

# Health Hazard Evaluation Program

## 2018 Annual Report



Photos by NIOSH



**HE** HealthHazard®  
Evaluation Program

# International Work

2,859 miles traveled

Location: Guyana

Requestor: Pan-American Health Organization (PAHO)

Concern: Worker exposure to mercury in gold processing

Impact: The NIOSH team provided exposure prevention, treatment, and policy recommendations impacting more than 500 employees.

## 221 HHE Requests

&

## 32 Site Visits



29  
Workplaces



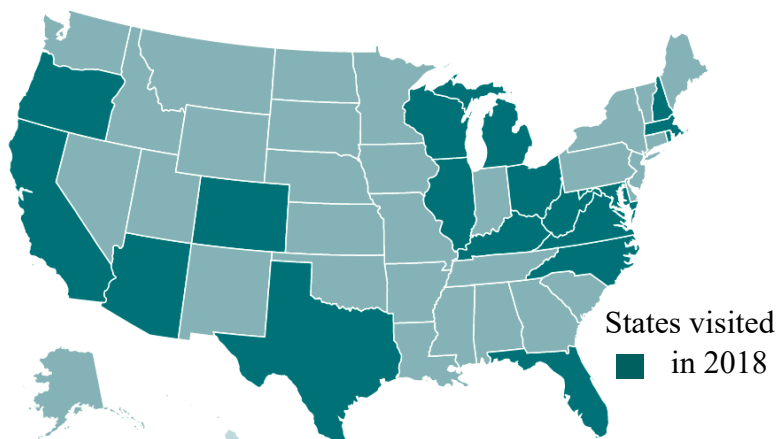
18  
States



29  
Cities



approx. 22,562  
Miles Traveled



# Outreach



HHE webpage viewed **61,140** times



**34** New HHE reports



Reports downloaded

**20,299** times



**234** Facebook posts



Reached **165,900** people



**31,891** Page “likes”



From **45** different  
countries



**88** Presentations



**20** Peer-reviewed  
publications

# Evaluation of Exposure to Metals, Flame Retardants, and Nanomaterials at an Electronics Recycling Company

## Findings

- Some flame retardants were in the air, on employees' hands, in their blood, and in their urine
- Metals were found outside of the processing area
- Dry sweeping and eating/drinking in the processing areas likely contributed to exposures
- Three employees had elevated blood lead levels



Photo by NIOSH

## Article Published!



Publication: Chemosphere

Article title: Field evaluation of sequential hand wipes for flame retardant exposure in an electronics recycling facility

Article available here: <https://doi.org/10.1016/j.chemosphere.2018.12.027>

## Recommendations



Wash your hands with a lead-removing product



Use respirators in the disassembly and shredding areas



Supply outdoor air to the office ventilation system



Instead of dry sweeping, use wet cleaning methods or vacuuming

HHE report available here: <https://go.usa.gov/xExQ2>

# Characterizing Exposures During Laser Tattoo Removal in a Hospital Dermatology Center

## Findings

- Low levels of acetone, isopropyl alcohol, and xylene were measured in air samples
- Particle concentrations were higher in the air around the dermatologist and close to the laser tattoo removal process
- Laser eyewear needed replacing
- Improper use of the “laser in use” signs could lead to accidental eye exposures

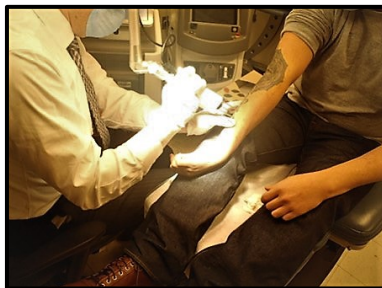


Photo by NIOSH

## Article Published!



Publication: Dermatology Times

Article title: Safety recommendations for tattoo removal

Article available here: <https://www.dermatologytimes.com/tattoo-removal/7-safety-recommendations-tattoo-removal>

## Recommendations



Report damaged or worn protective eyewear to supervisors



Discontinue use of the laser masks and molded surgical masks for respiratory protection



