

* Project
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News

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*HIGHLIGHTS FROM THE 1997 ANNUAL REPORTS ON
OCCUPATIONAL DISEASES IN MICHIGAN*

Four annual reports were released this Spring: Occupational Noise-Induced Hearing Loss; Silicosis; WorkRelated Asthma; and Occupational Diseases. This edition of the Project SENSOR Newsletter contains a summary and selected tables from the reports. If you would like to receive a copy of any of these reports, please check out our new web site at: <http://www.chm.msu.edu/oem/index.htm>. Instructions on how to read and/ or download the reports are detailed in the web site. Or, if you prefer, you may call us at 1-800-446-7805 to request a printed copy of the report(s).

OCCUPATIONAL DISEASES IN MICHIGAN

In 1997 20,313 occupational disease reports were received, practically the same as in 1996, when 20,355 cases were reported.

Conditions related to repetitive trauma such as sprains and strains and diseases
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Number of Occupational Disease Reports by Disease Type and Reporting Source (adapted from Table 4)

Disease Type	---DOCTOR TYPE---					
	Non Company		Company		Total	
	#	%	#	%	#	%
Infectious	2	0.1	27	0.2	29	0.1
Neoplasms	80	2.5	1	<0.1	81	0.4
Mental Disorders	1	<0.1	641	4.3	642	3.2
Nervous System	493	15.7	1,937	13.0	2,430	12.0
Circulatory System	7	0.2	12	<0.1	19	0.1
Respiratory System	1,960	62.4	311	1.8	2,271	11.2
Digestive System	0	--	26	0.2	26	0.1
Genitourinary System	0	--	1	<0.1	1	<0.1
Skin	43	1.4	1,445	8.0	1,488	7.3
Musculoskeletal System	35	1.1	1,867	12.6	1,902	9.4
Signs and Symptoms	44	1.4	390	2.5	434	2.1
Repetitive Trauma	34	1.1	9,909	54.0	9,943	48.9
Burns to Eye	2	0.1	174	1.2	176	0.9
Toxic Effects of Substances	440	14.0	431	2.1	871	4.3
TOTAL	3,141	100.0	17,172	100.0	20,313	100.0

of the nervous system (i.e. carpal tunnel syndrome) accounted for half of all the reports submitted to the Michigan Department of consumer and Industry Services in 1997. Respiratory diseases including the pneumoconioses and work-related asthma were the next largest category of diseases reported. Among noncompany physicians respiratory diseases were the most common types of conditions reported.

**Distribution of Confirmed Silicosis Individuals by County of Exposure:
1985-1997**

**Top 20 Occupational Allergens
Identified for Confirmed
Work-Related Asthma Patients:
1988-1997 (adapted from Table 6)**

Allergen	#	%
Isocyanates	229	19.4
Metal-Working Fluids	146	12.4
Unknown (Mfg.)	76	6.4
Unknown (Office)	70	5.9
Exhaust	64	5.4
Welding Fumes	61	5.2
Solvents	38	3.2
Formaldehyde	36	3.0
Epoxies	33	2.8
Acrylates	27	2.3
Rubber	23	1.9
Chlorine	22	1.9
Acids	22	1.9
Styrene	19	1.6
Cobalt	18	1.5
Paint Fumes	17	1.4
Wood Dust	13	1.1
Flour	12	1.0
Chromium	11	0.9
Ammonia	11	0.9
Other	231	19.6
TOTAL	1179	99.7

SILICOSIS IN MICHIGAN

Counties which have and have had the greatest number of foundries are the counties with the largest number of individuals diagnosed with silicosis. Employment in Michigan foundries peaked in the 1970s. Individuals who began working during that time period and who continued to work in the foundries would now have 20 or more years of exposure to silica sand and accordingly would be entering the time period when the signs and symptoms of silicosis might now become evident.

WORK-RELATED ASTHMA IN MICHIGAN

The top 20 etiologies for the 1, 179 patients identified with work-related asthma are shown in the accompanying table. Often times insufficient information is available on exposures or medical testing performed (such as spirometry) to document and fully characterize the cause of the patient's symptoms. This is reflected in the fact that unknown causes of symptoms are so common (the 3rd and 4th on the list shown).

METAL WORKING FLUIDS

Metal working fluids are the second most commonly reported cause of work-related asthma in Michigan. Emulsified semi-synthetic and synthetic metal working fluids (coolants that are soluble in water) appear more likely to cause symptoms whether or not an individual has smoked cigarettes. These symptoms are occurring at levels in the work place air that are legally permissible. Five mg/m³ is the legally permissible level of exposure to coolants averaged over an 8 hour work day.

Results of Industrial Hygiene Inspections of 37 Facilities Using Metal Working Fluids: Michigan 1988-1994 (adapted from Table I)

Air Sampling Status	# of Facilities	# of Interviews	Workers w/ New Onset Asthma or Symptoms Suggestive of Work-Related Asthma
			# (%)
No Air Sampling ^a	15	306	77 (25.2)
Air Sampling ^b			
ND - < .5	7	113	13 (11.5)
.5 - < 1.0	8	145	34 (23.4)
1.0 - < 5.0	6	171	30 (17.5)
≥ 5.0	1	8	0 =
Total	37	743	154 (20.7)

^aAmer. J. Ind. Med. 1997; 32:325-331.

^bAir sampling was not conducted because in the industrial hygienist's opinion the oil mist standard would not have been exceeded.

^cMilligrams per cubic meter.

OCCUPATIONAL NOISE-INDUCED HEARING LOSS

Follow-up of work places where patients with noise-induced hearing loss report not being provided regular hearing protection and/or regular audiometric testing has proven useful in identifying companies that have deficiencies or the total absence of a hearing conservation program. Potentially hundreds of workers have been protected from further hearing loss by identification and subsequent inspections of their work places.

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Forty-Three Companies Inspected where the Patient Reported They had Not Received Audiometric Testing: Michigan 1992-1997 (adapted from Table 11)

Industry	Above MIOSHA Noise Standard*	HCP**	Number of Employees***	
Construction	No (1)	No (1)	30	--
Manufacturing	Yes (8)	No (8)	244	(2-75)
	Yes (10)	Yes (10-5 deficient)	2,324	(1-1,250)
	No (4)	Yes (4-2 deficient)	1,417	(19-1,000)
Transportation	No (9)	No (9)	1,021	(3-400)
	No (1)	Yes (1-deficient)	2	--
Trade	Yes (1)	No (1)	3	--
	No (3)	No (3)	728	(1-477)
Services	Yes (2)	No (2)	17	(7-10)
	No (2)	No (2)	23	(8-15)
Government	Yes (2)	Yes (2-1 deficient)	18	(2-16)

* Number of companies in parentheses. ** Hearing Conservation Program. *** Total number. (range).

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Michigan Law Requires the Reporting of Known or Suspected Occupational Diseases

Reporting can be done by:	
*FAX	(517) 432-3606
*Telephone	1-800-446-7805
*E-Mail	21770KDR@MSU.EDU
*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) 335-8240
or	1-800-446-7805

