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Volume 19, Number 5 (September 2021)

## From the Director's Desk

John Howard, M.D. Director, NIOSH

### NIOSH Recognizes International Overdose Awareness Day

On August 31, NIOSH joined workplaces, families, and communities impacted by drug overdose to recognize [International Overdose Awareness Day](#). Observed every year, International Overdose Awareness Day brings attention to and reduces the stigma of substance use disorders (SUDs) and drug-related deaths. The observance also shares the message that deaths from drug overdose are preventable.

However, while overdoses are preventable, they are becoming increasingly common in the workplace. Although the rate of drug use among workers has remained relatively stable, the risk of overdose and death among people who use drugs has not, as some illicit drugs have become stronger and more lethal [1]. The majority (over 70%) of drug overdose deaths in the United States in 2019 involved an opioid [2]. Sadly, overdose deaths at work from the nonmedical use of drugs or alcohol increased for the seventh year in a row in 2019 [3]. To help employers and workers take steps to prevent overdose and create supportive workplaces, NIOSH continues to develop new resources to share research on [opioids and overdose in the workplace](#).

Anyone at a workplace is at risk of overdose if they use opioids. The video "[Addressing Opioid Overdoses in the Workplace](#)" can help employers decide if they should make naloxone, an effective drug for reversing opioid overdoses, available in the workplace. Naloxone can be administered by anyone with a minimal amount of training, and it has been widely shown to save lives. The video and related [fact sheet](#) describe how employers and workers can implement and maintain a workplace naloxone program. You can also read about the importance of a workplace naloxone program in a [recent NIOSH Science Blog](#).

Prescription medications like opioids or benzodiazepines, when used alone or together, often have side effects that can affect workers' health and safety. Employers can work to prevent occupational factors, like work-related motor vehicle crashes, injuries, and job stress, that can increase the chances a worker is



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vehicle crashes, injuries, and job stress, that can increase the chances a worker is prescribed medication. This [fact sheet](#) can help employers and healthcare providers understand how prescription opioids or benzodiazepines affect people at work.

Employers can prevent their employees from being exposed to workplace factors that could cause or perpetuate SUD by using [Workplace Supported Recovery](#) principles. This [new video](#) explains how employers can prevent initial substance use and lower the risk of developing SUD, while reducing barriers for workers seeking or receiving care and maintaining recovery. Workplace Supported Recovery Programs use evidence-based policies and programs to help employers assist workers in need, while helping workers get the help they need to recover and stay or return to work.

Those working in construction, already a high-risk profession, have been shown to be more likely to die from an opioid-related death than other workers [4,5]. NIOSH recently released three videos that address this crisis. The first video, [The Evolution of a Crisis](#) [↗](#), explains how this problem came to be, along with personal experiences from workers with SUDs. The second video, [Impacting Lives](#) [↗](#), discusses the impact of SUD in the workers' lives and in the lives of their families and coworkers. The last video, [Pathways to Recovery](#), [↗](#) talks about how employers can use NIOSH Workplace Supported Recovery to help.

Workplaces are a critical point of contact for Americans struggling with or recovering from SUD. Workplaces have the power to provide personal, family, and community support and to improve the well-being of all their workers. Employers and workers should create work environments that proactively prevent inappropriate substance use, reduce stigma, and encourage treatment and sustained recovery. Join us as we stand together to remember those who have lost their lives to drug overdoses and take bold steps to create more supportive workplaces.

## References

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5. Hawkins D, Roelofs C, Laing J, Davis L [2019]. Opioid-related overdose deaths by industry and occupation-Massachusetts, 2011-2015. *Am J Ind Med*; 62(10):815-825. <https://doi.org/10.1002/ajim.23029> [↗](#)

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John Howard, M.D., Director  
Tanya Headley, Editor in Chief

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Anne Blank

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Kiana Harper, Highlights & Monthly Features

### Contributing Editors

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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

& outside of NIOSH from the past 50 years.

## NIOSH Now:

### Despite Regulatory Compliance, California Farmworkers at Risk for Heat-related Illness

Since 2005, the California Division of Occupational Safety and Health, or Cal/OSHA, has developed and implemented regulations to reduce [heat-related illness](#) among farmworkers. California farmworkers are at risk because they work mostly outdoors in the summer, as the temperatures rise, and their work is physically demanding.

