

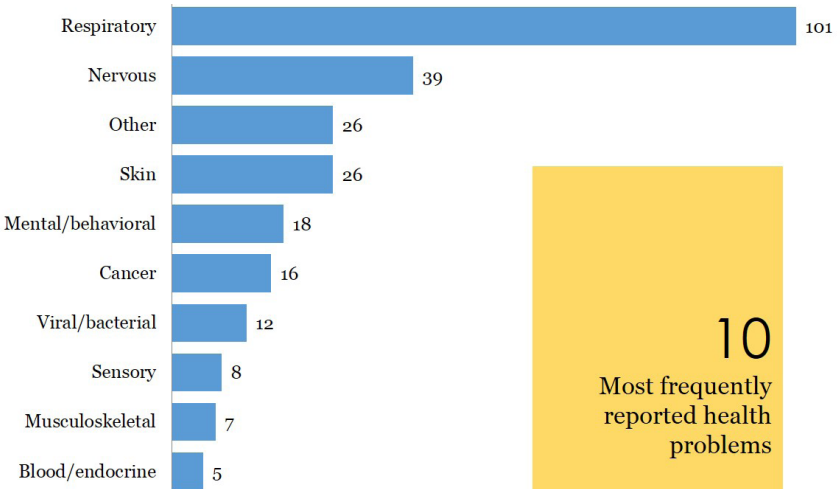
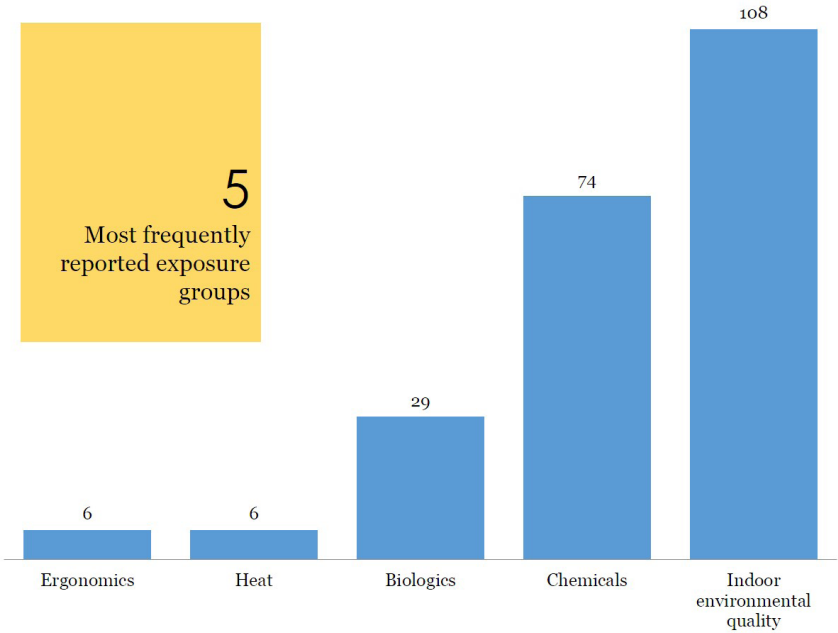
2014 Annual Report



Department of Health and Human Services
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health



209 HHE Requests



Activities and Outputs

163
employees tested
for exposure



27
workplaces visited



199
employees tested
for health



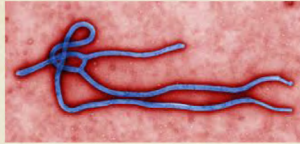
698
samples analyzed

3,000
miles traveled



343
employees surveyed

482
days deployed for Ebola response



118
consultation letters



33
field investigation reports



29
publications



44
presentations

Selected HHE Reports

We evaluated exposures and medical conditions at an aircraft engine services facility.

Employees requested help after an incident in which overgrowth of sulfate-reducing bacteria led to the release of hydrogen sulfide gas in the plant's wastewater treatment plant.

From employees' medical records, we identified four cases of reactive airways dysfunction syndrome, a form of irritant-induced asthma. These cases were diagnosed within 6 months of the incident in workers who were in or near the wastewater treatment plant. Interviewed employees told us that there was confusion about incident reporting channels, which could have contributed to a delay in facility response. Unrelated to the incident, employees also reported concerns about the potential for heat stress during the summer.



Photo by NIOSH

On the basis of these findings, we recommended actions focused on engineering and administrative controls.

