

2000

Annual Summary of Occupational Disease Reports to the Michigan Department of Consumer and Industry Services



**Summary of 2000
Occupational Disease Reports
to the
Michigan Department of Consumer & Industry Services**

A Joint Report
of the
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SUMMARY

There were 19,627 occupational disease reports received in calendar year 2000. The most frequent types of occupational diseases reported were repetitive trauma (45%), respiratory disease (15%), diseases of the nervous systems and sense organs (14%) and musculoskeletal diseases (8%).

This reporting system complements the employer based system mandated by the Federal Occupational Safety and Health Administration (OSHA). For example, there were 2,919 reports from health care providers and hospitals for diseases of the respiratory system while only 60 such reports were received from employers (Table 4).

The average age of individuals reported was 43 years with a range from 16 to 96. Almost 75% were between the ages of 25 and 55. Almost 70% of all reports submitted were for male workers.

An initiative is currently underway to combine occupational injury and illness reports from all sources to present a more comprehensive overview of work-related injuries and illnesses in Michigan.

INTRODUCTION

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 diseases. Until 1996, these reports were submitted to the Michigan Department of Public Health (MDPH). Reports are now submitted to the Michigan Department of Consumer and Industry Services (MDCIS). During the initial years after the reporting law was enacted, the number of reports received by the MDPH was generally less than one hundred each year. 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. Figure 2 shows the number of reports by reporting source for 1991-2000 (the years for which reporting source is known).

Computerization of the OD report data, which began in 1991, allows for more efficient handling of the high volume of reports submitted and facilitates the use of these reports for meaningful surveillance efforts. This is the tenth annual report on occupational diseases in Michigan, and is based upon the reports submitted to the MDCIS in calendar year 2000.

Figure 3 is a copy of the occupational disease (OD) report that is submitted to MDCIS by companies and health care providers. The form requests medical and demographic information on the affected employee and information about both the employer and the facility at which the employee became ill. This information is used to monitor occupational diseases within the state, and to assist in directing intervention efforts.

New this year, on-line occupational disease reporting is available through the Michigan State University Occupational and Environmental Health website: www.chm.msu.edu/oem. A secure server is used to maintain the confidentiality of the information submitted on-line. In addition to completing the OD report form (Figure 3) on-line, information can be submitted by:

- *Email: ODReport@msu.edu
- *Postage paid envelopes: call 1-800-446-7805 to request
- *Fax: (517) 432-3606
- *Phone-in: 1-800-446-7805
- *Mail directly to : MDCIS, Occupational Health Division
Bureau of Safety & Regulation
7150 Harris Drive
PO Box 30649
Lansing, MI 48909-8149

METHODS

The computerized OD records contain: 1) the affected employee's name, age, sex, race, zip code and social security number; 2) the employer's name, work site address, city, zip code, number of persons employed at the facility and the company's standard industrial classification code (SIC)¹; 3) details of the illness, including date of diagnosis, suspected causative agent(s), whether the employee died, and diagnosis or clinical impression coded according to the International Classification of Diseases (ICD-9th Revision)²; and 4) information about the individual who submitted the report, including company affiliation (i.e whether the reporter is a practitioner employed by the company, or an outside medical department contracted by the company, or a private practice health professional). An OD report is initiated when a clinician knows or suspects that a patient's illness is work-related. Reports are submitted by physicians, audiologists, employers, hospitals, clinics, laboratories, the 3rd Judicial Court of Michigan (which processes the majority of the asbestos-related claims) and the federal Mine Safety and Health Administration. Additional reports are generated through annual review of death certificates and the Michigan Health and Hospital Association inpatient database.

More than one report on a given individual with different work-related diseases may be submitted to the MDCIS within a given year and across multiple years. If more than one report is submitted in a given year for a chronic disease in a single individual, only one of the submissions is included in our statistics. Further, if multiple reports are submitted over several years on that individual's chronic disease, only the earliest report is included in our statistics. In contrast, if several reports are submitted for acute illnesses for a single individual, all of the reports are included in our statistics. Appendix A lists the chronic disease categories for which duplicate reports within and across years are removed.

