

NIOSH HEALTH HAZARD EVALUATION (HHE) PROGRAM

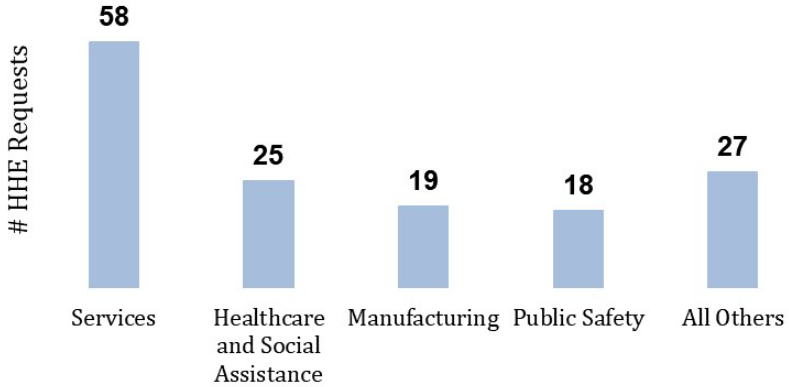
2023 Annual Report



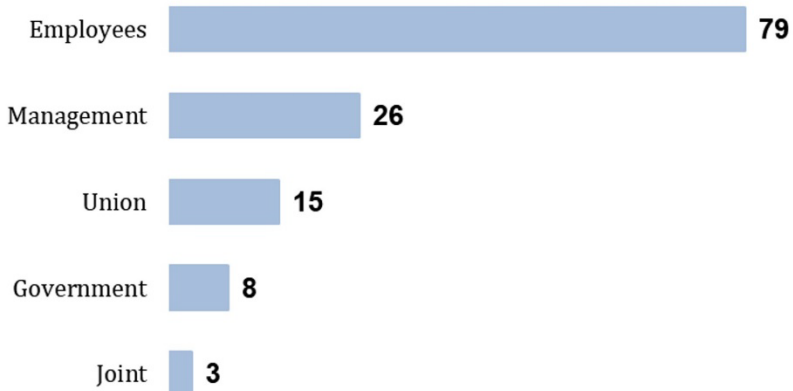
HHE Requests in 2023

147 Requests

Top 4 Sectors by HHE Request in 2023



HHE Requests by Requestor Type



16 invalid requests: anonymous, family member, former employee, other

38 Site Visits and Emergency Response Deployments



30 Workplaces



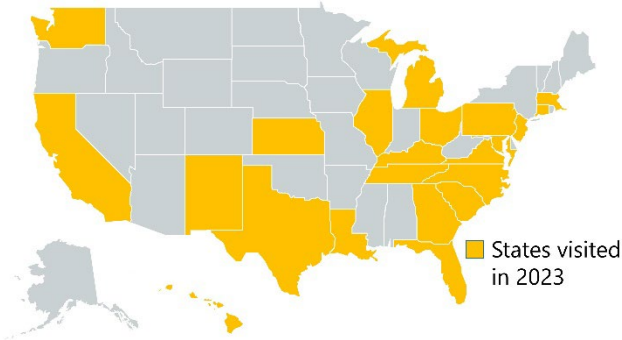
22 States



29 Cities



Approx. **72,682**
Miles Traveled



Outreach



[HHE website](#) viewed **42,318** times

[HHE reports](#) downloaded **14,692** times



6 New HHE reports published



Most downloaded report of 2023 (**715** downloads)

*Evaluation of Occupational Exposures to Opioids,
Mental Health Symptoms, Exposure to Traumatic Events,
and Job Stress in a City Fire Department*



<https://www.cdc.gov/niosh/hhe/reports/pdfs/2018-0015-3384.pdf>



51 Presentations



39 Peer-reviewed publications

HHE Final Report Examples from 2023

Evaluation of Exposures to Dust and Noise at a Pharmaceutical Manufacturing Facility

Management at a pharmaceutical manufacturing facility wanted to access employees' exposures to pharmaceutical dust and noise during pharmaceutical manufacturing.

What NIOSH Did

- Observed work processes, work practices, and workplace conditions.
- Measured particulates in air and full-shift personal noise exposures during pharmaceutical manufacturing and packaging.
- Measured sound levels.



