

NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH (NIOSH)

Health Hazard Evaluation (HHE) Program

2025 Annual Report

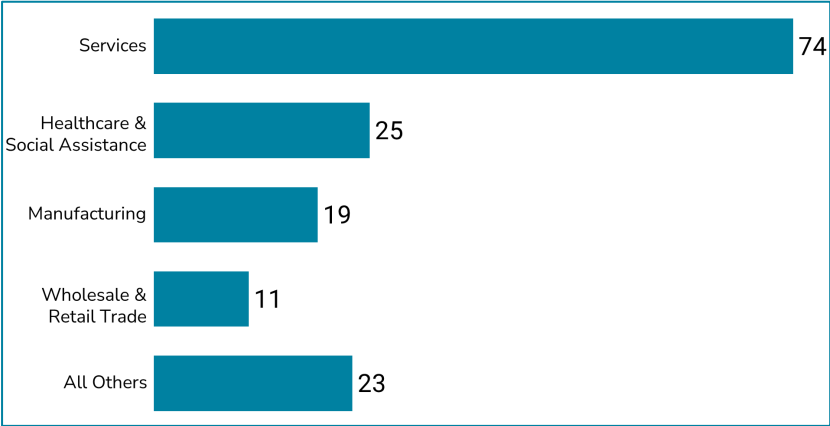


NIOSH HHE Requests in 2025

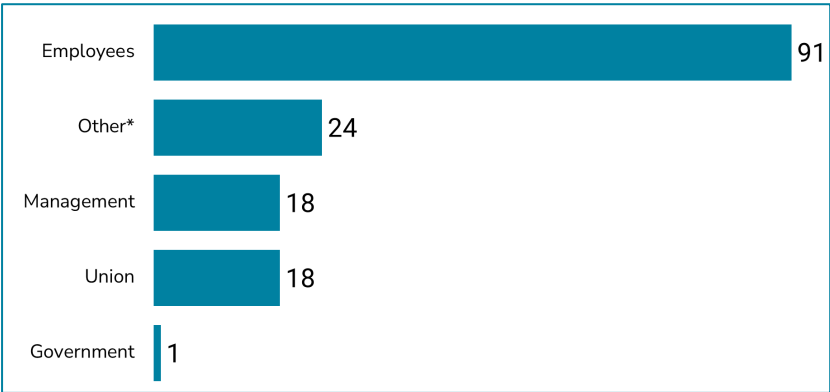
NIOSH receives requests from employees, employers, and union representatives who are seeking an evaluation of potential health hazards in their workplace.

152 Requests

Top 4 Sectors by Number of HHE Requests in 2025



HHE Requests in 2025 by Requestor Type



Other requests (invalid): Former employee, customer, tenant, family member, etc.*

14 Site Visits and Emergency Response Deployments



12 workplaces



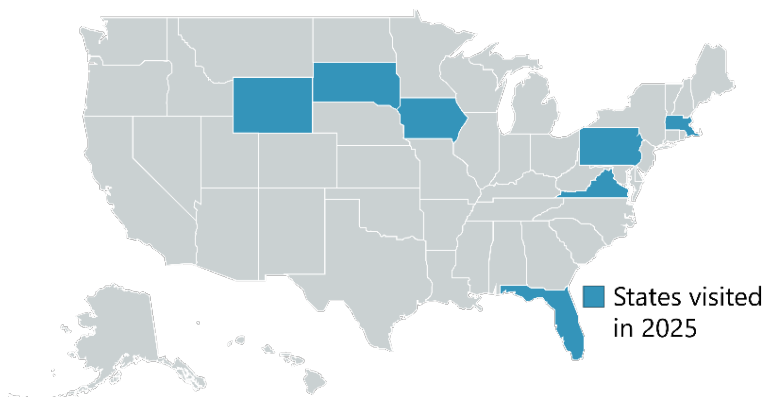
7 states



10 cities



Approx. 13,738
miles traveled



Outreach



45,243 views of the [HHE website](#)



20,473 downloads of 3,075 different [HHE reports](#)



411 downloads of [Evaluation of Needlestick Injuries and Other Exposures to Bloodborne Pathogens Among Officers in a City Police Department](#) (most downloaded report of 2025)



18 new HHE final reports published



51 informational letters provided to employer, employee, and/or union representatives



6 presentations



30 peer-reviewed
publications

HHE Final Report Examples from 2025

Evaluation of Exposure to Metals and Noise during Shipbuilding and Ship Repair Operations

Management at a shipbuilding and ship repair company was concerned about potential exposure to airborne metals and noise during various shipbuilding and ship repair activities.