Since October 11, 1997, all clinical laboratories doing business in Michigan have been required to report all blood lead analysis results for both adults and children, to the Michigan Department of Community Health. The blood lead results of 10 $\mu\text{g}/\text{dL}$ or greater for adults are incorporated into the Occupational Disease reports submitted each year to the MDCIS. Many of the adults reported through this system have had blood lead testing as part of a company monitoring program. However, it is the clinical laboratories that actually submit the results to the state, not the employers. In fact, aside from the clinical laboratory reports of blood lead analysis, employers themselves almost never submit an elevated blood lead level report to the MDCIS, even though they would be required to do so under the Michigan Occupational Disease Reporting Law. In light of this, blood lead reports submitted by the clinical laboratories are all considered as non-company reports.

RESULTS

A total of 19,627 occupational disease reports were submitted to the MDCIS in calendar year 2000. Figure 1 shows the number of reports received each year since 1985. A quality control audit conducted for the 1998 annual report uncovered a small number of duplicate chronic disease cases. Consequently the number of reports reflected in Figure 1 for 1991-1997 is slightly lower than was

reported in the annual reports prior to 1998.

Source of Reports

Seventy-four percent of the reports (14,456 cases) came from company or contract medical departments. The remaining twenty-six percent (5,171 cases) came from non-company health practitioners. Most patients worked in large companies (Table 1) with over 97% of the 15,092 reports that listed company size coming from businesses with more than 500 employees. A larger proportion of reports involving smaller companies (fewer than 500 employees) come from non-company health practitioners. Just over forty percent of the 718 reports with known company size that were submitted by non-company practitioners involved companies with fewer than 500 employees, while less than one percent of the 14,374 reports with known company size that were submitted by company practitioners involved facilities with fewer than 500 employees.

Five hundred sixty-two private practice clinicians (non-company affiliated) reported 5,171 incidents of occupational disease. Two hundred forty-four of the clinicians who reported in calendar year 2000 (75%) reported only one patient each (Table 2), while five clinicians reported more than one-hundred patients each. The number of reports submitted by these five clinicians in the year 2000 ranged from 106 to 1,779. Three of these are physicians certified by the federal government to interpret chest x-rays for dust-related lung disease ("B" readers); one is an occupational medicine physician who practices at a hospital based clinic; and one is a large audiology group practice. A "B" reader is a licensed physician who has passed a test on interpreting chest x-rays for pneumoconiosis, and maintains certification by passing an additional test every 4 years. There are 16 Michigan physicians who are "B" readers.

Demographics

Table 3 shows the age, gender and race distribution of the workers with occupational diseases reported in the year 2000. The mean age of reported patients was 43 ± 10 years (range, 16 to 96 years) with the majority of patients (75%) between the ages of 25 and 55 years. One hundred twelve reports were submitted for patients under age 20, and 121 were submitted for patients over age 79.

Almost seventy percent of all reports submitted were for male workers. Eighty-four percent of the submitted reports (16,499 cases) did not indicate the worker's race. Of the 3,128 reports that did indicate race, 81% were white, 14% were African American, 2% were Hispanic and 3% were listed as "other."

Younger workers. Of the 112 workers under age 20, the youngest seven were 16 years old, four were 17 years old, 23 were 18 years old, and 78 were 19 years of age. Forty-six of the reported patients under age 20 were women, and 66 were men.

Eighty-six of the younger workers were employed in manufacturing, eight worked in health care or educational services, one worked in construction, one worked in agricultural services, one worked

in retail trade, and one worked in electric and gas services. Place of employment was unknown for 14 of the reported workers.

Ninety of the younger workers were reported by company affiliated clinicians or contract medical departments, and twenty-two were reported by private-practice physicians. Fifty-one reports were for repetitive trauma (sprains and strains), seventeen for skin diseases, sixteen for elevated blood lead levels, fourteen for respiratory symptoms, five for musculoskeletal conditions, three for conjunctivitis, two for noise-induced hearing loss, one for welding flash, one for exposure to tuberculosis, and two for nonspecific symptoms. No fatalities were reported for any workers under age 20. Of the sixteen cases of elevated lead levels, thirteen had serum lead levels between 10 and 24 micrograms per deciliter and three had levels between 25 and 35 $\mu\text{g}/\text{dl}$.

Older workers. Of the 121 workers age eighty and older, 117 were between the ages of 80 and 89, and four were between 90 and 96 years old. One hundred thirteen were men, 7 were women and gender for one individual was unknown. All but two of these patients were reported by non-company clinicians.

