

## NIOSH eNews



Director's  
Desk



Research  
Rounds



Highlights



Monthly  
Features

Volume 18, Number 9 (January 2021)

## From the Director's Desk

John Howard, M.D. Director, NIOSH

### NIOSH Looks at 50

This year, we celebrate the 50th anniversary of NIOSH. This provides us with a unique opportunity to reflect, not just on the past year, but the past 50 years, while also looking ahead at what the future holds.

Created by the Occupational Safety and Health (OSH) Act of 1970, NIOSH was established as a separate and independent research program to create objective scientific research findings in the field of occupational safety and health.

One of the major roles of NIOSH over the years has been to adjust our research to the ever-changing workforce. If there is one thing we have learned from 2020, it is just how fast the look and feel of work, the workplace, and the workforce can change.

Throughout the past five decades, NIOSH has expanded its work to include emerging safety and health concerns, addressing both well-known and newly emerging hazards for workers. The 1990s brought about the establishment of the Centers for Agricultural Health and Safety, as well as the transfer of mine safety research to NIOSH after the U.S. Bureau of Mines closed. NIOSH's responsibilities have grown to supporting atomic weapons industry workers with cancer who filed claims for compensation under the Energy Employees



1971

NIOSH

2021

*Science at work for people at work*

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Occupational Illness Compensation Program Act of 2000, as well as responders and survivors of the September 11, 2001, terrorist attacks in New York City, at the Pentagon, and near Shanksville, Pennsylvania.

We continue to respond to the needs of emergency responders and frontline workers who work to protect our nation from natural and manmade threats. This is evident in our current response to the COVID-19 pandemic, as our expertise in personal protective equipment (PPE) has helped to protect frontline workers even as our nation faced an unprecedented demand for PPE. We also leveraged our experience and expertise to provide guidance to employers and workers across multiple sectors as our nation quickly adapted to how and where we work.

Looking back at the past fifty years, since the passage of the OSH Act, NIOSH has grown and expanded throughout the United States. We now have facilities and laboratories in seven states and the District of Columbia, with a staff of nearly 2,000 researchers, support staff, and contractors. It is a testament to NIOSH's strong foundation in science and commitment to the health and safety of our nation's workers that we have become the organization we are today. As we look to the future, NIOSH is committed to continuing to grow and adapt to changes in work, the workplace, and the workforce.

As part of the NIOSH 50th anniversary, we welcome our current and past partners to highlight successes and accomplishments that resulted from collaborations with our Institute. Please contact us at [nioshnews@cdc.gov](mailto:nioshnews@cdc.gov) if you would like to join NIOSH in recognizing five decades of improving the occupational safety and health of workers and transferring new knowledge into practice.

## Toxicity

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- [New Respiratory Webpages Available](#)
- [NIOSH Extramural Research and Training Program Annual Report Released](#)
- [NIOSH Crystalline Silica Topic Page Update](#)
- [NIOSH Joins Partners for the Mask Innovation Challenge](#)

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
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## Research Rounds

For the NIOSH 50th Anniversary, please enjoy this limited time series of "NIOSH Now" and "NIOSH Then" where we look back at research efforts inside and outside of NIOSH from the past 50 years.

## NIOSH Now:

### Lack of Awareness Delays Diagnosis and Treatment of Common Lung Infection

Diagnosis and treatment of a common, often work-related lung infection are delayed by lack of public awareness, according to research published in the journal [Open Forum Infectious Diseases](#) .

Histoplasmosis is caused by a fungus found in soil that has been heavily contaminated with bird or bat droppings. In the United States, the fungus is most common in the central and eastern states. During construction, manufacturing, farming, or other activities, the fungal spores may become airborne and can be breathed in, potentially infecting the lungs.

Histoplasmosis may be mild or severe enough to require antibiotics or hospitalization. Yet, the general public knows little about it. Researchers still need to learn more about its severity and long-term effects, and how people are exposed to histoplasmosis spores.

To learn more, researchers studied 301 patients diagnosed with histoplasmosis identified by state or local public health departments in nine states (Arkansas, Indiana, Kentucky, Louisiana, Michigan, Minnesota, Nebraska, Pennsylvania, and Wisconsin). During 2018–2019, researchers interviewed these study participants about their diagnosis, treatment, and possible work-related or other exposures.

