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From the Director's Desk
--John Howard, M.D. Director, NIOSH
October eNews 2009

Protecting the Providers

The U.S. Centers for Disease Control and Prevention (CDC) has issued its new interim guidance for infection control during care of patients with confirmed or suspected novel 2009 H1N1 influenza virus in a health care setting. http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm The new guidance reflects experience gained since CDC's original interim guidance earlier this year, notably in deliberations on important scientific questions related to occupational exposures to H1N1. NIOSH worked with its colleagues across CDC in helping to craft the recommendations for protecting healthcare personnel from risk of job-related exposure to the 2009 H1N1 influenza virus.

2009 H1N1 influenza presents a daunting challenge for occupational health and public health. Maintaining a healthy, capable population of doctors, nurses, aides, and other healthcare personnel during the 2009-2010 flu season will be vital. NIOSH is gratified to have a role in strategic national preparedness to accomplish that

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goal.

The new interim CDC guidance recommends that healthcare employers take comprehensive measures from across the entire hierarchy of controls generally employed in preventing work-related illnesses and injuries, by:

- Eliminating sources of infection, through such measures as taking steps to minimize outpatient visits for patients with mild influenza-like illness who do not have risk factors for complications, and postponing elective visits by patients with suspected or confirmed influenza until they are no longer infectious.
- Using engineering controls such as installation of partitions in triage areas, and using closed suctioning systems for airways suction in intubated patients.
- Implementing administrative controls. Promoting and providing vaccination is especially important. Examples of other administrative controls include enforcing exclusion of ill healthcare personnel, and implementing respiratory hygiene/cough etiquette strategies.
- Using respiratory protection that is at least as protective as a NIOSH-certified, fit-tested, disposable N-95 respirator for healthcare personnel who are in close contact with patients with suspected or confirmed 2009 H1N1 flu. In this context, close contact is defined as working within six feet of the patient or entering into a small, enclosed airspace shared with the patient, such as an average patient room.

Consistent with IOM Findings

The guidance on the use of NIOSH-certified N-95 respirators for healthcare personnel at highest risk of exposure to the 2009 H1N1 influenza virus is consistent with the findings of a blue-ribbon Institute of Medicine committee, issued in September. The report is available at <http://www.iom.edu/CMS/3740/71769/72967.aspx>. CDC and the Occupational Safety and Health Administration had asked the committee to evaluate the efficacy of respirators and medical masks, and NIOSH was one of the organizations that provided scientific information for the committee's deliberations. NIOSH's presentations at the committee's Aug. 11-13

workshop, along with other presentations and discussions, can be found at <http://www.iom.edu/Activities/Workforce/RespProtH1N1.aspx>. Importantly, the IOM committee recommended additional research, including research to evaluate the relative contribution of various routes of influenza transmission and to fully explore the effectiveness of personal respiratory protection technologies in a variety of clinical settings through randomized clinical trials. NIOSH will conduct and sponsor such research to help inform future guidelines.

The CDC guidance is based on the unique considerations associated with the current 2009 H1N1 pandemic. These considerations include 1) low levels of immunity to the 2009 H1N1 virus in the current population, 2) availability of vaccination programs well after the start of the pandemic, 3) the susceptibility of people who are in the age-range of healthcare personnel, 4) increased risk for complications in some healthcare personnel workers such as pregnant women, and 5) the potential for healthcare personnel to be exposed to 2009 H1N1 influenza patients because of their occupation.

Strategies for Potential Shortages

The guidance recognizes that some facilities are experiencing shortages of respiratory protection equipment, and that further shortages are anticipated. Therefore, the appropriate selection and use of respirators is critical. Key strategies include:

- Use of source control, engineering, and administrative measures to reduce the number of personnel who come in contact with patients who have influenza-like illness – and consequently, reduction in the consumption of respiratory protection equipment.
- Use of alternatives to disposable N95 filtering-facepiece respirators for certain applications, including more protective filtering-facepiece respirators, reusable elastomeric tight-fitting respirators, and reusable powered air-purifying respirators (PAPRs). For facilities that are able to use alternatives such as elastomeric respirators or PAPRs, processes must be in place to ensure that they are used properly and are reliably decontaminated. Additional information about these strategies, including frequently asked questions, are posted on the CDC 2009 H1N1 website (see <http://www.cdc.gov/h1n1flu>).
- Strategies to reduce consumption of respirators or to extend their use during severe shortage

conditions.

CDC recommends that facilities assess their projected needs and take special care to ensure that respirators are available for situations where respiratory protection is most important, such as performance of aerosol-generating procedures on patients with suspected or confirmed 2009 H1N1 flu or provision of care to patients with diseases other than influenza that require respiratory protection. If a facility projects that it will be unable to meet these needs despite taking measures to minimize consumption, and maximize benefit, of available respirators, then it should institute a “prioritized use mode” governing use of respiratory protection for influenza until supplies are expected to be replenished.