Sixty-seven of the older workers were reported for dust-related lung disease (including 27 with asbestosis, 27 with pleural thickening, 11 with silicosis, and two with pneumoconiosis, unspecified), 34 for noise-induced hearing loss, eight for cancer, six for other respiratory conditions, two for sprains and strains, three for elevated blood lead levels, and one for a nonspecific illness.

Twenty-six of the older patients worked in (or were retired from) manufacturing, eighteen in construction, twelve worked in utility services, two in military, one in government, and one in farming. Occupation or former occupation was not indicated in 61 reports.

Illness Information

Table 4 shows the distribution of diagnoses or clinical impressions by reporting source. Diagnoses are grouped by major International Classification of Diseases categories (ICD-9th Revision). Overall, repetitive trauma illnesses (ICD-9 categories 800-999 except 940 and 980-989) were the most frequently reported conditions, with 8,810 cases representing 45% of all OD reports submitted. The majority of reports were for sprains and strains of the wrist, hand and finger.

Diseases of the respiratory system were the second most frequently reported conditions, with 2,979 cases representing 15% of all reports. Diseases of the nervous system and sense organs were third, with 2,675 cases representing 14% of all reports submitted. There were 1,591 reports of musculoskeletal and connective tissue disease (8%), 1,174 reports for toxic effects of substances (6%), 1,129 reports of skin and subcutaneous disease (6%), 585 reports of mental disorders (3%), 101 reports of cancer (<1%), and 94 burns to the eye (<1%). Infrequently reported conditions included infectious and parasitic diseases, diseases of the digestive system and diseases of the circulatory system.

Four hundred forty reports of symptoms, signs and ill-defined conditions were also submitted, which suggests that physicians and other health care providers are reporting both *known* and *suspected* cases of occupational disease.

Reporting source differences. Company affiliated and non-company affiliated practitioners differ markedly in the types of occupational diseases they report (Table 4). Sixty-one percent of submissions by company health care providers are reports of repetitive trauma illnesses, while one percent of submissions by non-company providers represent these diagnoses. Conversely, fifty-six percent of non-company submissions are reports of respiratory illness, while less than one percent of company submissions are for respiratory illness. The second, third and fourth most frequently reported diagnoses for company providers are diseases of the nervous system and sense organs (11%), musculoskeletal system and connective tissue (11%), and skin and subcutaneous tissue (8%). Diseases of the nervous system and sense organs are the second most frequently reported diagnoses by non-company providers (20%). The third and fourth most frequently reported diagnoses for non-company providers are toxic effects of substances (20%) and cancer (2%).

Company and non-company practitioners also differ in the types of industries represented in their reports (Table 5). Ninety-seven percent of patients reported by company affiliated health care providers are employed in manufacturing, primarily automobile production. In contrast, only 59% of patients reported by non-company affiliated providers are employed in manufacturing. The second and third industry types most frequently reported by company providers are service industries (primarily hospitals) (2%) and transportation services (0.3%). The second and third industry types most frequently reported by non-company providers are construction (20%) and services (6%). The type of industry was missing on 2,533 non-company and 12 company reports.

Gender differences. Repetitive trauma illnesses were the most frequently reported diagnoses for both men and women, with 39% of submissions on men and 59% of submissions on women reporting one of these diagnoses (Table 6). The second, third and fourth most frequently submitted diagnoses for men were diseases of the respiratory system (21%), nervous system and sense organs (16%) and toxic effects of substances (8%). For women, the second, third and fourth most frequently submitted diagnoses were musculoskeletal system and connective tissue (12%), diseases of the skin and subcutaneous tissue (9%), and nervous system and sense organs (8%). Seventy-two reports did not indicate gender.

Fatalities. Fatalities related to occupational illnesses were reported for 70 workers. All but one of the 70 individuals who died were all reported by non-company clinicians. All 70 cases were men. The workers who died ranged in age from 21 to 86. Sixty-one died from asbestos-related cancer, eight died from asbestosis, and one died of a respiratory illness. Thirty-six of the deceased workers had been employed in manufacturing, 9 were utility workers, 8 worked in construction, two worked in the military and one worked in education. Former occupation was not specified for 14 workers.

