

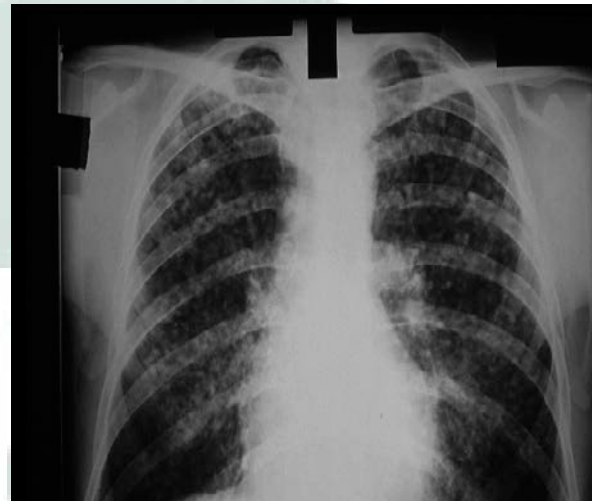
Tracking Work-Related lung Diseases in Michigan

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

Summary Statistics*

Lung Disease 1988-2016	Number
Work-Related Asthma	3417
Silicosis	1179
Coalworkers' Pneumoconiosis	123
Hard Metal Lung Disease	17
Chronic Beryllium Disease	9
Lung Disease 2009-2016	Number
Asbestosis	2491
Chemical Irritation	694
Hypersensitivity Pneumonitis	146
Chemical Pneumonitis	126
Smoke Inhalation	59
COPD Exacerbation	43
Irritative Bronchitis	34
Infectious Agent	26
Allergies/Allergic Rhinitis	25
Pneumoconiosis Unspecified	9
Silo Related Respiratory Ill.	9
Metal Fume Fever	5
Siderosis	3
Acute Respiratory Distress Syndrome	2
Lung Cancer	2
Bronchiectasis	1
Bronchiolitis Obliterans	1
Respiratory Bronchiolitis	1

*Based on complete reporting from 114 of 134 hospitals reporting 2016 data as of 3-29-2017.



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

Industry of Silica Exposure, MI

INDUSTRY	#	%
Manufacturing	999	85
Construction	100	9
Mining	48	4
Services, Health Care	8	1
Transportation	7	1
Trade	5	<1
Government	4	<1
Administrative Support	2	<1
Farming	2	<1
Utilities	2	<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.

Work-Related Lung Disease Case Narratives

- **Chemical Irritation:** A female in her 20s was placed through a temporary agency at a blueberry processing facility. Almost immediately after starting work, she developed chest tightness, shortness of breath, wheezing and a cough from exposure to chlorine, which was used to process the blueberries. She sought treatment at an emergency department and was prescribed an inhaler. She left this job, and since then she no longer experienced any breathing symptoms and no longer required the use of an inhaler.
- **Hard Metal Lung Disease:** A male in his 60s was diagnosed with hard metal pneumoconiosis from a lung biopsy. He was exposed to cobalt from grinding metal at a tool and die shop for 6 years with no respiratory protection. He had also worked for 28 years at an automotive manufacturing facility where he was exposed to coolant fumes. He had never smoked cigarettes.

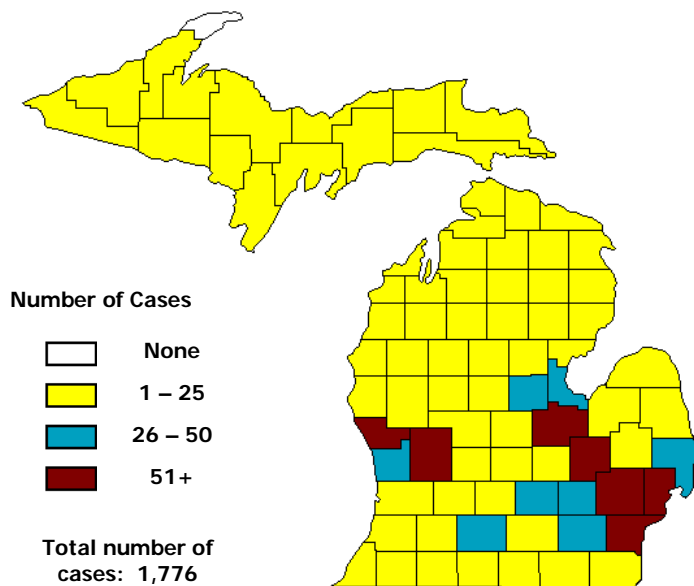
Program Highlights: Silicosis

- 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



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

Distribution of Michigan Residents Diagnosed with Mesothelioma: 1999-2013



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:

Bay	2.4 per 100,000
Marquette	2.3 per 100,000
Midland	2.0 per 100,000
Muskegon	1.8 per 100,000