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The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research / **NIOSH**

NIOSH eNews



Director's Desk



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Update on Coronavirus Disease 2019 (COVID-19) Response

This week CDC published new guidance that offers a series of strategies for optimizing the supply of disposable medical gloves in healthcare settings during three situations: conventional capacity, contingency capacity, and crisis capacity. CDC also published a factsheet for school nutrition professionals and volunteers. Stay up to date on the response on the COVID-19 webpage or sign up for the COVID-19 newsletter.

Volume 18, Number 1 (May 2020)

From the Director's Desk

John Howard, M.D. Director, NIOSH

50 Years of Protecting Workers' Safety and Health

This year marks a milestone for all U.S. workers—50 years since passage of the Occupational Safety and Health Act of 1970 (OSH Act).

The OSH Act created NIOSH to research, educate, and inform about workplace safety and health. It also established the Occupational Safety and Health Administration (OSHA) to issue regulations to make workplaces safer and healthier.

This Act of Congress has been highly successful at saving lives and improving health. Dramatic numbers bear this out:

- In 1970, it is estimated that about 16.9 workers out of every 100,000 died



Photo by Gordon Parks/Library of Congress

In This Issue:

Director's Desk

- [50 Years of Protecting Workers' Safety and Health](#)

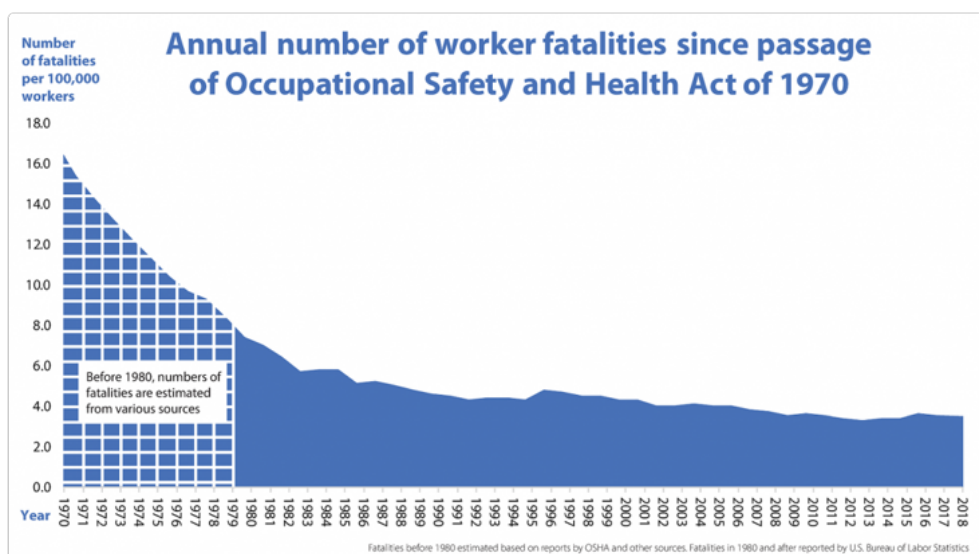
Research Rounds

- [Injuries, Illnesses, and Death](#)

on the job from a wide range of preventable incidents.¹ In 2018, according to the most recent data posted by the U.S. Bureau of Labor Statistics, that number fell to 3.5 per 100,000 workers who died from injuries on the job.² Since 1970, the annual number of worker deaths from injury dropped by close to four-fifths, and the U.S. work force has more than doubled.

- The rate of reported serious workplace injuries and illnesses dropped from 11 per 100 workers in 1972 to 3.1 per 100 workers in 2018, a nearly three-quarter decline.¹

Although other factors, such as changes in technology or shifts in employment across industry sectors may have also played a role, the OSH Act clearly has helped make workplaces safer and healthier (as shown in the chart below).



After the passage of the Occupational Safety and Health Act of 1970, the rate of fatalities per 100,000 workers declined rapidly during the 1970s and has continued a gradual decline since then. Data on fatalities from U.S. Bureau of Labor Statistics (BLS), fatality data from the 1970s based on reports from BLS and OSHA and estimations, and labor force data from the 1970s from the U.S. Census.

 [View Larger](#)

NIOSH, in carrying out its mission of developing new knowledge and transferring it into practice, has played and continues to play, a vital role to support the changes called for by the OSH Act.

