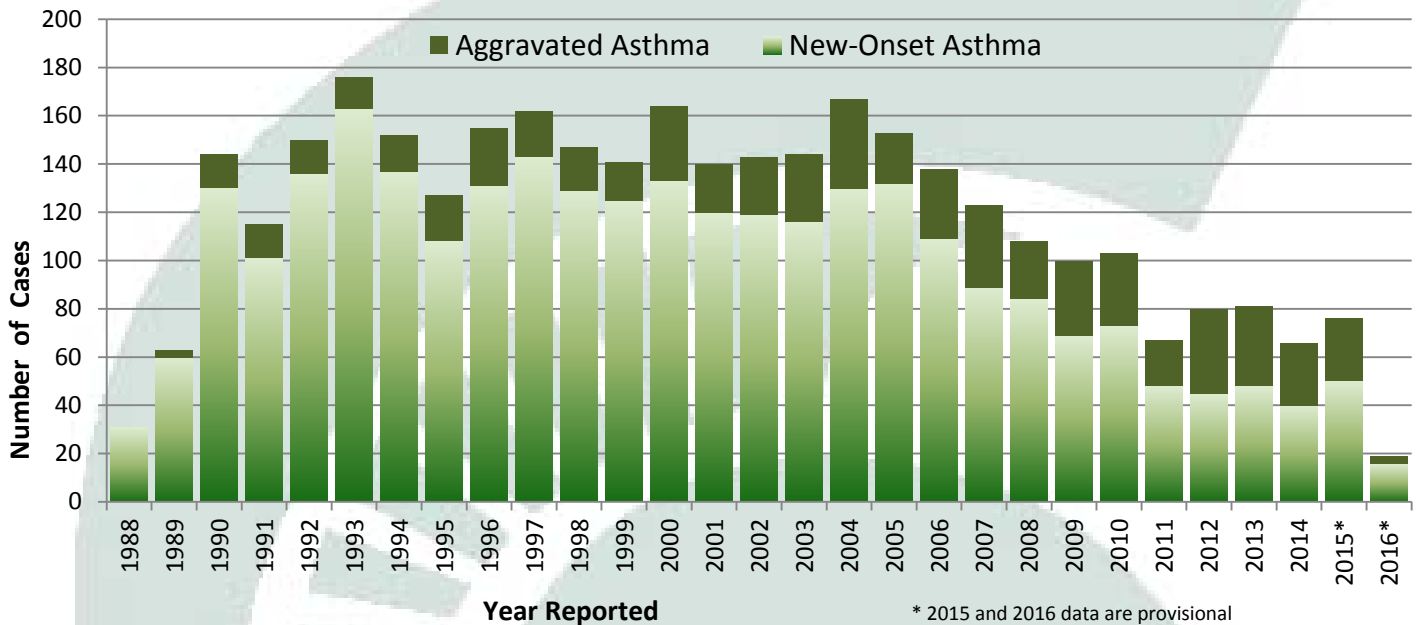


Tracking Work-Related Asthma (WRA) in Michigan

Additional Information Available at: www.oem.msu.edu

Summary Statistics

Confirmed WRA Cases by Year & Type



The Association of Occupational & Environmental Clinics (AOEC) provides an on-line asthma-causing agent look-up tool to identify agents associated with asthma, including work-related asthma. The link to the AOEC website is: <http://www.aoecdata.org/ExpCodeLookup.aspx> Thousands more substances have not been evaluated for their asthma-causing potential. There are two subgroups of WRA, new onset asthma and preexisting asthma that is exacerbated by an exposure at work. The average incidence of WRA among African Americans is 1.7 times greater than among Caucasians (2.63 and 1.56 cases per 100,000, respectively). The most commonly reported exposures in Michigan are cleaning agents and diisocyanates. These exposures reflect the manufacturing and service industry base in our state.

Top 10 Exposure Agents in MI

Exposure Agent	% WRA Cases
Cleaning Agents	12.3
Diisocyanates	12.2
Metal Working Fluids	9.4
Unknown Mfg.	7.4
Unknown Office	5.9
Smoke/Fume	4.8
Welding Fume	4.4
Solvents	3.3
Paint Fume	2.5
Epoxy	2.2



Federal OSHA has a number of resources on Protecting Temporary Workers at:

https://www.osha.gov/temp_workers/index.html

Background

In 1988 Michigan instituted a tracking program for work-related asthma (WRA) with financial assistance from the National Institute for Occupational Safety and Health. This is a joint project of the Michigan Occupational Safety and Health Administration (MIOSHA) and the Michigan State University (MSU) Department of Medicine. The reporting of a sentinel case may lead to the identification of employees from the same facility who are at risk of developing asthma. The goal of the project is to prevent WRA through the identification of these sentinel patients.

Annual Average Rate of WRA: Manufacturing Industries

2002 NAICS	Industry	# Cases	Ann Avg Rate	# Ees
311	Food Mfg	65	8.2	31,900
323	Printing & Related Support Activities	19	3.8	20,200
325	Chemical Mfg	100	11.8	33,800
326	Plastics & Rubber Products Mfg	100	9.2	43,700
327	Nonmetallic Mineral Product Mfg	18	4.1	17,600
331	Primary Metal Mfg	66	9.3	28,300
332	Fabricated Metal Product Mfg	106	5.0	84,500
333	Machinery Mfg	141	7.1	79,700
334	Computer & Electronic Product Mfg	14	2.7	21,100
336	Transportation Equipment Mfg	1,130	15.2	296,900
337	Furniture & Related Product Mfg	14	1.8	31,000
	All Other Mfg	123	6.8	72,700



Program Highlights

- A survey in 2005 found that 52.5% of Michigan adults who were employed and currently have asthma reported that a health care provider told them or they told the health care provider that their asthma was caused or made worse by exposures at work.
- MIOSHA enforcement inspections at the workplaces of the WRA patients reveal that, on average, 1 out of every 6 fellow workers has asthma or respiratory symptoms compatible with asthma.
- Air sampling for allergens during MIOSHA inspections reveals only 3.8% of the facilities have exposures above the MIOSHA enforceable permissible exposure limit. This suggests that employees can become sensitized to workplace allergens at levels within permissible limits.
- Cessation of exposure is the most important aspect of treatment once an employee has become sensitized to a substance at work; patients removed from exposure the soonest have the best prognosis.

WRA Narratives

- A female in her 20s experienced an exacerbation of her pre-existing asthma at the hospital where she was a housekeeper. She was exposed to a new formulation of a disinfectant. The disinfectant contained hydrogen peroxide, acetic acid and peroxyacetic acid. She was a lifelong non-smoker.
- A female in her 40s developed work-related asthma while working as an operating room technician at a hospital. She was exposed to an open container of a disinfectant. She developed shortness of breath, wheezing, chest tightness and a cough. She was treated in the emergency department with Dulera and Albuterol. She was a lifelong non-smoker.
- A male in his 40s developed work-related asthma from exposure to cooking oil fumes at the fast food restaurant where he worked as a crew member. After working at the fast food restaurant for approximately two years, he developed wheezing, a cough, shortness of breath and chest tightness. He has continued to work at the restaurant and since his asthma began, his symptoms have worsened and medication use has increased. He was a lifelong non-smoker.