Researchers at the NIOSH-funded Western Center for Agricultural Health and Safety became the first to measure heat-related regulatory compliance and effectiveness. They looked at 30 farms in California's Central and Imperial Valleys during the summers of 2014 and 2015. Study participants included 507 Latino farmworkers, of which 36% were female, and all were 18 years or older. The researchers looked at outdoor temperature and humidity, questionnaire responses, and work rate—or the movements per minute—measured by a wearable device. They also considered body temperature, weight, and height.

According to the study, published in the [Journal of Occupational and Environmental Medicine](#), the farms complied with Cal/OSHA regulations for providing adequate water, shade, rest periods, and training. However, around 7% of the farmworkers were at risk for heat-related illness. These workers did not have enough water to stay hydrated and were at increased risk for heat-related illness from outside temperatures and work rate. More than half of the farmworkers lacked adequate knowledge about heat-related illness, although 86% reported being trained during the past year.

A limitation is that the study focused on compliance with 2014 Cal/OSHA regulations, excluding 2015 regulations for high temperatures. Also, participants were volunteers, not a random sample. However, according to the researchers, the findings are generally applicable because the participants were otherwise comparable to those in other large studies. Overall, this study demonstrates the need for revised Cal/OSHA regulations that adjust work rates and hydration requirements. New recommended training relevant to the cultural and behavioral needs of the estimated 800,000 California farmworkers is also indicated.

More information is available:

- [NIOSH | Centers for Agricultural Safety and Health](#)
- [UC Davis Western Center for Agricultural Health and Safety](#)

## NIOSH Then:

### Silicosis Implicated in Rising Cases of Black Lung

In 2009, a groundbreaking NIOSH study found a marked increase in chest X-ray findings consistent with the lung disease silicosis among underground coal miners. The study, published in the journal [Occupational and Environmental Medicine](#), followed reports of rising cases of black lung, or coal workers' pneumoconiosis, and highlighted the urgent need to prevent hazardous exposures.

Black lung is an irreversible and potentially deadly but preventable disease

Black lung is an irreversible and potentially deadly, but preventable, disease caused by breathing in coal mine dust. Since 2000, increasing numbers of coal miners in Appalachia have developed progressive massive fibrosis, which is the most severe and rapidly progressing form of black lung. Similarly, silicosis is an irreversible and potentially deadly, but preventable, disease caused by breathing in crystalline silica dust mostly in the form of quartz found in sand, stone, and other materials. Crystalline silica is a component of coal mine dust.

To find out whether silica and silicosis-like disease were contributing to increases in black lung in coal miners, this study compared the occurrence of a specific type of silicosis-related lung abnormality over time and by region. Researchers evaluated X-ray findings from 90,973 U.S. coal miners who received a chest X-ray from 1980–2008 through the NIOSH-administered [Coal Workers' X-ray Surveillance Program](#). Nearly all were white males. Their average ages were 33 years in 1980–1989, 43 years in 1990–1999, and 44 years in 2000–2008.

Overall, 2,868 X-rays showed the silicosis-related lung abnormality. Nationwide, the abnormality occurred far more frequently in the study's later years, particularly among coal miners in Kentucky, Virginia, and West Virginia. Specifically, compared with 1980–1989, the proportion of X-rays showing the abnormality doubled from 1990 to 1999, and increased by nearly four times after 1999. This finding strongly suggests a role for crystalline silica in recent increases in black lung.

To detect early signs of lung disease before the disease becomes severe, the Coal Workers' X-ray Surveillance Program continues to provide free X-rays every five years to coal miners. In addition, the program trains and certifies physicians to evaluate these X-rays for findings of black lung.



More information is available:

- [NIOSH | Crystalline Silica](#)
- [NIOSH | Pneumoconioses](#)
- [NIOSH | Mining](#)

## Highlights

### NIOSH 50th Anniversary Celebration Continues With Two More Webinars and a New Video!

In honor of its 50th Anniversary, NIOSH recently [released a video](#) describing the history of the institute and its role over the past 50 years in protecting workers. NIOSH is also hosting two upcoming webinars related to the anniversary:

- [Register](#)  to attend the “**Spotlight on Exposure Assessment**” webinar highlighting iconic NIOSH exposure assessment efforts on September 8 at 2 p.m. (ET). Topics include the (1) National Occupational Exposure Survey, (2) foundation of exposure monitoring methods in the NIOSH Manual of Analytical Methods, (3) evolution of NIOSH exposure assessment efforts to enhance epidemiologic risk assessment, and (4) advancement of statistical methods and modeling.
- [Register](#)  to attend “**Behind the Science: Spotlight on NIOSH Field and Laboratory Research**,” which highlights three scientific research activities from field and laboratory researchers, on September 21 at 2 p.m. (ET). Topics covered will be NIOSH research in the areas of mining-induced seismicity, inhaled butter flavoring vapor and severe lung damage, and protective respirators.

