

2016 EHS ANNUAL REVIEW

May 2016

UNIVERSITY OF MICHIGAN

ANNUAL REVIEW

Note from the EHS Executive Director

This is our second annual review of metrics and activities associated with the support EHS provides to the U-M through promotion of health, safety, and environmental responsibility using partnerships, guidance and other activities to support academic, economic and regulatory needs of the University. This report highlights some of our major accomplishments and improvements over the past year. Our primary focus this year has been in research safety, including support of the U-M animal care and use programs.

Efforts to enhance the culture of research safety on campus received a kick-start in 2015 with a message from President Schlissel about the importance of safety in our research areas. EHS, the U-M Office of Research, and the Laboratory & Research Safety Committee (LRSC), jointly prepared and issued the U-M Research and Academic Safety Policy. In 2016, the LRSC focused on establishing safety committees within each school or college with active research as a key component to enhancing the culture of safety through education, compliance and partnership. This committee structure is a direct link between the researcher, the school deans, and safety programs happening around campus through EHS. Expect this effort to continue to expand in the coming year.

INSIDE THIS ISSUE:

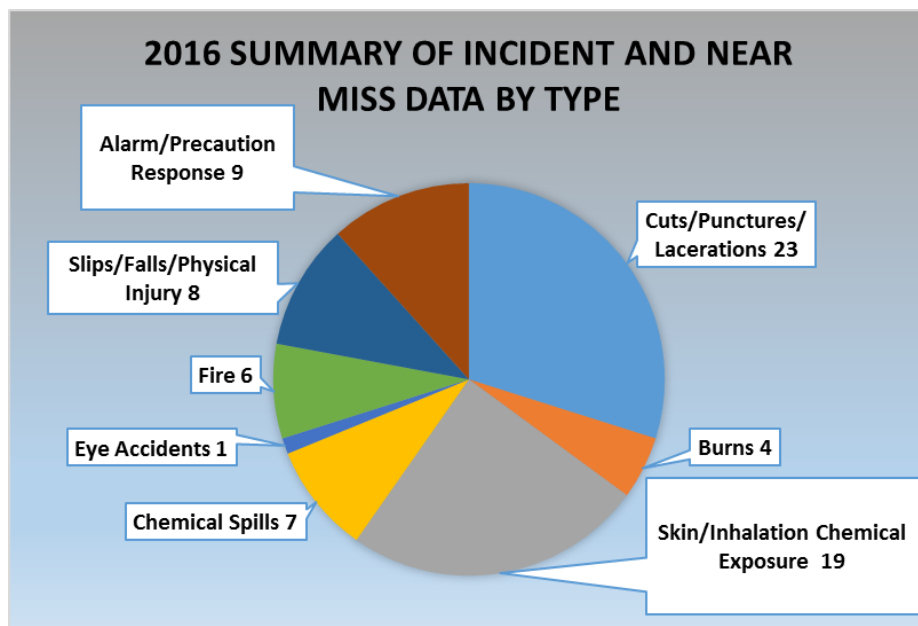
Research Safety	1-4
Shop Safety	4
Radiation Safety	5
Biological Safety	6
Food Safety	6
Ergonomics	7
Respiratory Protection	7
Medical Surveillance	7
Emergency Response	8
Hazardous Material Management	9

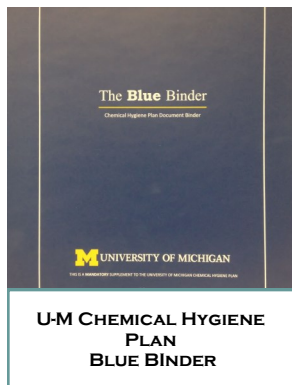
2016 HIGHLIGHTS

- ◆ Formation of 15 local safety committees across 20 schools, colleges, institutes and units on the Ann Arbor campus.
- ◆ Pilot of “Coffee with EHS” outreach program to engage researchers in discussions about research safety.
- ◆ Occupational Safety & Environmental Health (OSEH) name change to Environment, Health & Safety (EHS).

Laboratory Incident and Near Miss Reporting

Reporting incidents and near misses that occur in the research setting is an essential tool for EHS to understand issues arising for our researcher community. This focuses our efforts through educational materials and guidance to prevent and eliminate future issues across campus. The reporting form link can be found on our home page at www.ehs.umich.edu.