Facility managers took steps to prevent similar incidents from happening including:

- Eliminating a primary acidic descaler from the wastewater treatment system
- Adding an agitator to the main media filtration system
- Scheduling periodic tests for sulfate-reducing bacteria in the wastewater treatment plant
- Installing additional hydrogen sulfide monitors
- Modifying the ventilation system

This report is available at:

<http://www.cdc.gov/niosh/hhe/reports/pdfs/2014-0042-3216.pdf>

At the request of the employer, we evaluated musculoskeletal disorders and traumatic injuries among employees at a poultry processing plant.

We assessed ergonomic hazards, symptoms (pain, burning, numbness, or tingling) and nerve damage in employees' hands and wrists (known as carpal tunnel syndrome), and recordable injury rates.

We found that 59% of the 32 jobs we evaluated had average levels of hand activity and force above the American Conference of Governmental Industrial Hygienists® action limit, 34% of participants had evidence of carpal tunnel syndrome, and 76% of participants had an abnormal nerve conduction test result in at least one hand. Sprain, strain, pain, soreness, inflammation, or repetitive motion injuries were the most common recordable injuries on the Occupational Safety and Health Administration logs.

HHE Program investigators recommended:

- Implementing the 2013 Occupational Safety and Health Administration Guidelines for Poultry Processing and recommendations from poultry industry groups
- Designing job tasks so that levels of hand activity and force are below the ACGIH action limit
- Using a job rotation schedule to reduce stress to specific sets of muscles and tendons
- Implementing a standard process to evaluate employee symptoms and provide appropriate treatment, work restrictions, and medical referrals



Photo by NIOSH

This report available at:

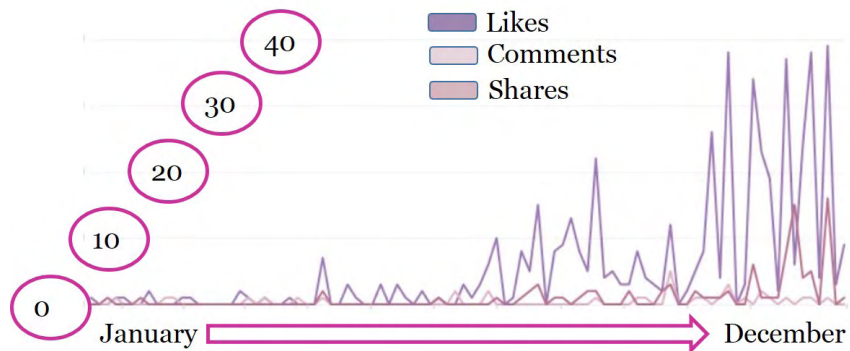
<http://www.cdc.gov/niosh/hhe/reports/pdfs/2012-0125-3204>

Our Year on Facebook

All photos by NIOSH



Here are some post themes we used in 2014



- What do you see in this photo?
- A blast from the past
- Read our report
- Do you know this acronym?
- Can you unscramble this word?
- Where were you on this date?
- 7-word occupational health and safety essays
- How do these findings compare to a workplace you know?
- What does this photo have to do with workplace safety and health?

Some employees of a firing range and gun store had been diagnosed with lead poisoning and were medically removed from the workplace by an occupational physician.

Employees spent most of their day at the sales counter or in the office, but also assisted shooters in the range. Ventilation systems supplied outside air to the ranges and exhausted it outdoors without recirculation. Other areas were served by two recirculating ventilation systems.

When the employer had their employees tested:

- All employees had elevated blood lead levels (BLLs) (≥ 10 micrograms per deciliter [$\mu\text{g}/\text{dL}$]).
- Employees' BLLs ranged from 19.9–40.7 $\mu\text{g}/\text{dL}$.

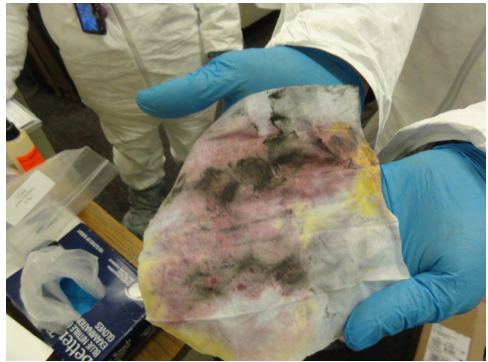


Photo by NIOSH

The employer did not have a medical surveillance program as required by Cal/OSHA.

