






The National Institute for Occupational Safety and Health (NIOSH)


Promoting productive workplaces through safety and health research 


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 **Director's Desk**

 **Research Rounds**

 **Highlights**

 **Monthly Features**

Volume 21, Number 3 (July 2023)

From the Director's Desk

John Howard, M.D., Director, NIOSH

What We Know About Suicides Among First Responders

First responders are key to protecting public safety and health. Law enforcement officers, firefighters, and emergency medical services clinicians respond to both emergency and nonemergency calls, often risking their own lives to help those in need. Public safety telecommunicators (911 dispatchers) are the first to respond when someone calls 911 for help.

While protecting public safety is honorable, it comes with a cost. First responders have unique job stressors that may increase their risk for suicide. Suicides are a major public health problem according to [The Surgeon General's Call to Action to Implement the National Strategy for Suicide Prevention](#).

Stress can be acute (one specific incident) or chronic (a buildup of day-to-day issues). For first responders, stress is linked to an increased risk of mental health problems such as

- hopelessness
- anxiety
- depression
- post-traumatic stress
- suicidal behaviors (thinking or trying to kill oneself)

Based on [data analyzed](#) from the [National Violent Death Reporting System \(NVDRS\)](#), 61,579 suicides occurred during 2015–2017, from states providing data to NVDRS for this period. The analysis, coauthored by NIOSH researchers,



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In This Issue:

Director's Desk

- [What We Know About Suicides Among First Responders](#)

Research Rounds

- [Robot-related Fatalities at Work in the United States, 1992–2017](#)
- [Characterization of Perceived Biohazard Exposures, Personal Protective Equipment, and Training Resources Among a Sample of Formal U.S. Solid Waste Workers: A Pilot Study](#)

Highlights

- [Deadline Extended! 2024 Safe-in-Sound Excellence in Hearing Loss Prevention Award](#)
- [How AI Is Paving the Way Forward for Occupation](#)



provided a glimpse into some of the stressors first responders face. Below are some key takeaways:

- First responders accounted for 676 (or 1%) of reported suicides.
- Among first responders who died by suicide (for whom circumstances were known), the most frequent issues family members, friends, and employers reported were intimate partner, job, or physical health problems.
- Some common risk factors for suicide (history of suicidal thoughts, previous suicide attempt, substance use disorder) were significantly lower among first responders compared with non-first responders.

Information in NVDRS on the circumstances preceding suicide (e.g., job or personal stressors at the time of death) depends on the completeness and quality of reports the information is drawn from. To improve suicide prevention efforts, more research is needed to better understand these stressors and how they relate to suicide and suicidal behaviors among first responders.

To ensure information on suicides among first responders is as complete as possible, in 2020, Congress provided funding to CDC to create a Public Safety Officer Suicide Reporting Module within NVDRS. This new module is funded through the Helping Emergency Responders Overcome (HERO) Act. Implemented as part of the NVDRS data collection effort in January 2022, data from this new module is expected to be released in Fall 2024. The information collected through this expanded effort is expected to better understand suicide deaths among first responders and may inform prevention efforts.

First responders are crucial to ensuring public safety, public health, and national security. We must address the mental health needs of those who are often first to respond to the public’s safety and health.

If you or someone you know is in suicidal crisis or emotional distress and needs support now, call or text 988 or go to 988lifeline.org . They will connect you with a trained crisis counselor who can help. For more information, visit the [988 Suicide and Crisis Lifeline](#) .

Research Rounds

Robot-related Fatalities at Work in the United States, 1992–2017

NIOSH study author: Larry A. Layne

What did this [study](#) find?

Robots have been in the news lately, as artificial intelligence continues its rapid advance, but robots in the workplace are not new. More than 50 years ago, manufacturers began using them in factories. Technological advances, however, mean that today’s robots are more prevalent and vastly different than their predecessors. These days, we often see them working, either completely or partially independently, alongside workers. In this environment, worker safety is a pressing concern, yet little is known about robot-related deaths in the workplace.

How did you do the study?

To understand where robot-related deaths occur in the workplace, this study used records from the Bureau of Labor Statistics Census of Fatal Occupational

[Computerized Coding System](#)

- [Date Announced for Sixth International Fishing Industry Safety and Health Conference](#)
- [Upcoming Webinars](#)

Monthly Features

- [New Communication Products & Reports](#)
- [NIOSH Science Blog](#)
- [Federal Register Notice](#)
- [News From Our Partners](#)
- [NORA](#)
- [Conferences, Meetings, Webinars, & Events](#)

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Injuries. After identifying all robot-related deaths from 1992–2017, I categorized them by worker characteristics, geographic location, type of employer, and type of robot involved.

What did you find?

During the 26 years reviewed, 41 robot-related deaths occurred. Most of the deaths were among male workers, who accounted for 85% of robot-related deaths, and most (29%) were between 35-44 years old. Nearly half (46%) of these robot-related deaths occurred in the Midwest due to the use of robots in motor vehicle manufacturing in Michigan and Ohio. Stationary robots accounted for 83% of the deaths and mobile robots for 17%. More than three fourths of the deaths occurred while the robot was powered to operate on its own, often during maintenance activities performed by the worker.

