

Michigan Annual Report
2014-2015

Annual Report of Accomplishments and Outcomes, July 2014 – June 2015 – *Fundamental*
Michigan State University/Michigan Department of Health and Human Services (MDHHS)
/Michigan Department of Licensing and Regulatory Affairs,
Enhanced Program in Occupational Injury and Illness Surveillance
Principal Investigator – Kenneth Rosenman, MD (517)353-1846 Rosenman@msu.edu
Coordinator – Martha Stanbury, MSPH (517)335-8364 stanburym@michigan.gov

The primary activities of the Michigan Fundamental program were:

- To collect annual data for occupational health indicators (OHIs)
- To conduct surveillance for work-related amputations, burns, crushing injuries, skull fractures, hospitalized injuries, heavy metal and carbon monoxide poisoning.
- To maintain and improve infrastructure and data systems for surveillance.

MAJOR ACCOMPLISHMENTS AND OUTPUTS

Occupational Health Indicators

- Michigan's OHI data for 2012 were compiled and submitted to CSTE.
- The "How to Guides" for OHI's #10, #12 and Employment Demographics were updated.
- Tom Largo participated in four OHI Workgroup conference calls, one conference call with a subgroup on temporal analyses of OHI's and in writing a draft of the new "Occupational Health Indicator Trend Analysis Guidance."

Surveillance for work-related amputations, burns, crush injuries, metals, skull fractures and carbon monoxide poisoning– number of reports received/confirmed 6/2014-6/2015:

- There were 1,520 amputation reports received, of which 540 were confirmed as work-related. There were 2,252 burn reports received, of which 834 were confirmed as work-related. There were 1,465 skull fracture reports received, of which 201 were confirmed as work-related. There were 1,050 crush injury reports received, of which 660 were confirmed as work-related. There were 690 hospitalized injuries received where worker compensation was the payer. There were 38 elevated arsenic, 101 elevated mercury and 21 elevated cadmium metals reports received for 91 individuals.
- Data collection and entry for 2014 calendar year case reports for carbon monoxide poisoning was underway and will be completed by August 2015. This included 144 reports from the Poison Control Center and approximately 1,100 reports from hospitals.

Investigations

- Amputation investigations were completed at 12 facilities. The total number of citations was 20; the median 1. The total amount of fines assessed was \$32,950; the median \$2,725. Burn investigations were completed at 20 facilities; 15 facilities received 42 citations with \$167,250 in penalties. Skull fracture investigations were completed at three facilities; there were three citations with \$ 2,600 in penalties. Crushing injury investigations were completed at 7 facilities; five facilities received 47 citations with \$ 44,600 in penalties. Work-related hospitalization investigations were completed at 17 facilities; 7 facilities received 14 citations with \$17,450 in penalties.

Surveillance infrastructure

- We continued to maintain the web-based occupational disease (OD) reporting system, a toll free number for phone reporting and an automated occupational disease reporting system which has been developed for the electronic medical record.

- We continued to promote and remind health care providers of the reporting requirement through our quarterly newsletter, "Project SENSOR News," which has a mailing list of approximately 3,000 of which approximately 75% are physicians.
- The calendar year 2014 hospital discharge data request was expanded to include overnight stays for any conditions with an expected payer of Workers' Compensation, to parallel the proposed changes in Federal OSHA reporting requirements.
- Dr. Rosenman and Ms. Reilly met with the Director and staff of the Workers' Compensation Agency to facilitate ongoing collaboration.
- The Occupational Disease Reporting Law was added back to LARAs Health Professionals Licensing Division page for physicians applying for a license to practice, after its removal during administrative changes to LARA's website.
- We worked with new staff at the State's Poison Control Center to ensure continued reporting of all work-related calls.
- The Michigan Occupational Surveillance Program's data on teen injuries and illnesses in Michigan from 2006 through 2012 was compiled in a report. The report included demographics, descriptions of the industries and magnitude of the injuries and illnesses to teens 14-17, including case narratives and intervention/prevention recommendations.
- With the assistance of a CDC Public Health Associate we conducted an analysis of the frequency of completed information about occupation and industry in the Michigan Department of Health and Human Services communicable disease database for selected infectious diseases with a potential for occupational causation or transmission.
- We were active in multi-state collaborations to promote occupational health surveillance:
 - Dr. Rosenman was the co-lead of the CSTE Occup. Health Surveillance Workgroup.
 - Since 2013, Ms. Stanbury was the co-chair of a workgroup for collecting and editing occupational health "success stories" for the CSTE website (<https://cste.siteym.com/?SuccessStories>).
 - Ms. Stanbury continued to be involved in the process to have non-infectious, nationally notifiable diseases published in the annual MMWR surveillance summaries. The 2015 annual report is in clearance at CDC/MMWR and the 2016 summary is underway.
 - Ms. Stanbury continued to work with a CDC multi-state workgroup to collect and publish surveillance data for carbon monoxide poisonings, including work-related ones. Data analysis was completed and the draft manuscript is in preparation at NDEH-CDC.
 - Tom Largo was active in planning the occupational component of the 2015 CSTE annual meeting.

