. A Board member posed a question about the BSC's feedback from the last review, specifically if there is a research-to-practice (r2p) strategic plan roadmap. In particular, the Board member asked if there has been prioritization of the goals and if there is a timetable for future plans. Dr. Branche indicated the topic is addressed further in the report. A timetable is difficult to set, because of so many external concerns. However, the construction program is in a place now where they can focus on better establishing timetables in the future. A Board member asked about difficulties the construction program may have in working with OSHA and the program's future collaborations with OSHA. Dr. Branche indicated that NIOSH has a great collaboration with OSHA. Currently NIOSH has a great relationship with the OSHA construction contact (Mr. Maddox – present in the room). The program has a friendly, productive, and reliable relationship with OSHA, and NIOSH and OSHA coordinate closely with each other. The working environment between NIOSH and OSHA is very different now compared to when the National Academies' recommendation was originally made. A Board member commented about environmental noise issues emanating from vehicles on site, and noting that this is an important consideration for worker noise exposure. A Board member indicated a nail gun research presentation with data and horrific pictures of the types of injuries sustained while using certain nail guns. The Board member asked why these more dangerous nail guns continue to be used when safer options cost the same. Dr. Branche indicated the American National Standards Institute (ANSI) is working with the program to fix this and establish a standard. However, there is no clear consensus among industry participants on how to handle this issue, and it is an ongoing concern at ANSI.

A break was held from 10:00 am to 10:15 am; at the conclusion of the break Dr. Brad Evanoff was present, but Dr. Darryl Hill had to break away for another commitment. A quorum was determined to be present.

National Academies Implementation: Respiratory Disease Research Program

Dr. David Weissman from the NIOSH Division of Respiratory Disease Studies provided an overview of progress in meeting National Academies' recommendations for the Respiratory Disease Research Program. Dr. Weissman discussed the importance of work-related respiratory diseases, provided an overview of the program, and described examples of impacts in response to National Academies' priority recommendations. These examples included reviews of occupational respiratory disease surveillance projects, progress in digital chest imaging, projects on flavorings-related lung disease, and wide-ranging efforts on work-related asthma. Dr. Weissman noted that approximately 15% of asthma is attributable to work.

Following Dr. Weissman's presentation, the Board members posed several questions. The first question focused on how the program is grappling with emerging issues, in particular the balancing of emerging issues in relationship to ongoing program activities. Dr. Weissman indicated that an annual, formal review of the program activities allows for refocusing as necessary. This approach has been useful in that it allows the program to quickly mobilize intramurally to respond to emerging issues. Dr. Weissman noted that the term "program" is interpreted broadly, so it includes intramural as well as extramural researchers when discussing "program staff." Another Board member asked where asbestos fits into the program strategy. Dr. Weissman indicated the report provided to the BSC is constrained by the template and is not a comprehensive look at the program's activities; it covers only topics in relation to the specific, priority National Academies' recommendations selected for tracking. So, one of the strategic goals not presented today is for lung diseases that includes asbestos. Another Board member commented on the inadequacy of healthcare for work-related occupational respiratory disease. Dr. Weissman responded that this issue is specifically addressed by a Healthy People 2020

goal to incorporate asking adults with asthma about their work-related hazards during healthcare visits. Another Board member asked Dr. Weissman to provide perspective on program plans to move forward without these National Academies' regular reviews. Dr. Weissman indicated that these National Academies progress reviews have fostered a culture of review, including annual program review. The program now has the awareness of how helpful these regular reviews are allowing for mid-course changes on program goals. Even without formal review by the BSC, this self-evaluation will continue.

National Academies Implementation: Traumatic Injury Program

Ms. Dawn Castillo, Manager of the NIOSH Traumatic Injury Program and NIOSH Division Director for the Division of Safety Research, reported on the five tracked National Academies' recommendations. Ms. Castillo described the strategic goal revision process, and then provided an overview of the program by subgoals, highlighting illustrative achievements. These included work with other federal agencies, collaboration among NIOSH-funded researchers, and issues surrounding the changing workplace. Following the presentation, Board members asked several questions. One question was about the most reported category of violence, with mention of injuries and bullying. Ms. Castillo indicated physical injuries are most reported, as captured in surveillance data. She commented that most bullying goes underreported. Some workers in certain industries view injury as a common, unescapable part of their jobs (i.e. healthcare workers). Cyber bullying and bullying is generally not captured in surveillance data. Another Board member asked how the program incorporates public sector data into surveillance system reporting. Ms. Castillo indicated that the Board of Labor Statistics (BLS) has incorporated state/local government data into their statistics. Also, there is a NIOSH surveillance system that operates from Emergency Departments that captures data across all industries. Coding by industry in this system is difficult, however. A Board member asked if the program has plans to address cyber bullying. Ms. Castillo indicated surveys collected through a higher education setting will inform the program on how to structure their future plans to address cyber bullying. NIOSH, jointly with the Bureau of Labor Statistics and Federal Register Notices are working to obtain public comments on proposed survey amendments related to bullying. Another Board member asked about the concept of occupational stress as foundational or relational to the occurrence of injuries. Is there any work being done on this topic, or with the Total Worker Health Program? Ms. Castillo indicated the program has increased their coordination with work organization and stress programs and will be increasing the depth of their involvement on this issue. Another Board member asked about the progress with ambulance design (retrofitting, etc.). Ms. Castillo indicated that no federal standards for ambulances exist, but the program is working with manufacturers, government agencies and workforce members to establish a standard. The program has noted improvements before the standards are finalized on the part of manufacturers. Ms. Castillo noted that retrofitting existing ambulances is very difficult. Another Board member asked whether the program has been assessing issues related to temporary workers. Ms. Castillo noted that the program has been using information from field investigations to inform their work related to temporary workers. An OSHA/NIOSH workgroup has been established to explore this issue. Finally, a Board member noted that the Department of Homeland Security has a publication on ambulance design in-progress. Ms. Castillo noted that NIOSH is involved.

Structuring Labor-Management Participation in Research Partnerships

Dr. Margaret Kitt, NIOSH Deputy Director for Program, provided an update on progress responding to the BSC report "[Structuring Labor-Management Participation in Research Partnerships](#)," delivered to the NIOSH Director in September 2013. In response to this report, the NIOSH Director appointed a NIOSH work group to address the BSC recommendations.

The following summary provides an update according to numerical recommendations in the BSC report. Recommendation #1: *NIOSH researchers involved in the Toyota study should conduct a "follow-back" survey of workers at the completion of the project to obtain feedback on the issues of*

barriers to participation and communication of findings. Dr. Kitt commented that the Office of Management and Budget (OMB) approval for such a survey would take a minimum of 6-9 months, so this recommendation is not an option for this study. Recommendation #2: *NIOSH should conduct follow-back surveys in selected union and non-union field/intervention studies to collect information on the views of workers, and union representatives in workplaces where employees are represented....NIOSH policies should be developed to address identified problems and successes.* Dr. Kitt indicated that the work group conducted an analysis of what is being done, and that it is not being done in a systematic way. Researchers are in the process of developing survey templates. The work group is grappling with how to survey individuals who have chosen not to participate. Recommendation #3: *In circumstances where NIOSH researchers believe it appropriate, they should use worker-guided or worker-participatory research methods....* Dr. Kitt indicated that the work group felt that the topic of participatory research needed further investigation by NIOSH. This was a topic at a September 4, 2014 NIOSH Science Forum, where one of the speakers was Dr. Corinne Peek-Asa. Recommendation #4: *The NIOSH IRB is encouraged to continue, and strengthen its evaluation of the potential economic and social consequences that may be connected to research proposals it reviews. Particular focus should include examination of barriers to participation...and ensuring confidentiality is upheld...IRB should secure expertise it needs to accomplish this objective.* Dr. Kitt indicated that our IRB will be taking up the topic for further discussion. The work group felt the IRB currently placed emphasis on this topic, but additional examination was necessary, through our Science Leadership Team. Recommendation #5: *Where employee participation is sought, NIOSH researchers should be made aware of and receive education on the provisions of the National Labor Relations Act (NLRA) that govern labor-management relationships, including Section 8(a)(2) that prohibits an employer from dominating or interfering with the formation or administration of a labor organization.* Dr. Kitt noted that Mr. William Kojola (former BSC member) presented more information to NIOSH on this topic. The basic concern was that NIOSH staff needed to be cognizant of the issue, as this is an area where our researchers do not necessarily have knowledge of the specific legal issue. NIOSH is discussing the issue as a future topic for our legal seminar series. Recommendation #6: *For intervention studies...NIOSH researchers should consider mechanisms to monitor progress of the study, including outside monitoring experts or a safety committee.* Dr. Kitt commented that NIOSH has only a very limited number of studies that would fall into the category of needing special monitoring, but there could be instances where it may be appropriate. This topic was discussed at the NIOSH Science Leadership Team, and NIOSH will look at previous and current studies where it may be appropriate. NIOSH is also looking into a protocol to ask the question and will be consulting the internal work group on the issue. Recommendation #7: *NIOSH should develop a new policy or guideline document that addresses the communication of results of all studies where the research was conducted....should include dissemination approaches.* Dr. Kitt commented that this involves communicating better with stakeholders and workers. NIOSH has set up a Communications Leadership Team, and the work group has made a recommendation to refer this issue to that Team. Dr. Kitt noted that this topic dovetails with current work and referred to a Science/Information Dissemination Continuum slide. Recommendation #8: *NIOSH should consider developing some general criteria or guidelines for minimum elements that must be contained in a letter of agreement beyond that of an employer demonstrating its good intention to participate in the study.* The letter might contain elements such as stating that employee participation is voluntary, employees can withdraw from participation at any time, and confidentiality will be maintained. Dr. Kitt noted that NIOSH indeed has Letters of Agreements that follow various formats for industry partnerships among the various NIOSH Division, Laboratories, and Offices. Dr. Kitt indicated that she intended to present to the NIOSH Leadership Team a more standardized process to incorporate this recommendation. Following the presentation, a Board member indicated that in regards to the follow-up survey, it need not be an actual survey. For instance, the follow-up could be a focus group or some other format. Another Board member asked about the composition of the IRB and how the IRB works. Dr. John Piacentino (NIOSH Associate Director for Science) stated that that the IRB is drawn from experts across the institute, in addition to several external members who sit on the NIOSH IRB. In addition, depending on the protocol, the IRB may invite an expert to also help examine a particular protocol. The IRB generally meets monthly where they review the submitted work. They review intramural work only;

extramural work is deferred to the external organization conducting the work. The IRB has primary and secondary or alternate members. Dr. Piacentino also noted that the NIOSH IRB would be recruiting for a non-affiliated NIOSH IRB member, which could include potentially include BSC members who have expiring terms.