What NIOSH Did

- Measured employees' exposures to airborne metals.
- Measured employees' exposures to airborne noise.

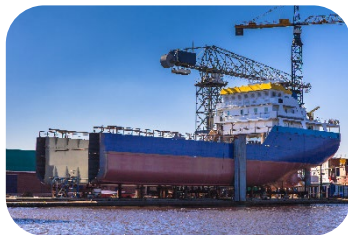


Photo by stock.adobe.com

Key Findings

- Some employees' manganese exposures were above the NIOSH recommended exposure limit (REL) and American Conference of Governmental Industrial Hygienists (ACGIH®) threshold limit value (TLV®).
- Some employees' noise exposures were above the NIOSH REL, and Occupational Safety and Health Administration action level and permissible exposure limit.

Recommendations



Use the [NIOSH Hierarchy of Controls](#) to reduce exposures to below occupational exposure limits (OELs).



Improve ventilation in work areas where employees were overexposed to manganese.



Properly adjust and maintain equipment to reduce noise.



Implement a "[Buy Quiet](#)" program to reduce noise by purchasing new equipment that produces less noise.

Read the [full report](#) online.

Evaluation of a Blastomycosis Outbreak Among Workers at a Pulp and Paper Mill

Management at a pulp and paper mill was concerned about potential exposure to *Blastomyces* fungus resulting in an outbreak of blastomycosis among employees, contractors, and visitors.

What NIOSH Did

- Held informational sessions for all employees to ask questions about *Blastomyces* and [blastomycosis](#).
- Collected indoor and outdoor environmental samples for *Blastomyces*.
- Assessed ventilation systems.
- Conducted interviewer-administered work and health questionnaires and offered urine antigen screening testing for *Blastomyces*.

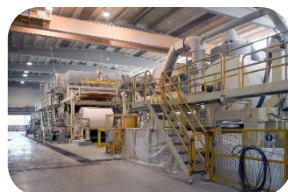


Photo by stock.adobe.com

Key Findings

- There were 162 of 645 workers who met the NIOSH case definition for blastomycosis.
- Some mill areas had workers with a higher prevalence of blastomycosis compared to those not working in those areas.
- Exposure to pooling water and visible mold indoors were potential risk factors for blastomycosis.
- Environmental sampling did not identify *Blastomyces*.

Recommendations



Follow the manufacturer's recommended maintenance schedule for all ventilation systems.



Routinely assess work areas for pooling water and dry the areas when identified.



Use a layered approach to reduce potential exposure to airborne *Blastomyces*.



Make sure employees and contractors know the signs and symptoms of blastomycosis.

Read the [full report](#) online.

Evaluation of Occupational Exposures to Illicit Drugs at a City and County Crime Laboratory

Management at a police department crime laboratory was concerned about potential occupational exposure to illicit drugs among employees working in the forensic chemistry unit.

What NIOSH Did

- Evaluated exposures to cocaine, fentanyl, heroin, and methamphetamine in air, on hands, and on various surfaces.
- Tested forensic scientists' urine for cocaine, fentanyl, heroin, methamphetamine, and several metabolites (breakdown products).

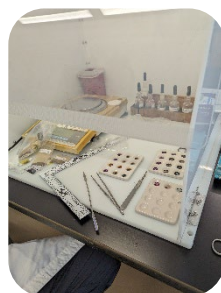


Photo by NIOSH

Key Findings

- One forensic scientist was overexposed to fentanyl in the air. Forensic scientists were also exposed to cocaine and methamphetamine in the air.
- Samples found cocaine, fentanyl, and methamphetamine on hands of forensic scientists and on surfaces in and outside of the laboratory. Heroin was found on surfaces in the laboratory.
- Some employees had methamphetamine in urine samples.

Recommendations



Improve performance of existing ventilated workspaces.



Continue existing practices to reduce exposure to controlled substances and their movement outside of the laboratory.



Consider implementing quantitative [fit testing](#) for respirators required for use during evidence analysis.