Comparison With Other Data Systems

The Bureau of Workers' Disability Compensation, MDCIS, receives reports based on claims for compensation, which are generated when an injury or illness results in being off work for seven or more consecutive days (Michigan Employers Basic Report of Injury, Form 100). Not all claims are compensated. In the year 2000, the Bureau of Workers' Compensation Disability received 54,201 reports of injuries and illnesses involving the loss of seven or more consecutive work days. In 1990, the latest year for which the disease category distribution in Table 8 is available, the Bureau received 8,851 claims for compensation of occupational illnesses³, and 70,829 claims for occupational injuries. The largest category of occupational illness claims received by the Bureau of Workers' Disability Compensation were for disorders due to repeated trauma, with 3,425 claims (39% of all claims submitted). This is consistent with the types of disorders most frequently submitted in OD reports. (Table 8).

The MDCIS also conducts annual surveys on samples of Injury and Illness Logs kept by Michigan companies. Through 1994, these annual surveys on samples of *Injury and Illness Logs*⁴ kept by Michigan companies contained estimates of specific disease categories. In the 1997 Survey (the most recent survey available) only an estimate of the total number of illnesses is available; the MIOSHA Information Division estimated a total of 40,400 occupational illnesses for that year⁵. 1994 is the most recent year for which the disease category distribution in Table 8 is available. In 1994, there were an estimated 52,098 occupational illnesses in the state. (Only illnesses which require more than first aid are included.) The highest percentage of estimated occupational illnesses from the 1994 survey was also for disorders due to repeated trauma, with 36,994 claims (71%), followed by 6,336 claims (12%) for occupational skin diseases or disorders. Table 8 compares the claims submitted to the Bureau of Workers' Disability Compensation in 1990, the 1994 MDCIS survey estimates, and the OD reports submitted for 1992-2000.

Disorders due to repeated trauma constituted 52% of the average number of reports per year to the MDCIS for calendar year 2000, which is greater than that predicted by the 1990 Workers' Disability Compensation claims (39%), but less than that predicted by the MDCIS 1994 survey (71%).

Dust diseases of the lung reported in calendar year 2000 (978 cases, 5% of reports) constituted a higher percentage of total OD reports submitted than either the 1990 Workers' Compensation claims or 1994 survey estimates would predict (0.1% -0.4%). This difference is consistent with data collected by the MDCIS which demonstrates that only 40% of patients with dust diseases of the lung secondary to sand exposure (silicosis) apply for Workers' Compensation. Many of these patients are retirees who may not have filed Workers' Compensation claims, so employers may be unaware of their illness. Consequently, employer surveys and Workers' Compensation claims data tend to under-predict chronic diseases such as dust-related lung disease.

DISCUSSION

There were 19,627 Occupational Disease Reports sent to the MDCIS in calendar year 2000. The most frequent types of occupational diseases reported to the MDCIS were repetitive trauma illnesses (45%), respiratory disease (15%), diseases of the nervous system and sense organs (14%), and diseases of the musculoskeletal system (8%).

It is important to note that we used the ICD-9 codes to classify the diagnosis or clinical impression recorded on the occupational disease reports submitted to the MDCIS. In the ICD-9 coding system, sprains and strains are classified as injuries. However, in Michigan, employers are only required to report *illnesses* on the OD reporting form, not injuries. We assume the reports received for sprains and strains represent illness secondary to cumulative trauma, which are required to be reported.

Many employers, physicians and other health care providers do not report patients with occupational diseases either because they are unaware of the reporting law or choose not to report for a different reason. We currently receive reports from approximately 217 companies and 327 non-company physicians. There were approximately 262,744 companies and 25,084 practicing physicians in Michigan in the year 2000. Accordingly, we are receiving reports from 0.1% of companies and 1.3% of physicians. We have continued our efforts to remind employers of the requirement to report by routinely distributing reporting forms during MIOSHA inspections. Also, all new physicians receive information on the requirement to report when they apply for medical licensure in Michigan.

We know that the approximately 20,000 reports received each year do not represent the actual incidence of occupational disease in Michigan. Using capture-recapture analysis we have previously estimated that 29,193 to 60,968 individuals are diagnosed with occupational diseases each year in Michigan.⁸ Even this range is an underestimate because it assumes that all physicians recognize work related illness in their patients and that all employers are informed when work-related conditions are diagnosed. These assumptions often go unmet.

