

The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research 

NIOSH eNews



Director's
Desk



Research
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Highlights



Monthly
Features

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From the Director's Desk

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Lung Cancer Awareness Month Highlights Opportunities for Research and Prevention

November is Lung Cancer Awareness Month. It is a time to emphasize better community awareness of this mostly preventable disease that remains a major cause of illness and death. In 2017, data showed 221,121 new cases and 145,849 deaths from lung cancer in the United States. This was the greatest number of deaths caused by any type of cancer.

Lung cancer does not have to take such a massive toll. In 1912, it was described as “one of the rarest forms of cancer [☑](#).” Unfortunately, the subsequent widespread adoption of smoking led to an epidemic of lung cancer [1]. CDC notes that even now, 9 out of 10 lung cancers are caused by smoking [cigarettes](#).

In addition to recognizing smoking as a cause of lung cancer, we should recognize the role of work exposures that cause lung cancer. A [recent review](#) [☑](#) listed 19 occupational substances found to have “sufficient evidence” for causing lung cancer in humans [2]. At the individual level, it can be difficult to determine when a case of lung cancer is due to a work-related exposure. However, scientists estimate that about 9% of lung cancer cases in men and about 2% of cases in women in the United States can be attributed to occupational exposure annually [3]. Combined exposures to occupational substances that can cause lung cancer (like asbestos) and tobacco smoke can be especially harmful, resulting in greater than additive increases in risk [4].



Image by Lung Cancer
Foundation of America.

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NIOSH carries out research to determine what work exposures can cause lung cancer. One example is a 2010–2015 [study](#) by NIOSH and partners of nearly 30,000 firefighters. This study found that many types of cancer, including lung cancer and mesothelioma, a type of cancer that occurs in the chest, occurred more often among firefighters than among the general public. To understand the connection between work-related exposures and cancer in this critical group of workers, NIOSH led efforts to establish the [National Firefighter Registry](#) in 2018.

In all workplaces, a comprehensive [Total Worker Health®](#) approach provides a roadmap for preventing lung cancer in workers by bringing together all aspects of work in integrated interventions to collectively address worker safety, health, and well-being. The first step toward creating safe and healthy workplaces is using the [hierarchy of controls](#). Using this approach to prevent exposures to substances that cause lung cancer includes addressing carcinogens used in work processes and tobacco smoke—which NIOSH recommends be eliminated from all workplaces through smoke-free workplace policies. NIOSH also recommends that employers provide cessation support for their employees who continue to use tobacco products [4].

NIOSH recognizes the importance of increasing awareness of lung cancer and learning how to prevent it. We must not settle for anything less than returning lung cancer to being “one of the rarest forms of cancer.”

References

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2. Loomis D, Guha N, Hall AL, Straif K [2018]. [Identifying occupational carcinogens: an update from the IARC Monographs](#). *Occupational and environmental medicine*, 75(8):593–603.
3. Steenland K, Loomis D, Shy C, Simonsen N [1996]. [Review of occupational lung carcinogens](#). *American journal of industrial medicine*, 29(5):474–490.
4. NIOSH [2015]. [Promoting health and preventing disease and injury through workplace tobacco policies](#). DHHS (NIOSH) Publication No. 2015-113.

Research Rounds

Inside NIOSH: Laboratory Study Evaluates Toxicity of Products With Silver Nanoparticles

If you have shopped online recently, you may have seen advertisements for sprays containing tiny pieces, or nanoparticles, of silver—the same metal used in jewelry, silverware, and other goods. Although some health experts warn of potential harmful effects of these products, they are readily available for purchase in the United States.

Intervene in Opioid Use Disorder

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In the workplace, exposure to silver dust and fumes can occur through breathing, ingesting, or contact with skin or eyes. Previous research linked long-term exposure to silver dust and fumes to a bluish-gray discoloration of the skin and eyes, but research is limited about the safety of consumer sprays containing silver nanoparticles.

To explore the effect of silver spray products on living cells, investigators at the U.S. Environmental Protection Agency and NIOSH recently tested five commercially available spray products advertised as dietary supplements, immune-system boosters, or spray disinfectants. They used a specialized imaging technique to produce detailed pictures of the silver nanoparticles and to measure their size in the spray products. Using other techniques, they also identified elements in the nanoparticles and measured the amount of silver in the products.

