



HEALTHIER WORKPLACES | A HEALTHIER WORLD

## NIOSH BACKGROUND INFORMATION

### General Talking Points:

- Every worker should be able to go home safe and healthy at the end of their shift, but the Trump administration is gutting NIOSH, which will have devastating and irreversible effects on workers' lives. Each year, more than 5,000 workers die from injuries on the job, 135,000 workers die from occupational disease, and millions more are injured. These numbers will only increase now that the government is firing the federal workers who make workplaces safer. (Source: AFL-CIO Press Release)
- NIOSH is a highly skilled and efficient agency that delivers critical health and safety expertise for both workers and employers—protecting workers in some of the most dangerous industries, like coal mining, firefighting, farming, construction, and health care— and is responsible for providing medical monitoring and services to 9/11 responders and survivors. Firing the NIOSH workforce sets up a domino effect of serious and dangerous consequences: the government will no longer research emerging health hazards, methods to prevent mine explosions, or certify the safety of respirators and other critical personal protective equipment. (Source: AFL-CIO Press Release)
- NO NIOSH means NO scientific basis for workplace safety. Sick workers are weak workers. If the US is serious about re-onshoring the many jobs, manufacturing capabilities, and critical minerals extraction capabilities lost to foreign entities, it cannot afford to do so in the absence of science-based safety practices. To do so is not only short-sighted. It's a win for foreign entities of concern.
- Rebuilding our industrial base without protecting the safety and health of those doing the work is a recipe for failure. High injury rates, chronic occupational illnesses, and unsafe conditions slow down production, increase costs, reduce workforce participation, and degrade workplace morale. Over time, these consequences don't just impact individual workers. They erode entire supply chains and weaken overall national competitiveness.
- NIOSH's budget is only about **\$2.20 per worker** annually (\$338 million), yet occupational injuries and illnesses cost the U.S. economy approximately **\$250 billion each year**. Even small improvements in workplace safety generate substantial savings in healthcare costs, workers' compensation, and lost productivity. It's hard to imagine a better investment than \$2.20 per worker to ensure the HHS makes effective use of science in protecting them. (Source: [PubMed Central](#))
- The dissolution of NIOSH adversely impacts those states whose occupational health programs conduct injury and illness surveillance and intervention activities that safeguard worker health. (Source: [NIOSH Extramural Research & Training](#)) (Note: See section below for more details)

### Talking Points: Economic Impact by NIOSH Facility

- NIOSH's vital work is carried out at laboratories and offices across the country, each of which supports local and state economies through jobs, research funding, and contracts: (Source: AFL-CIO)
  - **Atlanta, GA:** 19.5M statewide economic impact in FY24
  - **Cincinnati, OH:** \$101.5M statewide economic impact in FY24
  - **Denver, CO:** \$7.0M statewide economic impact in FY24
  - **Morgantown, WV:** \$63.1M statewide economic impact in FY24
  - **Pittsburgh, PA:** \$52.7 million economic impact in FY24
  - **Spokane, WA:** \$19.0 million statewide economic impact in FY24
  - **Washington, DC:** \$5.9M districtwide economic impact in FY24

### Talking Points: NIOSH vs OSHA

(Source: AFL-CIO)

- When Congress passed the OSH Act, it made clear that OSHA and NIOSH had distinct responsibilities. OSHA was directed to set legally binding safety and health standards and enforce them. NIOSH was specifically established to conduct and fund research through field studies, investigations, and laboratory testing, **making recommendations for standards based on that research** and supporting training for safety and health professionals. The Mine Safety and Health Act of 1977 established distinct responsibilities for MSHA and NIOSH in the safety and health of the mining industry.
- The agencies (NIOSH, OSHA, and MSHA) are directed to collaborate and coordinate; however, NIOSH was established as a separate and independent agency to ensure that research and recommendations are grounded solely in science, not shaped by political pressures, regulatory agendas, or policy considerations.
- NIOSH staff are highly trained scientific experts, including medical doctors, epidemiologists, biologists, chemists, engineers, industrial hygienists, and statisticians, who have specialized expertise in respiratory diseases, toxicology, ergonomics, respiratory protection, other personal protective equipment, safety engineering, sampling and laboratory methods, and more. The work of these experts forms the scientific and technical backbone for worker safety and health protections in the United States. NIOSH's expert research and recommendations are relied upon by many countries worldwide.
- NIOSH is the only federal agency in the United States that conducts research on worker safety and health hazards, as well as controls. **No other agency has the expertise to match NIOSH's.**
- OSHA and MSHA do not conduct research. They develop standards and enforce them. OSHA and MSHA staff are safety and health regulatory and enforcement specialists, not researchers.
- The Trump staff cuts at NIOSH destroy the US government's capacity and ability to conduct worker safety and health research that is critical to protecting workers- mineworkers, construction workers, firefighters, healthcare workers, and all other workers- from job safety hazards. More workers will be injured, made sick, and die on the job.