The BSC adjourned for lunch at 12:00 pm and resumed at 1:00 pm; at the conclusion of the break Dr. Brad Evanoff and Dr. Darryl Hill were identified as present. A quorum was present to continue the meeting.

Hearing Loss Research Workgroup Score Presentation, Discussion, and Vote

Dr. Michael Larranaga presented an update on the work group conclusions to the full BSC on behalf of the workgroup. The work group also included Dr. Clarion Johnson, Dr. James Ramsay, and Mr. James Frederick. See Appendix C (work group Minutes and work group report) for a summary of the final assessment of the work group. Following the presentation, a Board member asked about the grading standards or criteria for scoring these recommendations, particularly for the impact score. A concern was expressed that if the impacts of the program's efforts are not yet realized, then how could a program be scored as having, for example, high impact. A Board member commented that the scores should reflect success or achievement as well as an indication of endorsement of the work. The workgroup members explained they decided to score on the basis that the fact that the program could not have done much more practically to achieve impact. The work group felt certain there would be impact, but that it is currently too early to see the impact of their efforts. Ms. Elizabeth Hofer pointed out the scoring rubric for impact scores can relate to external impact on health or other agencies, or impact on the program's efficiency and effectiveness. A full vote of the BSC was held to accept the work group's recommendation and scores. There were no amendments to the report, and the vote was approved in favor of the work group's report and scores by all BSC members present.

NIOSH Total Worker Health Program

Dr. Anita Schill and Dr. Casey Chosewood presented an overview of the NIOSH Total Worker Health™ (TWH™) program. It was also noted that TWH™ eNews quarterly letter has more than 60,000 subscribers along with large followings on Twitter and LinkedIn.

Dr. Schill noted that TWH™ is built on the premise of integration of several related components (group health, compensation programs, disability/workers' compensation, health promotion, etc.) with occupational safety and health as the center piece. It was noted that TWH™ is a strategy integrating occupational safety and health protection with health promotion to prevent worker injury and illness and to advance health and well-being. Dr. Schill reviewed several selected TWH™ program accomplishments and reviewed the TWH™ Centers for Excellence and Affiliate Programs.

The national expert colloquium, held annually since 2011, was described. The goals are to create a forum for discussion of current research and practice issues and to discuss emerging and priority issues related to occupational safety and health protection, health promotion, and well-being for the American workforce.

The NIOSH TWH™ office was created in 2014, with four areas of focus: 1) Research program development and collaboration, 2) Communication and research translation, 3) Partnership and new opportunity development, and 4) Total Worker Health for NIOSH employees. In terms of future directions, NIOSH sponsored a workshop at the Institute of Medicine on May 22, 2014 to identify best or promising practices, discuss barriers and ideas to overcome barriers, and explore measures to evaluate effectiveness. Nine benchmarks for program success from 2011 to present were described, and benchmarks for the 2015-2018 periods and 2018-2023 were described as well.

Following the presentation Board members posed several questions to Dr. Schill and Dr. Chosewood. A Board member noted that NIOSH support for academic TWH™ programs has been through small grants, which lacks a practitioner development focus. Examples mentioned included what it means to run a program, demonstrate business case/cost effectiveness, and how to build an academic architecture. Dr. Schill indicated that these issues are on the radar screen, and the program has developed a draft paper to begin the process to address these issues. Another Board member expressed concern that employers are taking resources away from traditional worker safety and health programs, and many employers implement TWH™ programs in a way that have a negative context, that is, the workers are required to do something or they'll lose something. The Board member further expressed concern about unintended consequences, for instance in small business, where worker safety and health programs are often under-resourced. Another Board member indicated that from a construction sector standpoint, the issue is fatigue, where workers may work six ten-hour days or seven 12-hour days. These schedules affect sleep and diet. At one nuclear power plant construction site in Georgia, two fatalities occurred on the road to work (commuting). It was stated that the construction sector has high suicide rates. Dr. Chosewood indicated that these were a few prime candidates where a TWH™ solution might be optimal, almost demanded. Another Board member asked about future Center grants. Dr. Chosewood indicated that the Centers are up for re-competition in 2017, and the program continues to believe that high quality NIOSH funded research is essential.

Personal Protective Technologies Workgroup Score Presentation, Discussion, and Vote

Dr. Corinne Peek-Asa presented slides to the full BSC on behalf of the workgroup. The work group also included Dr. Carol Rice and Dr. Bonnie Rogers. See Appendix D (work group Minutes and work group report) for a summary of the final assessment of the work group. It noted that the program has done outstanding work responding to the program's challenges, and there was a notable improvement since the last review. A full vote of the BSC was held to accept the work group's recommendation and scores without amendments. The vote was approved in favor of accepting the work group's report and scores by all BSC members at the meeting.

Health Hazard Evaluation Program Workgroup Score Presentation, Discussion, and Vote

Dr. Clarion Johnson presented slides on the work group's assessment to the full BSC on behalf of the workgroup. Other members of the work group included Dr. Kitty Gelberg, Dr. David Bonauto, and Dr. James Ramsay. See Appendix E (work group Minutes and work group report) for a summary of the final assessment of the work group. The work group was impressed with the program's sense of prioritization, future directions, and the recognized need to adapt and stay relevant. A full vote of the BSC was held to accept the work group's recommendation and scores without amendments. The vote was approved in favor of the work group's report and scores by all BSC members present.

Future Topics and Wrap-up

A brief discussion on future BSC topics included updates on building a new institute (long-range), ways to demonstrate overall impact and metrics on occupational safety and health issues (including identifying and measuring economic impact), issues surrounding return-to-work, predictors of long-term disability and methods to get people back to work. The meeting adjourned at 3:00 pm.

Appendix A – Roster of NIOSH Board of Scientific Counselors Members

**Department of Health and Human Services
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health
Board of Scientific Counselors
September 2014**

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Appendix B – Director’s Talking Points

**Board of Scientific Counselors
395 Patriots Plaza, SW
Washington, DC 20201
September 5, 2014**

Personnel and Organizational Announcements

- New coordinator for Prevention through Design (PtD): To further the continuation and advancement of the PtD initiative, NIOSH is pleased to announce the appointment of Jonathan Bach, CSP, CIH, PE, as the new coordinator of PtD. Mr. Bach comes to NIOSH from the U.S. Army Corps of Engineers, where he served as the occupational safety and health manager for Europe. Mr. Bach has an extensive background in industrial hygiene and designing for safety and was responsible for managing safety and occupational health programs for construction projects in Europe, Israel, Turkey, and former Soviet nations.

Budget

- NIOSH expects to be operating under one or more continuing resolutions into the 2015 fiscal year, beginning October 1, 2014.

Currently Available for Public Review and Comment

- The NIOSH Fire Fighter Fatality Program is currently seeking stakeholder input on the progress and future directions of the program. NIOSH periodically seeks input on this program to ensure that it is meeting the needs and expectations of the U.S. fire service, and to identify ways in which the program can be improved to increase its impact on the safety and health of fire fighters across the United States. Comments are being accepted through October 20. For more information, see <http://www.cdc.gov/niosh/fire/>
- NIOSH, in accordance with a final rule recently published by the Department of Labor's Mine Safety and Health Administration (MSHA), is amending its regulations to establish standards for the approval of facilities that conduct spirometry examinations and to require that all coal mine operators submit a plan for the provision of spirometry and X-ray examinations to all surface and underground coal miners. Comments are being accepted through October 3, 2014. For more information, see <http://www.cdc.gov/niosh/docket/review/docket276/default.html>
- The National Institute for Occupational Safety and Health (NIOSH) is seeking public comment on a draft Current Intelligence Bulletin (CIB), *Promoting Health and Preventing Disease and Injury through Workplace Tobacco Policies*. The public comment period is open for 30 days, closing on September 15, 2014. Occupational safety and health

practitioners, healthcare professionals and the general public are encouraged to review the document and provide comments by visiting <https://federalregister.gov/a/2014-19384>.

New Programs and Initiatives

Expansion of the Coal Workers' Health Surveillance Program

- The National Institute for Occupational Safety and Health (NIOSH) is taking an important step in expanding the Coal Workers' Health Surveillance Program with the August 4, 2014 publication of an interim final rule in the Federal Register (<https://federalregister.gov/a/2014-18336>).
- This Interim Final Rule, "Specifications for Medical Examinations of Coal Miners", provides a national program of medical surveillance to surface coal miners and adds spirometry and respiratory symptom assessment to the current x-ray surveillance program that was formerly available only to underground coal miners.
- The action to expand the program is in response to new requirements for health surveillance in the Mine Safety and Health Administration (MSHA) final rule for controlling coal mine dust exposure.
- Miners will now be provided with spirometry and chest x-ray testing when they first enter into mining and then periodically after that. The health surveillance program is a longstanding NIOSH responsibility under the Federal Mine Safety and Health Act. Miners who have evidence of coal workers' pneumoconiosis can request special measures to decrease their future dust exposure.