For more information on activities recognizing NIOSH's anniversary, see the [NIOSH 50th webpage](#).

### Respiratory Protection Week is September 7–10! #RespiratorWeek

The NIOSH [National Personal Protective Technology Laboratory](#) website has a new look that is part of this year's [Respiratory Protection Week](#) observance. The update includes a revamping of the [Respirator Trusted Source](#), which now has the most recent and relevant respiratory protection information and answers to frequently asked questions. During the week NIOSH

will also present two webinars: The September 7 [webinar](#) will be an overview of how technologies may be applied to respiratory protection and other types of personal protective equipment (PPE), the new role of PPE in nontraditional settings, and how to close PPE gaps for underserved populations. Then, on September 9, NIOSH will join presenters from OSHA and the FDA in a [webinar](#) to clarify information about the U.S. Respiratory Protection authorities.

#### Updated Small Business Safety and Health Handbook Now Available

NIOSH and OSHA partnered to update a handbook on workplace safety and health information for small business employers. The updated [Small Business Safety and Health Handbook](#) highlights the benefits of implementing an effective safety and health program. The handbook provides self-inspection checklists for employers to identify workplace hazards and review important workplace safety and health resources for small businesses.

#### Depression More Common in Workers with Diabetes

Diabetes affects more than 34 million adults in the U.S. Now, a new NIOSH study has found that workers with diabetes may be at increased risk for depression. Among workers with diabetes, young adults and women are most likely to experience depression. The [study](#) was published online August 25 in the journal *Diabetes Spectrum*. [Read the full NIOSH Update](#).

#### Advisory Board on Radiation and Worker Health Continues to Seek Board Nominations

Applicants interested in joining the Advisory Board on Radiation and Worker Health Board are encouraged to apply. If you want to serve on the Board as a scientific, medical, or worker representative, and have not already responded to the earlier [Federal Register Notice](#), please consider sending your bio or curriculum vitae to [Nancy Adams](#) by September 30.

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## Monthly Features

### New Communication Products & Reports

#### Fire Fighter Fatality Investigation and Prevention Program Report

- [Career Firefighter/SCUBA Diver Drowns While Searching for Civilian in an Industrialized River—Illinois](#)
- [29-Year-Old Firefighter Suffers Cardiac Arrest After Two 24-hour Shifts—Wisconsin](#)

#### Program Performance One-Pagers (PPOP)

- [Center for Maritime Safety and Health Studies](#)
- [Health Hazard Evaluation Program](#)
- [Healthcare and Social Assistance Program](#)

#### Reports/Handbooks

- [Best Practices for Dust Control in Coal Mining, Second Edition](#)
- [Small Business Safety and Health Handbook](#)

#### Video

- [NIOSH 50th Anniversary: A History of Occupational Safety and Health](#)

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## NIOSH Science Blog

Please see the following new blogs from August. [Sign up](#) to have notifications about new NIOSH Science Blogs delivered directly to your inbox!

- [Updated OSHA-NIOSH Small Business Safety and Health Handbook: Making Workplaces Safer With Checklists](#)
- [Reducing the Risk of Rhabdomyolysis and Other Heat-Related Illnesses in Landscaping and Tree Care Workers](#)

- [Workers' Compensation Data Sheds Light on Hazards in Landscaping](#)
  - [50 Years of NIOSH Construction Safety and Health Research](#)
  - [The Upper Limb Musculoskeletal Disorder Consortium](#)
  - [Using Machine Learning to Code Occupational Surveillance Data: A Cooperative Effort Between NIOSH and the Harvard Computer Society – Tech for Social Good Program](#)
  - [Exploring Cognitive Impairment Among 9/11-Exposed Individuals](#)
  - [Bringing Strategic Foresight to OSH](#)
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## Federal Register Notice

### **Proposed Data Collection Submitted for Public Comment and Recommendations: Energy Employees Occupational Illness Compensation Program Act (EEOICPA) Dose Reconstruction Interviews and Forms**

The [notice](#) was posted on July 12. Comments must be received by September 10.

### **Draft-Approaches to Developing Occupational Exposure Limits or Bands for Engineered Nanomaterials: User Guide and Technical Report**

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

### **Proposed Data Collection Submitted for Public Comment and Recommendations: Assessment of Occupational Injury Among Fire Fighters Using a Follow-back Survey**

The [notice](#) was posted on July 19. Comment must be received by September 17.