The type of illness and the type of industry where occupational diseases occur as reported by non-company health practitioners differs from company-based health practitioners (Tables 1, 4 and 5). These differences vary depending on the specialties of the private practice physicians who submit reports. For example, the non-company health practitioners who reported patients in the year 2000 were more likely to report patients with respiratory disease who work in small, non-manufacturing companies. A large percentage of the year 2000 reports from non-company health practitioners were from physicians who are specialists in the radiographic interpretation of mineral and dust-related lung disease. Without these reports the increased diagnosis of asbestos related lung disease would be missed. However, regardless of the mix of non-company specialists reporting, the data illustrate that relying on company based reports alone would cause occupational illness statistics to markedly under-count certain work-related conditions. For the years 1992-1994, only 9.6% of the workers for whom an Occupational Disease Report was submitted had definitely filed a Workers' Compensation claim, although an additional 36% may have filed a claim for a total of 45.6%.⁹ To determine the true burden of occupational disease in our state, multiple reporting sources must be used. Efforts to

develop a comprehensive surveillance system for Michigan as well as the nation are needed.

We are currently developing the methodology to combine the reports of occupational injuries and illnesses from nine data bases, and eliminate duplicates. The nine data bases are:

- Michigan Adult Blood Lead Epidemiologic Surveillance System (ABLES)
- Michigan Bureau of Workers' Disability and Compensation
First Injury and Illness Reports
- Michigan Census of Fatal Occupational Injuries (CFOI)
- Michigan Hospital Inpatient/Outpatient Database
- Michigan Occupational Disease Reports
- United States Department of Labor Bureau of Labor Statistics Annual Survey
- United States Department of Labor Mine Safety and Health Administration Injury and Illness Reports
- United States Department of Labor Occupational Safety and Health Administration Annual Survey
- United States Department of Labor Occupational Safety and Health Administration Integrated Management Information System

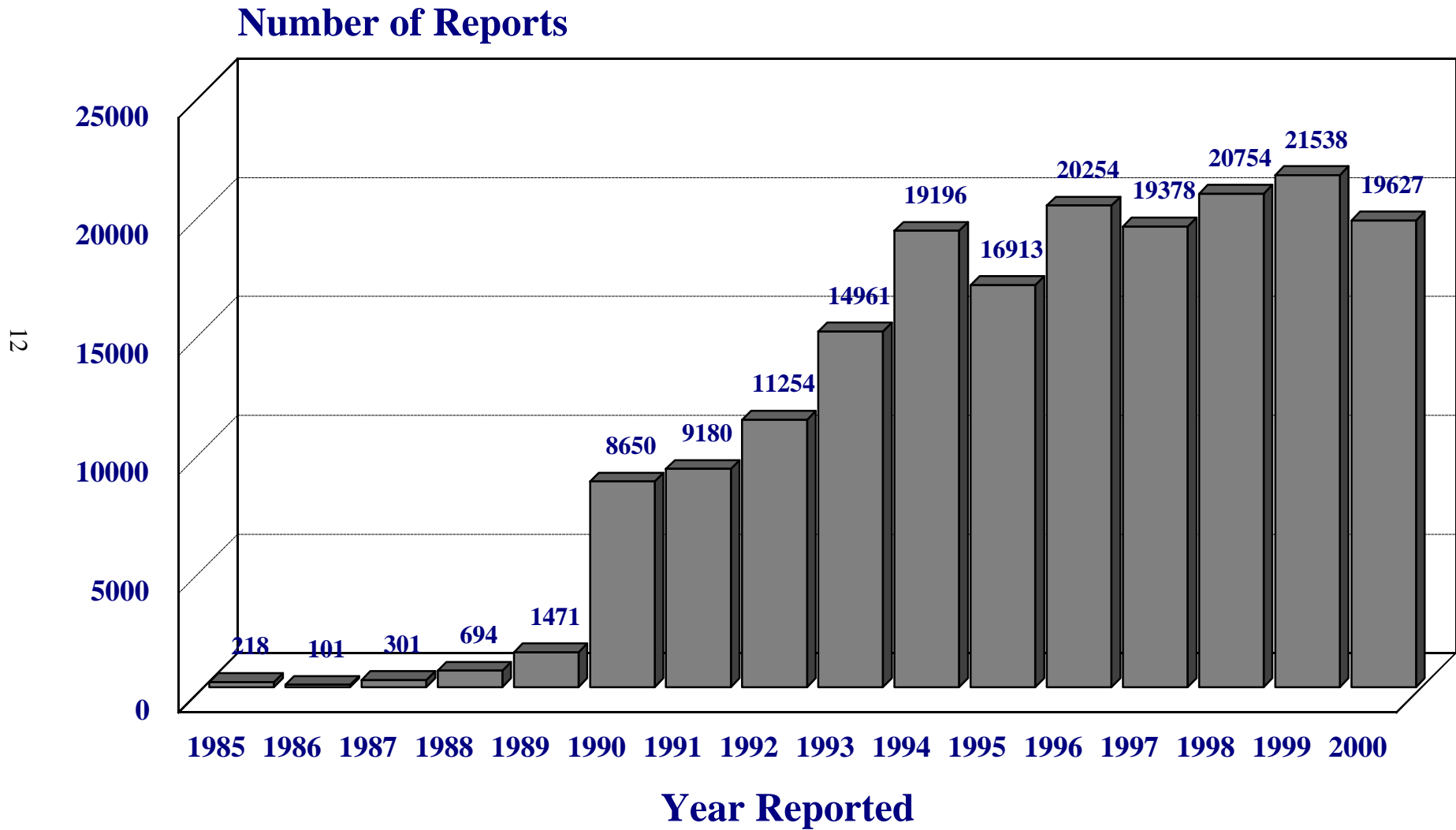
In addition to tracking the incidence of occupational disease, such a comprehensive system would allow us to prioritize and evaluate the effectiveness of interventions designed to prevent occupational disease.