Materials Development, Publications, Presentations and Other Outreach

- *2013 Annual Report: Summary of Occupational Disease Reports to the Michigan Dept. of Licensing & Regulatory Affairs* Feb 12, 2015 (available at www.oem.msu.edu)
- *2011 Annual Report on Carbon Monoxide Poisoning in MI* 7/24/13 (www.oem.msu.edu)
- *Work-related Amputations in Michigan, 2012.* August 2014. (www.oem.msu.edu)
- *Work-related Skull Fractures in MI: 2nd Annual Rep* 5/4/15. (www.oem.msu.edu)
- *Work-related Burns in MI: 3rd Annual Report.* 12/19/14. (www.oem.msu.edu)
- *2012 Annual Report on CO Poisoning in Michigan.* 12/2014. (www.oem.msu.edu)
- Tijerina V. *Working Youth: Michigan's Occupational Teen Injuries.* December 1, 2014. <http://oem.msu.edu/userfiles/file/WorkingYouthOccTeenInjFinal.pdf>
- *Tracking Work-Related Burns in MI – Data Fact Sheet.* 11/4/2014 (www.oem.msu.edu)

- Heavy Metals Surveillance in MI – Data Fact Sheet. 12/18/2014 (www.oem.msu.edu)
- Work-Related Skull Fractures in MI –Data Fact Sheet. 6/1/15 (www.oem.msu.edu)
- Tracking Work-Related Amputations in MI-Data Fact Sheet. 11/2014(www.oem.msu.edu)
- Tracking Work-Related Diseases in MI – Data Fact Sheet. 2/9/2015. (www.oem.msu.edu)
- Hazard Alert - "Stop Work-Related Assaults in the Health Care Setting: 11 health care workers assaulted and sustained a skull fracture at work" 4/27/15.
http://www.oem.msu.edu/userfiles/file/SKULLfracs/HAZALERTS_skull_4_2015.pdf

Publications:

- Largo TW, Rosenman KD. Surveillance of work-related amputations in Michigan using multiple data sources: Results for 2006-2012. *Occup Environ Med.* 2015; 72(3):171-6.
- Kica J, Rosenman KD. Multi-Source Surveillance System for Work-Related Skull Fractures. *J Safety Research* 2014; 51: 49-56.

Presentations:

- Rosenman KD. Occupational Injury/Illness Surveillance, University of Michigan Occupational Health and Safety Seminar, Ann Arbor, February 20, 2015
- Kica J, Rosenman KD. Identification of work-related skull fractures not receiving workers' compensation. Hopkinton, MA, March 3, 2015
- Rosenman KD, Reilly MJ, Largo TW. OSHA's New Rule on Reporting Severe Injuries: What to Expect, Kingwood, West Virginia, National Occup Injury Research Symp, 5/20/15
- Kica J. Multi-Source Surveillance System for 2013 Work-Related Crushing Injuries in Michigan. Annual meeting of the Council of State and Territorial Epidemiologists. 6/ 2015
- Tijerina V. Identification of Preventive Strategies for Occupational Injuries in Teens. Mid-Michigan Symposium for Undergraduate Research Experiences. July 23, 2014.
- Rosenman KD, Reilly MJ, Chester D. Temporary Worker Activity Regarding Health & Safety, Michigan, NIOSH Manufacturing and Service Sectors, Cincinnati, Ohio, 4/30/15. The presentation was summarized in a NIOSH Science Blog: <http://blogs.cdc.gov/niosh-science-blog/2015/06/16/temp-workers/>

Potential Outcomes

- All reports and presentations listed above contained recommendations that if implemented would reduce work related fatalities and morbidity.

Intermediate Outcomes

- Referrals of worksites identified by occupational disease/injury reports to MIOSHA resulted in worksite inspections that identified hazards which, when corrected, will prevent additional work-related disease/injury.
- Increased awareness and recognition of work-related diseases and injuries by physicians improved secondary prevention activities including early diagnosis and treatment and occupational disease reporting.
- Multi-year efforts to improve surveillance systems in Michigan (e.g., obtaining more complete occupation and industry information in communicable disease surveillance system) and nationally (e.g. efforts to capture occupation and industry in electronic health records), while not yet completed, will ultimately result in better surveillance data which will prompt prevention.