Only use respirators certified by the National Institute for Occupational Safety and Health



Operate the “laser in use” signs only when the laser is in use

HHE report available here: <https://go.usa.gov/xExxz>

# Opioid Investigations

## 13 Opioid-Related Investigations in 2018

Take a look at some of the concerns we responded to:

Potential exposure to synthetic opioids and other controlled substances in crime laboratories

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Policies and procedures to address potential exposure to fentanyl during airport screening operations

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Potential exposure to fentanyl among medical investigators

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Potential exposure to fentanyl and other opioids including issues related to building ventilation among workers at a jail

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Impact of traumatic events and stressors including the marked increase in opioid responses among first responders

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Read the full report: <https://go.usa.gov/xEEdn>

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Health effects from unintentional occupational exposure to opioids and other illicit drugs among responders

Read the reports here: <https://go.usa.gov/xEEdn>

# Key Recommendations for Emergency Responders



Follow guidance in the NIOSH topic page titled “Fentanyl: Preventing Occupational Exposure to Emergency Responders”



Attend periodic trainings to discuss prevention methods



Coordinate joint training opportunities with other local emergency response agencies



Develop new or modify existing policies and procedures for responses involving illicit drugs



Report possible exposures to and health effects resulting from exposure to illicit drugs to supervisors

# Evaluation of Exposure to a New Cleaning and Disinfection Product and Symptoms Among Hospital Employees

## Findings

- Chemicals from the cleaning product were detected in all full-shift air samples
- Employees reported previous splashes and spills of the cleaning product that resulted in skin or eye irritation
- Employees reported no ventilation in some bathrooms they cleaned



Photo by iStock/Getty Images

Article Published!



Publication: American Journal of Infection Control

Article title: Health problems and disinfectant product exposure among staff at a large multispecialty hospital

Article available here: [https://www.ajicjournal.org/article/S0196-6553\(17\)30295-X/fulltext](https://www.ajicjournal.org/article/S0196-6553(17)30295-X/fulltext)

## Recommendations



Wear extended cuff nitrile gloves or rubber gloves and goggles or a face shield when using cleaning supplies



Do not use a spray bottle to apply disinfectant products



Report symptoms to a healthcare provider



Report patient rooms or bathrooms with no ventilation to supervisors

HHE Report available here: <https://go.usa.gov/xExER>



# Ergonomic Evaluation of Pharmacy Tasks

## Findings

- Adjustability features available for some equipment were not used regularly
- Capping and uncapping medicine bottles required repetitive movements and awkward wrist postures

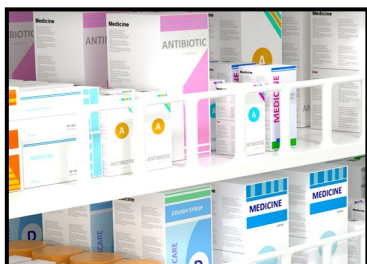


Photo by iStock/Getty Images



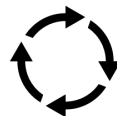
Photo by NIOSH

- Employees reported hand and neck symptoms consistent with work-related musculoskeletal disorders
- Repetitive motion injuries were the most common recordable injury among pharmacy department employees

## Recommendations



Utilize adjustable workstations



Alternate between computer work and repetitive pharmacy tasks



Increase training on musculoskeletal disorders and ergonomics



Report work-related health and safety concerns to supervisors

HHE Report available here: <https://go.usa.gov/xEczM>

# Followback Program

After an evaluation, we conduct mailed surveys, phone calls, and return visits to get feedback from the workplace about their experience.