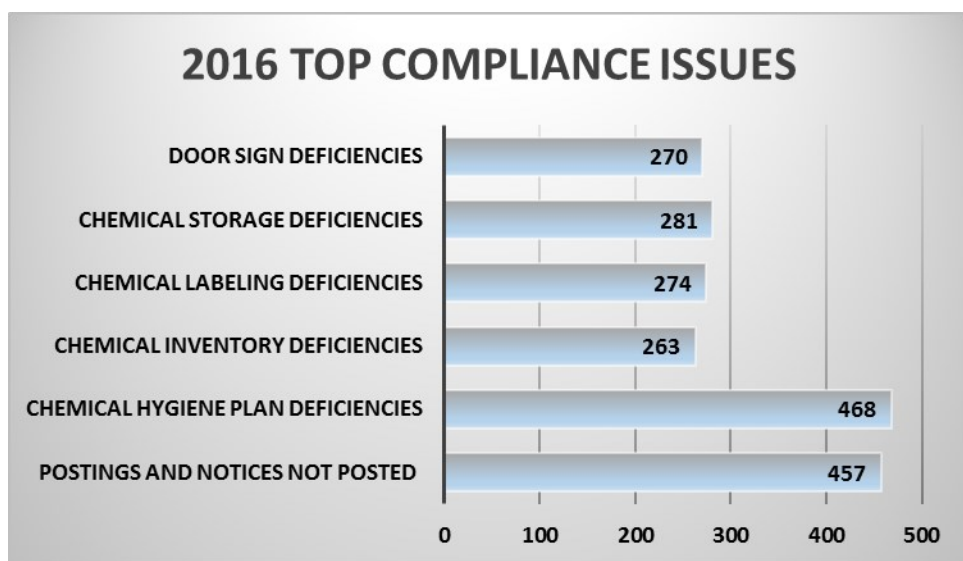
CHEMICAL HYGIENE PLAN DEFICIENCIES INCLUDE CHP BLUE BINDER NOT CUSTOMIZED, CHP BLUE BINDER NOT UPDATED ANNUALLY AND LAB-SPECIFIC SOPs NEEDED

2016 Laboratory Inspections

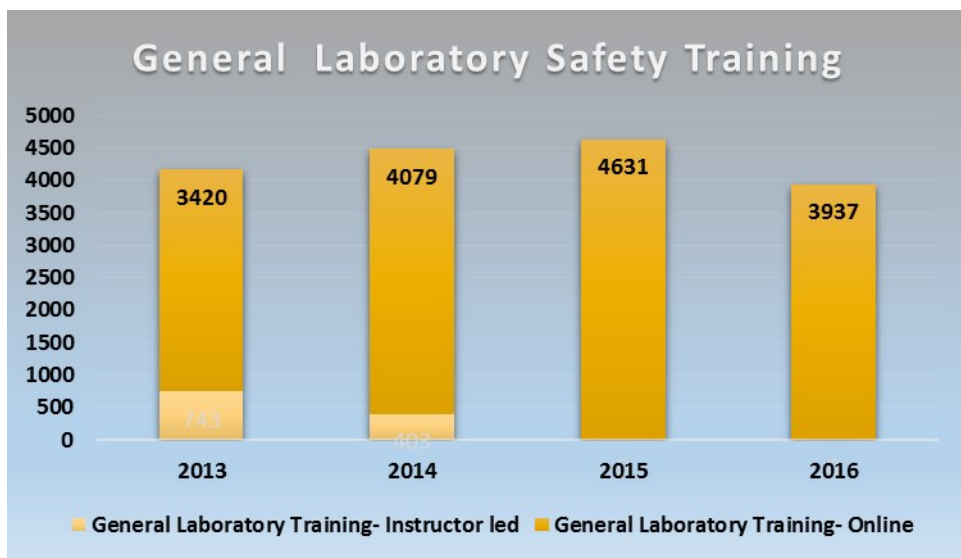
EHS inspectors completed 96% of the inspections that were due in 2016. This is a huge accomplishment and is attributed to the addition of extra inspectors in recent years. The data is shown on Page 3.

Laboratory space on campus has been assigned a Lab Hazard Ranking (LHR) of 1 to 4, with 4 being the highest risk level. Each LHR has been assigned an inspection frequency ranging from every 6 months up to 24 months based on the relative risks.

Laboratory Inspection Compliance Issues



Laboratory Safety Training



General Laboratory Safety Training is required for all individuals who work in a research laboratory. Historically, this was an instructor led course provided by EHS personnel. In 2015, we switched to only offering the course on-line as it was the preferred method of the vast majority of attendees. This allowed our inspectors to dedicate more time to work with the PI in the research area and saves researchers in travel time. The data in the table shows the training activity over a four year period.

