Summary of Occupational Disease Reports
Since 1978, physicians, hospitals, clinics, other health professionals and employers have been required by the Michigan Public Health Code (Article 368, Part 56, P.A. 1978, as amended) to report known or suspected cases of occupational disease (for ways of reporting, see back panel). Following the 1988 implementation of the Sentinel Event Notification System for Occupational Risks (Project SENSOR), a statewide initiative for occupational disease surveillance, active solicitation of occupational disease (OD) reports began. Since 1988, the number of reports sent to the MDPH/MDCIS has increased substantially. Figure 1 shows the number of occupational disease reports received each year since 1985. Over the past five years approximately 20,000 reports have been received annually.

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Blood Lead Levels Among Adults in Michigan
In its third year of operation the surveillance system for lead proved successful in continuing to identify large numbers of adults with elevated lead levels and sources of exposure that could be remediated to reduce exposures. We are encouraged both by the increased compliance of the reporting law as evidenced by the increased number of laboratory reports and by the reduction in blood lead levels greater than or equal to 25 ug/dL (Figure 2). We will continue to monitor for this trend in the year 2001.

National Estimates of Silicosis
From 1987 to 1996, 2,787 deaths occurred in the United States where silicosis was mentioned on the death certificate. During the same period in Michigan, 77% of death certificates with a mention of silicosis were confirmed as silicosis-related deaths. The ratio of the total number of confirmed silicosis cases in Michigan from 1987-1996 to the number confirmed deceased silicosis cases was 7.46. Using the proportion of confirmed deaths and the ratio of the total number of confirmed Michigan cases to confirmed deceased cases, we estimated there would have been 1,607 confirmed cases of silicosis identified per year in the United States if there had been a national surveillance system. Table 1 summarizes the calculations. Using capture-recapture analysis which estimated that the Michigan surveillance system missed 74% of newly diagnosed cases of silicosis, we estimated there are 6,251 newly diagnosed cases of silicosis per year in the United States. This contrasts with the official statistics from the Bureau of U.S. Labor Statistics of 3,500 newly diagnosed cases for all dust related diseases including asbestosis and coal workers’ pneumoconiosis.

Occupational Noise-Induced Hearing Loss in Michigan
Table 2 shows the decade in which cases most recently worked, and whether they were provided with hearing protection (plugs or muff's) by industry type. Over time, the percentage of workers who were provided hearing protection increased in all industries. The percentage of manufacturing workers given hearing protection improved the most of any industry type, with only 8% of workers given hearing protection in the 1940's and 92% of workers given hearing protection in the 1990's. Workers in agriculture had the lowest percentage provided with hearing protection.

Work-Related Asthma in Michigan
One thousand three hundred twenty-six of the patients identified with work-related asthma had persistence of their asthma symptoms (Table 3). This was true for 442 of 464 (95.3%) of those still exposed as well as 884 of 1,057 (83.6%) no longer exposed to the substance causing their asthma. Among those no longer exposed, 50.0% stated their symptoms were less severe compared to 33.2% among those still exposed who reported their symptoms were less severe. Similarly, 84.5% of those still exposed were continuing to take asthma medications while 76.6% of those no longer exposed were still taking asthma medications. Among those no longer exposed, 29.9% states they were taking fewer medications while only 21.1% of those still exposed were taking fewer medications.
### Table 1. Summary of Calculations Used to Estimate the Total Number of Newly Diagnosed Cases of Silicosis in the United States, 1987-1996

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Death Certificates which Mentioned Silicosis in the United States, 1987-1996</td>
<td>2,787</td>
</tr>
<tr>
<td>Multiply by Proportion of Confirmed Silicosis-Related Deaths in Michigan, 1987-1996</td>
<td>0.7727</td>
</tr>
<tr>
<td>Estimated Number of Confirmed Silicosis-Related Deaths In the United States, 1987-1996</td>
<td>2,154</td>
</tr>
<tr>
<td>Multiply by Ratio of Number of Living and Deceased Silicosis Cases to Those Deceased in Michigan, 1987-1996</td>
<td>7.46</td>
</tr>
<tr>
<td>Estimate of Number of Silicosis Cases in the Unites States That Would Have Been Reported in 1987-1996 if There had Been National Surveillance</td>
<td>16,069</td>
</tr>
<tr>
<td>Multiply by the Ratio of Estimated Total Number of Silicosis Cases to Those Actually Reported to the Surveillance System in Michigan, 1987-1996</td>
<td>3.89</td>
</tr>
<tr>
<td>Estimate of the Total Number of Newly Diagnosed Cases of Silicosis in the United States, 1987-1996</td>
<td>62,508</td>
</tr>
</tbody>
</table>

### Table 2. Decade Last Worked and Status of Hearing Protection Availability at Most Recent Company Exposed to Noise, by Industry Type, Michigan 1992-2000

<table>
<thead>
<tr>
<th>Industry Type</th>
<th>Decade Last Exposed to Noise</th>
<th>Percent with No Hearing Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/Forestry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Hearing Protection Device (ear plugs or muffs).

### Table 3. Persistence of Symptoms and Medication Use in Confirmed Work-Related Asthma Patients: 1988-2000

<table>
<thead>
<tr>
<th>Exposure Status</th>
<th>Total*</th>
<th>Yes</th>
<th>Less</th>
<th>Yes</th>
<th>Less</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still Exposed</td>
<td>464</td>
<td>442 (95.3)</td>
<td>154 (33.2)</td>
<td>392 (84.5)</td>
<td>98 (21.1)</td>
</tr>
<tr>
<td>No Longer Exposed</td>
<td>1,057</td>
<td>884 (83.6)</td>
<td>528 (50.0)</td>
<td>810 (76.6)</td>
<td>316 (29.9)</td>
</tr>
<tr>
<td>Total</td>
<td>1,521</td>
<td>1,326</td>
<td>682</td>
<td>1,202</td>
<td>414</td>
</tr>
</tbody>
</table>

*Total number of cases: 1,521. Information missing on 117 individuals. Number of patients, percentages are in parentheses.
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Web www.chm.msu.edu/oem

Mail Michigan Department of Consumer and Industry Services
Division of Occupational Health
P.O. Box 30649
Lansing, MI 48909-8149

Reporting forms can be obtained by calling (517) 322-5208
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*PS  Remember to report all cases of occupational disease!

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