Annual Report of Accomplishments and Outcomes, July 2014 – June 2015 – *Pesticides Illnesses and Injuries*

Michigan State University/Michigan Dept. of Health and Human Services/Michigan Dept. of Licensing and Regulatory Affairs

Enhanced Program in Occupational Injury and Illness Surveillance

Principal Investigator – Kenneth Rosenman, MD (517)353-1846 Rosenman@msu.edu

Coordinator – Abby Schwartz, MPH (517) 335-9684 schwartza@michigan.gov

The primary activities of the Michigan Pesticides Illness and Injury program were:

- To conduct surveillance for acute pesticide-related illness and injury.
- To conduct prevention activity through referrals for workplace investigations and the development and dissemination of educational materials.

MAJOR ACCOMPLISHMENTS AND OUTPUTS

Case Ascertainment

From July 1, 2014 through May 31, 2015, there were 76 work-related case reports received with 49 cases confirmed. There were 1,662 environmental pesticide reports received with 281 confirmed cases.

Investigations

A priority alert was sent to NIOSH regarding an incident with four or more exposed persons where 10 lifeguards and 17 members of the public at a waterpark were taken to a hospital with symptoms including sore throat, shortness of breath, skin irritation, eye irritation, headache and/or nausea after being exposed to a chlorine gas leak. A valve was closed while the pump was left on causing the release. The county HazMat team and MIOSHA investigated.

Feedback from a park manager who set off a fogger in a restroom was sent to NIOSH and the EPA and forwarded to five additional EPA staff members. In this incident, the fogger fell over when the park ranger set it off. She felt that the force of the release was what caused it to tip over, and when she picked it up she was exposed. She suggested putting a time delay in and some weight to stabilize the base. These suggestions will be considered when the product is up for re-registration review by EPA.

Materials Development, Publications, Presentations, and Other Outreach

Outreach and Presentations

- Staff attended the Conference for Michigan's Farm Worker, Service Providers, and Growers in November 2014. About 150 registered attendees were able to see program reports and other material at our display table. Information about pesticide safety was presented at one of the breakout sessions.
- Staff attended the annual winter SENSOR-Pesticides meeting and presented an update on the Michigan program.
- Staff attended meetings of the Migrant Health Network at the Michigan Primary Care Association to discuss pesticides and migrant worker exposures.
- Two cases were given information improve safety protocols for handling pesticides, and to share with their employers.

- Two incidents of recreational water exposures were reported to the CDC's National Outbreak Reporting System (NORS).
- Michigan's pesticides project coordinator continued to chair the SENSOR-Pesticides "coding committee" and actively participated with other committee members in making revisions to the Standardized Variable Document.
- The Pesticide Advisory Committee (PAC) for the MDARD continued to serve as the advisory committee to the pesticide surveillance program; Ms. Schwartz is a member of the PAC. It met quarterly. A summary update of the pesticide surveillance system was presented at each meeting.
- As part of CDC's national recreational water safety week in May, local health departments were emailed information about the hazards of pool chemicals and issued a press release as well as daily Facebook postings and Twitter tweets. In addition posters were taken to local libraries.
- A CDC trainee in the Public Health Associate Program presented a poster on non-occupational disinfectant exposures at the Michigan Epidemiology conference.
- A spring mailing and follow-up email was sent to migrant health clinics with information about reporting requirements, Poison Control, and taking an environmental/occupational history.
- An email was also sent in the spring to Migrant Resource Councils with similar information, and outside worker heat safety links.
- Rosenman KD. Health Risks for Agricultural Workers. Medical Grand Rounds, Sparrow Medical Center, Lansing, Michigan, October 7, 2014.
- Rosenman KD. Health Effects of Pesticides and Occupational Disease Surveillance, Migrant Health Clinics meeting, Lansing Michigan, July 10, 2014

Surveillance Summaries

- Occupational Pesticide-Related Illnesses and Injuries in Michigan, 2013 - Data Fact Sheet. 12/2015
- Elhindi A, Schwartz A, Stanbury M, Rosenman K. Non-Occupational Disinfectant Illness and Injury Surveillance in Michigan, 2006-2013. April 2015.
http://www.michigan.gov/documents/mdch/Disinfectant_report_4_23_15_final_487815_7.pdf

Publications

- Fortenberry G, Beckman J, Schwartz A, Higgins S, Bonnar-Prado J, Lackovic M, Mulay P, Mitchell Y, Leinenkugel K, Graham L, Waltz J, Bojes H, Evans E, Calvert G. Characteristics of Acute Paraquat- and Diquat-related Illnesses in the US: 1998 – 2011 (submitted)

Potential Outcomes

All reports and presentations listed above contained recommendations that if implemented would reduce work related fatalities and morbidity.

Intermediate Outcomes

Exposure stories provided in the Pesticide Advisory Committee quarterly reports are used by MDARD and MSU when training pesticide applicators.

Data are used by the EPA during pesticide re-registration evaluations.

End outcomes

Changes in EPA labeling requirements based on information from the surveillance system will lead to safer use of pesticide products.

Increased awareness of pesticide hazards and safe handling will lead to reduced injury and illness from pesticide use.