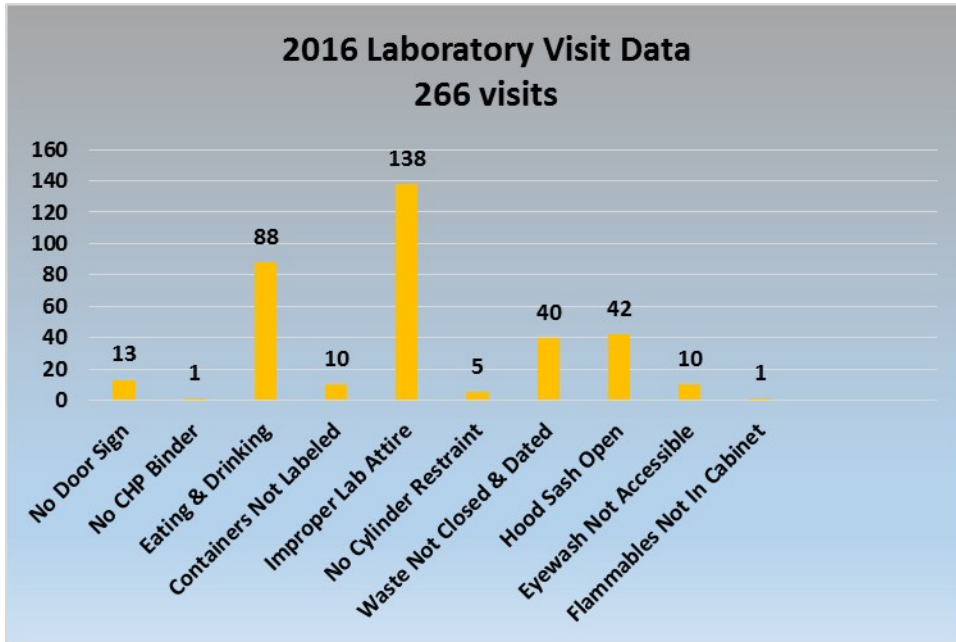
2016 All Laboratory Safety Inspection Performance (Lab Sq.Ft. Data)

Deficiencies and Inspection Frequency goals met are for each frequency period ending on December 31st, 2016. i.e. the LHR 2 data is for the 18 month period ending on 12-31-2016.

LAB HAZARD RANK	LAB SQUARE FOOTAGE	INSPECTION FREQUENCY	DEFICIENCIES
LHR 4	<p>65,875 ft² (4%)</p>	<p>Frequency goal = every 6 mos.</p> <p>6 mos. (100%)</p>	<p>Critical Deficiencies 11</p> <p>Standard Deficiencies 271</p> <p>4.28 Deficiencies/1000 ft²</p>
LHR 3	<p>1,008,106 ft² (61%)</p>	<p>Frequency goal = every 12 mos.</p> <p>12 mos. (96%) 12 mos. (4%)</p>	<p>Critical Deficiencies 106</p> <p>Standard Deficiencies 3702</p> <p>3.77 Deficiencies/1000 ft²</p> <p>3.99 in actual space inspected</p>
LHR 2	<p>247,695 ft² (15%)</p>	<p>Frequency goal = every 18 mos.</p> <p>18 mos. (98%) >18 mos. (2%)</p>	<p>Critical Deficiencies 18</p> <p>Standard Deficiencies 795</p> <p>3.28 Deficiencies/1000 ft²</p> <p>4.2 in actual space inspected</p>
LHR 1	<p>327,342 ft² (20%)</p>	<p>Frequency goal = every 24 mos.</p> <p>24 mos. (96%) >24 mos. (4%)</p>	<p>Critical Deficiencies 5</p> <p>Standard Deficiencies 274</p> <p>0.85 Deficiencies/1000 ft²</p> <p>1.39 in actual space inspected</p>
TOTALS	<p>1,649,018 ft²</p>	<p>Met Frequency Goal = 96% (1,589,973 ft²)</p>	<p>Critical Deficiencies 140</p> <p>Standard Deficiencies 5058</p>

Laboratory Visit Program

EHS also manages an Laboratory Visit Program where EHS staff observe daily work practices within the lab on a non-scheduled basis. A ten point checklist is filled out based on brief observation of the space at that point in time. The chart shows the compliance issues observed during lab visits in 2016.



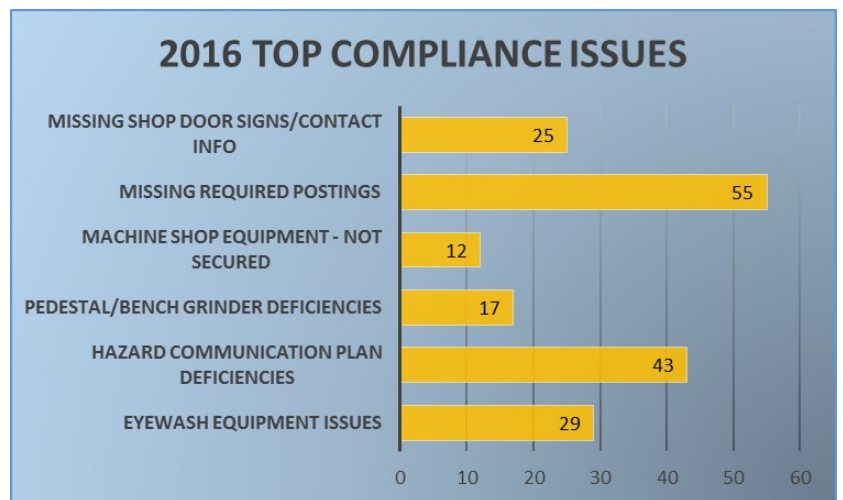
THE MOST COMMON FINDING DURING UNANNOUNCED LAB VISITS WAS IMPROPER LAB ATTIRE – INDIVIDUALS WORKING WITH CHEMICALS MUST WEAR SAFETY GLASSES, CLOSED TOE SHOES AND CLOTHING THAT COVERS THE LEGS AND TORSO

Shop Safety

EHS inspectors also review activities in various studios, workshops, and machine shops around campus. The most frequently found issue was not having the required safety postings in place.