In prioritized use mode, respiratory protection is reserved for situations where respiratory protection is most important, such as attendance at highest-risk, aerosol-generating procedures involving 2009 H1N1 patients. Levels of priority for respiratory protection based on exposure scenario, vaccination status, and personal health risk factors for serious infection are detailed in the guidance document. Facemasks provide a barrier against splashes, droplet sprays, and hand contact with the nose and mouth, and thus should be chosen over no protection for workers at lower risk, the CDC guidance states.

NIOSH will continue to work closely and strategically with our colleagues and stakeholders in the coming months to help the healthcare industry and the dedicated U.S. healthcare workforce meet the ongoing challenge of 2009 H1N1 influenza.

NIOSH Science Blog: N-95 Respirators and Surgical Masks

The October 14 NIOSH Science Blog examines the scientific principles behind the design and performance of surgical masks and respirators. <https://blogs.cdc.gov/niosh-science-blog/2009/10/14/n95/> NIOSH and the Centers for Disease Control and Prevention (CDC) recommend the use of a NIOSH-certified N-95 or better respirator for the protection of healthcare workers who come in direct contact with patients with H1N1.

NIOSH Research Part of *Good Morning America* Feature Story

On September 17, ABC’s *Good Morning America* highlighted NIOSH’s computer modeling research to help protect flight crews from job-related health and safety hazards. NIOSH scientist James Bennett described computer modeling used to identify how far, and in what pattern, contaminants such as viruses may spread through an airplane cabin from a source. <http://abcnews.go.com/GMA/scared-swine-flu-avoid-germs-viruses-plane/story?id=8596700>

Work-Stress Topic of *Wall Street Journal* Story

On September 16, the *Wall Street Journal* highlighted NIOSH's research on work-stress prevention in a column reporting on a new Gallup survey on job satisfaction. Findings in the survey—that business owners, self-employed people, and farmers generally report high satisfaction with their jobs—are consistent with NIOSH's research findings that work stress can be caused or worsened by lack of control over one's job or a feeling that the work may be meaningless and unfulfilling.

http://online.wsj.com/article/SB10001424052970203917304574414853397450872.html#mod=WSJhps_RIGHTTopCarousel

***N.Y. Daily News* Salutes Dr. Robin Herbert**

In a September 26 editorial, the *New York Daily News*, saluted Dr. Robin Herbert as a "heroes' heroine" for her leadership in health monitoring and treatment for World Trade Center (WTC) responders. A valued partner of NIOSH, Dr. Herbert has served as codirector of the Division of Occupational and Environmental Medicine in Mount Sinai School of Medicine's Department of Community and Preventive Medicine and as the director and principal investigator of the WTC Medical Monitoring and Treatment Program's Data and Coordination Center.

http://www.nydailynews.com/opinions/2009/09/26/2009-09-26_a_heroes_heroine_ground_zero_workers_owe_a_debt_of_gratitude_to_dr_robin_herbert.html

Occupational Safety and Health Goes WestOn

On September 24–25, the Western States Occupational Network (WestON) held its second annual meeting in Denver, Colorado. Sponsored by the NIOSH Denver Regional Office, the Council of State and Territorial Epidemiologists, and the NIOSH Mountain and Plains Education and Research Center, the meeting provided a venue for approximately 60 state, federal, and academic occupational safety and health professionals to meet and share ideas for collaboration, information exchange, and capacity building throughout the western U.S. For more information on this conference, please contact Yvonne Boudreau (AYB1@cdc.gov).

New Virtual Reality Resource Trains Miners to Navigate an Underground World

Safety training for new miners enters the 21st century with a computer-based training program now available from NIOSH. This new technology helps to prepare young miners to read mine maps, a critical skill in learning how to navigate the labyrinth of tunnels and to stay safe in underground mines. The program can be completed in about two hours and is available for free download at

<http://www.cdc.gov/niosh/mining/products/product165.htm>.

Research to Improve Fire Fighters' Protective Clothing

NIOSH is working with partners to address challenges and opportunities for improving protective clothing worn by fire fighters and emergency responders. Read more on this research at

<http://www.cdc.gov/niosh/updates/upd-09-29-09.html>.

Global Happenings

Indoor Air Quality Evaluated at PAHO Headquarters

In September, engineers from the NIOSH Division of Applied Research and Technology conducted an evaluation at the Pan American Health Organization (PAHO) headquarters facilities in Washington DC. The team collected data related to concerns of the PAHO staff about indoor air quality and HVAC system noise on certain floors within the 10-story building. The team will develop a report to summarize their findings and possible measures that can be taken to improve the work environment in their facility. For more information, contact Scott Earnest at GEarnest@cdc.gov or go to the NIOSH Topic Page: Indoor Environmental Quality at <http://www.cdc.gov/niosh/topics/indoorenv/>.

