

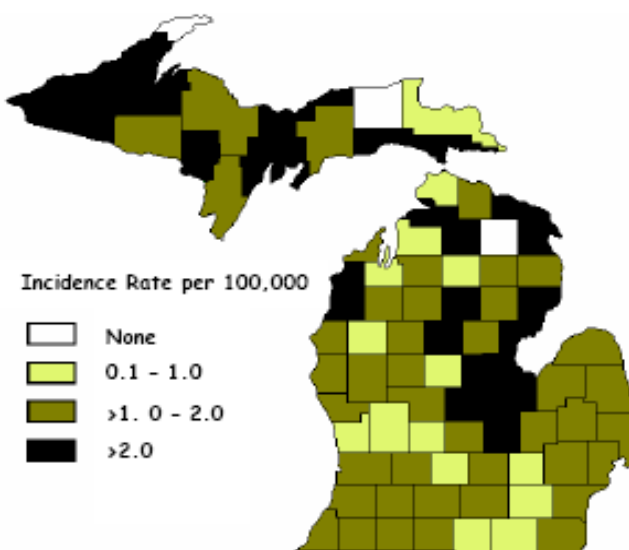
## Excerpts from the 2006 Annual Reports

In this year's announcement of the availability of the latest Annual Reports, we are showing a few selected figures and tables from four of the reports. What can get lost in the statistics is the human story behind the numbers. The full reports include clinical histories that describe the individuals who have become sick or died from their work, as well as all the summary tables and figures.

### 2006 Annual Summary of Occupational Disease Reports to the Michigan Department of Labor and Economic Growth

Despite the marked reduction of asbestos use, the number of individuals developing mesothelioma in Michigan continues to increase each year. This is a trend being seen throughout the United States and is related to the long latency between first exposure and onset of disease (average 35-45 years). Figure 1 shows the parts of the state with the highest rates. Few of these individuals apply for workers' compensation despite the known association with asbestos. Exposure to asbestos in foundries and shipyards in the lower peninsula and mines in the upper peninsula explain much of the differences in rates between counties.

Figure 1. Average Annual Incidence Rates of Mesothelioma Among Michigan Residents, by County



### New Annual Reports

Asthma Fatalities Ages 2-34 in Michigan (2006\*)  
Elevated Blood Lead Levels in Michigan (2006)  
Occupational Diseases in Michigan (2006)  
Occupational Pesticide Illnesses and Injuries in Michigan (2006\*)  
Silicosis in Michigan (2006)  
Work-Related Acute Traumatic Fatalities in Michigan (2006\*)  
Work-Related Asthma in Michigan (2006)  
Work-Related Noise-Induced Hearing Loss in Michigan (2006\*)

\*Reports available in September

Reports can be read or downloaded from our web site: [www.oem.msu.edu](http://www.oem.msu.edu) (Annual Report link)

-or-

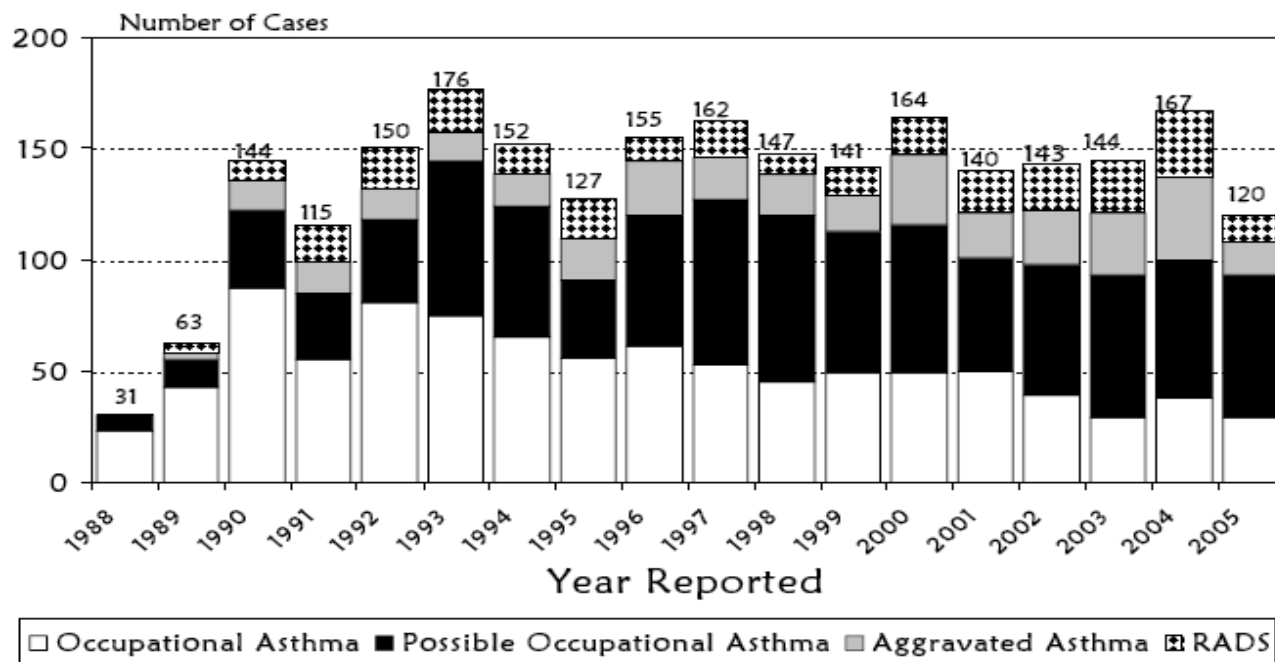
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### 2006 Annual Report on Work-Related Asthma in Michigan