Annual Report of Accomplishments and Outcomes, July 2014 – June 2015 – *Work-Related Asthma (WRA)*

Michigan State University (MSU)/Michigan Health & Human Services (HHS)/Michigan Department of Licensing and Regulatory Affairs (LARA)

Enhanced Program in Occupational Injury and Illness Surveillance

Principal Investigator – Kenneth Rosenman, MD (517) 353-1846 Rosenman@msu.edu

Coordinator – Mary Jo Reilly, MS (517) 353-4979 maryjo.reilly@hc.msu.edu

Primary activities of the Work-Related Asthma program were:

- To conduct surveillance for work-related asthma.
- To conduct prevention activity through workplace investigations and the development and dissemination of educational material.

MAJOR ACCOMPLISHMENTS AND OUTPUTS

Case Ascertainment

- 161 reports were received, with 67 confirmed, 45 still being followed up and the remaining 49 determined to not be WRA.
- Quarterly reminders were sent to the 136 MI hospitals to report occupational diseases from 2014 and 2015, as required by law. Quarterly reporting results in timelier patient follow-up and MIOSHA referrals for enforcement inspections. 2013 MI inpatient and outpatient files from the MI Health and Hospital Association were used to verify reporting; hospitalizations not reported were followed up to collect records on missed cases.
- A list of non-reporting Occupational Health Clinics was forwarded to MIOSHA for its biennial audits. MIOSHA initiated audits of MI Occupational Health Clinics in 2015 to enforce the MI Occupational Disease Reporting Law.

Investigations

Eight MIOSHA inspections were completed for WRA, five for isocyanates and one each for plastic fume, coolants, and chemicals in a mixing area. At six of the eight inspections, 37 co-workers completed a respiratory health questionnaire; no co-workers reported symptoms consistent with WRA. There were 10 WRA referrals for enforcement MIOSHA inspections.

Materials Development, Publications, Presentations and Other Outreach

Materials Development:

- Questions about temporary employment history/status were added to the index case questionnaire for WRA and other lung disease.
- Questions on health and safety practices for temporary employees were added to the MIOSHA inspection check list: Industrial Hygiene Summary for Asthma Causing Agents.
- Questions about temporary employment status were added to the co-worker questionnaire administered during WRA and other lung disease MIOSHA enforcement inspections.

Program Publications available at www.oem.msu.edu:

- 2013 Annual Report Tracking WRA in MI, June 2015.
- Tracking WRA in MI. 2-page data fact sheet updated 11/7/14.
- *P.S. News* - distributed to approximately 3,000 health professionals:
 - ✓ Fall 2014, "Health Disparities are an Occupational Health Issue."

- ✓ Winter 2014-2015, "Metal Working Fluids and Lung Disease."
- ✓ Spring 2015, "Pesticides and Asthma."
- Success in Reducing Work-Related Asthma. 1/27/15.
http://c.ymcdn.com/sites/cste.siteym.com/resource/resmgr/Occupational_Health_Success_Stories/OHSuccessStoryMichigan1final.pdf

Scientific Publications:

- Rosenman KD, Millerick-May M, Reilly MJ, Flattery J, Weinberg J, Harrison RJ, Lumia ME, Stephens AC, Borjan M. Swimming Facilities and Work-Related Asthma. *J Asthma* 2015; 52:52-58 Published on line 8/26/2014. DOI:10.3109/02770903.2014.950428.
- Rosenman KD. Occupational Diseases in Individuals Exposed to Metal Working Fluids. *Current Opinion in Allergy and Clinical Immunology* 2015; 2: 131-136.
- Rosenman KD, Beckett WS. Web Based Listing of Agents Associated with New Onset Work-Related Asthma. *Respiratory Medicine* 2015; 109: 625-631.
- Quinn M, Henneberger PK, Braun B, Delclos GL, Fagan K, Huang V, Knaack JL, Kusek L, Lee SJ, Le Moual N, Maher KA, McCrone SH, Hogan Mitchell A, Pechter E, Rosenman KD, Sehulster L, Stephens AC, Wilburn S, Zock JP. Cleaning and Disinfecting Environmental Surfaces in Healthcare: Towards an Integrated Framework for Infection and Occupational Illness Prevention. *Am J Infect Control* 2015; 43: 424-434.
doi.org/10.1016/j.ajic.2015.01.029

Presentations:

- Rosenman KD, Millerick-May M. Etiology of Hypersensitivity Pneumonitis. MSU. 2/1/015.
- Rosenman KD. Occupational Injury and Illness Surveillance. Environmental health officers of Michigan Local Health Departments. 2/19/15.

Other Outreach: The Work-Related Injury & Illness educational display booth was exhibited at 12 conferences. The list of conferences is in the ***Silicosis and Other Work-Related Lung Diseases Report of Accomplishments and Outcomes***.

Social media:

- The Surveillance Center at MSU maintains accounts on Facebook (28 posts July 2014 - June 2015) and Twitter (60 tweets/retweets July 2014 - June 2015).