Preparing World Healthcare Leaders for Exposure to Bloodborne Infections

NIOSH researcher Ahmed Gomaa, with partners from the University of Virginia and the World Health Organization, provided a workshop onsite in Saudi Arabia to 92 healthcare leaders from Egypt, Saudi Arabia, Kuwait, Bahrain, Oman, and Qatar. Workshop topics included occupational health programs for the prevention of exposure to bloodborne infections and the evaluation and development of recommendations to protect healthcare workers. For more information contact Ahmed Gomaa at AGomaa@cdc.gov.



Colleagues attending a NIOSH/WHO-sponsored training workshop.

NIOSH Seeks Comments on the Following:

Increasing adoption of cost-effective roll-over protective structures (CROPS) by farmers and manufacturers. <http://edocket.access.gpo.gov/2009/E9-22648.htm>

Temporary reassignment for healthcare workers who work with hazardous drugs. <http://edocket.access.gpo.gov/2009/pdf/E9-22275.pdf>

Potential occupational health risks from the chemicals 1-Bromopropane and glutaraldehyde. <http://edocket.access.gpo.gov/2009/E9-22297.htm>
<http://edocket.access.gpo.gov/2009/E9-22299.htm>

Proposed enhancement to the occupational health data collected among healthcare workers in the National Healthcare Safety Network. NIOSH will also hold a public meeting in the Cincinnati area as part of the project. <http://edocket.access.gpo.gov/2009/E9-22656.htm>

To view a comprehensive list of NIOSH Docket items currently open for comment, go to <http://www.cdc.gov/niosh/review/public/>.

Three New Health Hazard Evaluation Reports Now Available

The Health Hazard Evaluation (HHE) Program evaluated workers' asthma and respiratory symptoms at a soy processing facility. Investigators found that some dust concentrations in the air exceeded current occupational exposure limits. Investigators recommended respiratory protection for all workers with work-related asthma and, if that is ineffective, relocating those workers to lower exposure areas.



<http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0073-3089.pdf>

The HHE Program evaluated employees' concerns about exposure to lead solder paste and fumes and noise at a printed circuit board manufacturing plant. Investigators found that auto insertion operators' noise exposures were very low. Investigators found lead on employees' hands, on work surfaces, and in a break room. Investigators recommended improving general housekeeping and using engineering controls when removing solder dross and cleaning wave solder machines.

<http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0201-3086.pdf>

The HHE Program evaluated airport cargo handlers' exposure to carbon monoxide. Investigators found that all airport terminal service employees' carbon monoxide levels measured in the evaluation were above recommended limits but transportation security and air logistics employees' carbon monoxide levels were not. Investigators recommended replacing fuel-driven forklifts and tugs with electric ones, reminding drivers to turn off vehicle engines when at the dock doors, increasing warehouse ventilation, and installing carbon monoxide alarms.

<http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0144-3087.pdf>

Morbidity and Mortality @ Work

Sickness Absenteeism among Full-Time Workers in the U.S., August 2009

Sickness absenteeism in the workplace is strongly correlated with the occurrence of influenza-like illness and may serve as an indicator of the level of influenza activity in the employed population during the current pandemic (Figure 1). NIOSH tracks sickness absenteeism among full-time workers on a monthly basis, using data from the Current Population Survey (CPS). Figure 2 shows the geographic distribution of sickness absenteeism among full-time workers in the U.S. by state for August 2009. Since CPS data are population-based and nationally representative, either of these analyses can be stratified by a number of demographic and labor force characteristics such as age, sex, industry, and occupation to provide benchmarks for those interested in specific segments of the population. Link to chart

For more details, see the chart at <http://www.cdc.gov/niosh/enews/enews7n6chart.html>.

News from Our Partners

Preventing Lead Poisoning in Indoor Firing Ranges in Colorado

The Colorado Department of Public Health and Environment has developed a fact sheet to provide information about the risks of lead exposure to workers and hobby and recreational shooters at indoor firing and shooting ranges. Indoor firing and shooting ranges are common sources of adult lead exposure in Colorado. Workers at indoor firing ranges can be exposed to hazardous lead concentrations and may be at risk for lead exposure and lead poisoning. <http://www.cdphe.state.co.us/dc/OH/shooting.html>

r2p Corner

NIOSH Seeks Partners



NIOSH is seeking partners to further develop and commercialize a new point-anchoring device, the Bolthead Clamp. The device provides a temporary or permanent anchoring point to assist with pulling, lifting, suspending, and material handling where there are exposed square-head bolts and where S-hooks and other suspension devices are not adequate or feasible. Numerous industries can benefit from this device, such as tunneling, mining, construction, maintenance, and renovation. Please contact Kathleen Goedel at Kgoedel@cdc.gov or 513-533-8686 for more information.

