

2015 Annual Report



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



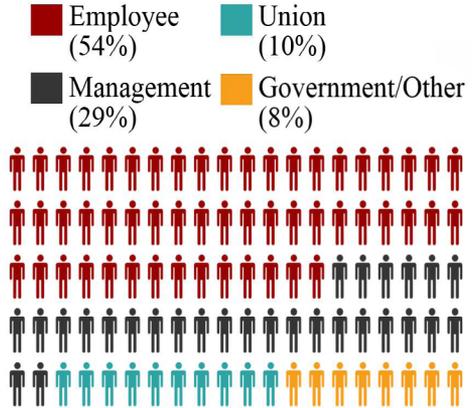
HHE Requests in 2015

194 HHE Requests

Top 3 Sectors



Requested by:



43 Site Visits



37
Workplaces



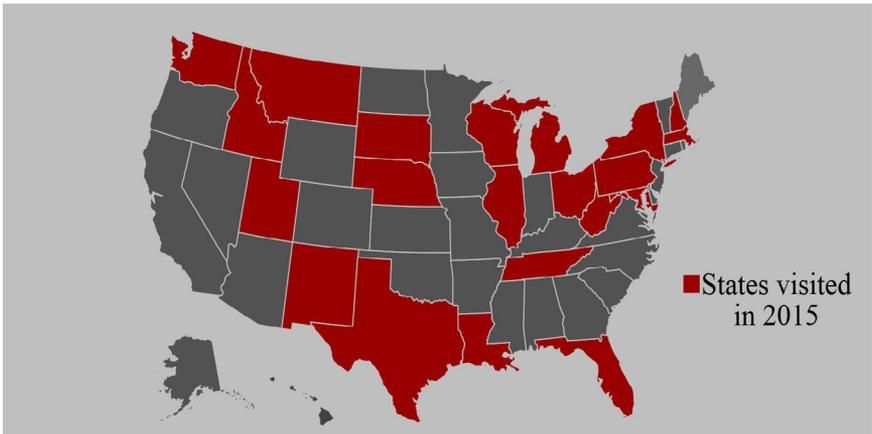
21
States



33
Cities



77,860
Miles Traveled



By the Numbers

Outreach



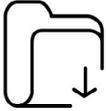
HHE website viewed **53,584** times



20 new HHE Reports



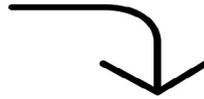
Reports downloaded
28,007 times



566 downloads of lead and noise databases



210 Facebook posts



Reached **440,487** people



11,077 new page "likes"

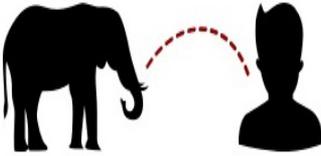


86 presentations



16 publications

Risk of Tuberculosis Exposure at an Elephant Refuge



Request

- Who? A state health department
- Why? Potential elephant-to-human transmission of tuberculosis (TB)

What We Did

- Interviewed 27 employees about their known TB exposure, respiratory protection, and work tasks
- Tested ventilation systems in barns using smoke and tracer gas and measured air pressure differences to see which direction the air flowed
- Reviewed TB screening and respiratory protection programs



Photo by NIOSH

What We Found

- The TB screening and respiratory protection programs were incomplete
- Air flowed from elephant stalls to employee areas. Following recommended changes, this problem was fixed



Photo by NIOSH

Recommendations

- Treat elephants with active TB as soon as possible
- Maintain ventilation systems and follow protocols so that air does not flow from elephant stalls to employee work areas
- Wear a respirator around elephants with confirmed/suspected TB
- Test employees for TB every year

See full report at: <http://go.usa.gov/cuyjR>

Exposure to New Solvents in Drycleaning Shops

A local government program asked for our help in evaluating two new drycleaning solvents