Here are some words that employers, employees, and union representatives used to describe their experience and interactions with NIOSH investigators:



# New Specialty Publications

Controlling Health Hazards When Working with Nanomaterials: Questions to Ask Before You Start			
	DRY POWDER <i>(Typically higher potential for exposure)</i>	SUSPENDED IN LIQUID	PHYSICALLY BOUND/ ENCAPSULATED <i>(Typically lowest potential for exposure)</i>
<b>WORK ACTIVITY</b>	Apply to Dry Powder Nanomaterials • How are you working with the nanomaterial? (e.g., pouring, mixing, weighing, etc.) • Are you wearing any personal protective equipment (PPE) to control exposure? • Are you wearing any respiratory protection to control exposure?	Apply to Suspended in Liquid Nanomaterials • How are you working with the nanomaterial? (e.g., pouring, mixing, weighing, etc.) • Are you wearing any personal protective equipment (PPE) to control exposure? • Are you wearing any respiratory protection to control exposure?	Apply to Physically Bound/Encapsulated Nanomaterials • How are you working with the nanomaterial? (e.g., pouring, mixing, weighing, etc.) • Are you wearing any personal protective equipment (PPE) to control exposure? • Are you wearing any respiratory protection to control exposure?
<b>ENGINEERING CONTROLS</b>	Apply to Dry Powder Nanomaterials • Are there any engineering controls in place to control exposure? • Are there any respiratory protection controls in place to control exposure? • Are there any other controls in place to control exposure?	Apply to Suspended in Liquid Nanomaterials • Are there any engineering controls in place to control exposure? • Are there any respiratory protection controls in place to control exposure? • Are there any other controls in place to control exposure?	Apply to Physically Bound/Encapsulated Nanomaterials • Are there any engineering controls in place to control exposure? • Are there any respiratory protection controls in place to control exposure? • Are there any other controls in place to control exposure?
<b>ADMINISTRATIVE CONTROLS</b>	Apply to Dry Powder Nanomaterials • Are there any administrative controls in place to control exposure? • Are there any respiratory protection controls in place to control exposure? • Are there any other controls in place to control exposure?	Apply to Suspended in Liquid Nanomaterials • Are there any administrative controls in place to control exposure? • Are there any respiratory protection controls in place to control exposure? • Are there any other controls in place to control exposure?	Apply to Physically Bound/Encapsulated Nanomaterials • Are there any administrative controls in place to control exposure? • Are there any respiratory protection controls in place to control exposure? • Are there any other controls in place to control exposure?
<b>PERSONAL PROTECTIVE EQUIPMENT</b>	Apply to Dry Powder Nanomaterials • Are there any personal protective equipment (PPE) controls in place to control exposure? • Are there any respiratory protection controls in place to control exposure? • Are there any other controls in place to control exposure?	Apply to Suspended in Liquid Nanomaterials • Are there any personal protective equipment (PPE) controls in place to control exposure? • Are there any respiratory protection controls in place to control exposure? • Are there any other controls in place to control exposure?	Apply to Physically Bound/Encapsulated Nanomaterials • Are there any personal protective equipment (PPE) controls in place to control exposure? • Are there any respiratory protection controls in place to control exposure? • Are there any other controls in place to control exposure?

New Poster:

⇒ Controlling Health Hazards When Working with Nanomaterials: Questions to Ask Before You Start

View online:

<https://go.usa.gov/xPhyC>

New Fact Sheets:

⇒ What Wildland and Structural Fire Fighters Need to Know about Rhabdomyolysis

⇒ Rhabdomyolysis in Wildland and Structural Fire Fighters: A Patient Population at Risk

View online:

<https://go.usa.gov/xPhJF>

New Indoor Environmental Quality Assessment Tools:

⇒ Dampness and Mold in School and General Buildings

View online:

<https://go.usa.gov/xEmjf>



Health Hazard<sup>®</sup>  
Evaluation Program

## -Our Mission-

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.



[cdc.gov/niosh/hhe/](http://cdc.gov/niosh/hhe/)



[HHERequestHelp@cdc.gov](mailto:HHERequestHelp@cdc.gov)



[Facebook.com/  
health.hazard.evaluation.program/](https://www.facebook.com/health.hazard.evaluation.program/)



1-513-841-4382  
Monday—Friday  
9 a.m. — 4:30 p.m. EST



NIOSH Health Hazard Evaluation Program  
1090 Tusculum Ave, Mail Stop R-9  
Cincinnati, OH 45226-1998