To mark 50 years of the OSH Act, NIOSH is including a special chapter in its annual *NIOSH Bibliography of Communication and Research Products 2019*. This chapter explores the decades of worker tragedies and government responses that preceded the OSH Act.

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Some of the workplace disasters occurred in a flash of fire and unyielding pressure, such as the many explosions that ripped apart both workplaces and the lives of worker in the 20th Century. Others were just as deadly, but slow and insidious, involving illnesses that developed over years or decades.

One unifying theme links all these tragedies—all could have been prevented. Had precautions been taken to make workplaces safer and healthier, workers and their families would have been spared grief and hardship, and their employers would have avoided the profound costs they incurred with each occurrence.


Besides establishing NIOSH and OSHA, the OSH Act set a sweeping goal. In section 2(b) it stated that the law existed “... to assure as far as possible every working man and woman in the Nation safe and healthful working conditions ...”

The OSH Act recognizes the importance of research and setting standards for workplaces. It safeguards the interests of both employers and employees by making rules using public notice and commenting. It prescribes a process for workplace inspections and sets up a system to enforce rules.

We will never know for sure who is alive and healthy today thanks to the focus on occupational safety and health that the OSH Act establishes. But we can look forward with hope, knowing that countless dedicated health and safety professionals will tirelessly work to make sure that future generations of workers can earn a living in safer and healthier workplaces.

Read more about the Act in my annual Workers Memorial Day statement in the [NIOSH Science Blog](#).

References

1. OSHA 2010. *Timeline* | Occupational Safety and Health Administration. Date accessed: April 17, 2020.
2. Bureau of Labor Statistics. Table 1. *Fatal occupational injuries counts and rates by selected demographic characteristics, 2017–18*. Department of Labor, Washington, DC, December 19, 2019, <https://www.bls.gov/news.release/cfoi.t01.htm> . Date accessed: April 17, 2020.

Research Rounds

Inside NIOSH: Injuries, Illnesses, and Death in Wholesale and Retail Sector

More than 20 million workers are employed in wholesale and retail jobs. The vast size of the workforce means that even a small rate of injury or illness can affect large numbers of workers. In 2016, wholesale and retail workers experienced more than half-a-million injuries and illnesses and more than 450 deaths.

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With scarce information on safety and health risks in retail and wholesale, NIOSH investigators reviewed Bureau of Labor Statistics fatal and nonfatal injuries and illnesses records in this sector from 2006 through 2016 to identify fatal and nonfatal injury and illness cases and incidence rates in the WRT sectors and in high-risk subsectors that pose an elevated health and safety risk. They found a 5% higher burden of nonfatal injuries and illnesses when compared to private industry, according to the study in the American Journal of Industrial Medicine. In wholesale, high rates of nonfatal injuries and illnesses occurred in durable and nondurable goods, recycling, motor parts, lumber, metal and mineral, grocery, and alcohol merchants. In retail, high rates occurred in motor parts dealers, gasoline stations, non-brick-and-mortar stores, tire dealers, home and garden centers, supermarkets, meat markets, warehouse clubs, pet stores, and fuel dealers.

During this same time, wholesale workers' death rates exceeded private industry rates and both exceeded rates for retail. Transportation incidents accounted for the most deaths among wholesale workers, while violence accounted for the most deaths among retail workers.

Nonfatal injuries and illnesses in wholesale and retail affect large numbers of workers, their families, employers, communities, and society. Any death or serious nonfatal injury or illness can have significant effects for workers and employers.

More information is available:


- [NIOSH Program Portfolio: Wholesale and Retail Trade](#)
 - [NIOSH Productive Aging and Work](#)
 - [NIOSH Ergonomics and Musculoskeletal Disorders](#)
-

Outside NIOSH:

Many Work-related Hazards Affect Construction Apprentices' Safety and Health

Construction workers face many hazards when it comes to work organization and environment. These hazards include work-related injuries and high rates of prescription pain medication use, which can increase the risk for opioid misuse and overdose. As technology and work environments change, these hazards become more complex. NIOSH-funded researchers at the Healthier Workforce Center of the Midwest recently investigated how work organization and environment affect safety and health among construction apprentices.


Researchers analyzed 929 surveys completed by male apprentice construction workers, with an average age of 28 years, attending training classes offered by two apprenticeship programs in Missouri. The surveys focused on five main results: missed work due to work-related injury, missed work due to any pain or injury, workability (or ability to work at an optimal level), health-related productivity (or the effect of health problems on the ability to work and perform regular activities), and prescription medication use for pain.