Researcher found that people working in construction and agriculture were at higher risk than other workers, probably because these jobs often involve outdoor work where soil is disturbed. More than half of the participants reported seeing a healthcare provider three or more times before being tested for histoplasmosis. On average, 23 days elapsed between seeing a healthcare provider and diagnosis. Nearly all participants said they had never heard of histoplasmosis before becoming ill, highlighting the need to increase awareness among both healthcare providers and the public to prevent delays in diagnosis and treatment.

More information is available:

- [NIOSH: Histoplasmosis—Protecting Workers at Risk](#)
- [CDC: Histoplasmosis](#)

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## NIOSH Then:

### Early Steps Toward Integrating Workplace Safety and Health: Origins of *Total Worker Health*<sup>®</sup>

Have you ever wondered about the origins of the NIOSH *Total Worker Health*<sup>®</sup> Program? The original concept can be traced back to 1984, when NIOSH published a report “NIOSH program plan by program areas for fiscal years 1984-89,” which concluded that addressing worksite occupational safety and health and worksite health promotion simultaneously would foster a synergistic effect for prevention and improve worker safety and health through comprehensive risk reduction. Since then, NIOSH has taken several concrete steps towards building the evidence base for integrated approaches to improve worker safety and health.

In 2004, NIOSH took a very large step forward in fostering more research in this area when it hosted the *Steps to a Healthier US Workforce Symposium* and commissioned a whitepaper to present the rationale and evidence for using integrated approaches for improving worker safety and health. The resulting whitepaper, *Steps to a Healthier US Workforce: Integrating Occupational Health and Safety and Worksite Health Promotion: State of the Science*, was one critical step in building the case for using integrated approaches to improve worker well-being.

The goal of the paper was to promote discussion and increase communication between the fields of occupational safety and health and worksite health promotion. The authors, based at the Harvard School of Public Health, reviewed existing data on the fields of occupational safety interventions and worksite health promotion interventions. The whitepaper describes both fields, identifies common goals, and suggests areas for coordination. The authors then reviewed the initial emerging evidence for integrated interventions that target the two fields together.

Previously, occupational safety and worksite health promotion

interventions were often siloed efforts. The decision to integrate them centered on the potential for improving results if these two areas were

coordinated. By examining the evidence, the authors found research gaps

and made recommendations for further research. These

As part of NIOSH's efforts to keep our stakeholders up to date on the CDC and NIOSH COVID-19 response, here is a summary of new information available.

recommendations later influenced the agenda for integrating occupational safety and health and worksite health promotion and the program that is

now known as Total Worker Health<sup>™</sup>

- **Ventilation in Buildings:** A new webpage on [Ventilation in Buildings](#) is available to provide information about building ventilation. The webpage has ventilation interventions that can help reduce the concentration of virus particles, such as SARS-CoV-2, in the air. A list of frequently asked questions (FAQs) about building ventilation is also located on the new webpage.
- **The Research Compendium: The NIOSH Total Worker Health<sup>™</sup> Program: Seminal Research Papers 2012**
- **Wildland Firefighting and COVID-19 Infographic Series:** A new infographic series is available on the [FAQs and Communication Resources for Wildland Firefighters](#) webpage. The printable posters include how various topics, such as camps, travel assignments, and smoke exposure, relate to COVID-19.
- **NIOSH Initiatives That Led to “Total Worker Health”**
- **General Business Frequently Asked Questions:** CDC recently updated their [General Business FAQs](#) webpage about reducing the spread of COVID-19. The updated recommendations reflect new scientific evidence, evolving

## Highlights

### COVID-19 Update

epidemiology, and the need to simplify the assessment of risk.

### **Prevent Struck-by Incidents at Crash Scenes**

A new NIOSH infographic [Prevent Struck-by Incidents at Crash Scenes](#) provides injury prevention recommendations for law enforcement officers. Officers can [lower their risk](#) of being struck by a passing car while outside their patrol vehicles. Find more information in the [NIOSH law enforcement motor vehicle resources](#) webpage.

### **New Report on Carbon Nanotubes and Nanofibers Toxicity**

A recent [report](#) published by NIOSH researchers and colleagues highlights the results from a NIOSH-funded project on carbon nanotubes and nanofibers (CNT/F). This important research will help inform guidance for the responsible handling and commercialization of CNT/F produced or used in U.S. facilities.