### **Talking Points: Impact on Research and Key Resources Used by the Profession**

*(Source: Association of University Programs in Occupational Health and Safety – AUPOHS)*

- NIOSH funds and promotes critical research for a changing workforce and work practices, an important service for employers and employees in the face of emerging workforce needs.
- NIOSH has, for example, deployed teams across the country in response to industry requests for assistance, including to address the mental health crisis among healthcare workers.
- NIOSH contributes key leadership and expertise, providing federal guidance and decision tools for multiple industries, including construction, manufacturing, food and agriculture, mass transit, transportation and trucking, restaurants and bars, childcare facilities, and schools. These services are critical for addressing existing and emerging challenges and would be cost-prohibitive for many industries without assistance from NIOSH.
- NIOSH funding supports its personal protective equipment program and advanced respiratory protection systems; disaster response research; mental health research; Per- and Polyfluoroalkyl Substance (PFAS) research; and research on substance use disorders related to work.
- Without NIOSH, the occupational and environmental health and safety profession will lose access to critical, updated key resources. These include:
  - NIOSH Manual of Analytical Methods (<https://www.cdc.gov/niosh/nmam/default.html>)
  - Certified Equipment List by the NIOSH National Personal Protective Technology Laboratory (<https://wwwn.cdc.gov/niosh-cel/>)
  - NIOSH Pocket Guide to Chemical Hazards (<https://www.cdc.gov/niosh/npg/default.html>)
  - NIOSH List of Hazardous Drugs in Healthcare Settings, 2024 (<https://www.cdc.gov/niosh/docs/2025-103/default.html>)
  - Prevention through Design (<https://www.cdc.gov/niosh/ptd/about/>) program concept developed by NIOSH
  - Hierarchy of Controls (<https://www.cdc.gov/niosh/hierarchy-of-controls/about/>) developed by NIOSH
  - Occupational Exposure Banding e-Tool (<https://wwwn.cdc.gov/Niosh-oeb/>) developed by NIOSH

### **Talking Points: Key Statistics on Workplace Injuries and Deaths and Economic Impact**

*(Source: Association of University Programs in Occupational Health and Safety – AUPOHS)*

- Far too many Americans still lose their lives on the job.
  - In 2021, a worker died every 101 minutes from injuries incurred on the job.
  - In 2022, 1.7 out of every 100 U.S. workers suffered from workplace injuries and illnesses.
  - In 2023, there were 5,283 work-related fatalities. This includes our first responders, who can be struck and killed by drivers while helping victims of a roadside traffic accident; our

construction workers, who may fall from an inadequately guarded roof edge; our farmers who may be engulfed in flowing grain; and our shop owners and employees who may be asked to work late nights without proper security and become victims of violence.

- Although it is harder to measure, we also estimate that an additional 145 people die every day in the US from work-related diseases.
- In addition to work-related deaths, we also see a high burden of nonfatal workplace injury and illness. In 2023, 2.6 million workers were seriously injured on the job, and one-third of those injured workers required time off to recover before they returned to work. Injuries occur in critical sectors such as warehouse and transportation, firefighting, and food production and processing, all of which are already affected by labor shortages.
- Financially, serious non-fatal workplace injuries and illnesses cost the nation's businesses more than \$1 billion a week and cause even greater harm to workers and their families. These are the documented injuries, although many remain undocumented.

#### Talking Points: NIOSH Respirator Approval Program (based on messaging provided by 3M in 2025)

- NIOSH's National Personal Protective Technology Laboratory (NPPTL) is responsible for the Respirator Approval Program (RAP), which helps ensure respiratory protection products utilized by US workers meet the highest standards in the world. American employers are required, by law, to use NIOSH-approved respirators to help ensure that workers are protected from workplace hazards. These respiratory protection products range from N95 filtering facepieces to self-contained breathing apparatuses (SCBA).
- Without the NIOSH NPPTL RAP testing and certification process, US workers lose access to the newest technologies and advances in personal protective equipment. This program needs to continue to be funded so that US workers can remain competitive, safe, and healthy as US manufacturing increases.
- Per US regulation, when a personal protective equipment (PPE) manufacturer introduces a new respiratory protection product or makes a change to an existing product (e.g., change to the quality plan or user manual, modifying a head strap, or improvements to filter media, change of manufacturing location), the change must be reviewed and approved by NIOSH.
- There is NO other function within the US government or with any private entity that has the authority to approve new respiratory protection products or changes to existing products. This level of rigor is needed to help ensure respirators are safe and effective for US workers.
- Value of NPPTL RAP work:
  - NIOSH NPPTL RAP maintains the responsibility for the sophisticated testing of respiratory protection equipment, components, and accessories. This helps ensure that respirators meet US-required performance standards, that manufacturers' quality plans are robust, and that manufacturing facilities are suitable for producing products for US workers.
  - New workplace hazards are identified regularly. NPPTL provides insight and guidance on how US employers can protect workers and ensure that NIOSH-approved respirators perform against these hazards.

- NIOSH approval is the gold standard, trusted and respected. Certain other countries require respirators to be US NIOSH-approved or use NIOSH approval as the basis of local registration. Without NPPTL, the US respiratory protection product industry will be affected by overseas-manufactured products that may not meet comparable quality and performance standards.

**RAP requires at least \$16.6 million in funding. This is a relatively insignificant expenditure for a program that benefits workers here in the US and our global supply chain partners**

#### **Talking Points: State Surveillance Programs**

(Source: [Expired PAR-20-312: State Occupational Safety and Health Surveillance Program \(U60\)](#) (see section titled "State Role in Occupational Safety and Health Surveillance").

- The anticipated award in the 2021 notice was \$40M for the 5-year funding cycle for 30 states. It is unclear how much the final award was, but only 23 states were funded.
- The following research projects are funded through NIOSH state-based surveillance:
  - Fatality assessment and control evaluation (FACE) program aims to prevent job-related injuries and deaths through investigations, identifying hazards, and sharing findings. (8 states)
  - Adult blood lead epidemiology and surveillance program aims to reduce elevated blood lead levels among working adults 16 years and older (37 states)
  - Sentinel event notification system for occupational risk - pesticide program examines over-exposure to pesticides in the workplace and prevents these exposures from happening. (13 states)
  - Respiratory disease surveillance and prevention, with a focus on work-related asthma (4 states) and silicosis (4 states)
  - Strengthening vaccine confidence in workers
  - Worker safety and health support, safe return to work policies, and mitigation or prevention of COVID-19 outbreaks in various industry sectors

#### **Talking Points: Changing Work Environment**

(Source: *Association of University Programs in Occupational Health and Safety – AUPOHS*)

- In addition to continuing to address a wide range of known hazards, such as exposure to harmful substances and workplace injuries, there is a critical need to address the changing work environment and its impact on health, well-being, and productivity. The American workforce is facing new challenges that impact the ability to recruit and retain employees. These include labor shortages, understaffing, burnout among healthcare workers, long-term care workers, and teachers; high suicide rates among construction workers and farmers; and the unanticipated impacts of automation, AI, and other emerging technologies. Additionally, workplaces face challenges arising from a multigenerational workforce, reduced job security, high turnover rates, irregular work hours, and shift work. The rise in non-traditional workers who lack health care benefits and safety nets is also impacting our workforce, businesses, and communities.