Other Administrative and Related Outreach Activity:

- Ms. Reilly was appointed to the Advisory Board for the state's MI Tracking Network, a three year project to develop an interactive public web portal to provide access to health and environmental data for MI. Ms. Reilly will ensure that the Work Place, as an environment, is included in this developing project.
- 41 new and seven updated items were submitted to the NIOSH Clearinghouse.
- Dr. Rosenman and Ms. Reilly: MI Asthma Advisory Committee (MAAC) & Steering Committee for the Asthma Initiative of MI (AIM). Most recent meeting was 4/20/15.

Special Projects

- **MIOSHA Isocyanate National Emphasis Program (NEP):** Two inspections were conducted: 73 people were interviewed of which two reported symptoms consistent with WRA over 2 shifts at one facility and 11 workers interviewed at the second facility, of

which one reported symptoms consistent with WRA. Both companies were provided literature on WRA and occupational disease reporting developed by us.

- **Explore New Reporting Sources:** The AFL-CIO emailed 25,460 MI members for whom an email address is available on 2/24/15 asking workers with asthma caused or aggravated at work to contact the MSU Surveillance Center (SC) about their work and their exposures. 3,822 members opened the email, three workers from Michigan and one member who transferred to KY contacted the SC to report their asthma. The MSU SC is developing additional materials including a case history where a work-site inspection was conducted, to demonstrate the usefulness of reporting WRA and encourage self-reporting.

Potential Outcomes

- All reports and presentations listed above contain recommendations that if implemented would reduce the burden of work-related asthma.

Intermediate Outcomes

- The 10 MIOSHA Enforcement inspections (including the isocyanate NEP inspections) benefitted employees exposed to asthma-causing agents: 1) Health and safety violations must be corrected, which led to an overall safer and healthier work environment. 2) Letters to the three symptomatic individuals identified through the co-worker interviews directed these individuals to a physician for follow-up for their breathing symptoms.
- There were almost 4,500 attendees at the 12 conferences where we exhibited the occupational and environmental display booth. Attendees had the opportunity to learn more about WRA and other work-related disease, and take home literature on these topics as well as speak with a staff member from our office.
- To support MIOSHA's FY 2014-2018 Strategic Plan to link work-related lung disease to overexposures in the workplace, the second and third case histories we submitted were posted on the MIOSHA web site: WRA from MIG and Stick Welding, and Isocyanates; and WRA from Cobalt Exposures while Grinding on Tungsten Carbide. These cover temporary employment, over-exposures, the usefulness of inspection referrals to MIOSHA, and demonstrate intervention to prevent other workers from developing WRA: http://www.michigan.gov/lara/0,4601,7-154-61256_11407-318422--_00.html#publications#case

End Outcomes

- There has been a decrease in the number of individuals in Michigan with WRA caused by isocyanates (since 1994), metal-working fluids (since 1992) and all low molecular weight agents combined (since 2000). The MI Surveillance program was instituted in 1988 and has spent considerable effort in enforcement and educational outreach to companies, physicians and employees in addressing work-related asthma caused by these substances. This was described as a success story on the CSTE web site: http://c.ymcdn.com/sites/cste.site-ym.com/resource/resmgr/Occupational_Health_Success_Stories/OHSuccessStoryMichigan1final.pdf
- There has been an increase in cleaning agent-related WRA cases in MI since 1988, with a drop since 2004. Outreach and publications on cleaning agents have been increased since 2003 to address the issues associated with cleaning agent-related WRA.

Annual Report of Accomplishments and Outcomes, July 2014 – June 2015 – *Silicosis and Other Work-Related Lung Diseases*

Michigan State University (MSU)/Michigan Health & Human Services (HHS)/Michigan Department of Licensing and Regulatory Affairs (LARA)

Enhanced Program in Occupational Injury and Illness Surveillance

Principal Investigator – Kenneth Rosenman, MD (517) 353-1846 rosenman@msu.edu

Coordinator – Mary Jo Reilly, MS (517) 353-4979 maryjo.reilly@hc.msu.edu

Primary activities of the Silicosis & Other Work-Related Lung Diseases program were:

- To conduct surveillance for silicosis and initiate surveillance for other work-related lung diseases, including asbestosis, work-related hypersensitivity pneumonitis, hard metal lung disease, the minor pneumoconioses, and other emerging lung diseases.
- To conduct prevention activity through workplace investigations and the development and dissemination of educational material.