REFERENCES

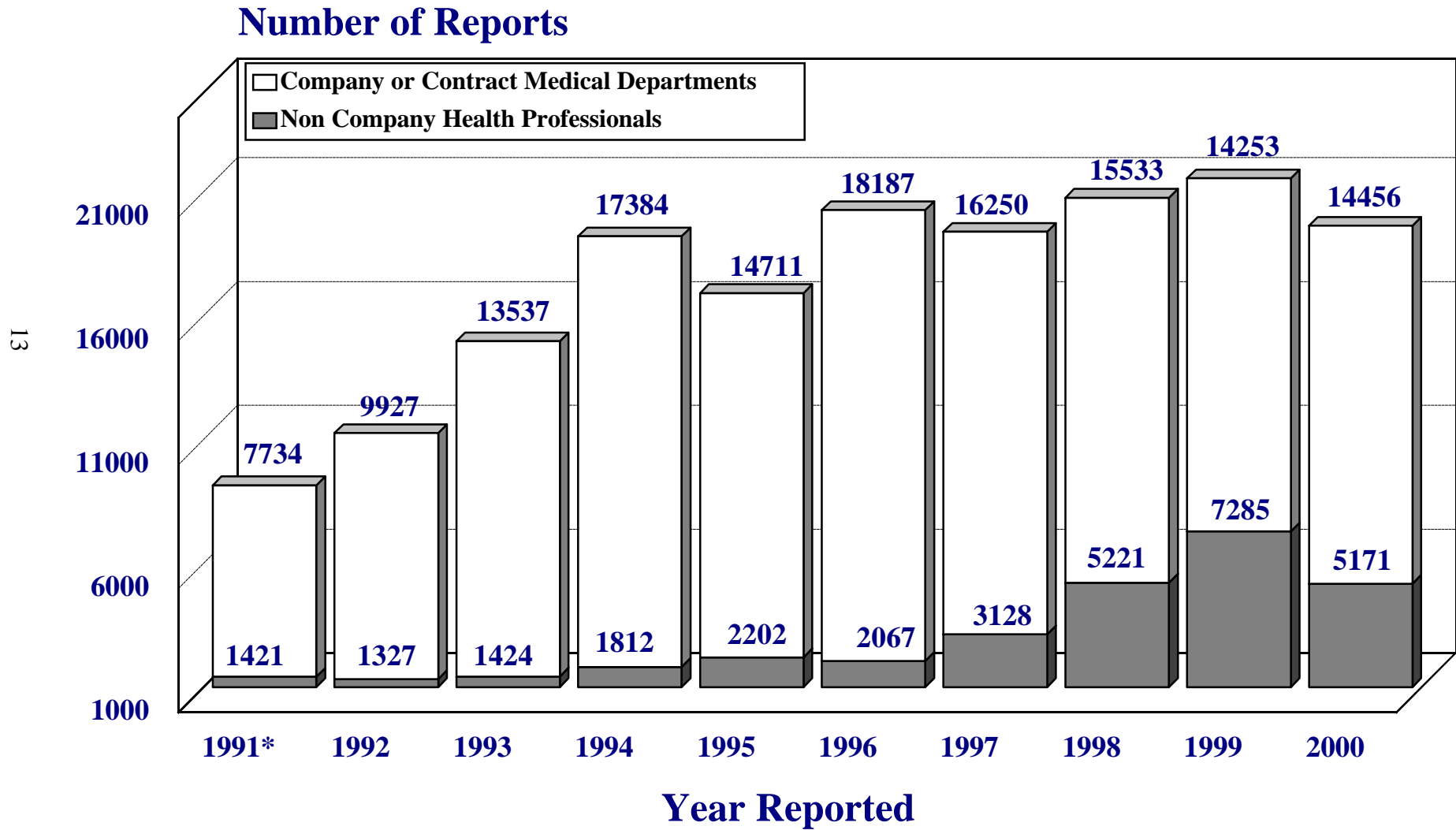
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Figure 1. Occupational Disease Reports to the Michigan Department of Consumer and Industry Services, 1985-2000