#### **Talking Points: Centers of Excellence (general)**

(Source: *Association of University Programs in Occupational Health and Safety – AUPOHS*)

- The NIOSH-supported extramural Centers, including the Education and Research Centers (ERCs), Centers in the Agriculture, Forestry, and Fishing (AgFF) Program, and the Total Worker Health® (TWH) Centers of Excellence, respond to existing and emerging workplace threats and support NIOSH in rapidly responding to the safety needs of the nation's workforce.
- Funding for these various Centers is crucially important to maintain resources, staff, and long-term capacity in occupational safety and health research at **state and regional levels**.
- These Centers have been proactive in developing solutions and providing resources/assistance to employers and workers, with over 100,000 hours of outreach training and pragmatic research that drive timely improvements in our nation's response to emerging occupational safety and health issues. As workplaces rapidly evolve, changes present new health and safety risks, which need to be addressed promptly through occupational health and safety investigations, research, and training.

### Talking Points: Specific to ERCs

*(Source: Association of University Programs in Occupational Health and Safety – AUPOHS)*

- The eighteen university-based Education and Research Centers (ERCs) provide local, regional, and national resources for all those in need of occupational health and safety assistance.
- Collectively, the ERCs offer graduate—and postgraduate-level education and research training in multiple occupational health and safety disciplines that prevent or treat work-related injuries and illnesses. Without the ERCs, student funding **will be significantly reduced, limiting opportunities for future professionals and disrupting the pipeline of talent entering the field.**
- ERCs are devoted solely to the creation of a workforce of occupational safety and health professionals for every Federal Region in the U.S. and are trained to identify, treat, and mitigate vulnerabilities to our workforce, including increasing our readiness to respond to chemical, biological, radiological, or nuclear attacks. Occupational health and safety professionals work with emergency response teams to minimize disaster losses, as exemplified by their lead role in minimizing hazards among workers involved in clean-up and restoration of the extreme devastation caused by Hurricanes Ian, Harvey, Irma, and Maria in Texas, Florida, Puerto Rico, and the U.S. Virgin Islands, as well as the recent LA fires. NIOSH-funded ERCs played an important role in responding to each of these disasters. The NIOSH ERCs provide a critical pipeline of OSH professionals to federal, state, and local government agencies; not-for-profit agencies; industry; academia; business; healthcare; and labor organizations. **Additionally, these ERCs provide a crucial source of ongoing professional education for OSH professionals. Without NIOSH funding, most of these programs would cease to exist.**

### Talking Points: Specific to Total Worker Health

*(Source: Association of University Programs in Occupational Health and Safety – AUPOHS)*

- NIOSH also supports ten Total Worker Health (TWH) Centers of Excellence that conduct multidisciplinary research that implements and evaluates practical, organization-level solutions to emerging challenges that impact the safety, health, well-being, and productivity of the American workforce.
- The TWH Centers solutions-focused research is based on needs identified by employers and employees and performed in partnership with government, business, labor, and

communities. The TWH Centers' research, education, and outreach activities take place in various workplaces, including hospitals, factories, offices, construction sites, and small businesses, resulting in immediate and measurable improvements in health and safety.

- These Centers have assisted employers and employees in addressing changing workforce needs over the past several years, including mental health, stress, burnout, and resiliency among essential workers.
- Several examples illustrate the power of Total Worker Health Centers' partnerships with employers. The Recovery-Friendly Workplace Initiative helps organizations increase awareness and improve workplace practices, enabling workers facing substance use and addiction to remain employed and productive across the country.
- Research conducted in collaboration with fire departments across multiple states has identified preventable risks for slips, trips, and falls to reduce costly injuries. Construction workers have among the highest suicide rates of all occupations. A proven program for suicide prevention and mental health is being implemented widely in the US construction industry.
- School systems are adopting a successful solution to improve collaboration among administrators, educators, and school emergency preparedness staff, enhancing educators' job quality, well-being, and retention, as well as student outcomes and protection.
- The TWH Centers are an investment in the American economy, helping valued employees return home safe and healthy at the end of a productive workday.

### **Talking Points: Specific to AgFF**

*(Source: Association of University Programs in Occupational Health and Safety – AUPOHS)*

- NIOSH leads research and outreach efforts in the nation's most dangerous industries, thus improving the lives of many rural Americans. The NIOSH Centers in the Agriculture, Forestry, and Fishing (AgFF) Program was established by Congress in 1990 (PL 101-517) in response to evidence that agricultural, forestry, and fishing workers suffer substantially higher rates of occupational injury and illness than other workers.
- Agricultural workers are six times more likely to die on the job than other workers. There were 511 fatalities in 2023 at a rate of 19.2 fatalities per 100,000 workers, significantly higher than the national rate of 3.5 fatalities per 100,000 workers. Additionally, 4 per 100 agricultural workers incurred recordable nonfatal injuries in 2023. Our food security depends on a healthy agricultural workforce.
- Today, the NIOSH AgFF initiative includes eleven regional Agricultural Centers and one national Children's Farm Safety and Health Center. The AgFF program is the only substantive federal effort to ensure safe working conditions in this vital production sector. Examples of crucial work undertaken by these Centers include the provision of technical support, worker testing, guidance on worker protection in depopulation efforts, and biosecurity protocols for farms dealing with the rapid spread of H5N1. Technical expertise, testing, and guidance for reducing risks related to contagious agents provide a partial list of the services offered to farms.
- AgFF programs also conduct research and outreach to ensure the safety of our nation's