Examples of required postings include the following:

- ◆ Evacuation routes
- ◆ Michigan Protection on the Job
- ◆ Safety Data Sheet Locator



Radiation Safety

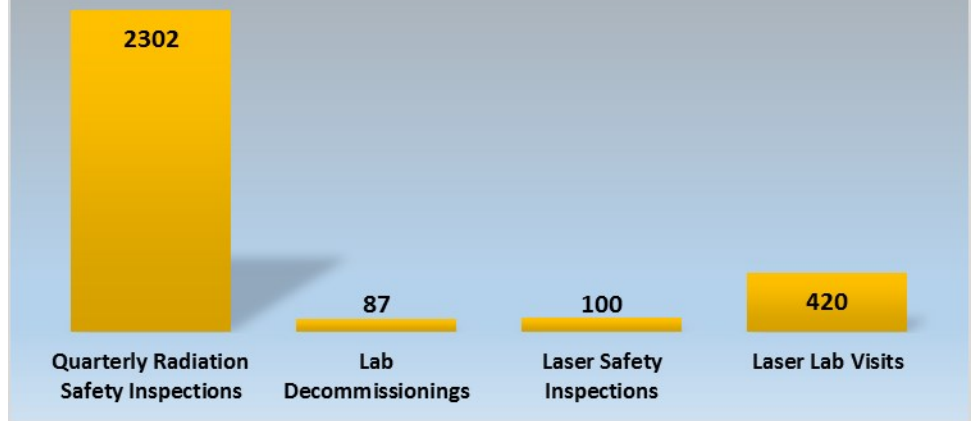
Radiation Safety Services oversees safe use of radiation producing devices, isotopes, lasers and irradiators on campus. Activities of RSS include various inspections as well as training on radioactive material, lasers and X-rays. The data below shows the activity during 2016.