MAJOR ACCOMPLISHMENTS AND OUTPUTS

Case Ascertainment

- One hundred and ten reports were received and confirmed: seven Silicosis; 56 Chemical Irritation; eight Chemical Pneumonitis; seven Smoke Inhalation; three Asbestosis; one HP; and 26 Other Lung Diseases (includes COPD, infectious lung disease, metal fume fever and silo-related lung disease). Two cases were determined to not have a lung disease.
- Explored the expanded scope of occupational lung disease ascertainment through broader requests of Michigan hospital discharge data.
- Quarterly reminders were emailed/faxed to the 136 MI hospitals to report occupational diseases from hospitalizations in 2014 and 2015, as required by MI law. Quarterly reporting has resulted in timelier patient follow-up and MIOSHA referrals for enforcement inspections. Calendar year 2013 MI inpatient and outpatient files from the MI Health and Hospital Association were used to verify reporting; hospitalizations not initially reported are followed up 1.5 years after initial reporting to collect records on any missed cases.
- A list of non-reporting Occupational Health Clinics was forwarded to MIOSHA for its biennial audits. MIOSHA initiated audits of MI Occupational Health Clinics in 2015 to enforce the MI Occupational Disease Reporting Law.

Investigations

Three Michigan OSHA enforcement inspections were completed; two for hard metal lung disease and one for silicosis. There were three referrals for enforcement MIOSHA inspections for Silicosis and Other Work-Related Lung Disease.

Materials Development, Publications, Presentations and Other Outreach

Materials Development:

- Questions were added on health and safety practices for temporary employees to the MIOSHA inspection check list: Industrial Hygiene Summary for Silica and Other Agents.

Program Publications available at www.oem.msu.edu:

- 2013 Annual Report on Silicosis & Other Lung Diseases in MI. 3/10/15.
- 2013 Annual Summary of Occupational Disease Reports to LARA. 2/12/15.
- Tracking Work-Related Lung Diseases in MI. 3/9/15, updated.
- Tracking Work-Related Diseases in MI. 2/9/15, updated.

- Tracking Asbestos-Related Lung Disease in MI. 3/9/15, updated.
- *P.S. News* - distributed to approximately 3,000 health professionals:
 - ✓ Fall 2014, "Health Disparities are an Occupational Health Issue."
 - ✓ Winter 2014-2015, "Metal Working Fluids and Lung Disease."
 - ✓ Summer 2015, "Lung Cancer Screening for Asbestos-Exposed Workers?"

Scientific Publications:

- Millerick-May M, Reilly MJ, Schrauben S, Rosenman KD. Silicosis and Chronic Renal Disease. *Am J Ind Med*. Accepted 27 March 2015 DOI 10.1002/ajim.22465.
- Rosenman KD. Health Disparities in Occupational Exposures in Health Disparities in Respiratory Disease. Eds. Lynn G, Berry C. Springer. 2015 (in press).
- Notes from the Field -- Silicosis in a Countertop Fabricator – Texas 2014 *MMWR* February 13, 2015, Vol. 64, No. 5.

Presentations:

- Rosenman KD, Millerick-May M. Etiology of Hypersensitivity Pneumonitis. *MSU Toxicologists*. 2/1/015.
- Rosenman KD. Occupational Injury and Illness Surveillance. Environmental health officers of Michigan Local Health Departments. 2/19/15.

Other Outreach: Work-Related Injury & Illness educational display booth exhibited at:

- MAPA Conference, 10/8-10/14, Traverse City MI. 593 attendees.
- MOEMA 2014 Conference, 10/17-18/14, Detroit MI. 86 attendees.
- 2014 MSMS Annual Conference, 10/23-24/14, Troy MI. 322 attendees.
- UM Pulmonary & Crit. Care Med Conference, 11/14-15/14, Plymouth MI. 117 attendees.
- ACOG Annual Meeting, 1/30- 2/1/15, Crystal Mountain MI. 57 attendees.
- MSU Osteopathic Medicine Meeting, 2/21/15, East Lansing MI. 105 attendees.
- MICNP Ann Conference, 3/13-14/15, Lansing MI. 317 attendees.
- 2015 MI Safety Conference, 4/15-16/15, Lansing MI. 2271 attendees.
- MSMS House of Delegates, 5/2-3/15, Grand Rapids MI. 377 attendees.
- MSMS Annual Spring Scientific Sessions, 5/13-14/15, Dearborn MI. 99 attendees.
- MI ACOG Fellow Research Day, 5/20/15, East Lansing MI. 97 attendees.
- UM Internal Medicine Spring Review, 5/29-30/15, Plymouth MI.

Social media:

- The Surveillance Center at MSU maintained accounts on Facebook (28 posts July 2014 - June 2015) and Twitter (60 tweets/retweets July 2014 - June 2015).

Other Administrative and Related Outreach Activity:

- Ms. Reilly was appointed to the Advisory Board for the state's MI Tracking Network, a three year project to develop an interactive public web portal to provide access to health and environmental data for MI. The role of MSU OEM is to ensure that the workplace, as an environment, is included in this developing project.
- Dr. Rosenman and Ms. Reilly met with Martha Yoder, Director of MIOSHA and Ron Ray, Director of the Technical Services Division at MIOSHA, to map out a plan for how our two agencies will work together to ensure the effectiveness of the newly adopted state law requiring employers to report any employee hospitalization to MIOSHA.
- Ms. Reilly spoke with Emily Hall from the Texas Department of Health, sharing information on how the MSU OEM team conducts surveillance for work-related disease, especially for asbestos-related disease and silicosis.