NIOSH and the National Safety Council Renew Partnership

NIOSH and the National Safety Council have renewed their partnership to improve occupational safety and health conditions in the workplace. The renewal reaffirms the commitment of both organizations to advance the protection of workers, promote best practices, and encourage employers to develop and utilize occupational safety and health management programs and effective prevention strategies and technologies. For more information, please contact Nancy Stout at Nstout@cdc.gov.

NORA

Draft National Manufacturing Agenda

The NORA Manufacturing Sector Council requests comments on its draft national agenda

<http://www.cdc.gov/niosh/review/public/184/>, which consists of ten strategic goals covering a range of diseases, injuries, and priority issues. The Council also seeks organizations to join partnership efforts to advance the draft priorities. For more information, contact the NORA coordinator at noracoordinator@cdc.gov.

NIOSH Science Blog

NIOSH Blog Making the Business Case

This month, NIOSH blogs about the partnership with the National Safety Council and the Williams College of Business at Xavier University to integrate occupational safety and health into the school's business curriculum. The course addresses how companies can evaluate occupational safety and health interventions and programs in order to choose and implement the most cost-effective ones that will both improve occupational safety and health for workers and support the business objectives of the company.

<https://blogs.cdc.gov/niosh-science-blog/2009/09/21/business/>

NIOSH Wants To Hear Your Thoughts on Our Blog

When you visit the NIOSH blog this month you may be asked to answer a short survey. We are currently evaluating the NIOSH blog and we hope you will take a couple minutes to answer the questions in order to help us to continue to meet the needs of our readers. If you have any questions, please contact Virginia Sublet vsublet@cdc.gov.

Communication Products

Guidelines for Refuge Chamber Setup, Use, and Maintenance

Take Refuge! NIOSH announces the release of guidelines on how to set up, use, and maintain refuge chambers (emergency structures designed to provide safe shelter) in underground mines. [Refuge chambers](#) may save the lives of miners trapped underground and waiting for rescue after a mine explosion or cave-in.

<http://www.cdc.gov/niosh/mining/pubs/pubreference/outputid3169.htm>

Two NIOSH Resources on the Horse Racing Industry, Now Available in Spanish

The NIOSH horse racing industry topic page, "La Industria Hípica"

<http://www.cdc.gov/spanish/niosh/topics/hipica.html>

NIOSH document, *Perspectiva General de la Seguridad y la Salud de los Trabajadores de la Industria Hípica*, http://www.cdc.gov/spanish/niosh/docs/2009-128_sp/

More...

To see other new NIOSH communication products, including documents and new and updated topic pages, go to the NIOSH “What’s New” page. <http://www.cdc.gov/niosh/whatsnew/>

Call for Abstracts

Association of Professionals in Infection Control

Call for papers and presentations related to infection prevention and control, healthcare epidemiology, and related fields. Deadline for submission is October 16, 2009.

<http://www.apic.org//AM/Template.cfm?Section=Home1>

Society of Manufacturing Engineers Rapid 2010 Conference and Exposition

Call for speakers. Deadline for submission is October 16, 2009.

<http://www.sme.org/cgi-bin/get-evdoc.pl?&&001887&000007&speakers&&SME&>

Emergency Nurses Association Annual Conference

Call for course proposals. Deadline for submission is October 23, 2009.

<http://www.ena.org/about/calls/Pages/2010ACFacilityCall.aspx>

History of Occupational and Environmental Health Conference

Call for abstracts, International Conference on the History of Occupational and Environmental Health.

Deadline for submission is November 2, 2009.

<http://www.ucsfcmec.com/2010/miscfiles/MMJ10014Abstract.pdf>

11th Biennial Kentucky Conference on Health Communication

Call for papers, posters, and panel proposals related to issues in health communication. Special consideration will be given to submissions that address issues related to the conference theme on Health Communication Theory and Practice. Deadline for submission is December 13, 2009.

<http://comm.uky.edu/kchc/>

American Society for Testing and Materials (ASTM) International Symposium on Surface and Dermal Sampling

Call for papers for the ASTM International Symposium on Surface and Dermal Sampling. Deadline for submission is January 14, 2010. www.astm.org/d22symp1010.htm

NIOSH and International Journal of Occupational and Environmental Health

Call for papers on nanotechnology exposure assessment. Deadline for submission is January 15, 2010. <http://www.ijoe.com/index.php/ijoe/information/callforpapers>

Upcoming Conferences & Workshops

A comprehensive list of upcoming conferences can be found at <http://www.cdc.gov/niosh/exhibits.html>.

Word of the Month

Refuge Chamber - emergency structures designed to provide safe shelter.

[NIOSH eNews on the Web: www.cdc.gov/niosh/enews/](http://www.cdc.gov/niosh/enews/)

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