

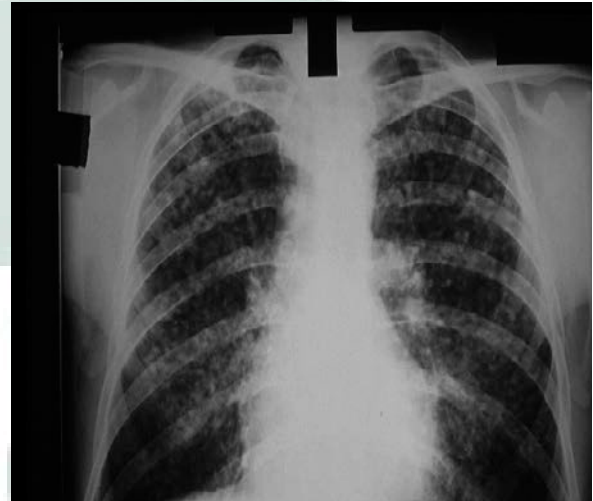
# Tracking Work-Related lung Diseases in Michigan

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

## Summary Statistics\*

Lung Disease 1988-2014	Number
Work-Related Asthma	3375
Silicosis	1164
Coalworkers' Pneumoconiosis	123
Hard Metal Lung Disease	14
Chronic Beryllium Disease	4
Lung Disease 2009-2014	Number
Asbestosis	2481
Chemical Irritation	409
Hypersensitivity Pneumonitis	130
Chemical Pneumonitis	103
Smoke Inhalation	47
Irritative Bronchitis	31
Infectious Agent	22
Allergies/Allergic Rhinitis	19
COPD Exacerbation	19
Pneumoconiosis Unspecified	8
Silo Related Respiratory Ill.	8
Acute Respiratory Distress Syndrome	2
Bronchiectasis	1
Bronchiolitis Obliterans	1
Respiratory Bronchiolitis	1
Siderosis	2

\*Based on complete reporting from 128 of 134 hospitals reporting 2014 data as of 9-11-2015.



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

## Industry of Silica Exposure, MI

INDUSTRY	#	%
Manufacturing	990	85
Construction	98	8
Mining	44	4
Services, Health Care	7	1
Transportation	7	1
Trade	5	<1
Government	4	<1
Administrative Support	2	<1
Farming	2	<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.

## Work-Related Lung Disease Case Narratives

- Chemical Irritation/Irritative Bronchitis:** (1) A male in his 20s was exposed to chlorine at his job placement through a temporary employment agency as a separator at a chlorine manufacturing facility. He developed a cough and shortness of breath. He did this job for three years until one workday when he sought treatment for his symptoms at the local hospital emergency department (ED). Shortly afterwards, he quit his job upon the advice of his doctor. (2) A male in his 50s had an acute exposure to an accidental mixture of chlorine and a caustic acid cleaner. He worked at a cheese manufacturing facility as a machine maintenance man. He developed a cough and shortness of breath when the line carrying the chemicals was being repaired.

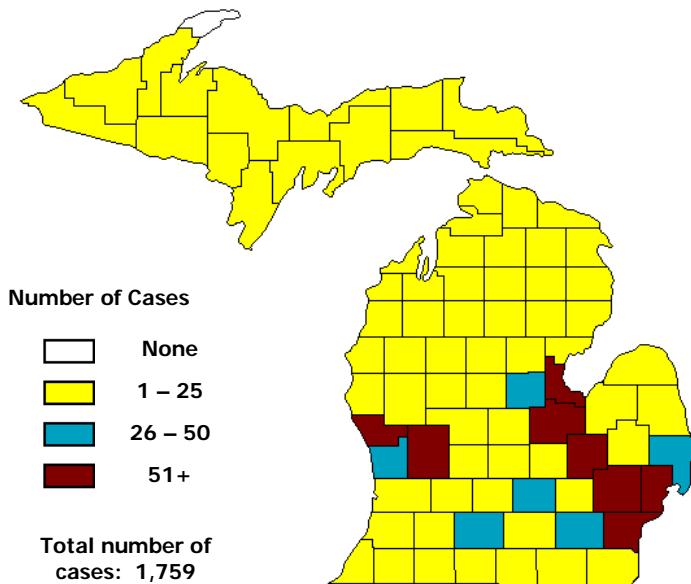
## Program Highlights: Silicosis

- 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: 1998-2012



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>Bay</b>	<b>2.5 per 100,000</b>
<b>Marquette</b>	<b>1.9 per 100,000</b>
<b>Midland</b>	<b>1.9 per 100,000</b>
<b>Muskegon</b>	<b>1.8 per 100,000</b>
<b>St. Clair</b>	<b>1.8 per 100,000</b>