

Tracking Work-Related lung Diseases in Michigan

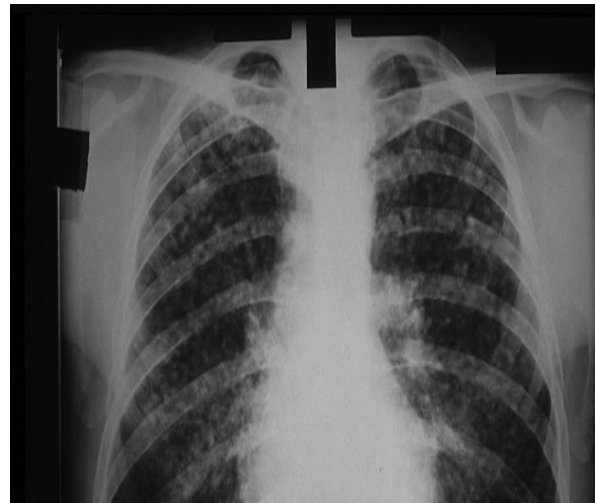
Additional Information Available at: www.oem.msu.edu

Summary Statistics*

Lung Disease 1988-2023	Number
Work-Related Asthma	3988
Silicosis	1220
Coalworkers' Pneumoconiosis	125
Hard Metal Lung Disease	22
Chronic Beryllium Disease	10
Infectious COVID-19**	688

Lung Disease 2009-2023	Number
Asbestosis	2517
Chemical Irritation	1737
Hypersensitivity Pneumonitis	190
Chemical Pneumonitis	200
COPD Exacerbation	101
Smoke Inhalation	92
Irritative Bronchitis	47
Allergies/Allergic Rhinitis	38
Infectious Agent	38
Metal Fume Fever	24
Silo Related Respiratory Ill.	12
Pneumoconiosis Unspecified	11
Siderosis	6
Acute Respiratory Distress Syndrome	3
Lung Cancer	3
MISC Lung	10

*Based on complete reporting from all 134 hospitals reporting 2023 data through 3rd quarter of 2023 as of 1-29-2024. **Surveillance for COVID-19 ended in 2023.



Chest X-Ray showing silicotic changes associated with long-term exposure to silica.

Industry of Silica Exposure, MI

INDUSTRY	#	%
Manufacturing	1020	84
Construction	108	9
Mining	54	4
Transportation	7	1
Services, Health Care	7	1
Trade	5	<1
Government	4	<1
Farming	2	<1
Administrative Support	1	<1
Utilities	1	<1

Background

In 1988 the State of Michigan instituted a tracking program for silicosis, 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 incidence of silicosis cases in Michigan has been declining since the late 1990s. In an effort to continue to identify, understand and prevent other work-related lung disease, the tracking program was expanded in 2010 to include other dust diseases such as Asbestosis, Chronic Beryllium Disease, Hypersensitivity Pneumonitis (HP) and Hard Metal Lung Disease. Newly identified cases are interviewed about their exposures and work history and MIOSHA enforcement workplace inspections may be conducted to determine if other employees are at risk of developing lung disease.

January 25, 2024

Work-Related Lung Disease Case Narratives

Chemical Irritation:

- A female in her 50s developed chemical irritation after using a bleach spray at work. She had difficulty breathing, a cough and throat irritation.
- A male in his 40s developed a cough and shortness of breath while cleaning with bleach. He was prescribed prednisone in the Emergency Department. He was a lifelong non-smoker.

Infectious Agent (Legionnaires):

- A male in his 40s developed legionnaires disease while working as an HVAC technician. He is a one pack per day cigarette smoker.

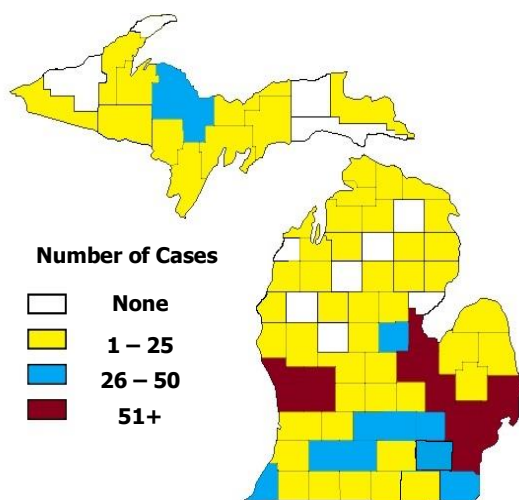
Program Highlights: Silicosis

- 84% of MI silicosis patients worked in manufacturing, primarily foundries
- MIOSHA enforcement inspections at the workplaces of the silicosis patients reveal that over one-third of companies inspected had silica exposure measurements over the permissible limit
- Emerging industries identified with silica hazards include **Engineered Stone Countertop Fabrication** -- <http://blogs.cdc.gov/niosh-science-blog/2014/03/11/countertops/> and **Hydraulic Fracturing** -- https://www.osha.gov/dts/hazardalerts/hydraulic_frac_hazard_alert.html



Example of respirable quartz-containing dust as a highway construction worker cuts cement.

Distribution of Michigan Residents Diagnosed with Mesothelioma: 2001-2020



The south-central region of Michigan has the highest number of cases of mesothelioma. The Saginaw and Bay County area cases can be attributed to exposure to asbestos in foundries and shipyard work. The counties with the highest annual incidence rates of mesothelioma are:

Clair	2.3 per 100,000
Marquette	2.2 per 100,000
Bay	1.8 per 100,000
Delta	1.8 per 100,000
St. Clair	1.7 per 100,000
Midland	1.7 per 100,000