Results show that work organization and environmental factors (including supervisor support, job strain, and coworkers' safety behaviors) were associated with missed workdays, health-related productivity, and prescription medication use for pain. For example, workers with high job strain were roughly twice as likely as workers without high strain to experience all five health conditions, according to the study in the [American Journal of Industrial Medicine](#) .

Additionally, greater pain medication use, missed days due to work injury, and missed days from all injury or pain were all associated with precarious work (insecure or irregular work). Associations also emerged between the use of prescribed medication for pain and lower coworker support for safety, precarious work, and high job strain. This may help provide insight into opioid use risk factors among construction workers. The study highlights the potential benefit of improving work policies and environment beyond basic safety measures to improve the well-being of construction workers.

Highlights

Celebrating 18 Years of eNews!

This month NIOSH eNews turns 18! When eNews was [first](#)  launched back in May of 2003 it was designed to be a direct communication link between NIOSH and the occupational safety and health (OSH) community. Over the years NIOSH has continued to use this channel to share with our readers our newest research, findings, and initiatives. Eighteen years later we are still dedicated to being a direct communication link to the OSH community—not just in the United States, but around the world. We are always looking for new story ideas and ideas on better ways to connect with our audience. If you have any feedback, please reach out to us at nioshenews@cdc.gov.

- [NIOSH Total Worker Health® Program](#)
- [NIOSH Construction Program](#)
- [NIOSH Centers of Excellence for Total Worker Health®](#)



NIOSH Director Releases Workers Memorial Day Statement

Each year on April 28, [Workers Memorial Day](#) commemorates workers who have died or become ill or injured due to hazardous exposures in the workplace. Read more on the NIOSH commemoration in NIOSH Director Dr. John Howard's [annual statement](#).

Interim Final Rule Published on Approval Tests and Standards for Air-purifying Particulate Respirators

NIOSH [recently announced](#) the publication of an [interim final rule](#) [↗](#) to update the regulatory requirements used by NIOSH to test and approve air-purifying particulate respirators (PAPR) for use in the ongoing pandemic. This rulemaking allows for the approval of a new class of PAPRs that may be better suited to the needs of workers in the healthcare and public safety sectors who need protection against COVID-19.

NIOSH Announces the Center for Work and Fatigue Research

NIOSH is pleased to announce the launch of the Center for Work and Fatigue Research. The Center will focus on industry-specific activities to address workplace fatigue. Dr. Imelda Wong will serve as the Coordinator for the new Center. Contact [Dr. Wong](#) for more information or check back for more information later this year in the eNews Director's column.

Now Accepting Nominations for the 2021 Safe-in-Sound Excellence in Hearing Loss Prevention Awards™

Nominations [will be accepted](#) [↗](#) for the 2021 Safe-in-Sound Excellence in Hearing Loss Prevention Award™ until June 8 when nominating others, and until July 15 for self-nominations. The award strives to recognize organizations at the forefront of exceptional hearing loss prevention and conservation practices. The award is given by NIOSH in partnership with the National Hearing Conservation Association and the Council for Accreditation in Occupational Hearing Conservation.

Review Looks at Types of PPE to Best Protect Healthcare Workers

Healthcare workers treating patients with highly infectious diseases, such as [COVID-19](#), are at risk of infection from the bodily fluids of their patients. They use personal protective equipment (PPE) to protect themselves from infected patients and contaminated surfaces. This recently released [Cochrane Review](#) [↗](#), coauthored by a NIOSH researcher, looks at what types of PPE give healthcare workers the best protection. It also examines how different methods of donning and doffing, adherence to PPE guidance, and training reduce contamination.

New International Collaboration to Improve Worker Safety and Health

NIOSH, the [UK Health and Safety Executive](#) [↗](#), and the [Netherlands Organisation for Applied Scientific Research](#) [↗](#) recently signed a partnership agreement formalizing their intention to engage in research endeavors. This research aims to improve worker safety and health by exploring the lifetime environmental exposures to potential hazards (the working life exposome) and how such exposures affect worker health and safety. Planned research activities include assessing the performance and applicability of emerging particulate matter sensor systems to improve exposure monitoring in the workplace, exploring methods to monitor for early biomarkers of illness and injury, collecting comprehensive exposure information, developing better indicators of exposure and related outcomes, and measuring the effects of multiple lifetime risks on worker safety and health. Research findings from activities pursued under this agreement will increase and advance the evidence-base needed to promote best practices, improve the health and safety systems, and ensure a healthy, productive workforce worldwide.