SolvonK4

- butylal, n-butanol, and formaldehyde

DF-2000

- a mix of hydrocarbons



Photo by NIOSH

What We Did

- Visited 1 shop using SolvonK4 and 2 using DF-2000
- Analyzed the chemical composition of both solvents
- Took air samples for DF-2000, butylal, butanol, and formaldehyde
- Tested for solvents on employees' hands under their gloves

What We Found

- Chemical compositions matched the manufacturers' descriptions
- Highest air levels of SolvonK4 were near the drycleaning machine
- DF-2000 levels were below most protective exposure limit
- Both chemicals were on employees' hands under their gloves
- Employees did not have safety glasses or goggles for splash protection

Recommendations

- Brush prespotting mixture onto fabric rather than spraying it on
- Wear eye protection and the right type of gloves when using spot cleaners and cleaning the machines
- Wash hands and exposed skin after contact with chemicals
- Wash hands before and after removing gloves

See full report at: <http://go.usa.gov/cujyF>

Positive Changes Reported at Workplaces We've Visited

“The independent and accurate assessment along with the employee interaction helped to allay concerns, identify problems, and discern a way forward.” – Employer

“[Management is] not pushing us to work in the extreme temperatures that could cause long term health effects on the workers.” – Employee

“Workers are better protected from infectious disease transmission.”
– State epidemiologist

Respiratory Health at a Syntactic Foam Manufacturer

Request

- Employees were concerned about chemical exposures and respiratory, skin, and eye problems

What We Did

- Observed work practices and interviewed managers and employees
- Took air samples for amines, volatile organic compounds (VOCs), and particles
- Surveyed employees about symptoms and medical diagnoses

What We Found



Found VOCs & particles, but not amines, in the air



Asthma symptoms more likely among workers with 5+ year work at the plant

6 workers diagnosed with asthma after starting work at the plant



Skin rash, cough, nasal allergies, & asthma symptoms common

Risk of asthma 12x higher after hire compared to before hire



Recommendations

- Use chemicals with fewer potential health effects
- Use engineering controls to reduce workers' exposure to chemicals
- Use quantitative fit testing in a respiratory protection program
- Encourage employees to report symptoms; refer them to occupational medicine physicians
- Use vacuum cleaners with HEPA filters rather than sweeping
- Move clean worker uniforms out of production areas; require workers to change into everyday clothes before leaving plant

See full report at: <http://go.usa.gov/cuyDT>



Photo by NIOSH

Heat-Related Illness and Rhabdomyolysis during Structural Firefighter Training

Rhabdomyolysis (or Rhabdo)

- Muscle tissue breakdown
- Releases electrolytes and proteins into the bloodstream
- Can cause heart and kidney damage, permanent disability, and death
- Often mistaken for heat-related illness (HRI), such as heat stroke
- Can be diagnosed only through blood test for creatine kinase (CK)

What We Did

In a 4-day evaluation of cadet training, we measured:



Symptoms
of rhabdo &
HRI



CK levels
in blood



Heart
rate



Change
in body
weight



Core body
temperature
(CBT)

What We Found

- 1 cadet had rhabdo; 16 others had elevated CK levels
- 1 cadet had CBT of 107.2°F during a live fire exercise
- Most cadets had excessive heat strain according to their CBT, heart rate, and body weight loss

Recommendations

- Schedule training and physically demanding activities during cooler months and cooler parts of the day
- Educate firefighters about signs, symptoms, and dangers of rhabdo

See full report at: <http://go.usa.gov/cuyDm>

Modern nail salons



Photo by NIOSH

Flame retardants in e-recycling



Photo by NIOSH

Vape shops



Photo by NIOSH

2016 HHE PROJECTS

Coffee roasting



Photo by ©Thinkstock

Peroxyacetic acid disinfectant use in hospitals



Photo by ©Thinkstock

Copper slag and coal slag processing



Photo by ©Thinkstock



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



HHERequestHelp@cdc.gov



NIOSH Health Hazard Evaluation Program
1090 Tusculum Avenue, Mail Stop R-9
Cincinnati, OH 45226-1988