Heat Stress

- NIOSH has been instrumental in many activities complementing OSHA's *Campaign to Prevent Heat Illness in Outdoor Workers*. This year's efforts focused on the importance of acclimatization (getting the body accustomed to heat). A *Morbidity and Mortality Weekly Report (MMWR)* coauthored by NIOSH and OSHA, [Heat Illness and Death Among Workers — United States, 2012–2013](#) was published on August 8th. The article describes the results from OSHA's review of heat illness and fatality cases over a recent 2-year period, finding that the "employers' failure to support acclimatization appears to be the most common deficiency and the factor most clearly associated with death". The publication resulted in news articles, LinkedIn discussions, and blog postings.
- NIOSH led a social media messaging campaign the first two weeks of July that included Facebook and Twitter messages targeting heat stress, heat-related illnesses, prevention, and acclimatization. A NIOSH Science Blog, [Adjusting to Work in the Heat: Why Acclimatization Matters](#), stressed the importance of acclimatization, rest and fluids. A new infographic, [Protect Your Workers from Heat Stress](#), was shared via social media, the NIOSH Science blog, and the web topic page.
- The NIOSH criteria document, *Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments* document, is being revised to address final external reviewer comments. The document is expected to be published at the end of calendar year 2014.

NIOSH Safe-Skilled-Ready Workforce Initiative (SSRWI):

(Introduced at the September 18, 2013 BSC meeting)

- NIOSH has published the new and updated NIOSH *Youth@Work-Talking Safety* curriculum that teaches foundational workplace safety and health skills to young people before they enter the workforce. The curriculum is free of charge, available for download from the NIOSH website, and will be customized for all U.S. states and territories. New versions are being posted to the NIOSH website as they are completed. A Spanish language version is also being created. For more information, see <http://www.cdc.gov/niosh/talkingsafety/>
- An online assessment tool has been completed to measure student knowledge/skills acquisition under the new *Talking Safety* curriculum. The SSRWI team traveled to Ada, Oklahoma at the end of August to pilot the assessment with 200 high school students.
- NIOSH collaborated with the American Federation of teachers (AFT) on a three-day train-the-trainer program for the *Talking Safety* curriculum, held July 23-26 in New Brunswick, N.J. AFT trained approximately 20 school staff (teachers and/or school-related personnel) and community members who each commit to training at least 30 young workers in two short workshops in 2014. AFT has also posted the curriculum to their Share My Lesson website, the largest resource of its kind for teachers across the country. The site has more than 500,000 registered users; 5.5 million downloads, with an average 10,000 each day; and includes 300,500 total resources, of which 31,000 are aligned with the Common Core State Standards, including *Talking Safety*.

Disaster Science Research Initiative (DSRI):

(Introduced at the June 5, 2014 BSC meeting)

- NIOSH held a workshop on July 10th regarding disaster research, focusing on the types of research that are most needed and feasible. As part of the discussions, the appropriate roles for NIOSH and the extramural community were discussed.
- The DSRI will focus on conducting timely, scalable, scientifically sound research for the safety and health of responders. One of the goals is to develop a framework that allows for research to be started quickly in the time before, during, and after response to a large scale disaster.
- Participants were supportive of the overall initiative and offered suggestions for moving forward.
- RAND is developing a paper summarizing the major trends and themes that emerged during the meeting. This paper will be available by the end of the year.

Ebola Response

- The NIOSH Emergency Preparedness and Response Office is participating in the CDC response to Ebola.
- NIOSH has been providing input on worker-related infection control guidance and disinfection guidance being prepared by CDC.
- A new topic page on the NIOSH web, "Ebola and Other Emerging Infectious Diseases," provides a concise, well-organized portal to the relevant NIOSH resources, saving readers

time and effort in finding needed information and guidance. For more information, see <http://www.cdc.gov/niosh/topics/EmergInfectDiseases/>

On-line Training for Emergency Responders

- FREE ONLINE TRAINING for the Emergency Responder Health Monitoring and Surveillance (ERHMS) System is now available and offers continuing education credits. For more information, please go to the NIOSH ERHMS web page at www.cdc.gov/niosh/topics/erhms.
- ERHMS is a health monitoring and surveillance framework that includes recommendations and tools specific to protect emergency responders during all phases of a response, including pre-deployment, deployment, and post-deployment phases.
- ERHMS is intended to address all aspects of protecting emergency responders and is applicable over the full range of emergency types and settings.

Institute of Medicine (IOM) Meeting on Powered Air Purifying Respirators

- NIOSH's National Personal Protective Technology Laboratory (NPPTL) is exploring performance requirements for powered air-purifying respirators (PAPRs) for healthcare workers to determine how these requirements may impact future standards. See the following for more information: <http://www.cdc.gov/niosh/docket/review/docket129A/>
- To obtain stakeholder input, NIOSH supported the Institute of Medicine's public workshop on PAPRs held August 8 and 9. Panel discussion topics included Employee/Worker Experience in Using Powered Air Purifying Respirators in Health Care Settings, Use of PAPRs in Emergency Preparedness Planning and Response, Improving PAPRs for Use in Health Care Settings, and How Can NIOSH's PAPR Standards Evolve to Meet the Needs of the Health Care Workforce. See the following for more information: <http://www.iom.edu/Activities/PublicHealth/PPEinWorkplace/2014-AUG-07.aspx>
- The results of this workshop will enable NIOSH to effectively identify requirements as the PAPR standards module is further developed.

Memorandum of Understanding (MOU) with the United States Forest Service

- The U.S. Forest Service Technology and Development Centers signed an MOU with NIOSH to coordinate, communicate, and consult effectively and efficiently to advance worker safety and health among wildland fire fighters. NIOSH also has a data use agreement with the USFS and are working with the agency on a number of projects involving wildland fire fighters. For more information, see <http://www.cdc.gov/niosh/topics/firefighting/>

Updated Reproductive Health and the Workplace topic page

- The NIOSH internet Reproductive Health web pages have been updated in conjunction with release of the CDC's National Action Plan on Fertility in July 2014. See

<http://www.cdc.gov/niosh/topics/repro/>. The plan was created in consultation with many governmental and nongovernmental partners.

- NIOSH contributed to this Action Plan, specifically related to reducing exposures to occupational agents that can harm reproductive health and fertility in women and men. The release was supported by a NIOSH Science Blog: [Workplace Exposures and the National Action Plan for Infertility](#).

N95 Day

- Today, September 5, 2014, NIOSH observes its third annual N95 Day campaign. N95 Day recognizes the importance of respiratory protection in the workplace and seeks to familiarize employers and workers with the resources available to help them make informed decisions when selecting and wearing a respirator.
- As part of the N95 Day activities, NIOSH NPPTL today offered a webinar on *Respirator Preparedness in Healthcare: Where Technology Meets Good Practices*. For more information about this webinar please see: <http://www.cdc.gov/niosh/npptl/resources/pressrel/letters/ltr-09052014.html> For more information about upcoming N95 Day activities, including the general industry Twitter Chat (#N95Chat), please see the N95 Day web page: <http://is.gd/N95Day2014>

Shrimp Boat Winch Guards

The NIOSH Alaska Pacific Office engineering team has installed a prototype shrimp winch guard on a test vessel in the Gulf of Mexico. The shrimpers will test the winch guard at sea during fishing operations. Additional guards will soon be installed on several additional vessels. Feedback will be used to produce the final version of the winch guard, which will then be made available for manufacturers to produce.

Buy Quiet

NIOSH recommends preventing hazardous noise through controls for noise exposure and encourages business owners to create *Buy Quiet* programs as a first step. Buy Quiet is a prevention initiative, which encourages companies to purchase or rent quieter machinery and tools to reduce worker noise exposure. The initiative provides information on equipment noise levels, so companies can buy quieter products that make the workplace safer; and encourages manufacturers to design quieter equipment by creating a demand for quieter products. The Buy Quiet initiative was supported by a NIOSH Science Blog: <http://blogs.cdc.gov/niosh-science-blog/category/hearing-loss/>.

Social Presence Statistics

NIOSH continues to expand its presence on social networks.

- **eNews** subscribers: 51,087 as of 7/31/14.
- **Total Worker Health** newsletter subscribers: 54,813 as of 7/31/14.
- **Science Blog**: 1,188,786 cumulative views since the introduction of the blog in November 2006.
- **Facebook Postings**: 1456 times (since July 2011); 45,880 “likes” for our organizational page

- **Pinterest** pins: We have pinned 33 items to CDC's Workplace Safety and Health Board, which has 1,990 followers.
- **Flickr**: 210 images in our Flickr photostream.
- **You Tube videos**: 125 posted videos and 221,370 downloads.
- **Twitter**: We have 15 Twitter accounts, with more than 277,777 followers, combined. One ranking from Twitaholic.com reports that NIOSH is in the top 10 of all Twitter sites among followers in Washington, D.C.

Science Blog Topics

August 20, 2014: Preliminary Field Studies on Worker Exposures to Volatile Chemicals during Oil and Gas Extraction Flowback and Production Testing Operations

August 13, 2014: Preventing Skin Cancer

August 5, 2014: Buy Quiet Update

July 29, 2014: Free Online Emergency Responder Health Monitoring and Surveillance Training

July 15, 2014: 200 and Counting!