Monthly Features

New Communication Products & Reports

FACE Reports

- [Farmer Run Over by Tractor During Idle Adjustment—Michigan](#)
- [Worker Crushed Under Car that Dislodged From Tow Straps—Michigan](#)
- [Ranch Hand Dies After Being Kicked by a Horse—Massachusetts](#)
- [Farm Mechanic Died After Torch Cutting Explosion—Oregon](#)
- [A Laborer Dies when He is Pulled Into a Tree Stump Grinder—California](#)
- [Farmer Pinned Under Driver's Side Front Tire of a Front-end Loader—Michigan](#)
- [Equipment Operator Fatally Crushed by the Bucket of a Front-end Loader at a Scrap Yard—New York](#)
- [Skid-Steer Operator Crushed while Controlling the Skid-steer From Outside the Cab—Oregon](#)
- [Rubber Equipment Operator Died After His Head Was Caught Between Bars of Operating Machinery—Oregon](#)
- [Roofer Falls From Roof Edge when He Stepped on Insulation Overhang—Michigan](#)
- [Laborer Dies while Clearing Snow After a Blizzard—Massachusetts](#)
- [An 18-Year-Old Laborer Dies when Pulled Into a Clay Molding Machine \(Pug Mill\) —California](#)
- [A Grocery Worker Died when He Slipped and Fell Off a Ladder at a Grocery Market—California](#)
- [Logger Killed by Falling Tree—Michigan](#)
- [Construction Laborer Died in Trench Wall Collapse—Michigan](#)
- [IT Consultant Dies on Kentucky Interstate in Single Vehicle Collision—Kentucky](#)

Health Hazard Evaluation Reports

- [Evaluation of Rhabdomyolysis and Heat Stroke in Structural Firefighter Cadets !\[\]\(c8dce68b26731c7aa5915072fc9d68dd_img.jpg\)](#)
- [Evaluation of Low Frequency Noise, Infrasound, and Health Symptoms at an Administrative Building and Homeless Shelter !\[\]\(76b3245de86167eba9fcdc9cc9f32aa4_img.jpg\)](#)

Mining Publications


- [Assessing the Impact of Safety Climate Constructs on Worker Performance in the Mining Industry](#)
- [Technology News 563 – Hazard Recognition Training Tool Allows Mineworkers to Perform Virtual Workplace Examination](#)

NIOSH Science Blog

- [The Need for Fit Testing During Emerging Infectious Disease Outbreaks](#)
- [Managing Fatigue During Times of Crisis: Guidance for Nurses, Managers, and Other Healthcare Workers](#)
- [NIOSH Encourages Worker Well-being Research](#)
- [Respiratory Protection During Outbreaks: Respirators Versus Surgical Masks](#)
- [Summary of Recommendations from the Fire Fighter Fatality Investigation and Prevention Program from 2006–2014](#)
- [NIOSH Ventilated Headboard Provides Solution to Patient Isolation During an Epidemic](#)
- [Understanding the Use of Imported Non-NIOSH-Approved Respirators](#)
- [Work-related Low-back Injury and Increased Rate of Death](#)
- [Work-related Fatigue Reaches Beyond the Workplace](#)
- [Workers Memorial Day, 2020: NIOSH Director John Howard, M.D., Reflects on the State of Worker Safety and Health](#)

Federal Register Notice


Coal Workers' Health Surveillance Program: B Reader Decertification and Autopsy Payment

The [notice](#)  was posted on February 14. Comments must be received by May 14.

Board of Scientific Counselors, National Institute for Occupational Safety and Health, National Firefighter Registry Subcommittee Meeting

The [notice](#)  was posted on April 7. The meeting will be held on May 15 from 10 a.m. to 5 p.m. (EDT).


World Trade Center Health Program Research Agenda; Request for Information

The [notice](#)  was posted on April 16. Comments must be received by June 1.

Proposed Data Collection Submitted for Public Comment and Recommendations—The National Firefighter Registry (NFR).

The [notice](#)  was posted on April 27. Comments must be received by June 26.