86,000 workers in forestry and logging, an industry with a fatality rate more than 30 times higher than that of all our nation's workers. U.S. Fishermen have similarly high rates of fatality. From 2000-2017, fatality rates in commercial fishing were estimated at 114 per 100,000 full-time equivalents (29 times higher than the average worker fatality rate). The AgFF Centers have worked diligently to protect the safety and health of workers in all three industries.

- For example, increased use of rollover protective structures and seatbelts on tractors has reduced overturn-related deaths and associated costs, for the most frequent cause of death on farms. Partnering with fishing communities, the AgFF Centers developed fishermen-approved lifejackets, which have increased chances of survival in the event of a fall overboard, a significant contributor to fatality rates in this industry. Research on the mental health of AgFF workers has also identified challenges such as the lack of childcare, which forces farm parents to bring their children to work, thereby exposing children to work hazards. In the past decade, roughly a thousand children died while doing agricultural work.
- The lifesaving, cost-effective work of the AgFF program is not replicated by any other agency. The majority of AgFF workers are self-employed farmers, ranchers, and fishermen and are thus exempt from state and federal OSHA protections. AgFF Centers are the only dedicated resources for protecting workers and businesses in these high-risk sectors.

#### Talking Points: Examples of Direct Services to the Nation Provided by NIOSH

- NIOSH offers numerous direct services to workers, industry, and businesses. These activities improve the health and productivity of the Nation's workforce. NIOSH has a history of developing cohort studies to inform decision-makers on chronic disease risk from a wide variety of workplace exposures, such as radiation, metals, organic compounds, particles, pesticides, lead, and fibers (like asbestos). These studies have had a significant impact on worker protection and productivity. They generate high-quality knowledge on occupational risks and exposure-disease associations and are used by companies, researchers, the public, and other federal agencies.
- NIOSH provides services to companies, researchers, regulators, and anyone interested in assessing occupational exposures through the development of new or improved exposure assessment methodologies.
- NIOSH also provides a service to other federal agencies, such as NIEHS and researchers, by testing new or improved exposure assessment methodologies in the field and providing valuable feedback to help strengthen those methods.
- In August 2000, the National Park Service requested assistance from NIOSH and the U.S. Coast Guard to evaluate visitor and employee exposures to poisonous carbon monoxide (CO) from houseboat generators and engines. Collaborating with major manufacturers, [NIOSH evaluated and developed novel engineering controls](#) that reduce CO emissions in occupied areas of houseboats and other recreational boats.
- In the 1990s, NIOSH collaborated with labor, industry, and government to develop engineering controls that reduce worker exposures to asphalt fumes during paving operations. This effort led to the adoption of ventilation systems on all new highway class asphalt paving equipment, dramatically reducing worker exposures to asphalt fumes and avoiding the need for industry regulations.
- Powdered latex gloves were once widely used in healthcare. Several NIOSH Health Hazard Evaluations (HHEs) identified powdered latex gloves as a risk factor for latex allergies in

healthcare workers. Massive adoption of powder-free latex gloves in healthcare followed.

- NIOSH played a crucial role in protecting workers from exposure to methylene chloride. The challenge was to find a solution that supported small businesses, particularly furniture stripping companies, that relied on the chemical. NIOSH was one of the few organizations that had conducted research on exposures in these small businesses and how they could be controlled.
- NIOSH has played a large role in national and local emergency response activities. It has responded to over 45 public health and emergency response activities, providing direct services to numerous individual worksites and entire industries when the nation has needed our technical assistance. These are just a few examples of direct service emergency response activities:
  - Provided critical contaminant control and worker protection technical expertise to hospitals and clinics in Texas in the 2025 Measles Response.
  - Provided the first-ever biomonitoring effort for Maui County emergency responders and the Hawaii National Guard after the 2023 Maui wildfires.
  - Provided onsite occupational safety and health technical expertise during Norfolk Southern/East Palestine railroad derailment.
  - Deployed to multi-state Mpox outbreaks to provide infectious disease control expertise in hospitals, as well as correctional facilities and other densely populated settings.
  - Evaluated exposure risk at hundreds of facilities during COVID-19 pandemic, including airports, nursing homes, prisons, meat/food processing plants, schools, homeless shelters, 12 Emergency Intake Sites in Department of Homeland Security housing unaccompanied children, etc. Provided health and safety support at 8 military bases housing Afghan evacuees with outbreaks of COVID-19, measles, etc.
  - Evaluated and provided training to medical providers at dozens of hospitals in the U.S. in preparation to receive Ebola patients in 2015 and again in 2022.
  - Developed [guidance](#) on how to properly handle the remains of individuals who die of Ebola or other viral hemorrhagic fevers without the handlers becoming ill or spreading Ebola to others, and has shared these guidelines with the Pentagon and other invested partners.
  - Responded to the Deepwater Horizon oil spill by characterizing exposures in adjacent oil rig employees, recovery workers, and vessels of opportunity (VOOs) employees by releasing 9 interim reports to release exposure data as soon as possible.
  - Following the anthrax attacks of 2001, completed 60 building vulnerability assessments and recommendations on engineering interventions against Chemical-Biological-Radiological terrorism between 2001-2005, and authored plain language [national guidance](#) for protecting building ventilation systems from airborne attacks.
  - Provided technical expertise to emergency response workers at Ground Zero for the September 11<sup>th</sup> attacks, the subsequent anthrax attacks, and ricin letters (2013).
  - Based on expertise in epidemiologic methods, DFSE researchers contributed to the CDC's Zika virus response to design a multi-site study to estimate the prevalence of birth defects following Zika virus infection in early pregnancy.
  - Many in NIOSH/DFSE responded to the worldwide Ebola crisis, working in US Airports, immigration facilities and Liberia, Guinea and Sierra Leone to prevent disease spread to the United States and beyond, particularly focusing on preserving health of

healthcare workers and ensuring they did not become ill or transmit the virus to others.