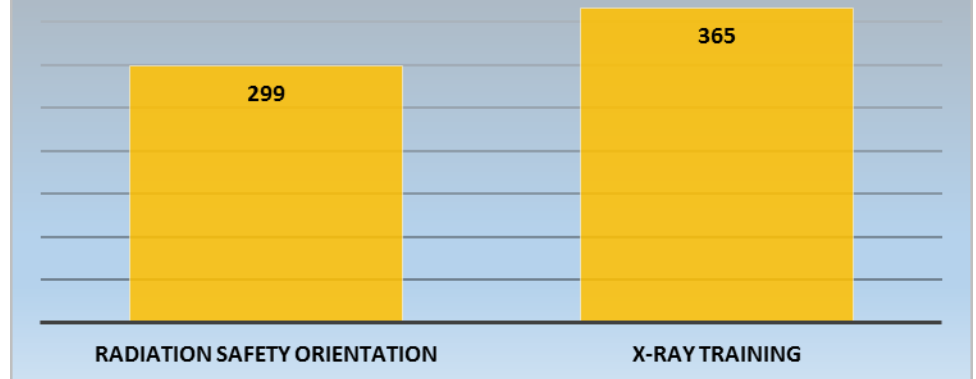
RADIOACTIVE MATERIALS
MUST BE SECURED WHEN
NOT ATTENDED

RSS RECEIVES ALL
RADIOACTIVE
MATERIAL
PACKAGES,
CHECKS THEM FOR
CONTAMINATION,
AND DELIVERS TO
LABS

2016 Radiation Safety Inspections



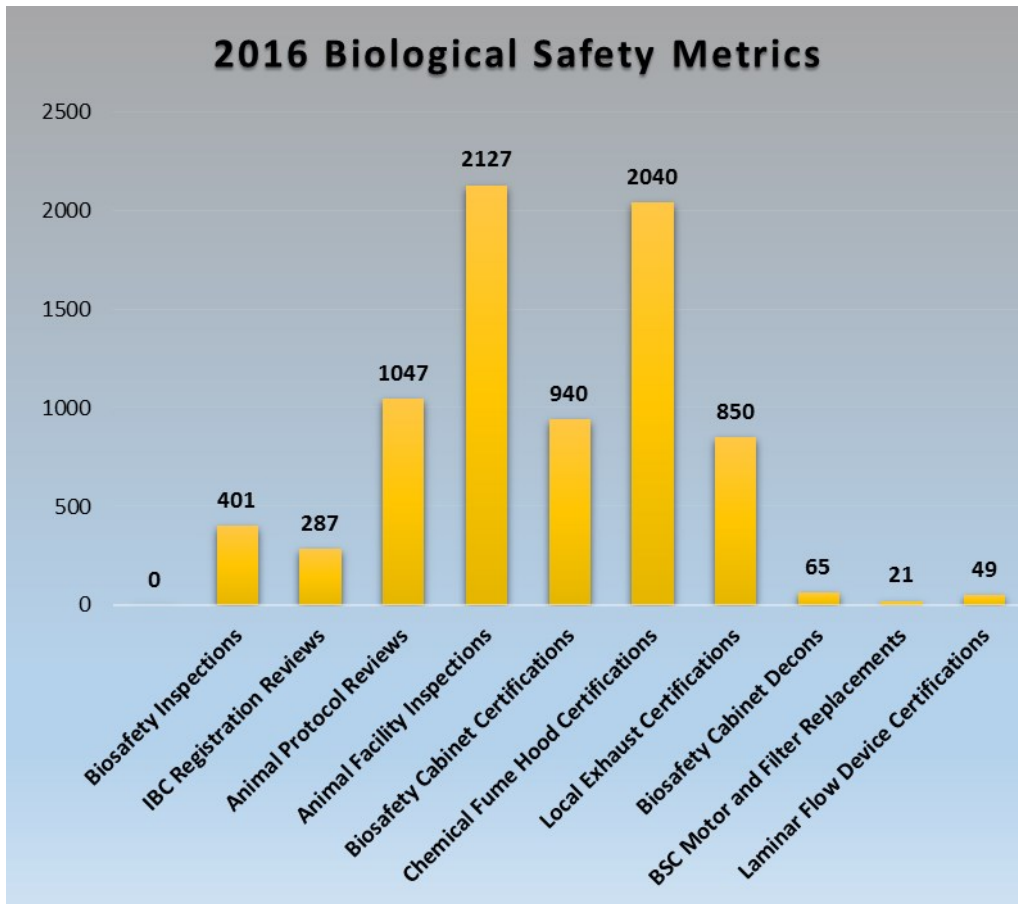
2016 Radiation Training (# of attendees)



Laser Safety

The Laser Safety Program covers use of Class 3B and Class 4 lasers in labs and other non-clinical U-M facilities whether purchased, borrowed, “homebuilt,” or brought in for use by others. EHS has a designated Laser Safety Officer that oversees this program and ensures compliance with training and other requirements for the use of lasers on campus through periodic laser safety inspections and consultations. For more information on the Laser Safety Program, visit the EHS website at <https://ehs.umich.edu/research-clinical-safety/lasers/>

Biological Safety



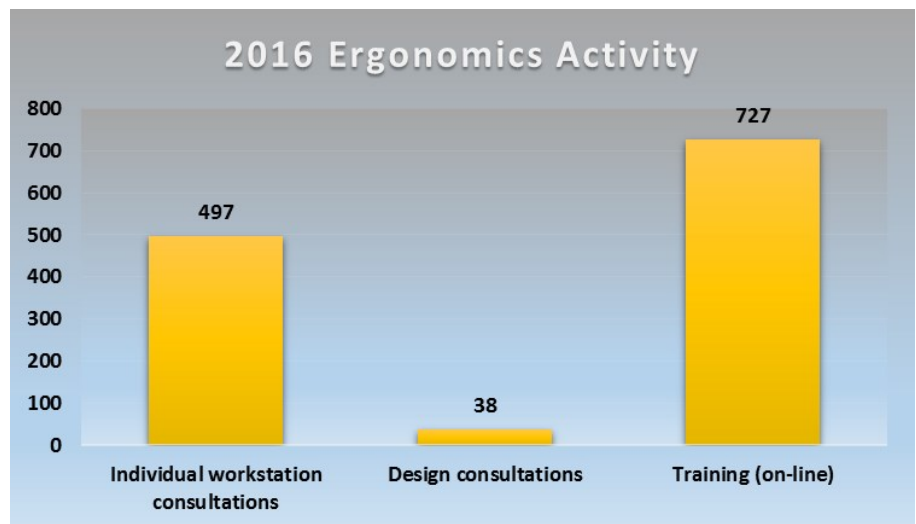
The Biological Safety Program focuses inspections on biohazardous materials and animal research on campus. This program is responsible for the occupational health and safety program for our animal handlers in support of the U-M Institutional Animal Care and Use Committee, as well as support of the U-M Institutional Biosafety Committee. Another large component of the biological safety program responsibilities includes certification of engineering control equipment such as fume hoods and biosafety cabinets used on campus. The chart shows the inspection and equipment testing activity during 2016.