**Figure 2. Occupational Disease Reports by Reporting Source:
Non-Company Health Professionals and Company or
Contract Medical Departments, 1991-2000**



*Reporting source was unknown for 25 reports.

Known or Suspected Occupational Disease Report

(Information will be held confidential as prescribed in Act.)

FIGURE 3

EMPLOYEE AFFECTED

Name (Last, First, Middle)		Age	Sex M F	Race: <input type="radio"/> White <input type="radio"/> Black <input type="radio"/> Hispanic <input type="radio"/> Other	
Street			City	State	Zip
Home Phone Number			Social Security Number		

CURRENT EMPLOYER

Current Employer Name		Worksite County			
Worksite Address			City	State	Zip
Business Phone		If Known, Indicate Business Type (products manufactured or work done)			
Number of Employees <input type="radio"/> <25 <input type="radio"/> 25-100 <input type="radio"/> 100-500 <input type="radio"/> >500					
Employee's Work Unit/Department		Dates of Employment From: _____ To: _____ Mo Day Year Mo Day Year			
Employee's Job Title or Description of Work					

ILLNESS INFORMATION

Nature of Illness or Health Condition (Examples: Headache, Nausea, Difficulty Breathing, Cough, etc.)		Date of Diagnosis _____ Mo Day Year	
Suspected Causative Agents (Chemicals, Physical Agents, Conditions)		Did Employee Die? Yes <input type="radio"/> No <input type="radio"/>	If Yes, Date of Death _____ Mo Day Year
If Physician, Indicate Clinical Impression for Suspected Occupational Disease, or Diagnosis of Confirmed Occupational Disease			

ADDITIONAL COMMENTS

<hr/> <hr/>

REPORT SUBMITTED BY

If Report Submitted by Non-Physician, Did Employee See a Physician? If yes, record information below.				Yes <input type="radio"/>	No <input type="radio"/>	Don't Know <input type="radio"/>
Physician's Name		Phone				
Office Address		City	State	Zip		
Name of Person Submitting Report				Physician <input type="radio"/>	Non-Physician <input type="radio"/>	
Address		City	State	Zip		
Signature		Phone		Date		

The Michigan Department of Consumer and Industry Services is an equal opportunity, affirmative action employer, service provider and buyer.

Return completed form to:

Michigan Department of Consumer and Industry Services

Division of Occupational Health

Bureau of Safety and Regulation

7150 Harris Drive, P.O. Box 30649

Lansing, MI 48909-8149

Authority: P.A. 368 of 1978
Completion: Required
Penalty: Misdemeanor

**Table 1. Number of Employees at Facilities Where an Occupational Illness Occurred
(By Reporting Source: Company vs. Non-Company Clinician)**

NUMBER OF EMPLOYEES	Reports from Non-Company Practitioners		Reports from Companies		Total Reports	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
<25	26	3.6	4	<0.1	30	0.2
25-100	193	26.9	23	0.2	216	1.4
100-500	73	10.2	81	0.6	154	1.0
>500	426	59.3	14,266	99.2	14,692	97.3
Total	718 ^a	100.0	14,374 ^c	100.0	15,092	99.9 ^b

a The number of employees was missing on 4,453 reports.

b Percent does not add to 100 due to rounding.

c The number of employees was missing on 82 reports.

