

# Tracking Work-Related lung Diseases in Michigan

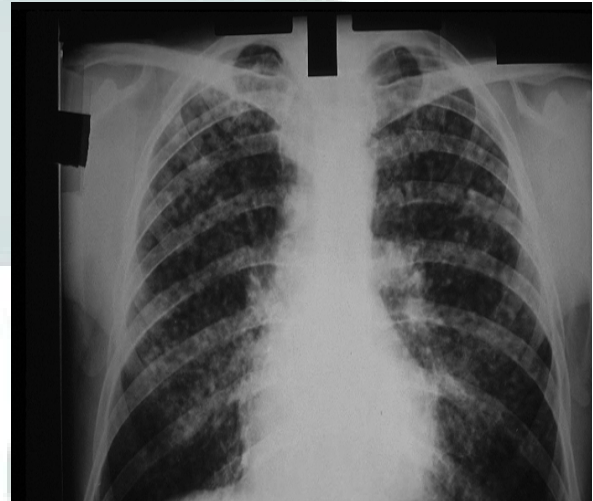
Additional Information Available at: [www.oem.msu.edu](http://www.oem.msu.edu)

## Summary Statistics\*

Lung Disease 1988-2018	Number
Work-Related Asthma	3638
Silicosis	1199
Coalworkers' Pneumoconiosis	123
Hard Metal Lung Disease	20
Chronic Beryllium Disease	9

Lung Disease 2009-2018	Number
Asbestosis	2502
Chemical Irritation	923
Hypersensitivity Pneumonitis	169
Chemical Pneumonitis	153
Smoke Inhalation	66
COPD Exacerbation	66
Irritative Bronchitis	42
Allergies/Allergic Rhinitis	30
Infectious Agent	28
Pneumoconiosis Unspecified	10
Silo Related Respiratory Ill.	10
Metal Fume Fever	10
Siderosis	4
Acute Respiratory Distress Syndrome	2
Lung Cancer	2
Bronchiectasis	1
Bronchiolitis Obliterans	1
Respiratory Bronchiolitis	1

\*Based on complete reporting from 100 of 135 hospitals reporting 2018 data through 3<sup>rd</sup> quarter of 2018 as of 1-15-2019.



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

## Industry of Silica Exposure, MI

INDUSTRY	#	%
Manufacturing	1008	85
Construction	103	9
Mining	50	4
Transportation	7	1
Services, Health Care	6	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 MIOASHA enforcement workplace inspections may be conducted to determine if other employees are at risk of developing lung disease.

## Work-Related Lung Disease Case Narratives

- **Asbestosis:** A hospital reported a male in his 70s with asbestosis and COPD. He had worked for 25 years at an auto manufacturer. His main job was as a crane operator, but it was a small shop and he reported performing any jobs that needed to be completed. The company provided dust masks to its employees. He formerly smoked a pack and a half of cigarettes per day, for over 30 years.
- **COPD:** A hospital reported a male in his 60s with chronic obstructive pulmonary disease, scleroderma and arthritis. He worked at a gray iron foundry for over 30 years. He had a 40-pack-year history of smoking cigarettes. He quit smoking in his 50s. His hospitalization was due to worsening shortness of breath upon minimal exertion.

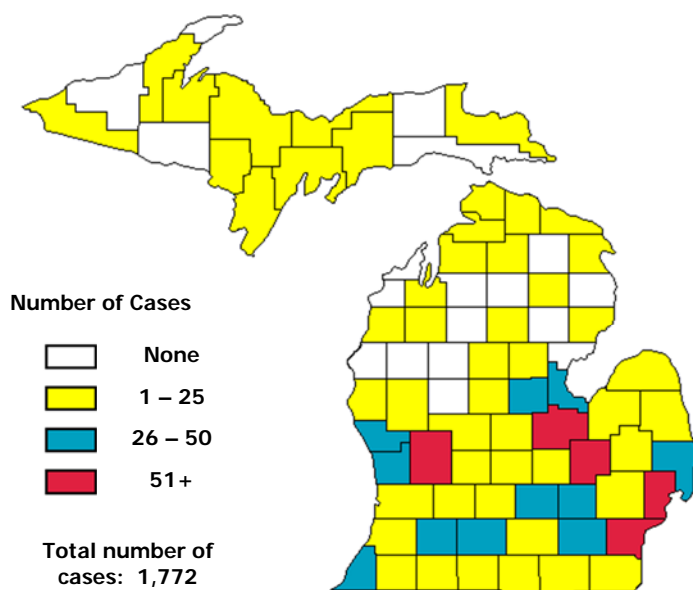
## Program Highlights: Silicosis

- 85% 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](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: 2001-2015



The south-central region of Michigan has the highest number of cases of mesothelioma. The Saginaw-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:

<b>Marquette</b>	<b>2.3 per 100,000</b>
<b>Bay</b>	<b>2.0 per 100,000</b>
<b>Midland</b>	<b>1.9 per 100,000</b>
<b>St. Clair</b>	<b>1.7 per 100,000</b>
<b>Muskegon</b>	<b>1.6 per 100,000</b>
<b>Van Buren</b>	<b>1.6 per 100,000</b>