Ergonomics

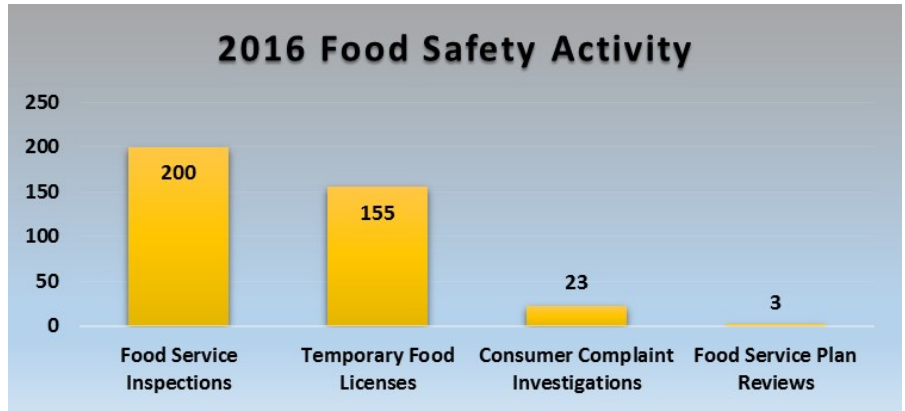
The ergonomics program at EHS focuses on prevention services for campus faculty and staff interested in preventing physical discomfort and injury associated with performing tasks associated with their job.

Services provided include training programs, self-help tools, individual workstation consultations and departmental design consultations. Design consultations are effective to reduce workstation discomfort and are an increased focus of the program.



Food Safety

Food is a very important part of our culture on campus, whether dining in the residence halls, having lunch at one of the Unions or being a patient or visitor to the U-M Health System. U-M is dedicated to protecting the community and EHS has the authority through agency agreements to license and inspect all food service establishments on campus to assure they meet applicable state and federal regulations. This also includes temporary food service events such as the food vendors at home football games, the Ann Arbor Art Fair and student organization events.



Respiratory Protection

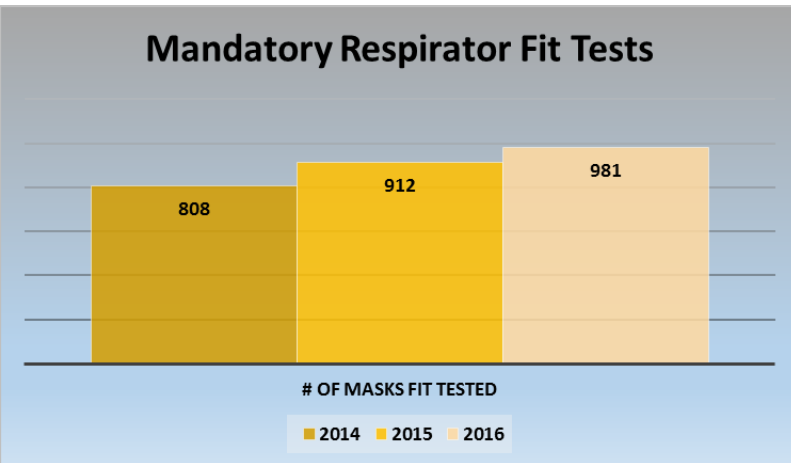
All users of respirators must be included in the EHS respiratory program. Medical clearance is necessary for all users of respirators with the exception of dust masks for nuisance dust control. Fit testing of the mask to the user is also a key component in assuring that the respirator is able to effectively provide the protection desired. Mandatory users of tight-fitting respirators are required to obtain annual fit tests.