Update the safety manual and other standard operating procedures to reflect changes implemented to reduce exposure to controlled substances.

Read the [full report](#) online.

Evaluation of Metals Exposure in a Metal Powder Additive Manufacturing Facility

The director of operations and control at a metal powder additive manufacturing facility was concerned about dermal and inhalation exposures to metals in the workplace.

What NIOSH Did

- Collected surface wipe samples and air samples for metals and organic gases.
- Monitored task-based levels and spatial distribution of particles.
- Assessed the powder bed fusion printing area ventilation system.

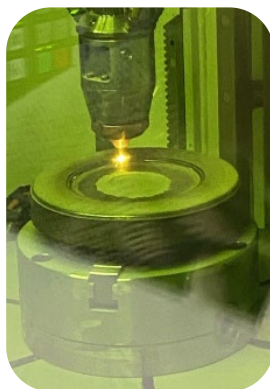
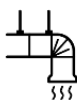


Photo by NIOSH

Key Findings

- Powder bed fusion employees were exposed to airborne particles.
- Some production area employees were exposed to airborne metal particles.
- Feedstock metal powders had migrated throughout the facility.
- Employee's skin and clothing were contaminated with metals.
- Facility airflow patterns affected particle migration.

Recommendations



Implement ventilation controls to minimize the migration of metals and gases throughout the facility.



Enclose or isolate dusty processes to minimize the migration of metals throughout the facility.



Implement administrative controls to prevent metals from getting on employees' skin and migrating in the facility.



Use personal protective equipment to keep metals and gases out of employees' lungs and metals off their skin.

Read the [full report](#) online.

Exposure to Lead during Work On and Near Lead-Sheathed Telecommunication Cables

A union representing workers at a telecommunications provider was concerned about lead exposure when conducting repair, maintenance, and installation of telecommunications cables.

What NIOSH Did

- Collected personal air samples for lead during work on or near lead-sheathed cables in manholes.
- Collected hand and surface wipe samples, and bulk samples.
- Reviewed blood lead level (BLL) records.



Photo by stock.adobe.com

Key Findings

- One personal lead air sample was above the Occupational Safety and Health Administration action level.
- All sampled employees had lead on their hands even after performing routine hand hygiene.
- Lead was found on surfaces in vehicles, on equipment and tools, and in some common areas in the garages.
- Some employees had BLLs above health-based reference levels recommended by public health agencies.

Recommendations



Follow the [OSHA lead standard](#) requirements after an air sampling result above the action level.



Continue implementing the replacement of wet wipes with lead removal wipes at field sites.



Provide workers with lead removal soap at garages.



Consider expanding the voluntary BLL testing program to a voluntary medical surveillance program that includes BLL testing at hire, annually, and after suspected lead exposure.

Read the [full report](#) online.

Health Hazard Evaluations and Firefighters

The HHE Program has received many health hazard evaluation requests involving firefighters and potential exposures. They range from diesel exhaust to opioids and illicit drugs to rhabdomyolysis. Selected reports are below.

Diesel Exhaust

- [Diesel exhaust control methods at a fire station in a city fire department.](#)
- [Diesel exhaust control methods at a fire station.](#)
- [Control of diesel exhaust at a municipal fire station.](#)

Opioids and Illicit Drugs

- [Occupational exposures to opioids, mental health symptoms, exposure to traumatic events, and job stress in a city fire department.](#)
- [Occupational exposures to illicit drugs during an emergency medical services response.](#)



Photo by stock.adobe.com

Wildland Firefighters

- [Wildland firefighter exposures during fuel reduction projects.](#)
- [Wildland firefighters' exposures to asbestos during a prescribed burn.](#)

Fire Response

- [First responders' biological monitoring results after Maui County Hawaii wildfires.](#)
- [Exposures and health effects in firefighters following response to a chemical fire.](#)
- [Fire debris cleanup employees' exposure to silica, asbestos, metals, and polyaromatic hydrocarbons.](#)

Training

- [Rhabdomyolysis and heat stroke in structural firefighter cadets.](#)

Search for additional [HHE reports](#) online or visit the [NIOSH firefighting website](#) for more information and resources.