The number of reports of work-related asthma in Michigan have remained relatively constant over the last 10 years, although there appears to have been a slight shift in the types of work-related asthma being submitted, more work-aggravated or pre-existing asthma and less from sensitization. The number of reports received continue to represent only a small percentage of the 63,000-97,500 Michigan residents estimated to have work-related asthma.

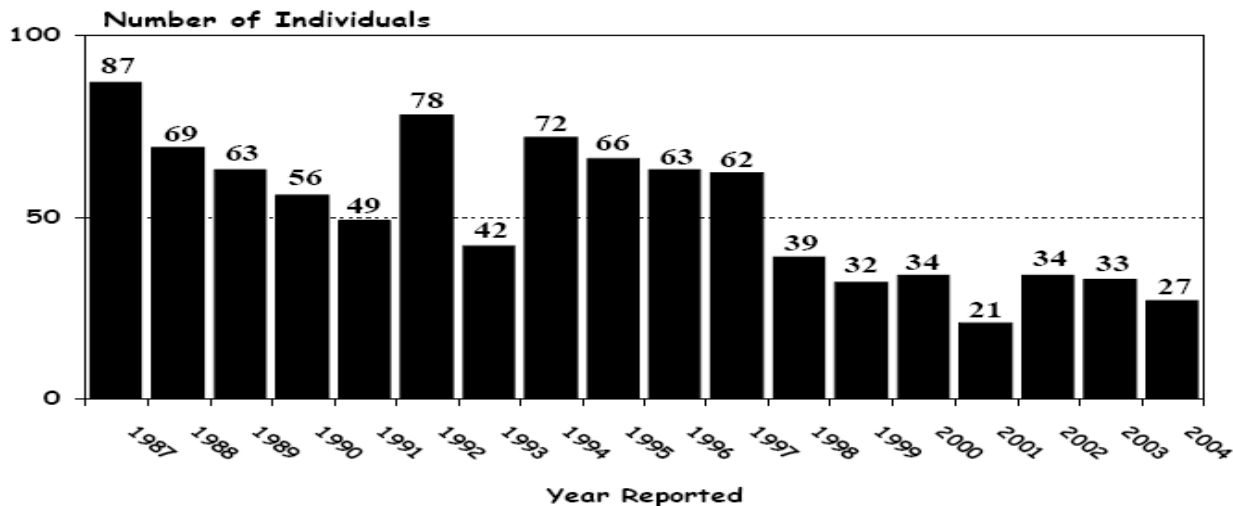
**Figure 2. Number of Confirmed Cases of Work-Related Asthma by Year and Type**



### 2006 Annual Report on Silicosis in Michigan

In contrast to work-related asthma, the number of reports of silicosis continues to decrease. This is attributed to better working conditions and fewer exposed workers in foundries, the major source of silica exposure in Michigan. Given the long latency from first exposure to development of silicosis and the ongoing use of silica we expect to continue to see cases of silicosis into the future. Because of ongoing concern about the use of silica during abrasive (sand) blasting we have recontacted the abrasive blasters in the state to provide them information about alternatives to sand and ways to reduce exposure to silica if they continue to use sand as an abrasive. Our updated training manual on performing abrasive blasting is available on our web site ([www.oem.msu.edu/blasting.asp](http://www.oem.msu.edu/blasting.asp)).