MEDICAL CLEARANCE AND FIT TESTING IS NEEDED TO WEAR A RESPIRATOR

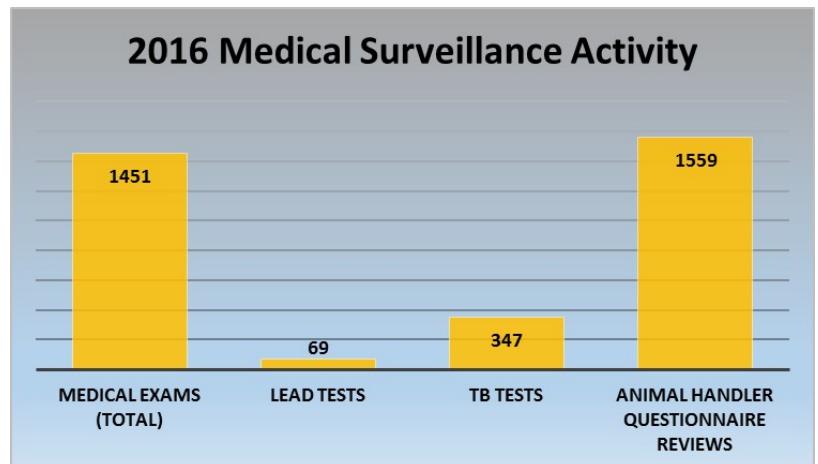


Mandatory Respirator Fit Tests



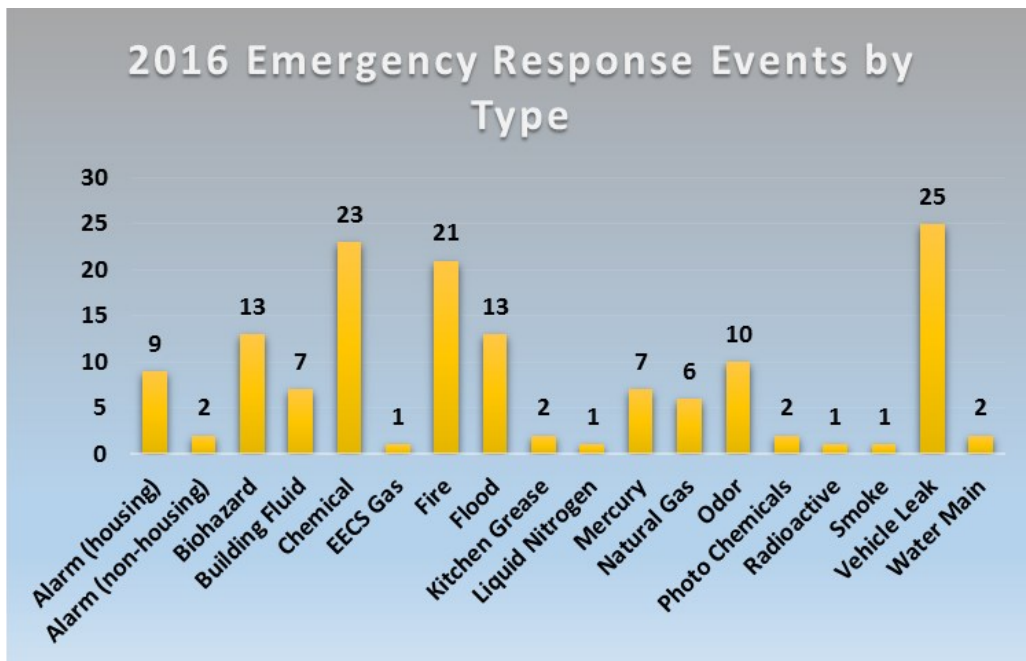
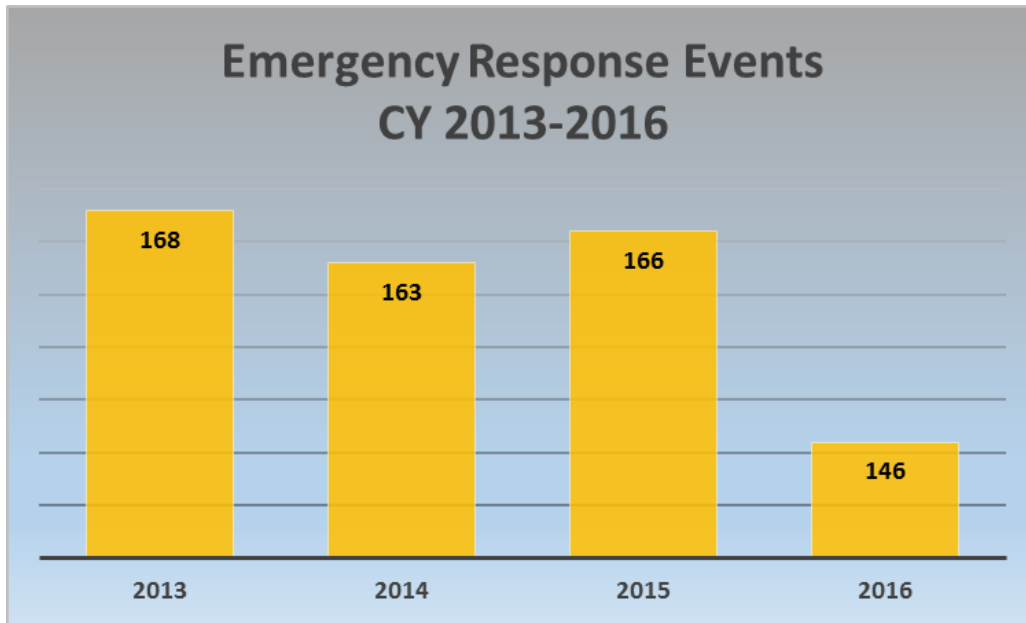
Medical Surveillance Program

EHS coordinates with Michigan Medicine Occupational Health Services (OHS) to provide medical surveillance to over 6000 University employees who have the potential for occupationally related stressors or illness. This program provides physical examinations and other relevant testing to assure optimal health and regulatory compliance for staff.