To simulate the silver's effects on the human gastrointestinal tract, they exposed cultured (living) cells to the nanoparticles and then measured the cellular reactions. Results showed that silver nanoparticles, dissolved silver, and other substances in the products decreased cell survival by 5 to 10 times, depending on the amounts tested. Of additional concern, the product labels did not accurately list how much silver they contained. While three product labels did not list silver as a component, one listed much higher levels of silver than it contained and another listed much lower levels than it contained, according to the investigators' report in the journal *Science of the Total Environment*.

More information is available: [NIOSH Pocket Guide to Chemical Hazards: Silver](#).

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Outside NIOSH:

Using the Workplace to Intervene in Opioid Use Disorder

As the country continues to face the opioid crisis, how can employers join the effort to address this issue? Researchers at the [Center for the Promotion of Health in the New England Workplace](#) suggest in a recent study that changes to the work environment can help reduce opioid use and opioid use disorder (OUD) among workers.

Published in the [American Journal for Public Health](#), the study identified two broad pathways through which work can result in opioid use: 1) work-related pain and discomfort or 2) other work-related stressors. Work-related pain and discomfort can result from a work accident or long-term, repetitive movements. Other work-related stressors include anxiety and depression from unmanageable work demands or job insecurity. The researchers note that employers can intervene in these pathways in different ways to help workers manage pain, reduce injury and stress, or seek assistance. For example, identifying and controlling workplace hazards to reduce initial pain can help workers avoid initial opioid prescriptions. Also, designing return-to-work or stay-at-work plans for injured workers can help prevent permanent disability.

Other recommendations for employers, policy makers, and researchers to help save lives impacted by OUD include strengthening regulatory guidance for employer policies, identifying best practices for employers, and expanding healthcare benefits for pain management and

Highlights

of a number of options. Additionally, using a *Total Worker Health*®

perspective, which recognizes that personal and workplace risk factors

often overlap, can help employers understand how organizations can help

address OUD. While this is an evolving area, researchers suggest more in-depth research to understand the relationship between work and risk for OUD.

NIOSH is participating in two upcoming webinars. Both webinars will be recorded and posted on [CDC's website](#).

More information is available:

- **November 2, 3 p.m.–4 p.m. (ET): Healthy Building Design for Pandemics and Beyond**– NIOSH experts will discuss CDC COVID-19 guidance for building operations (HVAC, etc.) and healthy design guidelines for long-term building design. [Registration](#) is required.
- **November 16, 3 p.m.–4 p.m. (ET): Healthy Workplaces – Tips and Tools for Operating Your Business** – NIOSH experts will discuss CDC COVID-19 guidance for businesses and employers. Topics include considerations for employers in identifying and responding to COVID-19 cases in non-healthcare workplaces to operate their businesses in a safe and healthy manner. [Registration](#) is required.

In Memoriam Dr. Marcus Key, NIOSH Founding Director

NIOSH was saddened by the news that Dr. Marcus Key, the first director of NIOSH passed away on Saturday, October 31. Dr. Key served as director for NIOSH from 1971-1975. He was also the first Director of the NIOSH Educational Research Center at the University of Texas (UT) and mentored many occupational medicine residents during his tenure there. He retired from UT in 1993. Dr. Key's [recommendations for exposure limits to vinyl chloride](#) are noted in the occupational safety and health (OSH) field. He is also remembered for being an active voice and supporter for NIOSH and OSH for decades after he left NIOSH.

New Video on Collecting Industry and Occupation Data Now Available

NIOSH has released a video to help researchers and public health practitioners collect text descriptions of industry and occupation information when completing surveys, infectious disease case reports, and other health-related data. The video addresses the importance of collecting these data in public health datasets. It also discusses best practices for collecting such data. [Watch the video](#) and learn more about industry and occupation data on our [website](#).

NIOSH Expands National Fire Protection Association Partnership

NIOSH has signed an updated partnership agreement to collaborate with the [National Fire Protection Association](#) and the [Fire Protection Research Foundation](#). The activities in the agreement relate to emergency responder protective clothing and equipment, along with the development of standards concerning first responder safety, deployment, operations, and the protection of emergency personnel.