July 14, 2014: Adjusting to Work in the Heat: Why Acclimatization Matters

July 7, 2014: A Wrench in the Gear: Lockout/Tagout in the Food Industry

June 10, 2014: Remarks by J. Howard at ASSE Professional Development Conference

Highlights from the NIOSH Divisions and Offices: Program and Research Pipeline

NIOSH Office of Extramural Programs

Highlights from Fiscal year 2014:

- Published the largest number of new Funding Opportunity Announcements;
- Largest number of new Cooperative Research Agreements in the last several years – this is a research integration effort;
- 17 scientific review meetings convened this year, also the largest number;
- Partnership with Fogarty International Center expands our 20 year history with new funding opportunity announcement for 5-year global environmental and occupational hubs – paired awards with US and foreign institutions.

Eleven targeted Funding Opportunity Announcements were developed in Fiscal year 2014.

Nine of these were cooperative agreements.

- Agricultural, Forestry and Fishing Safety and Health Research (Cooperative Agreement)
- National Center of Excellence for the Prevention of Childhood Agricultural Injury (Cooperative Agreement)
- Assessment of Elastomeric Respirators in Healthcare Environments
- State Occupational Health and Safety Surveillance Program (Cooperative Agreement)
- Conference and Scientific Meeting Cooperative Agreements
- Conference and Scientific Meeting Grants
- Miner Safety and Health Training Program - Western United States (Cooperative Agreement)

- National Mesothelioma Virtual Bank for Translational Research (Cooperative Agreement)
- Oregon Center of Excellence to Promote a Healthier Workforce (Cooperative Agreement)
- Implementing World Health Assembly Resolution 60.26 Global Plan of Action for Workers Health 2008-2017 with the World Health Organization (Cooperative Agreement)
- Workers Compensation Surveillance (Cooperative Agreement)

Workers' Compensation Surveillance Funding Opportunity:

- Cooperative agreement will provide state health and Workers' Compensation (WC) agencies the resources to initiate or expand state-based WC surveillance and intervention activities.
- NIOSH intends to commit \$5.4 million over a period of six years to fund up to 9 states/grantees for three consecutive years per state. An applicant state may request up to \$200,000 in total costs per 12-month budget period.
- Has generated much interest and first due date for applications is August 29, 2014.
<http://grants.nih.gov/grants/guide/pa-files/PAR-14-227.html>

Education and Information Division

Nanotechnology

- A June 2014 new progress report issued by the National Nanotechnology Initiative, through the President's National Science and Technology Council, cites NIOSH's leadership in coordinated federal research that furthers the safe and responsible development of nanotechnology.
http://www.nano.gov/sites/default/files/pub_resource/2014_nni_ehs_progress_review.pdf
- NIOSH's partnership with the College of Nanoscale Science and Engineering, State University of New York (SUNY) is noted in a June 24 SUNY announcement about the contribution of the partners' nanotechnology research to NIOSH's PtD progress report detailing ways to design safer work environments. http://www.sunycnse.com/Newsroom/NewsReleases/Details/14-06-25/Newly_Merged_SUNY_CNSE_SUNYIT_in_Partnership_with_the_National_Institute_for_Occupational_Safety_and_Health_Developing_Workplace_Strategies_for_the_Safe_Use_of_Nanomaterials.aspx

Prevention through Design (PtD)

- NIOSH and its partners have just reported on our shared progress on the initiative in *The State of the National Initiative on Prevention through Design* (<http://www.cdc.gov/niosh/docs/2014-123/>). As the new report highlights, the initiative builds on a rich history of addressing safety in designs and is the result of extensive partnering with numerous people and organizations. NIOSH appreciates the hard work and contributions of these partners. Significant progress has been made in minimizing worker

risks through four areas in the initiative: research, practice, education, and policy. Through research, the Initiative benchmarked the PtD role of the designer, following legislation in the United Kingdom, and investigated employer concerns to further PtD in the United States. Incorporating PtD concepts into the corporate safety culture begins with a policy statement to indicate management support.

- NIOSH commissioned work to develop examples of policy statements and various tools and checklists (see Renshaw FM [2013]. Methods for implementing PTD accident investigation. Prof Safety 58(3):50–55) that could be useful to companies. PtD concepts are now included in 10 engineering textbooks and are in 25 consensus standards, including the 2011 American National Standards Institute (ANSI)/American Society of Safety Engineers (ASSE) standard Z590.3 Prevention through Design: Guidelines for Addressing Occupational Risks in Design and Redesign Process.
- While much progress has been made, there is still more to do, and NIOSH intends to obtain additional stakeholder input on the focus of the PtD initiative and continue the initiative for another 5 years.
- As stated previously, NIOSH is pleased to announce the appointment of Jonathan Bach, CSP, CIH, PE, as the new coordinator of PtD.

Health Effects Laboratory Division

- HELD published a study on vibration-reducing (VR) gloves that tested the ability of seven models of VR gloves to lessen vibrations generated by powered hand tools. The tests, conducted on gloves worn by seven adult men, found that the VR gloves were more effective at reducing vibrations along the forearm than across the hand and fingers. The results provide useful information on the effectiveness of typical VR gloves and can be used to help select appropriate gloves to operate powered hand tools, to help perform risk assessment of the vibration exposure, and to help design better VR gloves.
- HELD is continuing to use and develop its world class inhalation exposure facility. An impressive number of inhalation toxicology studies have been developed and run including nanoparticles, biologics (fungi), diisocyanates, welding fume, wood dust, silica, crude oil vapor, butter flavoring, and cobalt oxide. Engineers in the inhalation core have developed 12 different aerosol and vapor exposure systems that are supporting 22 projects in FY14. New exposure systems in development, which provide reproducible exposure to occupationally relevant chemical and biological control test atmospheres in a laboratory setting, include: diesel exhaust, nanocellulose, crude oil vapor and nano-titanium sun screen particulate.

Division of Respiratory Disease Studies:

- (See information above on the Interim Final Rule, “Specifications for Medical Examinations of Coal Miners.”)

- [Published data](#) suggesting that flavorings manufacturing workers are at increased risk to develop low diffusing capacity, adding to information about the potential spectrum of disease associated with flavorings exposures.
- [Published data](#) characterizing volatile organic compound exposures in healthcare settings
- [Published data](#) from the National Health Interview Survey evaluating gender differences in smoking among working U.S. adults. Women had lower prevalence of smoking than men, yet women who smoked were more likely than men to have adverse health outcomes, including self-rated poorer physical and emotional health.

Division of Surveillance, Hazard Evaluations, and Field Studies

- The Health Hazard Evaluation Program released a report of a telephone survey of 47 randomly selected **e-scrap recyclers**, a rapidly growing and changing industry (http://www.cdc.gov/niosh/hhe/reports/pdfs/e-scrap_survey_report.pdf) Although the response rate was low (17%), limiting the ability to determine whether the findings are generalizable across all facilities, the results nevertheless are informative regarding health and safety programs in the industry, where a variety of hazards exist, particularly with manual processes. For example, we learned that some facilities are not monitoring blood lead levels, are using compressed air for cleaning clothing and equipment, and not conducting medical clearance or fit testing for respirator use.
- The Center for Workers' Compensation Studies (CWCS): A NIOSH-Ohio Bureau of Workers' Compensation study compared 468 employers before/ after safety intervention from 2003-2009, and found workers' compensation outcomes for affected employees (claim frequency, cost per employee and cost per claim) decreased significantly with interventions. The study paper has just been accepted by AJIM. In part due to the effectiveness, OH BWC increased the annual SIG budget from \$4 to \$12 million in summer 2013. It is hoped that the SIG model could be adopted by other state-based and commercial insurers to further widen impact.
- NIOSH Firefighter Cancer Study
 - The first phase of the NIOSH Fire Fighter Cancer Study (published in October 2013) compared deaths and cancer diagnoses among career fire fighters to those found in the general population. We found certain cancers were modestly increased in our fire fighters. In May 2014 a study (from researchers in Finland) of Nordic fire fighters published similar findings (included cancer diagnoses among 16,422 male fire fighters from five Nordic countries). Together, the NIOSH study and the Finnish study strengthen evidence of a relation between firefighting exposures and cancer.
 - NIOSH researchers are now focusing attention on the second phase of the study comparing the health effects among higher-exposed fire fighters to those less exposed ("dose-response" analysis). The "dose" being assessed is an estimate of exposures to cancer-causing agents found in firefighting based on employment history and other department records. We anticipate finishing the exposure

assessment by fall and plan to publish the results from phase II of the NIOSH study early in 2015.

Division of Applied Research and Technology

- New Acoustical Chamber and Instrumentation: NIOSH investigators will incorporate a new acoustical chamber transferred from NASA into its ongoing hearing loss prevention research program. The chamber will be used to conduct hearing protector evaluations and other acoustic testing. Initially, NIOSH investigators will use the new chamber in a project to evaluate auditory localization (the ability to tell where a sound is coming from, which can be very important for safety in many work settings). People have different localization abilities and some hearing protectors seem to interfere with localization more than others.
- The 2014 NIOSH Hazardous Drug List was recently published.
<http://www.cdc.gov/niosh/docs/2014-138/pdfs/2014-138.pdf>
 - For this update 27 new drugs were added and tetracycline was removed. Additionally, 12 drugs from the original 2004 NIOSH Alert were removed. See <http://www.cdc.gov/niosh/docs/2004-165/> for the original 2004 Alert.
 - The format for the NIOSH Hazardous Drug List has been modified such that drugs are listed in three separate tables, antineoplastic, non-antineoplastic and reproductive hazards. This change was made at the request of various stakeholders to make it easier to determine which drugs were relevant for their facilities. A table was also added that expanded recommendations for personal protective equipment and engineering controls.
 - To date, three states (Washington, California, and North Carolina) have adopted all or parts of the Alert into state regulation to protect their healthcare workers.
- NIOSH staff are working with the Institut National de Recherche et de Securite (INRS) on a working group that will put NIOSH engineering control guidelines for pavers into an ISO standard to protect highway construction workers worldwide from exposure to asphalt fumes. NIOSH is also working with French INRS engineers to review their tracer gas test equipment and test procedures used to evaluate engineering controls on pavers in France. The goal is to understand the design differences between U.S. and French paving equipment and how the test procedures for the ISO standard would need to be modified to accommodate these differences.