### **New Report on Filtering Facepiece Respirators**

A [new NIOSH technical report](#) provides recommendations on the use of filtering facepiece respirators (FFRs) with an exhalation valve. The findings in this report show that FFRs with an exhalation valve can reduce particle emissions to levels similar to or better than those provided by surgical masks, procedure masks, or cloth face coverings. Further, adding an electrocardiogram pad or surgical tape over the valve from the inside can provide source control similar to that of an FFR with no exhalation valve. These findings have important implications for guidance on source control and mitigation.

### **New Respiratory Webpages Available**

NIOSH has published two new webpages related to respiratory protection activities:

- [Elastomeric Half Mask Respirator Resources](#) – This webpage summarizes NIOSH elastomeric half mask respirator (EHMR) research studies and provides links to NIOSH resources and other relevant published material about EHMRs.
- [Respirator Exhalation Valve Research](#) – This webpage provides an overview of NIOSH research studies about the potential for respirators with exhalation valves to contribute to source control—i.e., their ability to filter respiratory secretions to prevent disease transmission to others.

### **NIOSH Extramural Research and Training Program Annual Report Released**

The [FY2019 NIOSH Extramural Research and Training Program Annual Report](#) is now available. This publication shows how NIOSH invested in its multidisciplinary centers, investigator-initiated research projects, and cooperative research agreements. It also reports on NIOSH training project grants, state surveillance programs, small business innovation research, and the World Trade Center Health Program's extramural portfolio of cooperative agreements. For the latest information on NIOSH-funded extramural activities, visit the [NIOSH Extramural Research and Training Programs webpage](#).

### **NIOSH Crystalline Silica Topic Page Update**

Work exposures to silica dust can cause serious lung diseases including silicosis and lung cancer. The updated [Silica topic page](#) provides easy-to-navigate information and resources for workers, employers, and safety and health professionals. These include ways to minimize crystalline silica exposures at work and prevent related health outcomes through medical monitoring, engineering controls, and safe work practices.

### **NIOSH Joins Partners for the Mask Innovation Challenge**

NIOSH is partnering to launch the [Mask Innovation Challenge: Building Tomorrow's Mask](#). The Challenge is an initiative that aims to support the development of innovative masks for use by the general public for protection against respiratory pathogens. The Mask Innovation Challenge is not connected with the activities of the NIOSH respirator approval program. The group is soliciting input on the judging criteria and testing methodology, as well as identifying potential stakeholders interested in supporting the challenge. Interested parties should submit responses to [DRIVEComments@hhs.gov](mailto:DRIVEComments@hhs.gov) by 5 p.m. EST on January 15 for consideration.

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# Monthly Features

## New Communication Products & Reports

### FACE Report

- [Crab Fishing Vessel Capsizes and One Crew Member Drowns—Oregon](#)

### Case Notes

- [Hot Filling Hazards With SCBA Air Cylinders](#)

### Program Performance One-Pagers

- [Agriculture, Forestry, and Fishing Program](#)
- [Respiratory Health Program](#)
- [Immune, Infectious, and Dermal Disease Prevention Program](#)
- [Public Safety Program](#)

### Reports

- [Filtering Facepiece Respirators With an Exhalation Valve: Measurements of Filtration Efficiency to Evaluate Their Potential for Source Control](#)
- [FY2019 NIOSH Extramural Research and Training Program Annual Report](#)

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## NIOSH Science Blog

- [Millersville University Students Support NIOSH Research](#)
- [Computer Vision Development for Estimating Trunk Angles](#)
- [Preventing Needlesticks and Sharps Injuries: Reflecting on the 20th Anniversary of the Needlestick Safety and Prevention Act](#)
- [Exoskeletons and Occupational Health Equity](#)
- [Celebrating Nurses](#)
- [Lighting Interventions to Reduce Circadian Disruption in Rotating Shift Workers](#)

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## Federal Register Notice

**Advisory Board on Radiation and Worker Health (ABRWH), Subcommittee for Procedure Reviews (SPR), National Institute for Occupational Safety and Health (NIOSH)**

The [notice](#) was posted on December 23. Comments must be received by February 11. The meeting will be held on February 18.