- NIOSH/DFSE provides consultation to state, federal, and academic partners on workplace safety and health methods, including the application of public health informatics to data collection and analyses.
- NIOSH leads the congressionally mandated National Firefighter Registry for Cancer, which monitors cancer and risk factors among firefighters who voluntarily join. Since the NFR launched in 2023, NIOSH has worked closely with the U.S. fire service and other partners to grow the registry to nearly 24,000 firefighters (and counting) and share actionable information back with the fire service through the public NFR data dashboard, quarterly NFR newsletter, participant notification system, partner-led training courses, and various other initiatives. The information supports immediate firefighter cancer prevention efforts, while expanding the registry will enable first-of-its-kind research to yield answers about cancer in the American firefighter workforce.
- Since 2013, the NIOSH [Center for Workers' Compensation Studies \(CWCS\)](#) has produced over 100 [publications](#) and influenced the development of safety grants and research programs in several states, preventing injuries and saving millions in [avoided costs](#). A [RAND study](#) concluded that NIOSH research has helped yield \$4 million to \$7 million per year in avoided workers' compensation costs, \$7 million to \$11 million in new streams of annual productivity gains per year, and from almost \$700,000 to more than \$16 million in avoided uncompensated wage losses per year.
- NIOSH also sends individual tailored results letters to each member of the public who participates in a health hazard evaluation, engineering control investigation, or exposure measurement site visit, informing them of their individual exposure or medical results. This helps the workers and their medical provider improve health and reduce risk.
- NIOSH collaborated with labor, industry, and government to develop ventilation solutions that reduce worker silica exposures during pavement milling in highway construction. By 2017, all manufacturers supplying pavement milling machines to the U.S. market began equipping every new machine with these controls. The RAND Corporation studied the [Economic Benefit Associated with Research and Services at NIOSH](#) in 2018, including EPHB's work on road construction. They concluded that the economic value of ventilation control measures from this research ranges from \$304 million to \$1.1 billion on an annual basis, with a midpoint estimate of \$692 million per year.
- Most engineering control solutions listed in Table 1 of the OSHA silica standard were developed and validated by NIOSH/DFSE, indicating that OSHA considers companies using these solutions to be in compliance with its silica standard, thereby precluding the need for expensive air monitoring or respiratory protection.
- The largest chain of stone countertop fabrication shops in the US implemented a NIOSH-designed engineering control solution in all its shops and includes it in its [best practice guide](#) to reduce workers' silica exposure during the current global outbreak of silicosis in this industry.
- NIOSH provided evaluations and recommendations to the US Postal Service and equipment manufacturers to address risks from biohazards in mail processing equipment, such as anthrax.
- NIOSH has led and continues to lead research studies on firefighters' exposures to hazardous chemicals and interventions to reduce those exposures. These studies have resulted in more than 50 peer-reviewed articles and reports since 2010, and more importantly, have led to new

protective policies, procedures, standards, and innovations for the fire service, directly impacting the health and safety of more than 1 million firefighters nationwide. In 2017, the RAND Corporation estimated that these interventions have the potential to reduce fatal cancer cases by 4,000 and non-fatal cancer cases by 5,000 over 60 years and save \$71 million per year in medical and productivity costs.

- NIOSH's work on airplane interior ventilation is incorporated into the [Safety Risk Management](#) plan that Boeing, FAA, CDC, and others partnered to develop to address infectious disease transmission during air travel. TSA and airline companies implemented the NIOSH recommendation on Interventions for Airport Baggage Handling, leading to reduced musculoskeletal disorders among airport baggage screeners.
- The Veterans Administration partnered with NIOSH to develop the current best practices in [Safe Patient Handling and Mobility](#) to reduce musculoskeletal disorders among healthcare workers during patient handling.
- The free [NIOSH Sound Level Meter App](#), created by NIOSH/DFSE, measures noise levels and helps noise-exposed workers (approximately 22 million in the US) determine if they need to wear hearing protection.
- NIOSH developed the [Safe in Sound Excellence in Hearing Loss Prevention Award](#) program to recognize organizations that document measurable achievements in hearing loss prevention and to disseminate information on their real-world successes so that other companies/businesses may also benefit.
- NIOSH researchers published the [Individual Fit-testing Recommendation for Hearing Protection Devices](#), which enables employers to effectively measure the performance of a hearing protector and ensure their employees are getting the protection they are paying for.
- NIOSH emergency response-related work involving on-site or virtual evaluation and consultation on ventilation and engineering solutions for reducing airborne transmission of disease and reduction of hazards for numerous facilities during preparedness exercises, disease outbreaks, or chemical, biological, and radiological (CBR) incidents.
- The NIOSH [Center for Workers' Compensation Studies \(CWCS\)](#) conducts studies for private, state, and federal partners to determine what approaches, such as [safety grants](#) and [risk control services](#), work best to prevent injuries/illnesses and what health services work best to treat injured workers. It has been noted as the CDC's leader in designing advanced data dashboards for partners to allow larger audiences to understand the data more easily and develop quicker conclusions and solutions to reduce workers' compensation claims.
  