National Personal Protective Equipment Laboratory

- The National Institute for Occupational Safety and Health (NIOSH) has issued the first approval for a respirator that complies with the new requirements for Closed-Circuit Escape Respirators (CCERs). The new requirements are intended to strengthen emergency

respiratory protection for workers relying on these devices during escape from unexpected and life-threatening situations.

- The new requirements set by NIOSH for testing and certification of closed-circuit escape respirators include the following:
 - Improved performance measures to ensure that closed-circuit escape respirators are reasonably rugged, because the devices are used in relatively harsh environments.
 - A new capacity-rating system in which devices will be tested and certified on the volume of usable oxygen they supply. Under previous rules, the devices were tested and certified on the duration of time they were expected to provide oxygen. In an actual emergency escape, a user may use up the oxygen supply in a shorter time than someone using the device in a test under laboratory conditions.
 - New design requirements that will allow NIOSH, in field evaluations, to check units to determine whether harsh working conditions or harsh treatment have diminished the performance of the units. Units showing defects or damage would be removed from service.
 - Upgraded testing standards with more stringent verification of the quality and quantity of breathing gas supplied by devices. The upgraded standards will establish a more reliable testing process using a mechanical breathing simulator rather than human subjects.

Division of Safety Research

- DSR partnered with the NIOSH Construction and Prevention-through-Design programs on a new Workplace Design Solutions, ***Preventing Falls from Heights through the Design of Embedded Safety Features***. This 4-page easy-to-understand document provides recommendations that building owners and designers can use to incorporate fall prevention features into buildings during retrofits, renovations or new construction. Embedded safety features a connecting point or a terminating component of a fall protection system or rescue system capable of safely supporting the impact forces applied by a fall protection system or anchorage subsystem. For many types of commercial and institutional buildings, equipment could be permanently embedded into steel or concrete parts of a building and used to set up fall protection systems.
- A recently published article, ***Minimum Requirements for Taxicab Security Cameras***, has added to NIOSH research on workplace violence prevention strategies for taxicab drivers, a high-risk population. This research, specifically requested by stakeholders, was published in the *Journal of Transportation Technologies* and will be presented at the annual meeting of the International Association of Transportation Regulators later this month. These minimum requirements will help taxicab regulators and fleets to identify effective taxicab-security cameras, and help taxicab security camera manufacturers to improve the camera facial identification capability. Philadelphia has

already incorporated research findings into their regulations for taxicab security cameras.

Alaska Pacific Office

- Wildland firefighter fatalities caused by aircraft crashes in the US: The project describes surveillance data on the risk of fatal aircraft crashes during wildland firefighting operations. (*MMWR* underway)
- Fatalities in the oil and gas industry: This project describes preliminary surveillance data for fatalities in the U.S. oil and gas industry. (*MMWR* underway)
- The Alaska Pacific Office is collaborating with a large fishing firm to help identify solutions to safety problems in their fleet of fishing vessels. The firm has offered to share their workplace injury and illness claims data with us for analysis and interpretation. There are 10 years of data with approximately 500 claims per year.
- In June the Alaska Pacific Office launched an innovative health communications partnership campaign in the Bristol Bay region of Alaska to increase the use of personal flotation devices among workers in the fishing industry. Baseline data were collected to enable evaluation of the campaign's effectiveness.

Upcoming Conferences

6th National Occupational Injury Research Symposium

- DSR will be sponsoring the 6th National Occupational Injury Research Symposium on May 19-21, 2015 in Kingwood, WV. The meeting will be co-sponsored by the National Safety Council, American Society of Safety Engineers, Liberty Mutual Research Institute for Safety, and Society for Advancement of Violence and Injury Research.
- The theme for the symposium is "Advancing Occupational Injury Research through Integration and Partnership." For more information, see <http://www.cdc.gov/niosh/noirs/2015/default.html>

Western States Occupational Network (WestON)

- The NIOSH Western States Office, in conjunction with the Council of State and Territorial Epidemiologists and the Mountain and Plains Education and Research Center, will host the seventh annual Western States Occupational Network (WestON) meeting for state occupational safety and health colleagues from the Western United States on September 11-12, 2014 in Golden, CO.
- Background: This meeting provides an opportunity for Western state and local public health officials to meet and share ideas for establishing and maintaining epidemiological capacity and collaborating with colleagues to expand on efforts to build a strong occupational safety and health network in the West. Attendees include state epidemiologists, state and local health department officials, statistics coordinators, NIOSH, OSHA, Education and Research Center/Agriculture Center representatives and

others interested in occupational surveillance and occupational safety and health in the Western United States.

1st International Symposium to Advance Total Worker Health

- October 6–8, 2014, Natcher Conference Center, NIH, Bethesda
- This symposium will explore research, practices, programs and policies that advance the overall safety, health, and well-being of workers through the integration of health protection and health promotion.

Respirator Manufacturers Meetings

- The NIOSH National Personal Protective Technology Laboratory (NPPTL) is convening two meetings for all respirator manufacturers. The first on August 27 addressed fee schedule implementation, and the second on October 22 will address updates to standard application procedures.

Share Your Input on the National Total Worker Health Agenda

- The Office for Total Worker Health™ at NIOSH announces three town-hall opportunities to comment on priority areas of future workplace safety and health research in the first-ever National Total Worker Health Agenda.
- Town-hall meetings will be held at the Natcher Conference Center, National Institutes of Health in Bethesda, Maryland, on October 7 at the 1st International Symposium to Advance Total Worker Health (<http://www.eagleson.org/conferences/total-worker-health>) and on October 9 at the Healthier Federal Workers 2014 Conference (<http://www.eagleson.org/conferences/healthier-federal-workers-2014>). More information about the two conferences and how to register is available at www.eagleson.org.

Recently Released NIOSH Publications and Website Highlights

- Quick Sleep Tips for Truck Drivers
- Observation-Based Posture Assessment: Review of Current Practice and Recommendations for Improvement
- Buy Quiet
- Buy Quiet: Hearing Loss Is Preventable
- Buy Quiet Process
- Preventing Worker Injuries and Deaths from Backing Construction Vehicles and Equipment at Roadway Construction Workers
- Commercial Fishing Morbidity and Mortality, U.S. Distant Water Tuna Fleet, 2006-2012
- Preventing Falls from Heights through the Design of Embedded Safety Features
- Guidelines for Performing a Helmet-Cam Respirable Dust Survey

- Enhanced Video Analysis of Dust Exposures (EVADE) Software

Recently Published NIOSH Manual of Analytical Methods (NMAM):

- NMAM 7302, Elements by ICP (Microwave Digestion)
- NMAM 7304, Elements by ICP (Microwave Digestion)
- NMAM 7906, Particulate Fluorides and Hydrofluoric Acid by Ion Chromatography
- NMAM 7907, Volatile Acids by Ion Chromatography
- NMAM 7908, Non-Volatile Acids (Sulfuric Acid and Phosphoric Acid)
- NMAM 8326, S-Benzylmercapturic Acid and S-Phenylmercapturic acid in urine

Other Recent NIOSH Authored Publications:

- *MMWR* Article: [Heat Illness and Death Among Workers — United States, 2012–2013](#) (August 8, 2014)
- *MMWR* Article: [Prevalence of Coronary Heart Disease or Stroke Among Workers Aged <55 Years — United States, 2008–2012: Morbidity & Mortality Weekly Report, Aug. 1, 2014](#)
- The Small Business program recently had a paper published in *Safety Science* that describes a series of case studies of the application of a model for delivering occupational safety and health to smaller businesses. The model that was developed is focused on the use of intermediary organizations to diffuse OSH interventions to smaller businesses in their networks. The paper is available online:

Cunningham, TR, & Sinclair, R. (2014). Application of a model for delivering occupational safety and health to smaller businesses: Case studies from the US. *Safety Science, online publication ahead of print*, Available at:

<http://www.sciencedirect.com/science/article/pii/S0925753514001520#> .

- Prevalence of carpal tunnel syndrome among employees at a poultry processing plant.
- Evaluation of engineering controls for the mixing of flavorings containing diacetyl and other volatile ingredients.
- Analysis of mandatory and discretionary lane change behaviors for heavy trucks.
- Real-time analysis of the effects of toxic, therapeutic and sub-therapeutic concentrations of digitoxin on lung cancer cells.
- Exposure to volatile organic compounds in healthcare settings.
- Factors influencing the airborne capture of respirable charged particles by surfactants in water sprays.
- Exposures and cross-shift lung function declines in wildland firefighters.
- Recovery of vascular function after exposure to a single bout of segmental vibration.
- Coal bed reservoir simulation with geostatistical property realizations for simultaneous multi-well production history matching: a case study from Illinois Basin, Indiana, USA.
- Modeling the optical properties of combustion-generated fractal aggregates.
- Hospitalizations for respiratory disease among unaccompanied children from Central America - multiple states, June-July 2014.
- Heat illness and death among workers -- United States, 2012--2013.
- Characterizing adoption of precautionary risk management guidance for nanomaterials, an emerging occupational hazard.

- Sizing firefighters: method and implications.
- Efficacy of face shields against cough aerosol droplets from a cough simulator.
- Exposure to chlorpyrifos in gaseous and particulate form in greenhouses: a pilot study.
- Occupational risk factors for COPD phenotypes in the Multi-Ethnic Study of Atherosclerosis (MESA) lung study.
- Considerations for recommending extended use and limited reuse of filtering facepiece respirators in healthcare settings.
- Mortality among a cohort of U.S. commercial airline cockpit crew.