### **Proposed Data Collection Submitted for Public Comment and Recommendations: “Examining Safety and Health Among Aviation Industry Workers in Alaska: A Survey”**

The [notice](#) was posted on December 18. Comments must be received by February 16.

### **Advisory Board on Radiation and Worker Health (ABRWH), National Institute for Occupational Safety and Health (NIOSH)**

The [notice](#) was posted on December 23. Comments must be received by February 17. The meeting will be held on February 24.

### **Advisory Board on Radiation and Worker Health (ABRWH), Subcommittee on Dose Reconstruction Review (SDRR), National Institute for Occupational Safety and Health (NIOSH)**

The [notice](#) was posted on December 23. Comments must be received by February 18. The meeting will be held on February 25.

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## News from Our Partners

### **Preliminary Findings Reported From Washington’s Janitorial Workload Study**

A recent [report](#) on the progress of a four-year janitorial workload study is now available. The study characterizes hazards that janitors face on the job that lead to injury, illness, and workplace mistreatment. Washington State’s Department of Labor and Industries is conducting this research through its Safety and Health Assessment and Research for Prevention (SHARP) Program. Washington’s SHARP program also leads a NIOSH-funded [State-based Occupational Safety and Health Surveillance Program](#).

### **New Construction Research Key Findings**

CPWR—The Center for Construction Research and Training has new publications available:

- [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](#)  

CPWR is the NIOSH-funded [National Center for Construction Safety and Health Research and Translation](#).

### **Small Study Grant Funding Available**

CPWR—The Center for Construction Research and Training is offering up to \$30,000 in funding through its [Small Study Program](#). This program supports promising new research initiatives on improving construction safety and health, focusing on studies that plan to work with and/or target small employers, which are those with 19 employees or fewer. The Small Study Program is funded as part of CPWR’s [cooperative agreement](#) with NIOSH.



### **New Publication on the Future of Research in *Total Worker Health***

See the latest journal [article](#) from the Harvard T.H. Chan School of Public Health Center for Work, Health, and Well-being—one of six NIOSH-funded [Centers of Excellence for \*Total Worker Health\*](#). The publication, titled *The Future Of*

*Research On Work, Safety, Health And Wellbeing: A Guiding Conceptual Framework*, focuses on research needs and methods to study the future of work.

### 2021 Industrial Hygiene and Ergonomics Webinar Series

The NIOSH-funded [Education and Research Centers \(ERCs\)](#) is kicking off its 2021 Industrial Hygiene and Human Factors and Ergonomics Webinar Series. These two series offer free monthly webinars on occupational safety and health, as well as topics related to human factors and ergonomics. Visit the [webinar webpage](#) [↗](#) for more information.

### CDC Public Health Associate Program Seeks Host Sites

The CDC Public Health Associate Program (PHAP) is accepting host site applications through February 16, 2021. PHAP is seeking host sites that can host an associate from October 2021 through October 2023. PHAP relies on its partnerships with public health agencies and tribal and nongovernmental organizations to serve as host sites for public health associates. These relationships are vital to the development of our nation's next generation of public health professionals, and the benefits to host sites are invaluable. Learn more on the [PHAP webpage](#).

### Occupational and Environmental Health: At the Crossroads of Migrations, Empires, and Social Movements Webinar

The International Commission on Occupational Health is hosting a webinar to continue engagement around the postponed 7th International Conference, which was supposed to take place in Durban, South Africa, in May 2020. Participation in the webinar is free, but [preregistration](#) [↗](#) is required.

### Call for Proposals

- *Agricultural Safety & Health Council of America (ASHCA) Safety Awards*  
Call for nominations of individuals, collaborations, groups and organizations who have made significant contributions to the advancement of worker health and safety. The deadline to [submit nominations](#) [↗](#) is January 6.
- *Agricultural Safety & Health Council of America (ASHCA) Safety Summit*  
Call for [abstracts](#). [↗](#) The deadline to submit abstracts is January 15.
- *31st Annual Art & Science of Health Promotion Conference*  
The deadline to [submit proposals](#) [↗](#) is January 31.
- *America Industrial Hygiene Association Conference & Expo 2021 (AIHce)*  
Call for submissions of student posters and presentations along with submissions for short pop-up sessions. The deadline to [submit proposals](#) [↗](#) is March 16.

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## 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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