Developing a Workplace Supported Recovery Program: A Strategy for Assisting Workers and Employers with the Nation's Opioid and Substance Use Disorder Epidemics; Request for Information

The [notice](#)  was posted on April 13. Comments must be received by July 27.

Approval Tests and Standards for Air-Purifying Particulate Respirators

The [notice](#)  was posted on April 14. Comments must be received by August 12.

Research Project to Evaluate and Control Hazards to Landscaping and Grounds Management Workers; Request for Participants


The [notice](#)  was posted on January 10. Letters of interest must be received by October 16.

National Occupational Research Agenda (NORA)

Emergency Medical Service (EMS) Sustainability Meetings


The NORA Public Safety Sector Council is now holding EMS sustainability meetings every other Thursday at 11:00 a.m. (EDT) via Zoom (meetings are 30 to 60 minutes). The target audience for these meetings are organizations that provide emergency medical services. Topics and speakers are selected based on the emerging challenges facing these organizations. Previous meetings have focused on decontamination protocols for ambulances, PPE, and other station-based protocols, and mental health management. The next meeting is May 14. To attend, email Susan Moore at SMMoore@cdc.gov.

FY 2019 Highlights Report


A new report, [National Occupational Research Agenda \(NORA\) Councils: FY 2019 Highlights](#) , showcases the work of the 17 NORA sector and cross-sector councils from October 2018 through September 2019. Councils published research agendas, engaged in information sharing, developed partnerships, and promoted evidence-based solutions.

News from Our Partners


OSHA Announces Interim Plan to Protect Workers during the Coronavirus Pandemic

OSHA recently announced an [interim enforcement response plan](#)  to protect American workers during the coronavirus pandemic. The plan provides instructions and guidance to OSHA area offices and compliance safety and health officers for handling coronavirus-related complaints, referrals, and severe illness reports.



NIOSH-supported SHARP Program Recognized by APHA

The American Public Health Association (APHA) recently honored the [Safety & Health Assessment & Research for Prevention \(SHARP\) Program](#)  with the 2019 Institutional Public Service Award. This honor recognizes organizations “with contributions and achievements that have a significant and long-term impact on the field of injury/violence prevention and control.” SHARP, which is a part of Washington State’s Department of Labor & Industries, is a NIOSH-funded [state surveillance program](#).

Asthma Prevalence Among New Hampshire Workers


A new [report](#)  from the New Hampshire Occupational Health Surveillance Program highlights the prevalence of asthma among workers in the state by industry and occupation. Among the various reported findings is a data analysis of the New Hampshire Behavioral Risk Factor Surveillance System survey for 2014–2016. The analysis found a significantly higher percentage of working adults with current asthma employed in accommodation and food services. The New Hampshire Occupational Health Surveillance Program is a NIOSH-funded [state surveillance program](#).

CPWR Launches New Data Bulletin

CPWR—The Center for Construction Research and Training has released a new [Data Bulletin](#)   that replaces the Quarterly Data Reports, previously published by CPWR, to provide more timely data and better service to stakeholders. It will also be published more frequently—six rather than four times per year. This issue focuses on health insurance coverage for construction workers. CPWR is the NIOSH-supported [National Construction Center](#).

Webinars, Meetings & Conferences

Upcoming Webinars

[Factors to Consider When Planning to Purchase Respirators from Another Country, Including KN95 Respirators from China](#) 

May 7, 1:00 p.m. (EDT).

Upcoming Meetings

NORA Public Safety Sector Council Meeting

July 29, 11 a.m.–2 p.m. (EDT). Contact [Tyler Quinn](#) for more information.

Upcoming Conferences

[World Health Organization Health for All Film Festival](#) 

May 16–22, Geneva, Switzerland

[American Industrial Hygiene Conference & Exposition](#) 

June 1–3, Atlanta, Georgia

[VPPPA Safety Conference](#) 

July 20–24, Mount Pocono, Pennsylvania

[National Conference on Health Communication, Marketing & Media](#)

August 10–12, Atlanta, Georgia

[Clarity International Conference](#) 

September 30–October 2, Washington, DC

[XXII World Congress on Safety and Health at Work](#) 

October 4–7, Toronto, Canada

[International Media Festival for Prevention](#) 

October 4–7, Toronto, Canada

[American Public Health Association Conference](#) 

October 24–28, San Francisco, California

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