Select Specialty Publications

Examples of New Scientific Journal Articles

- Beaucham CC, Zeiler R, Fent K, Chiu SK, Somerville N, Mayer A, Rinsky JL, Estill C [2025]. [Notes from the field: serum concentrations of perfluoroalkyl and polyfluoroalkyl substances among first responders to the Maui wildfires - Hawaii, September 2023](#). MMWR Morb Mortal Wkly Rep 74(3):35–39.
- O'Connor AW, Park JH, Stanton ML, Liang X, Shi D, Callaway PC, Harvey RR, LeBouf R, Bailey RL, Hennessee I, Toda M, Meece J, Sterkel A, Dargle S, Bree O, Olstadt J, Reik R, Stobierski MG, Snyder M, Yin R, de Perio MA, Hines S, Cox-Ganser J; Michigan Blastomycosis Outbreak Investigation Team [2025]. [Assessment of environmental risk factors for blastomycosis during a large outbreak at a Michigan paper mill](#). PLoS One 20(9):e0332398.
- Shi DS, Charles M, Beaucham C, Walker S, Alarcon W, Brueck SE, Chiu SK, Somerville N [2025]. [Occupational exposure to mercury at an electronics waste and lamp recycling facility - Ohio, 2023](#). MMWR Morb Mortal Wkly Rep 74(1):9–13.
- Lee EG, Tomasi SE, O'Connor AW, Lawless M, Eo YS [2025]. [Occupational exposures to halogenated waste anesthetic gases in healthcare professionals](#). J Occup Environ Hyg 22(12):987–1000.
- Wiegand DM, Chiu SK, Broadwater K, Li JF [2025]. [A cross-sectional evaluation of city firefighters' exposure to potentially traumatic events during opioid overdose responses and mental health](#). J Workplace Behav Health 40(3):415–432.

New NIOSH Infographic

- [Safe Desktop Vat Photopolymerization 3-D Printing](#)

NIOSH eNews: Research Rounds

- [Evaluation Of Chemical Exposures Generated From N-free Nail Polishes](#)

What They're Saying

During and after an HHE, the HHE Program asks for feedback on how well we did, our communication, our recommendations, and other questions to help us improve. These quotes are from HHE participants who provided feedback in 2025.

It was very thorough. I appreciated the clearly identified issues found, the remediation measures taken, and the additional recommendations noted.

- Manager at a regional medical center

Even though health hazards were not found, by NIOSH coming out to evaluate staff concerns, our staff was able to see that the safety team was taking their concerns seriously. NIOSH was able to recommend ways to make our staff more comfortable, and although the recommended changes have not been made, the changes are in progress and are expected to be completed over the next year.

- Safety coordinator at a health department laboratory

We would like to express our sincere gratitude for the considerable time, expertise, and resources your department dedicated to conducting this comprehensive evaluation. Your efforts have been instrumental in advancing workplace health and safety standards at [Company].

- Health and safety manager at a shipyard

Report was detailed and communication with NIOSH personnel was timely and thorough.

- Employee in an office building

NIOSH gave a better sense on what challenges we were facing. The air sampling was a huge success because now we can take proper measurement to get some engineering work in place.

- Employee at a crime laboratory

Moving Forward

The NIOSH HHE Program continues to receive requests for assistance from employers, employees, and union officials. The following are examples of recent requests the HHE program is currently evaluating.

Chemicals



- Trichloroethylene in an asphalt company quality control laboratory
- Nitroglycerin at an explosives manufacturer
- Adhesives at a twist-tie manufacturer
- Camera film developing chemicals

Ergonomics



- Whole-body vibration exposure from hover transport equipment
- Musculoskeletal disorders during seafood processing

Particulates



- Cannabis dust from grinding and packaging cannabis
- Frangible ammunition at a firing range
- Diesel exhaust in fire departments
- Lead at an ammunition manufacturer

Photos by stock.adobe.com



The mission of the NIOSH Health Hazard Evaluation Program is to respond to requests from employees, employers, and union representatives to evaluate potential health hazards in their workplace.

The NIOSH HHE Program does these evaluations at no cost to the requestor. Once the evaluation is complete, we make recommendations on ways to reduce or eliminate identified hazards. Health Hazard Evaluations can help reduce hazards and create healthier workplaces.

Contact

If you have questions, please contact the NIOSH HHE Program, Monday–Friday, 9 a.m. – 4:30 p.m. ET.



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