What are the next steps?

This study highlights the growing challenges of protecting workers who perform tasks with the aid of robots. As robotic technology develops, identifying patterns of death, such as those found in this study, will be a critical part of developing safeguards, including [safety standards](#), to protect workers.

Characterization of Perceived Biohazard Exposures, Personal Protective Equipment, and Training Resources Among a Sample of Formal U.S. Solid Waste Workers: A Pilot Study

Study authors: Aurora B. Le, Abas Shkembi, Anupon Tadee, Anna C. Sturgis, Shawn G. Gibbs, and Richard L. Neitzel, University of Michigan Center for Occupational Health and Safety Engineering

Why is this [study](#) important?

Solid waste workers face potential exposure to work-related health risks, including noise, poor equipment design, physical and vehicular injuries, and chemicals. Other frequent, but overlooked, risks are known as [biohazards](#)—airborne particles, bodily fluids and waste, bloodborne germs, and medical-related waste. However, gaps exist in biohazard training for solid waste workers.

How did you do the study?

We surveyed workers at three solid waste sites in Southeast Michigan: a small business disposal facility, a county-level recycling-exclusive facility, and an industrial-scale facility. Sixty-eight workers aged 18 years and older responded to the written survey. Most (87%) of the respondents were male.

What did you find?

Nearly three quarters of respondents reported a cut within the last year, but only 70% said they reported the injury to their supervisor. Only 28% of respondents reported receiving infection-prevention training within the last year, despite the survey occurring during the fall of 2021—the height of the COVID-19 pandemic.


Additionally, [personal protective equipment \(PPE\)](#) available at each site varied. Safety vests and reflective clothing, steel toe boots, and hard hats were the most common mandatory PPE. Yet, only half of respondents reported using eye and face protection to protect the most common routes of exposure (eyes, nose, and mouth) or hand protection.

What are the next steps?

To protect the health and well-being of solid waste workers, future research is needed and should include more participants from multiple, diverse geographical areas. Also, the effectiveness of biohazard training resources, such as online and hands-on exercises, should be tested.

Highlights

Deadline Extended! 2024 Safe-in-Sound Excellence in Hearing Loss Prevention Award

Self-nominations for the 2024 Safe-in-Sound Excellence in Hearing Loss Prevention Award™ will now be accepted through August 18. [Read](#)  [about the nomination process](#). Winners will be invited to the annual National Hearing Conservation Association (NHCA) Conference, held on February 10, 2024, in Albuquerque, New Mexico. [Email the award coordinator](#) [with your questions](#).

How AI Is Paving the Way Forward for Occupation Computerized Coding System

Check out a recent [GovFuture](#) [podcast](#) featuring NIOSH's Stacey Marovich and Jennifer Cornell. The podcast discusses how public health departments are adopting and using the [NIOSH Industry and Occupation Computerized Coding System \(NIOCCS\)](#) with transformative technologies like artificial intelligence (AI).

Date Announced for Sixth International Fishing Industry Safety and Health Conference

NIOSH, in collaboration with the Food and Agriculture Organization of the United Nations and the Northeast Center for Occupational Health and Safety: Agriculture, Forestry, and Fishing, is pleased to announce the [6th International Fishing Industry Safety and Health Conference \(IFISH 6\)](#) [with abstract and session submission deadlines](#). The conference will be in Rome, Italy, on January 8–12, 2024. IFISH 6 will feature late-breaking science, innovations, and evidence-based solutions for protecting the health and safety of fishing and seafood workers. Learn more about the [conference, including abstract and session submission deadlines](#).

Upcoming Webinars

- ***Measuring Job Quality and the Department of Labor Good Jobs Initiative***

A webinar highlighting the work of the U.S. Department of Labor (DOL) Good Jobs Initiative, along with findings from the Job Quality Measurement Initiative, will be held July 11, 3:00–4:30 p.m. (ET) [via zoom](#) [with abstract and session submission deadlines](#). Speakers will share how NIOSH and its partners are working to advance job quality and workforce equity. Contact [Tim Bushnell](#) for more information.






- ***Foresight Friday Webinar on Preparing OSH for Future Large-scale Disruptions***

[Register](#) [with abstract and session submission deadlines](#) now for the next Foresight Friday Webinar titled “Preparing the Occupational Safety and Health Workforce for Future Disruptions,” taking place July 14, 11 a.m.–12 p.m. (ET). Dr. Jessica Streit, Deputy Director of the NIOSH Office of Research Integration, will discuss ways to better prepare the occupational safety and health (OSH) community to support worker safety, health, and well-being through large-scale threats and crises.