Upcoming Publications

- Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments
- *Bacillus anthracis* Spore Sampling Training Modules
- Criteria for a Recommended Standard: Occupational Exposures to Diacetyl and 2, 3-pentanedione
- Criteria for a Recommended Standard: 1-Bromopropane
- Current Intelligence Bulletin: Neurological Effects of Manganese Exposure to Welders
- NIOSH Current Intelligence Bulletin: Update of NIOSH Carcinogen Classification and Target Risk Level Policy for Chemical Hazards in the Workplace
- NIOSH Skin Notation Profiles Group B (25 chemicals)
- NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings 2014

Appendix C – Work Group Minutes

MINUTES

Work Group: Board of Scientific Counselors National Institute for Occupational Safety and Health

Hearing Loss Research Program

July 22, 2014, 1:00 pm – 2:00 pm ET

1. Introductions: BSC members in attendance included Michael Larranaga, Clarion Johnson, and Jim Frederick. NIOSH staff present included John Decker (Designated Federal Official) and Elizabeth Hofer (Public Health Associate, NIOSH Office of Planning and Performance).
2. Elizabeth Hofer provided an introduction and instructions on scoring. Michael Larranaga will put together the score report and brief the BSC at the September 5th meeting.
3. Recommendation #1: The workgroup thought it appears as though this recommendation has been completed professionally and efficiently, and the program manager, coordinator, assistant coordinator, and steering committee have offered stability, consistency to the program's efforts. Overall scores of 5 for both Maintenance and Impact were given.
4. Recommendation #4: The strategic planning framework within the HLP program appears to work well and to guide research directions and proposal development. They also believed the program did a great job addressing all concerns that were brought up relating to this recommendation during their presentation at the June 20 BSC meeting. Impact from the program's superb strategic plan is ongoing, but very well done. Overall scores of 4.5 were given for both Maintenance and Impact.
5. Recommendation #7: Discussion indicated that the HLP program responded to this NA recommendation effectively by strategically reaching out to three regulatory partners. In each case, enhanced and mindful communication has occurred and even resulted in consistent and stable alliances which foster two way communications. The workgroup expressed concern that despite these best efforts, the current regulatory climate has prevented more hearing loss prevention regulations from being created. Overall scores given were a 4.5 for Maintenance and a 4 for Impact.
6. Recommendation #8: The workgroup found that the program responded to this recommendation effectively through better engineering controls and better fit testing. The program demonstrated consistent and aggressive pursuit of new modeling methodologies, and subsequent product development will continue to enhance our understanding of OHL and how to prevent it. However, it was discussed that from a stakeholder perspective, NIOSH has done its best, but it is difficult to identify workplaces where the improvements have been implemented. Some aspects of industry are following improvement

recommendations, but not all. The workgroup expressed hopes that the program could begin focusing some research efforts on separating out noise from personal listening devices versus occupational noise in the future. Overall scores given were 5 for Maintenance and 4 for Impact.

7. Recommendation #13: The workgroup felt that the program's accreditation goals were achieved. Most impressively, NIOSH is one of only 21 organizations in the nation with NVLAP accredited facilities. Accreditation maintenance activities are sufficient and ongoing. The workgroup felt that accreditation is essential to achieve credibility in testing and recommendations, and to stay in compliance with ISO standards. Overall scores given were 5 for Maintenance and 4 for Impact.
8. Recommendation #5: The workgroup felt the program has done great work on this recommendation, especially with the addition of four private sector audiometric service providers, who were recruited to partner with NIOSH and share their audiometric data. Additionally, the millions of additional private sector worker audiograms were collected and added to the project data repository did much to further the goal of this recommendation. The workgroup discussed that it is perhaps too soon to judge impacts from these efforts, and future impact may be difficult to assess. Overall scores given were 4.5 for both Progress and Impact.
9. Recommendation #11: The workgroup felt the program effectively used engineering controls and the development of an information database of sound levels for hand power tools to address this recommendation. Additionally they were impressed that the program is enhancing its in-house engineering capacity via several in-house engineers pursuing advanced degrees in acoustical engineering. The workgroup also noted that the program has also been participating with NHCA in the Safe-in-Sound award program, which is producing some very impressive work, is well-known across industries and is helping change workplace behaviors. Overall scores given were 4.5 for both Progress and Impact.

**Review of Progress Implementation Report for
NIOSH Hearing Loss Research Program**

Submitted by Board of Scientific Counselors

November 19, 2014

BSC Working Group Members

**Michael Larrañaga
Clarion Johnson
James Ramsay
James Frederick**

Completed Recommendations:

Recommendation #1: Foster Effective Leadership.

Maintenance: 1 2 3 4 5

Brief Justification: It appears as though this recommendation has been completed professionally and efficiently. Since 2006, NIOSH has had a full-time Program Manager for the Hearing Loss Research cross-sector program. The Program Manager provides institute-wide senior scientific and administrative leadership for the program and has had an exceptional impact for the NIOSH HLRP program. These efforts have led to prioritized cross-sector and sector strategic goals for preventing occupational hearing loss as well as to funding for several research projects. The program appears to be stable and its efforts consistent with its mission.

Impact: 1 2 3 4 5

Brief Justification: The program manager, program coordinator, and assistant coordinator and steering committee have offered stability, consistency and the ability to efficiently allocate resources over time in a complex and cross-sector program. Research projects have responded to the NIOSH National Occupational Research Agenda (NORA). The Program Manager has directed the updates to the strategic plan and has documented significant achievement towards achieving strategic goals. The HLRP leadership team developed research goals that were adopted as research priorities in the five NIOSH divisions (OMSHR, DART, DSHEFS, EID, and NPPTL) and the Office of Extramural Affairs. In addition, the HLRP program has lead to the adoption of new hearing loss prevention practices, policies, and standards by governmental and professional organizations (MSHA, OSHA, Dept. of Interior, American Academy of Audiology, National Hearing Conservation Association, and the National Academy of Engineering, and more).

Recommendation #4: Develop a strategic plan.

Maintenance: 1 2 3 4 4.5 5

Brief Justification: The existing strategic plan is a focused and direct reflection of the National Academies review and the last BSC review. The strategic plan is to be updated every 5 years with the next effort coming in 2016. The strategic planning framework within the HLRP appears to work well and to guide research directions and proposal development. The HLRP successfully addressed all concerns that were brought up relating to this recommendation during their presentation at the June 20 BSC meeting. Impact from the program’s superb strategic plan is ongoing and very well executed.

Impact: 1 2 3 4 4.5 5

Brief Justification: The strategic planning framework within the HLRP appears to work well and to guide research directions and proposal development. The HLRP’s priority to develop NIOSH recommended exposure limits for impulse sounds and to strengthen programmatic ties between intramural and extramural efforts is commendable.

Recommendation #7: Systematize collaboration with regulatory partners.

Maintenance: 1 2 3 4 **4.5** 5

Brief Justification: The HLRP responded to this National Academies recommendation by establishing a three-pronged approach, strategically reaching out to three regulatory partners in three activities – to MSHA, OSHA and EPA. In each case, enhanced and mindful communication has occurred and even resulted in consistent (usually quarterly) and stable ongoing alliances, fostering improved coordination and collaboration. The program addressed all concerns that were identified relating to this recommendation during the June 20 BSC meeting.

Impact: 1 2 3 **4** 5

Brief Justification: The HLRP responded to this National Academies recommendation effectively by strategically reaching out to three regulatory partners. In each case, enhanced and mindful communication has occurred and resulted in consistent and stable alliances, which foster communication and collaboration. Despite these best efforts, the current regulatory climate has prevented more hearing loss prevention regulations from being created, and this may reduce the impact of the HLRP’s efforts. It is perhaps too soon to judge the clinical impact of these enhanced communication efforts, but it is already clear that improved relationships and information sharing now exist between NIOSH, MSHA, OSHA and EPA regarding the HLRP.

Recommendation #8: Place greater emphasis on evaluation of the effectiveness of hearing loss prevention measures on the basis of outcomes that are as closely related as possible to reducing noise exposure and the incidence of occupational hearing loss.

Maintenance: 1 2 3 4 5

Brief Justification: The HLRP responded to this recommendation by primarily two activities; better engineering controls and better fit testing. Consistent and aggressive pursuit of new modeling methodologies, and subsequent product development will continue to enhance our understanding of occupational hearing loss and how to prevent it. HPD Well-Fit is well-accepted.

Impact: 1 2 3 4 5

Brief Justification: From a stakeholder perspective, NIOSH has done excellent work, but it is difficult to identify workplaces where the improvements have been implemented so that NIOSH can quantify the HLRP's impact. Some industries are following improvement recommendations, but some are not. The workgroup recommends that the HLRP focus some research efforts on separating exposure from personal listening devices verses exposure from occupational noise in the future. The development and implementation of engineering noise controls for major occupational noise sources is commendable as are the joint fit-testing recommendations between OSHA NIOSH, and the NHCA. The development of Source Path Contribution technology and the continued commercialization of NIOSH-generated technologies or procedures is outstanding. An example of the HLPR's HPD Well-Fit program received the NIOSH 2013 Bullard-Sherwood Award for singularly outstanding achievement in Research-to-Practice. Excellent work.

Recommendation #13: Accredit laboratories used to conduct studies for the HLRP.

Maintenance: 1 2 3 4 5

Brief Justification: Brief Justification: Accreditation is achieved and ongoing - NIOSH is one of only 21 organizations in the nation with NVLAP accredited facilities. Accreditation maintenance activities are sufficient and ongoing. Accreditation is essential to achieve credibility in testing and recommendations, and to stay in compliance with ISO standards. Efforts to upgrade to the laboratories' hardware, software, and test protocols are applauded.