- The NIOSH Industry and Occupation Coding and Classification System ([NIOCCS](#)) is a free online AI tool we created, available for the public that translates narrative text in various types of records into standardized categories, enabling us to tell what occupation an individual has and what industry they work in, based just on the narrative from the record entered into NIOCCS. This ensures industry and occupation data are consistently categorized in a standardized way, enhancing the reliability of research findings and enabling early or latent detection of harm to employees in any occupation or industry. The system already codes on average **1-2 million records daily** for users, and its popularity is growing.
- NIOSH Worker Health Charts: The Worker Health Charts provide a valuable service by offering visual representations of data from multiple sources on occupational injuries, illnesses, exposures, and other relevant health metrics, utilizing federal data. These charts help users

understand trends, statistics, and key issues affecting the health of workers across most US industries. The charts can be used by employers, policymakers, researchers, and the public to inform decisions related to workplace safety practices and regulations.

### **Talking Points: Specific to Health Hazard Evaluation (HHE) Program**

- For over 50 years, the NIOSH Health Hazard Evaluation (HHE) Program has been a lifeline for America's workforce. We respond directly — free of charge — when employers, workers, unions, or government agencies request assistance in investigating potential workplace hazards. Our independent evaluations translate cutting-edge science into practical solutions that improve health, save lives, and boost productivity.
- Much of this life-saving work has been led right here from Cincinnati, Ohio — a proud center of worker protection efforts nationwide.
- Since its founding, the HHE Program has conducted over 17,500 evaluations in all 50 states.
- **How HHE Has Made a Difference**
  - **Combatting the Fentanyl Crisis:** NIOSH Cincinnati teams developed critical guidance to protect law enforcement, first responders, and healthcare workers from accidental exposures to fentanyl and synthetic opioids — saving countless lives on the front lines of the opioid epidemic.
  - **Uncovering Toxic Heavy Metal Exposures in Recycling Facilities:** HHE identified hazardous exposures to mercury, lead, cadmium, and other metals in electronics recycling and scrap metal processing facilities. Their work helped protect workers handling America's growing e-waste and scrap stream.
  - **Fighting Lead Poisoning in Construction and Renovation:** HHE uncovered dangerously high lead exposures during bridge painting, demolition, and renovation projects, resulting in stronger worker protections and a reduction in devastating health outcomes, including brain and kidney damage.
  - **Protecting Emergency Responders During the Maui Wildfires:** Following the catastrophic fires in Lahaina, HHA's Cincinnati teams assessed the respiratory hazards faced by firefighters, police officers, and emergency medical personnel. They identified serious airborne risks and recommended urgent improvements in PPE use and health monitoring.
  - **Safeguarding Healthcare Workers Handling Hazardous Drugs:** HHE found unsafe practices during the preparation of chemotherapy and other hazardous drugs, leading to life-saving improvements that reduce cancer and reproductive risks among nurses and pharmacy workers.
  - **Reducing Silica Exposure in Stone Countertop Fabrication:** HHA evaluations in granite and quartz countertop shops revealed extreme silica dust exposures. Their recommended controls are now used across the industry to prevent deadly silicosis — part of a broader silica control effort valued at up to \$1.1 billion annually in health and economic benefits.

- **Why the HHE Program Matters Now More Than Ever:** A call to the HHE Program can prevent disaster. They are nimble, independent, and able to act when others cannot. They shine a light on hidden dangers before they become tragedies. Without the HHE Program, America's workers — from first responders to healthcare heroes to construction crews — would lose a critical layer of protection.

## Additional NIOSH Case Studies

### 1. Preventing Costly Manual Handling Injuries

- Lifting heavy loads, especially at work, can cause serious musculoskeletal injuries, costing [\\$12.49B per year](#), according to Liberty Mutual Insurance.
- NIOSH Research: The NIOSH Lifting Equation (NLE) was first introduced in 1981 and revised in 1991. The revised NLE (RNLE) enables users to assess the biomechanical demands of lifting tasks and provides guidelines to mitigate risk. NIOSH developed the NLE Calc App, a smartphone application that helps employers and workers calculate the safe lifting weight without risk of injury. The app streamlines RNLE use by allowing users to enter data directly.
- Impact: Highly regarded: The NLE Calc App was recognized as one of the top 10 workplace safety apps of 2025 by Safety Culture, endorsed by OSHAToday.com for preventing back injuries, featured on Texas Mutual Workers' Compensation Insurance's website, and consistently included as a top ergonomics resource on the Center for Construction Research and Training (CPWR) website.
- Widely used: The NLE Calc app has been widely adopted across various businesses and industries, with downloads exceeding 344,000 in the Apple Store alone, and has been utilized by major companies, including GM and Toyota.
- Statute: Conducted under 42 C.F.R. Part 85a

### 2. Preventing Pesticide Injuries and Illnesses

- Pesticide poisonings still occur in the U.S. while working with pesticides or during daily activities unrelated to pesticide use. Pesticides can cause headaches, hearing loss, paralysis, and more. To prevent pesticide poisoning, it is essential to identify the causes.
- NIOSH Research: The NIOSH SENSOR-Pesticides Program collects data to understand the frequency and causes of pesticide poisoning. They partnered with state and federal agencies to collect data on poisonings. After analyzing the data, they inform the scientific community, public health practitioners, and policy makers so that changes can be made to keep workers healthy and on the job.
- SENSOR-Pesticides is a nationally recognized program that influences federal regulations, such as the Worker Protection Standard, which reduces pesticide exposure for agricultural workers. SENSOR-Pesticides have led to changes in laws mandating safer pest control methods in schools. Program findings have also led to clearer pesticide labels and changes in state laws in California, Florida, North Carolina, and New York to improve pesticide protection.