Monthly Features

New Communication Products & Reports

FACE Reports

- [Highway Construction Flagger Dies After Being Struck by Vehicle—Kentucky](#)
- [Project Manager Dies After Falling Through Skylight—Kentucky](#)
- [Roofing Contractor Dies After Falling Through Skylight—Kentucky](#)
- [Town Highway Department Mechanic Crushed when Truck Fell Off Jack Stand—New York](#)
- [Logging Injury Alert—Hooktender Struck by Rolling Log while Preparing to Set Choker—Washington](#)  [with abstract and session submission deadlines](#)
- [Maintenance Coordinator Dies After Falling From Ladder—Washington](#)  [with abstract and session submission deadlines](#) [\(slideshow\)](#)  [with abstract and session submission deadlines](#)
- [Contractor and Laborer Buried in Trench Collapse—Washington](#)  [with abstract and session submission deadlines](#) [\(slideshow\)](#)  [with abstract and session submission deadlines](#)

Fact Sheet

- [Preventing Dump Truck-related Injuries and Deaths During Construction—Guidance for Employers](#)

NIOSH Science Blog

[Sign up](#) to receive updates about new NIOSH Science Blogs delivered directly to your inbox! Below are the blogs from last month:

- [National Safety Month 2023](#)
- [Sharing Quality Information on All Things Related to Hearing: Wiki4WorldHearingDay2023](#)
- [Los cascos para la construcción y las lesiones cerebrales traumáticas relacionadas con el trabajo](#)
- [Tome medidas ahora para prevenir las enfermedades relacionadas con el calor en el trabajo](#)
- [Prevention of Injuries and Fatalities Involving Overturn of Drill Rigs and Other Specialty Equipment for Foundation Construction](#)
- [International Women in Engineering Day](#)
- [Protecting Workers and the Public from Wildfire Smoke](#)

Federal Register Notices

Proposed Data Collection Submitted for Public Comment and Recommendations: Noise Exposures and Hearing Loss in the Oil and Gas Extraction Industry

The [notice](#) was posted on May 12. Comments must be received by July 11.

Proposed Data Collection Submitted for Public Comment and Recommendations: Heat-related Changes in Cognitive Performance

The [notice](#) was posted on June 16. Comments must be received by August 15.

Request for Public Comment on Two Draft Immediately Dangerous to Life or Health (IDLH) Values, for Hydrogen Bromide and Hydrogen Iodide

The [notice](#) was posted on June 22. Comments must be received by August 21.

World Trade Center Health Program; Youth Research Cohort; Request for Information

The [notice](#) was posted on April 26. Comments must be received by August 24.

News from Our Partners

National Safety Council Commemorates MSD Pledge Anniversary

Musculoskeletal disorders, or MSDs, are the most common workplace injury. Last June, the National Safety Council launched the [MSD Pledge](#) to reduce this safety challenge. To commemorate this milestone, the Council’s [MSD Solutions Lab](#) hosted its second annual Workplace Safety Summit: Insights and Actions to Prevent the Most Common Injury on the Job. Dr. John Howard, NIOSH Director, gave the keynote speech. A full report will be published later this year.





Photo credit: University of Minneapolis

In Memoriam: Dr. Susan Gerberich

It is with profound sadness that we share the news [Dr. Susan G. Gerberich](#) , former Director of Midwest Center for Occupational Health and Safety (MCOHS) and Professor Emerita in the Division of Environmental Health Sciences at the University of Minnesota, has passed away. Dr. Gerberich joined the University of Minnesota as faculty in 1980. In 2007, she became the Director of MCOHS, which she led with grace, tenacity, and wisdom, until she retired in 2019. In 1987, Dr. Gerberich developed the original MCOHS injury control training program. She was a pioneer in the field of injury and violence prevention and made incredible contributions to occupational safety and health. Photo right: NIOSH Director Dr. John Howard with Dr Gerberich at 2010 NORA Symposium.

New COVID-19 Data Portal Available

The New Hampshire Occupational Health Surveillance Program has released its new [Data Portal](#) . The program analyzed COVID-19 vaccination and vaccine hesitancy reasons of U.S. workers within demographic categories and work setting (an analog for industry and occupation) at state and national levels. This dashboard allows anyone—researchers and the public alike—a clear view of vaccination distributions of U.S. workers in an easy to use, informative, and intuitive interface.

NORA

Preventing Dump Truck-related Injuries and Deaths During Construction—Guidance for Employers

Members of the Construction Struck-By Prevention workgroup contributed to a new [NIOSH fact sheet on preventing dump truck related injuries](#). Injuries from dump trucks led to the deaths of 809 construction and extraction workers from 2011 to 2020. This fact sheet gives employers and workers ways to recognize and avoid hazards to prevent dump truck-related injuries and deaths at construction sites.

Save the Date! Hearing Loss Prevention NORA Council Hybrid Meeting on July 19

The Hearing Loss Prevention NORA Council is excited to host a hybrid meeting July 19 at 9 a.m. (ET). For more information on in-person or virtual attendance options, please reach out to [Elizabeth Masterson](#).

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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