Impact: 1 2 3 4 5

Brief Justification: Accreditation is essential to achieve credibility in testing and recommendations and to stay in compliance with ISO standards. The HLRP provides credibility to test results obtained in the NIOSH laboratories and its resulting publications related to the HLRP's work.

Recommendations In Progress:

Recommendation #5: Use surveillance data as well as stakeholder input to identify priorities.

Progress: 1 2 3 4 4.5 5

Brief Justification: The HLRP has done great work on the use of surveillance data and stakeholder input to identify priorities, especially with the addition of four private sector audiometric service providers, who were recruited to partner with NIOSH to share audiometric data. The addition of private sector audiograms to the HLRP data repository did much to further the goal of this recommendation.

(Activity A) A national repository as part of NIOSH NORA project proposal was submitted to continue funding for the OHL Surveillance Project, and the proposal was funded for fiscal years 2014-2017. Funds will be used for the purchase of private sector worker audiometric data and industry coding, in addition to the collection and occupation coding of United States Air Force (USAF) audiometric, noise exposure and chemical exposure data.

(Activity B): data has been analyzed, submitted for publication and disseminated to partner organizations

(Activity C): Comments and feedback have been formally requested from each of our project partners on every OHL Surveillance Project analysis prior to releasing results to the public. All journal publications were also peer-reviewed by one or more leaders in the hearing conservation field prior to journal submission.

Impact: 1 2 3 4 4.5 5

Brief Justification: It is perhaps too soon to judge the true impact from these efforts. The future impacts of these efforts have tremendous potential. The NHCA's (National Conservation Hearing Association) collaborative effort with academia, NIOSH, and industry to update age-corrected hearing loss tables will represent the first updated age-correction table since 1972. This is to be commended and will have long lasting impacts on worker safety and health.

Recommendation #11: Develop noise control engineering approaches for non-mining sectors.

Progress: 1 2 3 4 4.5 5

Brief Justification: The HLRP used two main activities to respond to this National Academies recommendation – engineering controls and the development of an information data base of sound levels for hand power tools. The HLP program is enhancing its in-house engineering capacity via several engineering students pursuing advanced degrees in acoustical engineering. The HLRP has also been participating with NHCA in the Safe-in-Sound award program. The release of the “Buy-Quiet” program and the Global Database of Noise Levels is highly anticipated.

Impact: 1 2 3 4 4.5 5

Brief Justification: The HLRP used two main activities to respond to this National Academies recommendation – engineering controls and the development of an information data base of sound levels for hand power tools. For example: A Powered Hand Tool database being highly is being used extensively by the National Academy of Engineering, NASA, New York City Department of Environmental Protection, National Parks Service, U.S. Department of Defense, General Services Administration, Noise Pollution Clearinghouse, and Laborer’s Union. The Safe-in-Sound award program has had tremendous success in helping change workplace behaviors in a variety of industries. This award is well-known, well-publicized, and sought after by industry. The release of the “Buy-Quiet” program and the Global Database of Noise Levels will increase the HLRP’s impact.

Appendix D – Work Group Minutes

MINUTES

Work Group: Board of Scientific Counselors National Institute for Occupational Safety and Health

Personal Protective Technology Research Program

August 11, 2014, 11:00 am – 12:00 pm ET

1. Introductions: BSC members in attendance included Carol Rice, Corrine Peek-Asa, and Bonnie Rogers. NIOSH staff present included John Decker (Designated Federal Official) and Elizabeth Hofer (Public Health Associate, NIOSH Office of Planning and Performance).
2. Elizabeth Hofer provided an introduction and instructions on scoring. Corrine Peek-Asa will put together the score report and brief the BSC at the September 5th meeting.
3. Recommendation #1, Issue 1.2:
 - a. 5 for progress. Program is addressing new PPT and new applications. Program has done a great job moving the group to the wider diversity of PPT, and this is a tremendous accomplishment. A question was how they prioritize with PPE they are working on. Are they doing this based on surveillance data, industry requests, etc.? Initial push was on respirators, and they did a lot of work in that area.
 - b. 5 for impact. Goals are focused on standards development, but general area is difficult to achieve in this environment. Might be useful to consider other things, like policies or document success stories. Might be useful if they had at least one impact metric that was not development of a standard. Item about fees.
4. Recommendation #1, Issue 1.3:
 - a. 4.5 for progress. Seems like an impossible task to do, overall recommendation is overly ambitious. Increase in transparency and has been making progress.
 - b. 4.5 for impact. Still don't have a lot of products in hand. Rather than "nationally accepted," "nationally recognized" might be a more feasible goal.
5. Recommendation 1, Issue 1.5:
 - a. 5 for progress. Have a lot of activities, don't necessarily have an overall communication plan? Perhaps an over-reliance on stakeholder meetings? Not sure if stakeholders really get to reaching workers. At least some stakeholders represent workers. Maybe this is where some success stories could be underscored. Question about inclusion of construction sector—needs clarification.
 - b. 4.5 for impact. In terms of projects funded, what does NPPTL do with the recommendations made back to NPPTL? Working with ERCs, trusted-source webpage is hopefully having impact.
6. Recommendation #4, Issue 4.1

- a. 5 for progress. Nice to see planned conceptual approach. Good to partner with other divisions on changing safety culture.
- b. 5 for impact. NPPTL reports informal feed-back—could be very useful success documentation. Would be good if some of it was from the end users. That could help them become a trusted source. Not clear how barriers feed back into the outreach program, but it is certainly feeding into design. So, having post-feedback information would be good to include. Need to begin measuring the various educational/communicational strategies to see which ones are working. Publishing is not necessarily where the real impact resides.

7. Recommendation #4, Issue 4.2

- a. 5 for progress. Database when comes to fruition, it could be valuable. Unclear how the BREATHE workgroup, that is, how they identification of barriers, feeds into design.
- b. 5 for impact. Strong and poised for even greater impact. Comment about evaluation—need to keep track what is working best.

**Review of Progress Implementation Report for
NIOSH Personal Protective Technologies Program**

Submitted by Board of Scientific Counselors

November 19, 2014

BSC Working Group Members

**Corinne Peek-Asa
Carol Rice
Bonnie Rogers
Michael Greenberg**

Recommendations In Progress:

Recommendation #1 (Issue 1.2): Participate in policy development and standards across all types of PPT.

Progress: 1 2 3 4 5

Brief Justification:

- This team has done a fabulous job managing this task and moving it forward.
- Moving to wider occupations and types of PPE/PPT has been a significant and important achievement.

Impact: 1 2 3 4 5

Brief Justification:

- The process has involved strong stakeholder input, which has been a critical element to its success.
- The single goal of standard development, which is very difficult to define and implement in this regulatory climate, may underestimate actual impact. Other types of performance measures and metrics, such as policy implementation, could show a wider impact, especially for standards in an area that have significant barriers to passage. For example, an upgraded company policy or a union’s effort to improve coverage in the spirit of a proposed standard also shows progress. The many interactions with the stakeholders could be one place to collect this type of information. Feedback from companies and other partners regarding policy effectiveness would also be helpful.
- Self-sustaining certification through fees is a promising approach. Evaluation will be critical to help show this as a generalizable model.

Recommendation #1 (Issue 1.3): Oversee certification of all PPT including an assessment of certification mechanisms.

Progress: 1 2 3 4 4.5 5

Brief Justification:

The online resources show some progress with more potential in the future. The plan to move towards decisions about voluntary vs. audit standards is clear. The framework with stakeholder input and engagement is a strong step forward. The committee notes that this recommendation is an extremely ambitious and large task.

Impact: 1 2 3 4 4.5 5

Brief Justification:

Slow progress in reaching full impact may be best approach, as it is important to have a strong conceptual framework and stakeholder engagement and input along the way. There is not a lot of dissemination or products in hand at this point, but the activities poise the program to be in a good position for more impact in the near future. With the breadth of this goal, nationally recognized, rather than nationally accepted, standards may be a more attainable goal.

Recommendation #1 (Issue 1.5): Conduct outreach programs for optimal use and acceptance of PPT by workers.

Progress: 1 2 3 4 5

Brief Justification:

The program has clearly developed many activities in outreach, with a broad audience, and progress has been substantial. We recommend that a communication plan or conceptual model be developed to clearly define the messaging at all levels, with a clear plan to reach the worker level. This might be a good time to take an inventory of the work that has been done to compile lessons learned, best practices, and outcomes. It is important that the program implements information from funded projects in a coordinated way. The use of stakeholder success stories could be helpful in documenting activities and impact.

Impact: 1 2 3 4 4.5 5

Brief Justification:

The activities are reaching many audiences using multiple mechanisms. Social messaging, reaching out to ERCs, and the use of the Supercourse are examples. The program might be able to leverage activities of other NIOSH programs and partners to extend the messages to wider audiences. The Trusted Source website is a good resource. It would be helpful to know what actions are the results of making this information available, and perhaps some of these impact metrics could be built into the website (e.g. a place to post successes, a survey for repeat web visitors). The committee had a clarification question: It appears that construction is not actively part of these activities. Perhaps because these messages are getting out through NIOSH other activities?

Recommendation #4 (Issue 4.1): Define barriers to and facilitators of PPT use.

Progress: 1 2 3 4 5

Brief Justification:

The program has developed a good plan. The program may have an opportunity to partner with NIOSH divisions and other experts in workplace culture and change.

Impact: 1 2 3 4 5

Brief Justification:

The program is conducting many activities in this area. The report mentions the use of informal feedback, but it would be helpful to have a more formal evaluation, especially to demonstrate impact for the end user. The program needs to ensure that knowledge of barriers feeds back into outreach efforts, as it is clear that this knowledge feeds back into design. The program has an opportunity to begin evaluating different messaging and educational approaches to learn what works best.

Recommendation #4 (Issue 4.2): Develop innovative PPT designs and test methods to improve comfort, fit, and usability.