Federal Register Notice on Elastomeric Half Mask Respirators Extended

NIOSH and the Strategic National Stockpile posted an extension to the federal register notice (FRN), [A National Elastomeric Half Mask Respirator \(EHMR\) Strategy for Use in Healthcare Settings During an Infectious Disease Outbreak/Pandemic](#). Through this FRN, NIOSH seeks input about the national distribution plan for EHMRs. NIOSH also looks to identify potential organizations interested in receiving EHMRs with the commitment to provide a user report. EHMRs are reusable respirators that may be worn in a healthcare setting, supplementing the supply of disposable respirators available to healthcare workers. The updated deadline for comments is on December 14. To learn more about how your organization can participate in this effort, please join us for a webinar on November 18th from 1:00-2:00pm (ET). NIOSH will provide an overview of EHMRs, a summary of the FRN, expectations of potential participants, next steps, and answer any questions you may have. Registration for the webinar is [here](#).

WTC Health Program Seeks Nominations for the Scientific/Technical Advisory Committee

The World Trade Center (WTC) Health Program is [requesting nominations](#) for candidates to serve on the [Scientific/Technical Advisory Committee \(STAC\)](#). Appointments to STAC are for up to 4 years. Selection is based on candidates' expertise and qualifications to contribute to the accomplishment of the committee's objectives. Among other tasks, STAC provides recommendations on research, additions to the list of WTC-Related Health Conditions, and eligibility criteria for the WTC Health Program.



NIOSH Congratulates

NIOSH PPE Tracker App Recognized for Plain Language

The [NIOSH PPE Tracker App](#) earned a 2020 ClearMark COVID Category [Award of Distinction](#) at the [Access for All: Plain Language is a Civil Right](#) virtual conference held in October. Congratulations to the developers and others who worked diligently to make the app : Gino Fazio, Jonathan Fritz, John Britton, Matt Young, Greg Cole, Jennifer Tyranski, and Melissa Seaton.

Finalists for International Media Festival for Prevention

Three NIOSH communication products were among the 50 (out of 287 entries) selected as finalists at the International Media Festival for Prevention during the World Congress on Safety and Health at Work. The final award recipients will be announced at the 2021 World Congress in Toronto, September 19-22. The products and team members are as follows:

- [Fishing Safety Success Stories](#) (Theodore Teske, Samantha Case, Devin Lucas, and Jennifer M. Lincoln)
- [Small Business Travel Planner](#) (Donna VanBogaert, Jeanette Novakovich, John Lechlitter, Tony Trucco, Kelly Hinnens, Elizabeth Clements, Vanessa Williams, Kelly Hinnens, Lisa Smith, and Tom Ebert. This site was based on content developed by Casey Chosewood, John Gibbins, Margaret Kitt, Leslie Nickels, John Piacentino, Donna Van Bogaert, and Kristin Yeoman.)
- [EXAMiner](#) (Brianna Eiter, Jonathan Hrica, Jennica Bellanca, William Helfrich, Gregory Cole, Jonathan Fritz, Jason

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New Communication Products & Reports

FACE Report

- [Field Manager Struck By Vehicle in Active Roadway While Taking Depth Measurement—Michigan](#)

Health Hazard Evaluation Report

- [Evaluation of Employee Noise Exposures and Ergonomic Risks During Dental Procedures at a Veterinary Hospital](#) 

Program Performance One-Pagers (PPOP's)


- [Wholesale and Retail Trade Program](#)
- [Surveillance Program](#)
- [Services Program](#)
- [Safe, Skilled, Ready Workforce Program](#)
- [Health Hazard Evaluation Program](#)
- [Cancer, Reproductive, Cardiovascular, and Other Chronic Disease Prevention Program](#)

NIOSH Science Blog

- [Preventing Struck-by Injuries in Construction](#)
- [Manufacturing Day 2020: Staying Safer in 2020](#)
- [Assessing Lifting Risk Factors Using Wearable Motion Sensors](#)
- [Hearing Loss Among Construction Workers: Chemicals Can Make It Worse](#)
- [The Story of a Lead Disaster Averted](#)
- [Introducing an Occupational Health Resource: The Occupational Noise Job Exposure Matrix](#)
- [Recognizing Health Literacy at NIOSH](#)

Federal Register Notice

Advisory Board on Radiation and Worker Health (ABRWH), Subcommittee on Dose Reconstruction Reviews (SDRR), National Institute for Occupational Safety and Health (NIOSH); Meeting

The [notice](#)  was posted on September 21. The meeting will be held on November 4.

Mine Safety and Health Research Advisory Committee (MSHRAC) Meeting

The [notice](#) was posted on September 24. The meeting will be held on November 9.

