Highlights from the 1998 Annual Report on Occupational Noise-Induced Hearing Loss in Michigan

The fifth annual report on Occupational Noise Induced Hearing Loss in Michigan is now available. You can obtain a complete copy of the 38 page document by contacting the Project SENSOR staff at 800-446-7805, or by visiting the Project SENSOR web site at http://www.chm.msu.edu/oem/index.htm. We encourage you to review this information to better understand the incidence of occupational noise exposure and interventions available for Michigan’s workers. Highlights of the report are profiled in this issue of the Project SENSOR newsletter.

Since 1993, the Michigan Department of Consumer and Industry Services (MDCIS) and the National Institute for Occupational Safety and Health (NIOSH) have collaborated on a surveillance program to identify individuals with occupational noise induced hearing loss (NIHL) in Michigan and prevent work related hearing loss through inspection of facilities where these individuals were exposed to excessive levels of noise. The surveillance program identifies facilities that lack hearing conservation programs through reports from audiologists and otolaryngologists. Companies are required to institute hearing conservation programs to prevent NIHL in the workplace if the 8 hour time weighted average noise levels are at, or above 85 dBA (Part 56 of PA of 1978). It is estimated that Michigan has at minimum 145,000 manufacturing production workers, 20,700 workers in construction, 500 miners, 27,200 blue collar workers in wholesale and retail trade, and 12,100 workers in noisy service industry environments who are exposed daily to noise levels of 85 dBA or greater (NIOSH, 1998 and Bureau of Labor Statistics, 1996). Based on the National Health Interview Survey, it is estimated that 86,000 Michigan citizens have developed work-related hearing loss (Ries, 1994).

In 1998, Michigan’s audiologists and otolaryngologists reported 374 cases of known or suspected work related hearing loss (Table 1). Most (89%) of the reports received were for men, with an average age of 50 years (Table 2).

Most reports received by MDCIS were for companies employing 500 or more individuals. However, audiologists and otolaryngologists were more likely to identify individuals with

<table>
<thead>
<tr>
<th>Year</th>
<th>Companies Reporting</th>
<th>Audiologists/ENT*</th>
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<tbody>
<tr>
<td>1991</td>
<td>789</td>
<td>11</td>
</tr>
<tr>
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<td>1425</td>
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<td>1313</td>
<td>484</td>
</tr>
<tr>
<td>1998</td>
<td>1256</td>
<td>374</td>
</tr>
</tbody>
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*ENT=Ear, Nose Throat specialists.
hearing loss in smaller companies that did not have medical departments or hearing conservation programs (Table 3).

Since the inception of the surveillance program Project SENSOR staff have interviewed 97% of the individuals reported by audiologists and otolaryngologists. 91% of individuals interviewed were Caucasian, 7% African American, 1% Hispanic, 1% Asian and 0.1% of other ethnicity. 86% of individuals identified by audiologists and otolaryngologists were over the age of 40, with 14% under 40 years of age. Many employees (57%) were exposed to noise hazards in the manufacturing sector. Interestingly, nearly 15% of those individuals reported were employed in businesses exempted from the noise standard (i.e. construction, mining). Interviews with these individuals revealed that the duration of noise exposure varied widely, from less than one year to over 35 years. Over 25% of employees with occupational NIHL had worked in noise for less than 15 years (Table 4). Overall, the interviews indicated that 45% of companies whose workers were exposed to noise did not regularly provide hearing testing or hearing conservation programs.

Table 5 depicts the decade of an individual's first exposure to hazardous noise in the workplace. Most individuals with documented NIHL had their first exposure to noise in the 1960's and 1970's. However, 6% of cases of NIHL were from employees who were first exposed to occupational noise in the 1990's.

In response to audiologists' and otolaryngologists' reports of hearing loss,
conducted 48 workplace inspections in 1998, independent of the Project SENSOR surveillance program, where the company was found to be out of compliance with the noise standard. Almost 70% of these 48 companies received citations for complete lack of a hearing conservation program (Table 6).

In 1998, 1,630 reports of occupational NIHL were submitted by company medical departments, audiologists and otolaryngologists. The reports from non-company audiologists and otolaryngologists were generated by 94 of the state’s 450 audiologists and 150 otolaryngologists, showing that only 16% of Michigan's hearing health care providers are reporting cases of known or suspected occupational NIHL.

The report of an individual with work related hearing loss is a sentinel health event that is critical to effective occupational disease surveillance. Reports from audiologists and otolaryngologists provide the base upon which meaningful information on exposure to noise at work can be gained, to intervene and prevent others from developing work related hearing loss.

In 1998, at least 4,200 individuals were employed in 35 noisy workplaces that were inspected because an audiologist or otolaryngologist reported a current or retired worker with a hearing loss from that workplace. These inspections found a deficient hearing conservation program in these workplaces and the companies were required to correct the problem(s). These workers directly benefited from the reports that you submitted to the MDCIS. NIHL is preventable, and your reports will help to identify companies which need hearing conservation programs and ultimately reduce the incidence of work related hearing loss in Michigan.

Please call Connie Spak, MA, CCC-A or Kenneth D. Rosenman, MD at 1-800-446-7805 if you have any questions about the annual report or reporting cases to the MDCIS.

References


Michigan Law Requires the Reporting of Known or Suspected Occupational NIHL

Reporting can be done by:

FAX (517) 432-3606
Telephone 1-800-446-7805
E-Mail Rosenman@pilot.msu.edu
Mail MDCIS Occ. Health Division
PO Box 30649
Lansing, MI 48909-8149

Suggested Criteria for Reporting Occupational NIHL

1. A history of significant exposure to noise at work; AND
2. A STS of 10dB or more in either ear at an average of 2000, 3000 & 4000 Hz. OR
3. A fixed loss.*

*Suggested definitions: a 25dB or greater loss in either ear at an average of: 500, 1000 & 2000 Hz; or 1000, 2000 & 3000 Hz; or 3000, 4000 & 6000 Hz; or a 15dB or greater loss in either ear at an average of 3000 & 4000 Hz.
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