### 3. Working with Industry Partners to Reduce Occupational Hearing Loss

- Hearing loss is a common work-related illness and can profoundly impact on a person's quality of life. It is linked with decreased mental ability, heart disease, and depression. A lack of data has made it challenging to identify the workers most at risk or to prioritize prevention and research efforts.
- NIOSH Research: The NIOSH Occupational Hearing (OHL) Loss Surveillance Program collects and analyzes worker hearing-related data from industry partners. The data increase awareness of workplace hearing hazards and pinpoint groups that need targeted prevention efforts.
- Impact: Program results and recommendations have been utilized by standard-setting organizations, government entities, industry, and other stakeholders to identify high-risk groups and enhance worker protections. Results have also been used to evaluate the success or failure of prevention strategies over time.

### 4. Working with States to Protect Workers from Lead

- Lead is linked to many devastating health consequences, including heart disease, brain damage, paralysis, and death. Lead remains a significant problem, with over 90% of known adult exposure occurring in the workplace. Workers also put their families at risk of lead exposure if they bring it home.
- NIOSH Research: Adult Blood Lead Epidemiology and Surveillance (ABLES) is the only state-based program conducting adult blood lead exposure surveillance in the United States. ABLES data monitor lead exposure trends by year, state, and industry. Currently, 37 states collaborate in ABLES to reduce exposure among adults. We also collaborate with other federal agencies to further reduce lead exposure in children.
- Impact: ABLES helps public health agencies identify increases in lead exposure and focus their activities on preventing exposures, especially in the workplace. ABLES data have been used as evidence in reports to Congress. Findings have helped protect [workers](#) and [families](#) and continue to [contribute](#) to a [decline](#) in workplace lead exposure.

### 5. Responding to the 2001 Anthrax Response

- In October 2001, anthrax mailings through the U.S. Postal Service killed 5 people and sickened 17 others.
- NIOSH provided extensive assistance and expertise to the terrorist attack response.
- NIOSH Health Hazard Evaluation (HHE) investigators participated in over 25 investigations involving potential anthrax contamination through the U.S. postal system, and helped design reliable standardized protocols for sampling.
- "The HHE Program is a recognized federal leader in its ability to respond quickly and effectively to new and emerging hazards, particularly in emergencies." - National Academies Review.

### 6. Identified and Prevented "Popcorn Lung"

- "Popcorn lung" or obliterative bronchiolitis is a serious, incurable lung disease.

- A series of Health Hazard Evaluations (HHEs) conducted between 1985 and 2006 identified exposure to diacetyl, a chemical used for flavorings such as butter flavoring, as the cause of popcorn lung among workers of microwave popcorn plants.
- Impact: The findings were utilized in the NIOSH Criteria for a Recommended Standard: Occupational Exposure to Diacetyl and 2,3-Pentanedione, and California OSHA subsequently used the data to develop a standard that protects workers. ConAgra, a major manufacturer, initiated pulmonary surveillance and industrial hygiene reviews to reduce exposure. States have alerted pulmonary physicians to diacetyl and bronchiolitis obliterans, and some facilities have voluntarily removed diacetyl from their manufacturing processes.
- “The HHE Program is a highly relevant program that has had and promises to continue having a valuable impact on improving worker health. The committee recommends the program be continued and, as possible, expanded to conduct more field investigations over a greater range of hazards...” – National Academies Review.

## **7. Preventing Carbon Monoxide Poisonings on Houseboats**

- From 1990 to 2004, there were approximately 540 carbon monoxide (CO) poisonings associated with exhaust from gasoline-powered marine engines on recreational boats.
- NIOSH Research: In August 2000, the National Park Service requested assistance from NIOSH and the U.S. Coast Guard to evaluate visitor and employee CO exposures from houseboat generators and engines. Initial NIOSH investigations showed very high CO concentrations on and around houseboats powered by gasoline generators. Collaborating with major manufacturers, NIOSH evaluated and developed novel engineering controls to reduce CO emissions in occupied areas of houseboats and other recreational boats.
- Impact: New catalyst-based low CO emission generators and stern-drive engines have been introduced by manufacturers, significantly enhancing safety for boaters. This ongoing collaboration has helped improve engineering technologies that address CO poisoning risks across various types of recreational vessels since the project's inception in 2002.

## **8. NIOSH Research Drives Extension of Benefits for Uranium Miners**

- For decades, millions of tons of Uranium ore were mined to make nuclear weapons. Many mine workers got extremely ill or died from diseases related to mining hazards like silica dust and radiation. The Radiation Exposure Compensation Act (RECA) provided compensation awards for miners and others who contracted specified diseases from exposure to mining hazards.
- NIOSH Research: NIOSH research found strong evidence that many uranium miners would continue to develop compensable diseases at a high rate, even after the termination of RECA compensation benefits. NIOSH researchers immediately shifted priorities to rapidly complete and publish their findings so they could be shared with policymakers before a vote on a bill to extend workers' RECA benefits.
- Impact: Soon after the article was published, the House voted to pass the RECA Extension Bill of 2022. The findings were discussed on the House floor by several members of Congress, and the manuscript was added to the Congressional Record of House Proceedings. NIOSH evidence sent a strong message about the continued health burdens of uranium miners. Weeks later, the RECA

Extension Bill of 2022 became law, giving workers more time to file claims.

#### **9. NIOSH Workplace Survey Reports**

- Over 600 publicly available Workplace Survey Reports, which document worksite engineering evaluations and consultations directly provided to hundreds of companies across numerous industries. This includes practical recommendations and technical solutions resulting from our evaluation and consultation to numerous industries. This results in companies' access to often low-cost engineering control solutions that comply with relevant occupational safety and health standards for protecting workers' safety and health. NIOSH conducts independent investigations of non-traumatic firefighter line-of-duty deaths and serious injuries. We have completed approximately 350 investigations that identify key factors that contribute to the event and actions to help prevent similar firefighter injuries and deaths.