- Ms. Reilly attended a CSTE Occupational Health webinar on Temporary Employees, and another CSTE webinar on generating rates of occupational injuries and illnesses.
- 41 new and seven updated items were submitted to the NIOSH Clearinghouse.

Special Projects

- **Multi-State Initiative on the Hazards of Working in the Manufactured Stone Industry:** Collaboration with NIOSH and the silicosis surveillance states continues, to share information on manufactured stone hazards related to silica dust. Most recently we worked with the MIOSHA Consultation, Education and Training (CET) Division to develop a plan to disseminate information on the hazards of manufactured to stone to the MI companies that install countertops. CET will send a letter to companies along with the NIOSH Hazard Alert, as well as include the Hazard Alert during silica training sessions and on-site consultations. CET recently posted the Hazard Alert on its Air Contaminants Initiative webpage under its MI Case Studies, Success Stories and Emerging Issues Section at: http://www.michigan.gov/lara/0,4601,7-154-61256_11407-318422--,00.html

Potential Outcomes

- All reports and presentations listed contain recommendations that if implemented would reduce silicosis and other work-related lung disease. If the project on manufactured stone hazards identifies individuals with silicosis from the manufactured stone industry, these individuals would benefit from getting a proper diagnosis and treatment plan.

Intermediate Outcomes

- The three MIOSHA Enforcement inspections benefitted employees exposed to silica and other lung disease-causing substances in the following ways: 1) Health and safety violations must be corrected, leading to an overall safer and healthier work environment. 2) Workers involved in MIOSHA inspections are likely to increase their awareness of the hazards of exposures, through their communication with MIOSHA inspectors.
- There were almost 4,500 attendees at the 12 Conferences where we exhibited the occupational and environmental display booth. Attendees who visited the booth had the opportunity to learn more about silicosis and other work-related lung disease, and take home literature on these topics as well as speak with a staff member from our office.

End Outcomes

- The number of cases of silicosis in Michigan has been decreasing since 1991. The MI Surveillance program began in 1988 and has spent considerable effort in outreach to companies, physicians and employees in addressing silicosis, through both enforcement investigations as well as through educational media. This outreach has now been expanded to include other lung diseases in addition to silicosis.

Annual Report of Accomplishments and Outcomes, July 2014 – June 2015 – *Acute Traumatic Work-Related Deaths*

Michigan State University/Michigan Dept. of Health and Human Services/Michigan Dept. of Licensing and Regulatory Affairs, Enhanced Program in Occupational Injury and Illness Surveillance

Principal Investigator – Kenneth Rosenman, MD (517)353-1846 Rosenman@msu.edu

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The primary activities of the Michigan Acute Traumatic Work-Related Death program were:

- To conduct surveillance for acute traumatic work-related deaths,
- To identify the root cause(s) of the death
- To conduct prevention activity through workplace investigations and the development and dissemination of educational material.

MAJOR ACCOMPLISHMENTS AND OUTPUTS

Case Ascertainment

There were 97 work-related fatality reports received, with 92 confirmed.

Investigations

There were eight MIFACE site visits performed.

Materials Development, Publications, Presentations and Other Outreach

1. Program Publications available at www.oem.msu.edu
 - a. 2013 Annual Report on Acute Traumatic Work-Related Fatalities in Michigan
 - b. Tracking Acute Work-Related Deaths in Michigan – A 2-page summary sheet highlighting key elements of the 2014 Annual Report
 - c. Thirteen MIFACE Summaries of MIOSHA Investigations. The Summaries were written for educational purposes and have been used by MIOSHA in training programs and distributed to employers during MIOSHA injury/illness investigations. Employers utilize the summaries in employee training programs and “tailgate talks”.
 - d. Nine MIFACE Investigation Reports
2. Presentations
 - a. MIFACE: FACE a Safer Future, Lakeshore Safety and Environmental Network, Grand Rapids, MI. July 15, 2014.
 - b. MIFACE 2013 Agriculture Update: Ag Safety and Rescue Initiative
 - a. Brown City, MI. December 1, 2014.
 - b. Frankenmuth, MI. December 2, 2014.
 - c. Saginaw, MI. December 3, 2014.
 - d. Midland, MI. March 17, 2015.
 - c. MIFACE – FACE a Safer Future: Industrial Hygiene Seminar Class, University of Michigan School of Public Health, Ann Arbor, MI. December 5, 2014.
 - d. MIFACE Update. Michigan OSHA Consultation, Education and Training Staff/General Industry Compliance Staff, Lansing, MI. December 16, 2014.