**Figure 3. Number of Individuals Confirmed with Silicosis by Year Reported\***



\*Total number of individuals: 927.

## 2006 Annual Report on Blood Lead Levels on Adults and Children in Michigan

New guidelines for treating/managing elevated blood lead in adults has been published. A summary of the guidelines is shown below. Although such guidelines have been published for many years by CDC, this is the first time consensus guidelines for managing elevated lead in adults have been published.

### Health-Based Management Recommendations for Lead-Exposed Adults

| Blood lead level (µg/dL) | Short-term risks (lead exposure < 1 year)                                                                                                                                                             | Long-term risks (lead exposure ≥ 1 year)                                                                                                                                                                                                                                                    | Management                                                                                                                                                                                                                                                                                                              |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| < 5                      | None documented                                                                                                                                                                                       | None documented                                                                                                                                                                                                                                                                             | None indicated                                                                                                                                                                                                                                                                                                          |
| 5–9                      | Possible spontaneous abortion<br>Possible postnatal developmental delay                                                                                                                               | Possible spontaneous abortion<br>Possible postnatal developmental delay<br>Possible hypertension and kidney dysfunction                                                                                                                                                                     | Discuss health risks<br>Reduce lead exposure for women who are or may become pregnant                                                                                                                                                                                                                                   |
| 10–19                    | Possible spontaneous abortion<br>Possible postnatal developmental delay<br>Reduced birth weight                                                                                                       | Possible spontaneous abortion<br>Reduced birth weight<br>Possible postnatal developmental delay<br>Hypertension and kidney dysfunction<br>Possible subclinical neurocognitive deficits                                                                                                      | As above for BLL 5–9 µg/dL, plus:<br>Decrease lead exposure<br>Increase biological monitoring<br>Consider removal from lead exposure to avoid long-term risks if exposure control over an extended period does not decrease BLL < 10 µg/dL, or if medical condition present that increases risk with continued exposure |
| 20–29                    | Possible spontaneous abortion<br>Possible postnatal developmental delay<br>Reduced birth weight                                                                                                       | Possible spontaneous abortion<br>Possible postnatal developmental delay<br>Reduced birth weight<br>Hypertension and kidney dysfunction<br>Possible subclinical neurocognitive deficits                                                                                                      | Remove from lead exposure if repeat BLL measured in 4 weeks remains ≥ 20 µg/dL                                                                                                                                                                                                                                          |
| 30–39                    | Spontaneous abortion<br>Possible postnatal developmental delay<br>Reduced birth weight                                                                                                                | Spontaneous abortion<br>Reduced birth weight<br>Possible postnatal developmental delay<br>Hypertension and kidney dysfunction<br>Possible neurocognitive deficits<br>Possible nonspecific symptoms                                                                                          | Remove from lead exposure                                                                                                                                                                                                                                                                                               |
| 40–79                    | Spontaneous abortion<br>Reduced birth weight<br>Possible postnatal developmental delay<br>Nonspecific symptoms<br>Neurocognitive deficits<br>Sperm abnormalities                                      | Spontaneous abortion<br>Reduced birth weight<br>Possible postnatal developmental delay<br>Nonspecific symptoms<br>Hypertension<br>Kidney dysfunction/nephropathy<br>Subclinical peripheral neuropathy<br>Neurocognitive deficits<br>Sperm abnormalities<br>Anemia<br>Colic<br>Possible gout | Remove from lead exposure<br>Refer for prompt medical evaluation<br>Consider chelation therapy for BLL >50 µg/dL with significant symptoms or signs of lead toxicity                                                                                                                                                    |
| ≥ 80                     | Spontaneous abortion<br>Reduced birth weight<br>Possible postnatal developmental delay<br>Nonspecific symptoms<br>Neurocognitive deficits<br>Encephalopathy<br>Sperm abnormalities<br>Anemia<br>Colic | Spontaneous abortion<br>Reduced birth weight<br>Possible postnatal developmental delay<br>Nonspecific symptoms<br>Hypertension<br>Nephropathy<br>Peripheral neuropathy<br>Neurocognitive deficits<br>Sperm abnormalities<br>Anemia<br>Colic<br>Gout                                         | Remove from lead exposure<br>Refer for immediate/urgent medical evaluation<br>Probable chelation therapy                                                                                                                                                                                                                |

Kosnett M, Wedeen R, Rothenberg S, Hipkins K, Materna B, Schwartz B, Hu H, Woolf A. Recommendations for Medical Management of Adult Lead Exposure. Environmental Health Perspective 2007; 115: 463-471.