#### **10. NIOSH Direct Services to the Department of Defense**

- The FY2021 National Defense Authorization Act mandated a study on the incidence of cancer diagnosis and mortality among military fixed-wing aviators and aviation support personnel. NIOSH is leading a detailed investigation to identify the specific occupational risk factors associated with the increased risk of cancers identified among 800,000 military personnel.

#### **11. NIOSH leads the congressionally mandated National Firefighter Registry for Cancer**

- NIOSH monitors cancer and risk factors among firefighters who voluntarily join. Since the NFR launched in 2023, NIOSH/DFSE has worked closely with the U.S. fire service and other partners to grow the registry to nearly 24,000 firefighters (and counting) and share actionable information back with the fire service through the public NFR data dashboard, quarterly NFR newsletter, participant notification system, partner-led training courses, and various other initiatives. The information helps support immediate firefighter cancer prevention efforts, while expanding the registry will enable first-of-its-kind research, yielding insights into cancer in the American firefighter workforce.

#### **12. NIOSH Center for Workers' Compensation Studies (CWCS)**

- NIOSH provides advanced data science approaches to private, state, and federal partners to analyze millions of workers' compensation claims to better understand what job factors caused a past injury or illness and to develop prevention ideas that protect workers. Work-related injuries and illness have a great financial and societal impact, costing over \$250 billion per year in the US.
  - Since 2013, the NIOSH Center for Workers' Compensation Studies (CWCS) has produced over 100 publications and influenced the development of safety grants and research programs in several states, preventing injuries and saving millions in avoided costs. A RAND study concluded that NIOSH research has helped yield \$4 million to \$7 million per year in avoided workers' compensation costs, \$7 million to \$11 million in new streams of annual productivity gains per year, and from almost \$700,000 to more than \$16 million in avoided uncompensated wage losses per year.
- NIOSH also sends individual tailored results letters to each member of the public who participates in a health hazard evaluation, engineering control investigation, or exposure

measurement site visit, informing them of their individual exposure or medical results. This helps the workers and their medical providers improve health and reduce risk.

- CWCS is the CDC leader designing advanced data dashboards for partners to allow larger audiences to understand the data more easily and develop quicker conclusions and solutions to reduce workers' compensation claims.
- CWCS conducts studies for private, state, and federal partners to determine what approaches, such as safety grants and risk control services, work best to prevent injuries/illnesses and what health services work best to treat injured workers.

### **13. Silica Exposures Study**

- NIOSH collaborated with labor, industry, and government to develop ventilation solutions that reduce worker silica exposures during pavement milling in highway construction.
- By 2017, all manufacturers supplying pavement milling machines to the US market began equipping every new machine with these controls. The RAND Corporation studied the economic benefits of NIOSH research and services in 2018, including EPHB's work on road construction. They concluded that "the economic value of ventilation control measures from this research range from \$304 million to \$1.1 billion on an annualized basis, with a midpoint estimate of \$692 million per year.
- Most engineering control solutions listed in Table 1 of the OSHA silica standard were developed and validated by NIOSH, indicating that OSHA considers companies that use these engineering control solutions to be in compliance with its silica standard, thereby precluding the need for expensive air monitoring or respiratory protection.
- The largest chain of stone countertop fabrication shops in the US implemented a NIOSH-designed engineering control solution in all its shops and includes it in its best practice guide to reduce workers' silica exposure during the current global outbreak of silicosis in this industry.

### **14. US Postal Service Biohazards Project**

- NIOSH provided evaluation and recommendations to the US Postal Service and equipment manufacturers to address risks from biohazards in mail processing equipment, e.g., anthrax.
- NIOSH has led and continues to lead research studies on firefighters' exposures to hazardous chemicals and interventions to reduce those exposures. These studies have resulted in more than 50 peer-reviewed articles and reports since 2010, and more importantly, have led to new protective policies, procedures, standards, and innovations for the fire service, directly impacting on the health and safety of more than 1 million firefighters nationwide. In 2017, the RAND Corporation estimated that these interventions have the potential to reduce fatal cancer cases by 4,000 and non-fatal cancer cases by 5,000 over 60 years and save \$71 million per year in medical and productivity costs.

### **15. NIOSH's Work on Airplane Interior Ventilation**

- Is incorporated into the Safety Risk Management plan that Boeing, the FAA, CDC, and others

developed in partnership to address infectious disease transmission during air travel.

- TSA and airline companies implemented the NIOSH/DFSE's recommendation on Interventions for Airport Baggage Handling, leading to reduced musculoskeletal disorders among airport baggage screeners.

#### **16. Safe Patient Handling and Mobility**

- VA partnered with NIOSH to develop the current best practices in Safe Patient Handling and Mobility to reduce musculoskeletal disorders among healthcare workers during patient handling.

#### **17. Free NIOSH Sound Level Meter App**

- Created by NIOSH to measure noise levels and help noise-exposed workers (approximately 2 million in the US) decide if they need to wear hearing protection.

#### **18. Individual Fit-Testing Recommendation for Hearing Protection Devices**

- NIOSH researchers published guidance that enables employers to effectively measure the performance of a hearing protector and ensure their employees are getting the protection they are paying for.

#### **19. Emergency Response-Related Work**

- NIOSH has conducted studies involving on-site or virtual evaluation and consultation on ventilation and engineering solutions to reduce the airborne transmission of disease and mitigate hazards in numerous facilities during preparedness exercises, disease outbreaks, or chemical, biological, and radiological (CBR) incidents.