- e. Combined Agriculture Safety and Health Management Systems, MIFACE Agricultural Fatality Update, Heat Stress, Zoonotic Disease, Heat Stress, Manure Safety, Right to Know Changes, Injury and Illness Reporting presentations.
 - a. Charlotte, MI, March 11, 2015
 - b. Ann Arbor, MI, March 12, 2015
 - c. Michigan Pork Producers 2015 Statewide Meetings.
 - d. Dowagiac, MI, March 23, 2015
 - e. Grand Rapids, MI, March 24, 2015
 - f. Marshall MI, March 25, 2015
 - g. Bridgeport, MI, March 26
 - f. Farming, a Dangerous Business: Agricultural Work-Related Fatalities. Rural EMS Summit, Frankenmuth, MI. February 27, 2015.
 - g. Trauma Related Fatalities in Agriculture, Rural EMS Summit, Frankenmuth, MI. February 27, 2015.
 - h. FACE a Safer Future and AgrAbility, MSU Extension ANR Week, East Lansing, MI. March 10, 2015.
 - i. Michigan Safety Conference, Lansing, MI. April 14, 2015.
 - a. Ag Safety Overview: Agriculture Safety and Health Management Systems, MIFACE Agricultural Fatality Update, Heat Stress, Zoonotic Disease, Noise, Manure Safety, Right to Know Changes, Injury and Illness Reporting
 - b. Workplace Fatalities: Crisis Communication Following the Tragedy – The MIFACE Experience
 - c. Work-Related Deaths in the Michigan Construction Industry.
3. Other Outreach
- a. Worker Memorial Day Activities
 - i. Press release prepared and distributed April 27, 2015. Press Release highlighted in print and internet publications
 - ii. MSU Public Radio interview of Dr. Rosenman.
 - b. Conference Display Booth
 - i. Rural EMS Summit, Frankenmuth, MI. February 27, 2015.
 - ii. Michigan Safety Conference, Lansing, MI. April 14, 2015
 - iii. MIFACE Brochures distributed at all presentations listed above
 - c. MIFACE Work-Related Fatality Case Summary Pages on MSU OEM website
 - i. A case summary for each confirmed 2014 and 2015 work-related fatality is posted on the MIFACE webpage.
<http://www.oem.msu.edu/2014WorkRelatedFatalities.aspx>,
<http://www.oem.msu.edu/2015WorkRelatedFatalities.aspx>
 - ii. New cases sent monthly to e-mail stakeholders
4. Publications
- i. National Safety Council, Safety and Health Magazine. FACE Value: Case Report #10MI069 – Farm Laborer electrocuted in potato field. July 2014.

- ii. Safety and Health Magazine: October 2014: FACE Value: Case Report #09MI085 – Truck Driver Struck, Killed. Page 69
- iii. Detroit News Article: Workplace fatality rate ticks down in Michigan. 10/26/2014.

Special Projects

1. AgrAbility. Collaboration to extend agricultural safety information to farmers utilizing AgrAbility services.
2. Co-chair of Agricultural Safety Section and Michigan Safety Conference Board Member since 2013 Responsibilities included agenda development, speaker procurement and follow-up.
3. Collaboration with National Truckers Association (NTA). MIFACE is coordinating the placement of State and NIOSH FACE truck related work-related fatality reports placed on a *Safety Issues* webpage on the NTA website. <http://www.nationaltruckers.com/blog>
4. Temporary Workers: Collaboration with Michigan OSHA to conduct educational outreach to temporary staffing agencies.

Potential Outcomes: All reports and presentations listed above contained recommendations that if implemented would reduce work-related fatalities and morbidity.

Intermediate Outcomes:

- Michigan's Temporary Worker Safety outreach cited in the OSHA/NIOSH publication.
- Heat Stress information posted on Facebook and Twitter by Construction Association of Michigan (CAM). CAM also included the link in the ASSE newsletter.
Michigan Safety Conference: MIFACE Investigation Reports have been used in the following manner – When, after disciplining an employee for a behavior not in line with company policy/unsafe behavior, if the behavior is repeated, he searches the MIFACE Investigation Report page for a similar type of behavior/incident. He prints the report, requires the employee to read and place his signature on the report. If the employee is married, the spouse must also read and sign the report. The employee brings the signed report back to the attendee and the report is discussed in light of company policy and employee behavior.

End Outcomes: Since 2001, the number of work-related fatalities has decreased from 174 in 2001 to a projected 125 work-related fatalities in 2014; a reduction of 28%. The number of agricultural fatalities has fallen from a high of 31 in 2003 to a projected 14 in 2015 (notifications of work-related deaths are continuing); a decrease of 55%. This was written up as a success story on the CSTE website (<http://www.cste2.org/docs/MISuccess.pdf>). These decreases may be partially attributable to MIFACE educational prevention outreach efforts.