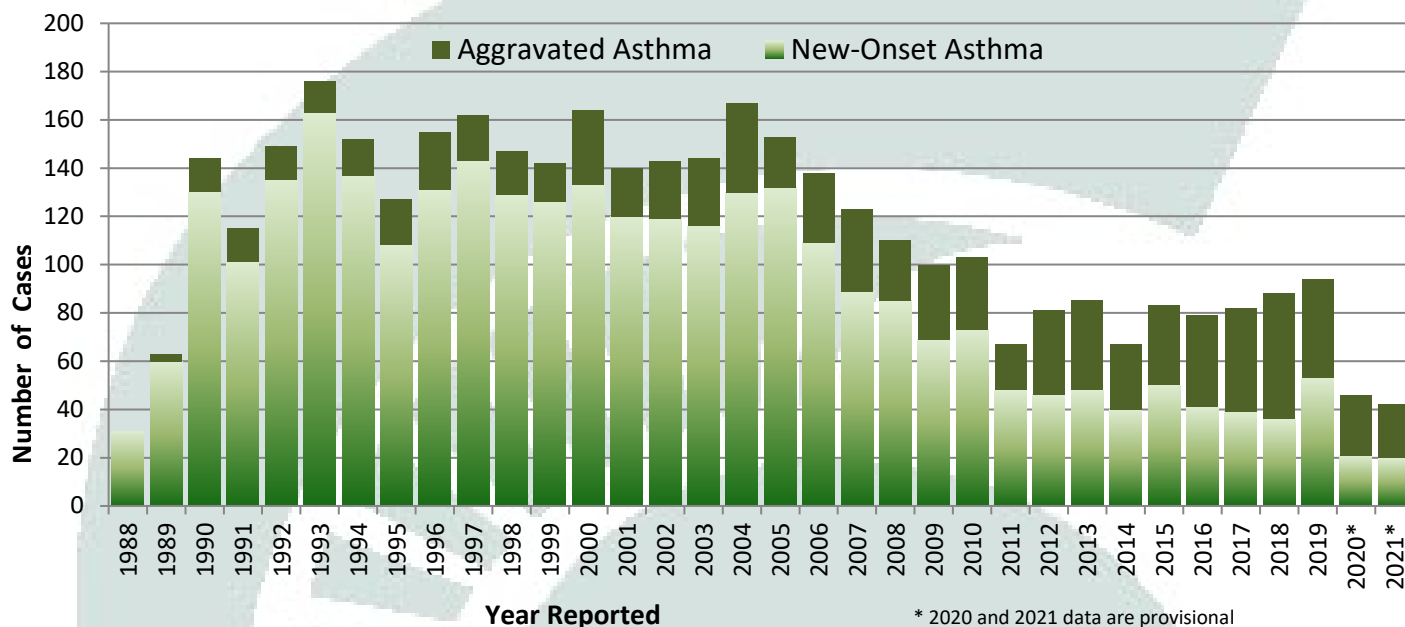


Tracking Work-Related Asthma (WRA) in Michigan

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 2 times greater than among Caucasians (2.7 and 1.27 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	13.0
Diisocyanates	11.8
Metal Working Fluids	8.8
Unknown Mfg.	7.2
Unknown Office	5.5
Smoke/Fume	4.6
Welding Fume	4.3
Solvents	3.0
Paint Fume	2.5
Fungus	2.4



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	70	7.1	32,729
323	Printing & Related Support Activities	19	3.5	18,327
325	Chemical Mfg	109	13.1	27,704
326	Plastics & Rubber Products Mfg	115	8.9	43,056
327	Nonmetallic Mineral Product Mfg	19	3.8	16,512
331	Primary Metal Mfg	70	8.4	27,648
332	Fabricated Metal Product Mfg	123	4.9	83,121
333	Machinery Mfg	158	6.9	75,925
334	Computer & Electronic Product Mfg	15	2.6	19,165
336	Transportation Equipment Mfg	1,176	15.3	255,913
337	Furniture & Related Product Mfg	16	2.0	26,167
	All Other Mfg	152	7.3	69,619



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 male in his 50s developed WRA after exposure to isocyanates while working as a mixer operator for a company that manufactures silicones. He developed a cough and shortness of breath and sought medical treatment in the emergency department. He was prescribed Albuterol and Advair. He was off work because of his breathing problems but recently returned to work. He was a lifelong non-smoker.
- A female elementary school teacher in her 30s developed WRA from increased exposure to disinfectants used to clean the school during the COVID-19 pandemic. She developed wheezing, a cough, shortness of breath and chest tightness. Her symptoms only occurred when she was in the school building when cleaning was performed. She was prescribed an albuterol inhaler. Since her diagnosis, her asthma has improved, although she requires a greater amount of asthma medication. She was a lifelong non-smoker.
- A female in her 50s developed WRA after exposure to cleaning chemicals while working as a medical assistant in a pediatric clinic. She was cleaning more often with disinfectants due to COVID-19. She developed a cough, chest tightness, wheezing, and shortness of breath and sought medical treatment in the emergency department. She was prescribed Advair and Albuterol. She was a lifelong non-smoker.