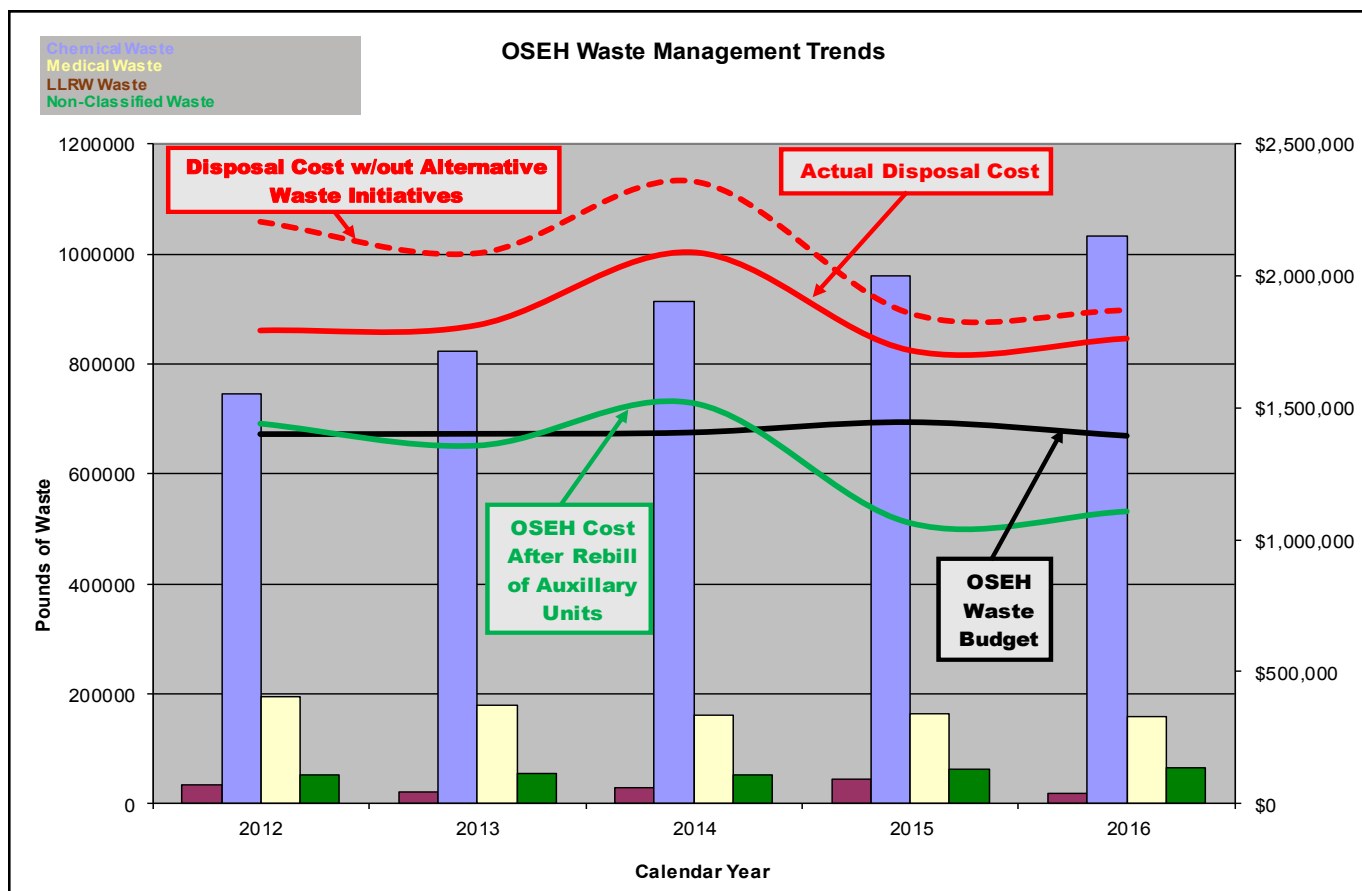
EHS Emergency Response Team

EHS has an Emergency Response Team that provides 24/7 specialized response to the Ann Arbor Campus to protect the public, the environment, and property during incidents involving a release or potential release of hazardous materials. The charts show the number of responses over the past three years as well as the type of response events that occurred in 2016.



Hazardous Materials Management

Hazardous Materials Management (HMM) is responsible for the collection and proper disposal of chemical, radioactive, and biological waste generated throughout the 27 million square feet of facilities during teaching, research, and clinical operations at the Ann Arbor campus. HMM provides technical support and training to the University community on proper labeling, packaging, and manifesting of biological, chemical, and radioactive waste in compliance with the Nuclear Regulatory Commission, Department of Transportation, Federal Resource Conservation and Recovery Act, and Michigan Act 451 regulations. Strict compliance with these regulations ensures the waste is managed, transported, and disposed of properly while reducing potential liability to the University.



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