Progress: 1 2 3 4 5

Brief Justification:

The program's databases, such as the facial shape database, are very valuable and will likely contribute even more as they grow. Innovative designs can be informed by the barriers being identified, such as through the BREATHE working group.

Impact: 1 2 3 4 5

Brief Justification:

The impact of these activities is strong and poised for even greater future impact. The program has potential to collaborate with NIOSH evaluation experts to help keep track of best practices and methods to overcome barriers.

Appendix D – Work Group Minutes

MINUTES

Work Group: Board of Scientific Counselors National Institute for Occupational Safety and Health

Health Hazard Evaluation Program Review

July 22, 2014, 1:00 pm – 2:00 pm ET

1. Introductions: BSC members in attendance included Kitty Gelberg, David Bonauto, Clarion Johnson, and James Ramsey. NIOSH staff present included John Decker (Designated Federal Official) and Elizabeth Hofer (Public Health Associate, NIOSH Office of Planning and Performance).
2. Elizabeth Hofer provided an introduction and instructions on scoring. Kitty Gelberg will write the score report, and Clarion Johnson will report at the BSC meeting on September 5th. Question: Can recommendations outside the scope of the program be offered? (Example, a question about resources) Answer: This type of guidance can be described in the narrative justification for each score. A concern was expressed from the workgroup members that numerical scores could have an adverse or unanticipated impact on the program through the appropriation processes.
3. Workgroup started with a discussion of Recommendation #2. Workgroup was generally impressed with both progress and impact (4's and 5's). Work group members individually reviewed their initial scores and provided comments. Overall, the workgroup members were very impressed with the program's progress, especially in their efforts to reach out to new and underserved populations. It was recommended that the program could do more to solicit HHE requests from the public. The average scores were decided to be 4.5 for Progress and 4 for Impact. Caveat on Impact is that it is difficult to judge in the short-term.
4. Recommendation #3: The workgroup commented that this was a very complicated recommendation that had some elements that bleed over into recommendation #5. The workgroup found the internal quality assurance plan for HHE recommendations was good and the use of follow-back surveys and phone calls helped ensure the program was making impact in the investigated workplaces. Recommendations for improvement included establishing and publishing case studies of certain HHEs to expand the reach of the investigations findings, and the possibility of getting reviewers from relevant disease branches within NIOSH when it came to determining recommendations for workplaces following an investigation. Most ratings were in the 4 range. Overall, a 4 for Progress and 4 for Impact were determined.
5. Recommendation #5: The workgroup members felt that the progress made was quite good, and proactive with publishing results in trade journals, annual reports, and on social media sites. Members commented that the program's r2p strategy was continually

improving, leading them go achieving great progress and reaching out to a whole new population of consumers for their report findings. Scores were in the 4's and 5's. Overall, a 5 for Progress and 4 for Impact were given. Suggest the need to economically justify programs and build this into evaluation programs. There was also concern that it is difficult to measure the impact of posting information to a website, and it was suggested that better evaluation metrics for

6. Recommendation #6: Scores were in the 4's. It was suggested that, while this expands beyond the reach of the recommendation, the program needs to go outside of HHS, perhaps DHS, DoD, etc. to continue expanding their network of partners. Overall, a 4 for Progress and 4 for Impact were given. The program needs to have on-going outreach effort to avoid silos between agencies. The members also noted that there was little to no information on collaborating with ATSDR, despite being a closely related program.
7. Recommendation #7: Scores were in the 5's. Recommendation is within the central mission of the program, providing sentinel information about the hazards. Overall scores were 5 for Progress and 5 for Impact were given. This is the program's distinctive competence, and they excelled in achieving their mission. It was suggested that the program should not just focus on sentinel issues, but also help practitioner on continuing issues such as stress. It was also discussed how it was admirable that the program deleted some activities due to resource issues to focus on emerging issues.

**Review of Progress Implementation Report for
NIOSH Health Hazard Evaluation Program**

Submitted by Board of Scientific Counselors

November 19, 2014

BSC Working Group Members

**David Bonauto
Kitty Gelberg
Clarion Johnson
James Ramsay**

Recommendations In Progress:

Recommendation #2: Improve the mechanisms by which requests for HHEs are sought and prioritized to include a broader array of requests from a wider variety of requestors.

Progress: 1 2 3 4 4.5 5

Brief Justification: The program is doing an excellent job, but there's always room for improvement. This work is primarily opportunistic based upon emerging issues. The program has effectively positioned itself with partners to be called upon when appropriate situations arise. They are reaching out to the Spanish language community, CPWR, have nice partnerships, and are continuing to move toward improvement. They have clearly identified challenges, understand that some are getting worse which is outside of their control (such as the decrease in unionization).

Impact: 1 2 3 4 5

Brief Justification: This work is valuable due to the need for evaluating a new hazard or an old hazard in a new setting. Their work sets the stage for research and a policy perspective. Short-term assessment of the impact of this type of work is very difficult.

There is an inconsistent frequency of requests, which is understandable – the work needs to continue, but will probably never be complete. NIOSH researchers have started leveraging groups external to NIOSH which allows broader dissemination of findings, thus continuing to raise awareness. Their willingness to direct inquiries to existing information is beneficial and provides a cost-effective and accessible tool for promoting occupational health and safety.

Recommendation #3: Ensure that recommendations in HHEs are relevant, feasible, effective, and clearly explained.

Progress: 1 2 3 4 5

Brief Justification: This is a very complicated recommendation that has some elements that bleed over into recommendation #5.

There are established procedures for internal quality assurance such as: calling employers shortly after the release of an HHE is a good idea, well done evidenced based recommendations that are imperative and integral. Expanding development and use of case studies is useful and should be pursued. Feedback being received is positive showing the utility and practicality of the recommendations. Using external reviewers is positive with good response to the recommendations. The program may want to revise who the reviewers are to include NIOSH Divisions where the recommendations may be relevant to ensure accuracy and feasibility.

Impact: 1 2 3 4 5

Brief Justification: The program has not developed case studies yet, but they are progressing with scientific papers using follow back information. They report 94% implementation of recommendations from 2009-13 among those responding to the survey. It would be useful to learn if the recommendations have broader impact which is difficult. The use of a closing conference is also beneficial.

Recommendation #5: Develop a proactive, comprehensive information-transfer strategy for HHE Program outputs with better approaches to reaching wider audiences, including traditionally underserved populations.

Progress: 1 2 3 4 5

Brief Justification: There is an on-going thought process behind this work, using new and unique resources. They have been very proactive using trade publications, videos, Facebook, annual reports, and NIOSH alerts, and are translating highlights into Spanish. They should continue to explore posting on other NIOSH web pages and using external associations and professional societies in order to reach broader audiences.

Impact: 1 2 3 4 5

Brief Justification: The program is establishing an R2P strategy for HHE moving from the strategic to the tactical that is continually improving. Measuring impact here is really difficult to do. It is difficult to measure the impact of posting information to a website or whether and to what degree actions/behaviors are modified based on acquired information. They are conducting a good evaluation and improvement of their website by using questions that appear in their Help Mailbox. Should potentially evaluate the effectiveness of videos prior to embarking on potentially expensive activities. Program should consider economically justifying the programs and building the capacity to demonstrate economic impact into the evaluation scheme.

Recommendation #6: Develop more extensive formal linkages and mechanisms with other parts of NIOSH, CDC, and HHS to enhance the capacity for involvement in policy-relevant impacts.

Progress: 1 2 3 4 5

Brief Justification: In order to avoid silos between agencies, an ongoing and continuous outreach is required. This is difficult due to changes in point of contact, leadership, and funding changes. There is little to no information on collaborating with ATSDR, despite this being a closely related program.

They are doing great work with state level epidemic intelligence officers (especially in WI and VT). The program should continue training the EIS officers and should consider adding to the training that they should also reach out to other HHS agencies. There is also good work with the NORA partners.

Although beyond this recommendation, the program should consider expanding outreach to those outside of the traditional public health service community such as Defense, Homeland Security, EPA (shown to be effective), and USDA. Working with the Office of Minority Health may also assist with both this recommendation and recommendation #2.

Impact: 1 2 3 4 5

Brief Justification: This is difficult to evaluate. The program may want to survey NORA partners regarding the utility and use of the reports and to qualitatively indicate the degree to which NIOSH reports have modified, or otherwise altered strategy or methodology (perhaps using a thermometer or Likert scale). The survey may assist in both reminding partners of the program, and also expand the use of reports to more non-traditional settings.

Recommendation #7: Initiate formal periodic assessment of new and emerging hazards.

Progress: 1 2 3 4 5

Brief Justification: This recommendation reflects not only the core mission of the HHE program, but its distinctive competence as well. They are doing what they are supposed to do – finding new hazards, encouraging reporting of existing hazards, creating actionable information sheets that help mitigate hazards at the workplace. If NIOSH did not do this work, then it would not get done and quite expectedly illness and injury rates would increase.

Impact: 1 2 3 4 5

Brief Justification: As in the previous recommendation, there needs to be continuing and ongoing efforts at outreach. There has been exemplary work on topics such as diacetyl. The program should not just focus on sentinel – or very specific issues, but should also consider addressing issues that are more common that can help practitioners such as occupational stress and musculoskeletal injuries, in addition to esoteric chemicals like diacetyl. It was admirable that the program deleted some activities due to resource issues to focus on emerging issues.

Certification Statement

I hereby certify that, to the best of my knowledge and ability, the foregoing minutes of the September 5, 2014, meeting of the NIOSH Board of Scientific Counselors, CDC are accurate and complete.

November 14, 2014

Date



M.E. Bonnie Rogers, MPH, DrPH, COHN-S
Chair, NIOSH Board of Scientific Counselors