Solicitation of Nominations for Appointment to the World Trade Center Health Program Scientific/Technical Advisory Committee (STAC)

The [notice](#) was posted on October 28. Nominations must be received by November 20.

Proposed Data Collection Submitted for Public Comment and Recommendations: Online Training for Law Enforcement to Reduce Risks Associated With Shift Work and Long Work Hours

The [notice](#) was posted on October 1. Comments must be received by November 30.

A National Elastomeric Half Mask Respirator (EHMR) Strategy for Use in Healthcare Settings During an Infectious Disease Outbreak/Pandemic

The [notice](#) was posted on September 13. Comments must be received by December 14.

Proposed Data Collection Submitted for Public Comment and Recommendations: Factors Influencing the Transmission of Influenza

The [notice](#) was posted on October 13. Comments must be received by December 14.

Proposed Data Collection Submitted for Public Comment and Recommendations: Blood Lead Surveillance System (BLSS)

The [notice](#) was posted on October 13. Comments must be received by December 14.

National Occupational Research Agenda (NORA)

NORA Construction Sector Council Meeting

The NORA Construction Sector Council will hold its next meeting virtually November 17–18. For those interested in getting involved with the NORA Construction Sector Council, there are four workgroups: COVID-19, Preventing Falls, Preventing Struck-by Injuries/Fatalities, and Work Organization. For more information contact NORACoordinator@cdc.gov.

News from Our Partners

Funding Announcement Published for State Surveillance Program











NIOSH recently published the [funding announcement](#) for the [State Occupational Safety and Health Surveillance Program](#). The deadline to apply for this cooperative agreement is December 16. For more details on this and other NIOSH-funded cooperative agreements, click [here](#).

Free Training for Supervisors of Young Workers in Agriculture


A new [free online training](#) is now available for those who supervise young agricultural workers—developed by the National Children’s Center for Rural and Agricultural Safety and Health (a NIOSH-funded Child Ag Center). This course provides information to protect the safety and health of these workers and is relevant for parents of children who work on family farms, as well as high school agricultural teachers. The training is available in English and Spanish.

Latest News From the NIOSH Construction Center


See these latest happenings from CPWR—The Center for Construction Research and Training, which is the NIOSH-funded National Center for Construction Safety and Health Research and Translation:

- **Updated Opioid Awareness Training Program:** CPWR recently released a revised version of its [Opioid Awareness Training Program](#) , which is part of the center's [increasing collection of materials](#)  to help the construction industry respond to the opioid crisis and mental health issues.
- **New Publication:** [Topics in Construction Safety and Health—Nanomaterials in Construction: An Interdisciplinary Annotated Bibliography](#)  
- **Research Key Findings:**
 - [Associations Between a Safety Prequalification Survey and Worker Safety Experiences on Commercial Construction Sites](#)  
 - [Change in Frontline Supervisors' Safety Leadership Practices After Participating in a Leadership Training Program: Does Company Size Matter?](#)  
 - [Operating Engineers and the OSHA Silica Standard: A Survey of Union Trainers](#)  


New Definitions of Health Literacy Released

The U.S. Department of Health and Human Services (HHS) recently released of [Healthy People 2030](#)  where it provided definitions of *personal* health literacy and *organizational* health literacy. This update emphasizes people's ability to use health information rather than just understand it. The new definitions also acknowledge that organizations have a responsibility to address health literacy. Visit the CDC [Health Literacy webpage](#) for more information and to watch a video on personal, clinical, and organizational health literacy.

ASSP Requests Research Briefs for *Professional Safety Journal*

The American Society of Safety Professionals (ASSP) invites the occupational safety and health research community to share their research by submitting research briefs for inclusion in [Professional Safety](#) , the ASSP monthly journal. The briefs should be 200-400-word summaries of research for the layperson with practical relevance to safety professionals. The research briefs should explain why the research is relevant to practicing safety professionals, as well as provide a citation for the complete study and a link if the article is open access. Questions and submissions should be sent to [Joe Weiss](#).

Call for Abstracts: 6th Biennial D.C. Health Communication Conference

A [call for one-page abstracts](#)  is out for the 6th Biennial D.C. Health Communication Conference , *Promoting Equity in Health Communication Research*. The deadline to submit abstracts is December 1.

Conferences, Meetings, Webinars, & Events

This page provides a list of publicly available occupational safety and health related [conferences, meetings, webinars, and events](#) sponsored by NIOSH as well as other government agencies, and nongovernment agencies, such as universities, professional societies, and organizations.

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