Photo by NIOSH

Key Findings

- Dust levels were below occupational exposure limits.
- Employees' full-shift noise exposures were below exposure limits.

Recommendations



Stop using compressed air to blow dust/powder off clothing. This will help reduce noise and airborne dust.



Reduce or stop hand scooping powders.



Provide height-adjusting tables to reduce the distance needed to move powder from containers to hoppers.



Ensure proper and consistent use of stepladders.

This report is available at:

<https://www.cdc.gov/niosh/hhe/reports/pdfs/2021-0111-3391.pdf>

Evaluation of Occupational Exposures and Indoor Environmental Quality in an Underground Cavern Workplace

An employer of a warehouse facility, located in a former underground limestone quarry, was concerned about exposures to carbon monoxide, wood dust, other airborne particles, noise, and radon.

What NIOSH Did

- Measured carbon monoxide, wood dust, airborne particles, noise, and radon.
- Used tracer gas to measure the workplace air exchange rate.
- Interviewed employees.



Photo by NIOSH

Key Findings

- Carbon monoxide and radon levels were below exposure limits.
- Wood dust exposure could be above exposure limits, depending on how much time wood working equipment is used.
- Noise exposure in the woodshop was above the NIOSH recommended exposure limit.
- Air exchange rates in the cavern warehouse were very low.

Recommendations



Improve wood dust capture at the table saw and miter saw.



Include woodshop employees in a hearing loss prevention program.



Supply outdoor air to the cavern warehouse space.



Add a portable toilet, handwashing station, self-contained emergency eyewash, and drinking water in the work area.

This report is available at:

<https://www.cdc.gov/niosh/hhe/reports/pdfs/2018-0181-3389.pdf>

Evaluation of Exposures to Metals, Metalworking Fluids, Alcohols, and Volatile Organic Compounds at an Acrobatic Equipment Manufacturer

Employees at an acrobatic equipment manufacturer were concerned that workplace exposures could be causing health issues.

What NIOSH Did

- Collected air samples for metalworking fluids, metals, alcohols, and volatile organic compounds.
- Evaluated the local exhaust ventilation.
- Interviewed employees.



Photo by NIOSH

Key Findings

- Employees reported experiencing symptoms that could be worsened by the materials and chemicals used.
- Task-based air samples showed employees were exposed to low levels of metals and volatile organic compounds.
- Workplace conditions and practices could be improved to reduce potential exposures.

Recommendations



Create a welding area with local exhaust ventilation to capture welding fumes at the source.



Develop/follow a cleaning, decontamination, and maintenance plan for the computer numerical control machine.



Develop a voluntary-use respirator program to ensure that the respirator itself will not be a hazard for employees.



Improve employee access to gloves and require them to wear them during tasks where metalworking fluid is used.

This report is available at:

<https://www.cdc.gov/niosh/hhe/reports/pdfs/2019-0057-3390.pdf>

Evaluation of Occupational Exposures to Illicit Drugs in Forensic Laboratories

Management at a state police agency were concerned about potential occupational exposure to illicit drugs among toxicology lab employees.

What NIOSH Did

- Tested toxicology laboratory forensic scientists' hands for exposures to illicit drugs.
- Collected surface samples for illicit drugs in various labs/other areas.
- Interviewed employees and administered a questionnaire.
- Visually inspected building ventilation systems.



Photo by Getty Images

Key Findings

- Detectable levels of illicit drugs were found on surfaces, but not on forensic scientists' hands.
- Employees did not report any symptoms related to handling illicit drugs at work.
- Observed air flow between laboratories and surrounding areas may have affected the movement of drugs.

Recommendations



Update laboratory protocols to reduce employees' exposure to controlled substances.



Determine desired directional airflow between rooms in the building.



Review and update PPE practices and storage policies.



Review and update cleaning protocols to keep laboratory and other surfaces as free as practicable of contaminants.

This report is available at:

<https://www.cdc.gov/niosh/hhe/reports/pdfs/2021-0115-3388.pdf>

Select Specialty Publications

New NIOSH Publications



➤ [Leave Lead at Work](#)

DHHS (NIOSH) Publication No. 2024-101 (revised 10/23).