Our exposure monitoring showed (1) all air samples were below the Cal/OSHA permissible exposure limit of 50 micrograms per cubic meter, (2) lead was present on all tested surfaces in the range and in the showroom, (3) employees had lead on their hands and shoes when they left work, and (4) the ventilation system had numerous deficiencies, and lead contaminated air circulated throughout the building.

We recommended the employer:

- Switch to lead-free ammunition
- Remove all employees with BLLs of 20 $\mu\text{g}/\text{dL}$ or higher from exposure to lead until two BLLs taken a 1 month apart drop below 15 $\mu\text{g}/\text{dL}$
- Hire an engineer to modify or redesign the ventilation systems
- Remove lead contamination from the showroom
- Follow the Cal/OSHA medical surveillance requirements

This report is available at:

<http://www.cdc.gov/niosh/hhe/reports/pdfs/2013-0119-3219.pdf>

We assessed fire fighters' exposure to polycyclic aromatic hydrocarbons (PAHs) and other aromatic hydrocarbons during controlled structure burns.

We wanted to know if these chemicals, which are produced during fires, pass through fire fighters' skin. In each of two rounds, fire fighters fought a controlled structure burn once a day for 3 days while wearing new or freshly laundered turnout gear and a self-contained breathing apparatus (SCBA). We collected 27 sets of air, breath, urine, and skin wipe samples throughout the day.

Air samples showed that burns released PAHs; in most burns, the levels exceeded the occupational exposure limit. The urine and breath samples showed that benzene and some PAHs entered the fire fighters' bodies, most likely through skin on the neck, which is the least protected area on their bodies. The levels of PAHs and benzene in fire fighters' bodies were similar to those in other groups of workers with low levels of workplace exposures to the same chemicals.

We recommended:

- Requiring fire fighters to wear full protective ensembles, including SCBA, during knockdown and overhaul for all fire responses
- Providing fire fighters with long hoods that are unlikely to come untucked
- Washing hands immediately and showering as soon as possible after a fire response



Photo by NIOSH

A summary of this report is available at:

<http://www.cdc.gov/niosh/hhe/reports/pdfs/2010-0156-3196S.pdf>

The full report is available at:

<http://www.cdc.gov/niosh/hhe/reports/pdfs/2010-0156-3196.pdf>

What They Are Saying



What I was most impressed with was the attention to detail that was given. Every concern I had was not only met but exceeded.

~ employee at a union training facility

It is very helpful to have a third party telling them [the management] problems need to be solved.

~ employee at large manufacturing facility

I thought the team that came ... was thorough, prepared, objective, and helpful. The visit ... was a good learning experience.

~ small business owner who requested the HHE

NIOSH was critically important as a[n] ... expert resource in allaying the fears of employees and providing essential answers to their questions.

~ large federal government agency manager who requested the HHE

As far as I know the ... [employer] followed all of NIOSH's recommendations. Since the installation of the new air conditioning system, I have no concerns.

~ local government employee who requested the HHE



Our Followback Program

After an HHE is complete, we do phone conferences and surveys. We collect information to help us evaluate the impact of our program.

These quotes are from stakeholders who commented in 2014 on our evaluation at their workplace.

Quotes From Our Ebola Responders

I helped establish the first Health, Safety, and Security officer position for CDC staff in West Africa. My work improved responder accountability and security, and helped protect them from infectious and environmental threats.

~ John, veterinary medical officer

I deployed to Texas after a nurse was diagnosed with Ebola Virus Disease. My team's mission was to assess and improve the hospital's occupational health and infection control practices. We stopped transmission and demonstrated the value of NIOSH HHE staff in improving Ebola preparedness.

~ Marie, infectious disease physician

The 65 USPHS Officers at the Monrovia Medical Unit faced many health and safety and force protection challenges. My experiences in the HHE Program were invaluable in Liberia, helping us get through the 60-day deployment with no breaches, exposures, or Ebola infections among our Officers.

~ Bruce, occupational physician

I worked for 90 days at an airport quarantine station screening travelers from Ebola-affected countries. I also trained other federal employees on using personal protective equipment. The experience was rewarding and I believe my participation helped keep the airport workers and the American public safe.

~ Christine, nurse epidemiologist

I served on the Infection Prevention and Control team in Port Loko and Western districts in Sierra Leone for 5 weeks. Ebola has been called "the most important public health story of the year." I am proud to have been a part of this story and feel that the infection prevention strategies that our team taught will endure after Ebola has been defeated.

~ Catherine, industrial hygienist



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 more healthful 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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