### **Proposed Data Collection Submitted for Public Comment and Recommendations: Evaluating the Use of EHMRs in Health Settings to Improve Organizational Implementation and Worker Adoption During and After the COVID-19 Pandemic**

The [notice](#) was posted on July 19. Comments must be received by September 17.

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

The [notice](#) was posted on August 9. Comments must be received by September 22. The meeting will be held on September 29.

### **Meeting: Board of Scientific Counselors, National Institute for Occupational Safety and Health (BSC, NIOSH)**

The [notice](#) was posted on August 13. Comments must be received by September 28. The meeting will be held on October 5.

### **Needs and Challenges in Personal Protective Equipment (PPE) Use for Underserved User Populations**

The [notice](#) was posted on June 24. Comments must be received by October 15.

### **Proposed Data Collection Submitted for Public Comment and Recommendations: Field Pilot to Inform the Development of a NIOSH Training Product, the Safety Skills at Work Curriculum**

The [notice](#) was posted on August 20. Comments must be received by October 19.

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## NORA

### **NORA Construction Sector Council Fall Meeting: November 16–17**

NORA Workgroups on Falls, Struck-by, and COVID-19 and partners will present November 16 and 17 about best practices in OSH, new safety and health interventions, emerging issues, and much more! Contact [Dr. Scott Earnest](#), Director of NIOSH Office of Construction Safety and Health, to participate.

### **Healthy Work Design Council Participation in the Work, Stress, and Health 2021 Conference**

The NORA Healthy Work Design (HWD) Council members are chairing two sessions for the [Work, Stress, and Health 2021 Conference](#). These sessions will focus on HWD-related research in general and on the work-nonwork interface specifically.

Members will also present two posters on the HWD program and the overall implementation plan for the HWD research agenda. Three additional posters will focus on implementation plans for three of the research agenda objectives: chronic health conditions, demographics, and nonstandard work arrangements.

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## News from Our Partners

### National Farm Safety and Health Week September 19–25

NIOSH joins the [Centers for Agricultural Safety and Health \(Ag Centers\)](#) in recognizing [National Farm Safety and Health Week](#) (NFSHW) as a time to highlight the importance of working together to prevent injuries and illnesses among agricultural workers. The agriculture industry is consistently at the highest risk of work-related injuries and fatalities, with harvest season being particularly hazardous. The 2021 theme for NFSHW is “Farm Safety Yields Real Results.” This year’s events will focus on tractor and rural roadway safety, overall farmer health, young workers, fertilizer and chemical safety, and women in agriculture.

### New Science in the Fight Against Drugs

The National Institute of Standards and Technology (NIST) recently released new tools and methods to combat fentanyl and other synthetic drugs. First responders and forensic chemists may encounter deadly synthetic drugs such as fentanyl. Now, the new [measurement tools](#) from @NIST can help reduce the risk.

### CPH-NEW Releases New Toolkit Using *Total Worker Health*® Approaches for Correctional Workers

The Center for the Promotion of Health in the New England Workplace (CPH-NEW) recently created the [Total Worker Health \(TWH\) Mentoring Toolkit For Corrections Personnel](#). Based on research from a CPH-NEW project known as the [Health Improvement through Training & Employee Control \(HITEC\) I & II](#), the toolkit aims to address the decline in health that correctional workers face when starting their careers. Correctional organizations can use this resource to develop a TWH-related Mentoring Program, recruit and train members, and evaluate the program. CPH-NEW is a NIOSH-funded [Center of Excellence for TWH](#).

### CDC Launches STEM Website

CDC recently launched a new [science, technology, engineering, and math \(STEM\)](#) website that provides a gateway to CDC STEM-related resources, trainings, fellowships, and more available across the agency. Here, students, teachers, and professionals can learn about careers in public health and how public health brings together STEM disciplines to create a healthier world.

### Recent Newsletters From NIOSH Grantees

- [Center for Health, Work & Environment—July 2021 Newsletter](#) (NIOSH-funded TWH Center)
- [CPWR—The Center for Construction Research and Training—August 2021 CPWR Update](#) (NIOSH-funded Construction Center)
- [Pacific Northwest Agricultural Safety & Health Center—July 2021 eNews](#) (NIOSH-funded Ag Center)

### Call for Proposals

- *National Occupational Injury Research Symposium*: The deadline to [submit](#) abstracts and proposals for sessions is October 1.

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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.

### Follow NIOSH