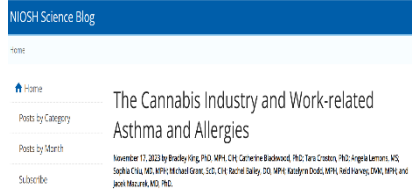
➤ [Reducing Workers' Lead Exposure During Water Service Line Removal and Replacement](#)

DHHS (NIOSH) Publication No. 2023-141

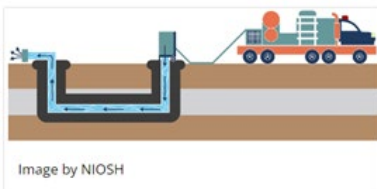


New NIOSH Scientific Blog

➤ [The Cannabis Industry and Work-related Asthma and Allergies](#)



New NIOSH Website



➤ [Cured-in-Place Pipe](#)

Select Specialty Publications

Examples of New Scientific Journal Articles

- Blackley BH, Nett RJ, Cox-Ganser JM, Harvey RR, Virji MA [2023]. Eye and airway symptoms in hospital staff exposed to a product containing hydrogen peroxide, peracetic acid, and acetic acid. *Am J Ind Med* 66(8):655–669, <https://doi.org/10.1002/ajim.23488>.
- Chiu SK, Brueck SE, Wiegand DM, Free HL, Echt H [2023]. Evaluation of low-frequency noise, infrasound, and health symptoms at an administrative building and men's shelter: a case study. *Semin Hear* 44(4):503–520, <https://doi.org/10.1055/s-0043-1769497>.
- Park S, Song D, Jo YM, Park J-H, Lee TJ, Koo J [2023]. Development of air purifier operation guidelines using grey box models for the concentrations of particulate matter in elementary school classrooms. *Aerosol Sci Tech* 57(5):467–485, <http://dx.doi.org/10.1080/02786826.2023.2187691>.
- Rimayi C, Park J-H [2023]. Adjustment of matrix effects in analysis of 36 secondary metabolites of microbial and plant origin in indoor floor dust using Liquid Chromatography-Tandem Mass Spectrometry. *Buildings* 13(5):1112, <https://doi.org/10.3390/buildings13051112>.
- Shi DS, Rinsky JL, Grimes GR, Chiu SK [2023]. Health Hazard Evaluations of occupational cancer cluster concerns: the USA, January 2001-December 2020. *Occup Environ Med* 81(2):109–112, <https://doi.org/10.1136/oemed-2023-108988>.
- Brueck SE, Eisenberg J, Zechmann EL, Murphy WJ, Krieg E, Morata TC [2023]. Noise exposure and hearing loss among workers at a hammer forge company. *Semin Hear* 44(4):485–502, <https://doi.org/10.1055/s-0043-1769498>.

What NIOSH is Looking at in 2024

Noise concerns at a state public health laboratory

Silica dust at a materials and corrosion engineering firm

Lead, mercury, and noise exposures at a recycling and hazardous waste facility

Peroxyacetic acid at a juice processing and packaging facility

Illicit drugs and county public libraries

Exposures at a rubber manufacturing plant

Respirable crystalline silica at a asphalt manufacturing, paving, and repair company

Evaluating respiratory concerns at a high school ceramics studio

Evaluating musculoskeletal concerns at a water heater manufacturer

What NIOSH is Looking at in 2024

Indoor environmental concerns at a college

Metal powders at an additive manufacturer facility

Blastomycosis fungal infection outbreak among paper mill workers

Exposures at a personal care products manufacturer

Disinfectants at a hospital

Mycobacterium avian at an aviary

Metal working fluids at manufacturer of machined precision parts

Diacetyl and 2,3-pentanedione at a coffee roasting and packaging facility



Health Hazard[®]
Evaluation Program

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.

These evaluations are done at no cost to the requestor. Once the evaluation is complete, recommendations are made on ways to reduce or eliminate identified hazards. Health Hazard Evaluations can help reduce hazards and create healthier workplaces.



If you have questions, please contact the HHE Program
Monday–Friday, 9 a.m. – 4:30 p.m. EST
Phone: 1-513-841-4382



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