**Table 2. Number of Occupational Disease Reports Submitted by
Non-Company Health Practitioners**

Number of Reports	Health Practitioners		Number of Patients Represented
	Number	Percent	
1	244	(74.6)	244
2-5	56	(17.1)	149
6-10	10	(3.1)	74
11-20	5	(1.5)	58
21-100	7	(2.1)	191
101+	5	(1.5)	3450
Total ^a	327	(99.9) ^b	4166

a 1,005 reports were submitted by labs for lead poisoning. These are not included in the above statistics.

b Percent does not add to 100 due to rounding.

Table 3. Demographic Characteristics of Reported Occupational Disease Cases

	<i>Number of Reports</i>	<i>Percent of Reports</i>
AGE		
≤19	112	0.6
20-24	1,147	6.1
25-29	2,499	13.3
30-34	2,236	11.9
35-39	1,888	9.6
40-44	2,527	13.5
45-49	2,582	13.8
50-54	2,158	11.5
55-59	1,402	7.5
60-69	1,392	7.4
70-79	691	3.7
80+	121	0.6
Total	18,755 ^a	
GENDER		
Male	13,661	69.9
Female	5,895	30.0
Total	19,556 ^b	
RACE		
White	2,519	80.5
African American	441	14.1
Hispanic	64	2.0
Other	104	3.3
Total	3,128 ^c	

aAge was missing on 872 reports. Mean age = 43± 10 years.

bGender was missing on 71 reports.

cRace was missing on 16,499 reports.

Table 4. Number of Occupational Disease Reports by Disease Type and Reporting Source

DISEASE TYPE	Non-Company		Company		Total	
	Number	Percent	Number	Percent	Number	Percent
Infectious and Parasitic Diseases (ICD 001-139)	0	--	11	0.1	11	0.1
Neoplasms (ICD140-239)	100	1.9	1	<0.1	101	0.5
Mental Disorders (ICD 290-319)	1	<0.1	584	4.0	585	3.0
Diseases of the Nervous System and Sense Organs (ICD 320-389)	1028	19.9	1647	11.4	2675	13.6
Diseases of the Circulatory System (ICD 390-459)	1	<0.1	12	0.1	13	0.1
Diseases of the Respiratory System (ICD 460-519)	2919	56.4	60	0.4	2979	15.2
Diseases of the Digestive System (ICD 520-579)	2	<0.1	23	0.2	25	0.1
Diseases of the Skin and Subcutaneous Tissue (ICD 680-709)	17	0.3	1112	7.7	1129	5.8
Diseases of the Musculoskeletal System and Connective Tissue (ICD 710-739)	12	0.2	1579	10.9	1591	8.1
Symptoms, Signs and Ill-Defined Conditions (ICD 780-799)	34	0.7	406	2.8	440	2.2
Repetitive Trauma: Sprains and Strains (ICD 800-999 except ICD 940 & ICD 980-989)	50	1.0	8760	60.6	8810	44.9
Burn Confined to Eye (ICD 940)	0	--	94	0.7	94	0.5
Toxic Effects of Substances Chiefly Non-Medicinal (ICD 980-989)	1007	19.5	167	1.2	1174	6.0
Total	5171	99.9 ^a	14,456	100.1 ^a	19,627	100.1 ^a

^aPercent does not add to 100 due to rounding.

Table 5. Number of Reports by Industry Type and Reporting Source

INDUSTRY TYPE	Non-Company		Company		Total	
	Number	Percent	Number	Percent	Number	Percent
Agricultural and Forestry Services (SIC 01,07,08)	8	0.3	0	--	8	<0.1
Mining (SIC 10-14)	4	0.2	21	0.1	25	0.1
Construction (SIC 15-17)	519	19.7	2	<0.1	521	3.0
Manufacturing (SIC 20-39)						
Food and Kindred Products (SIC 20)	5	0.2	35	0.2	40	0.2
Furniture (25)	6	0.2	284	2.0	290	1.7
Paper and Allied Products (SIC 26)	11	0.4	0	--	11	0.1
Printing and Publishing (SIC 27)	7	0.3	1	<0.1	8	<0.1
Chemicals and Allied Products (SIC 28)	25	0.9	114	0.8	139	0.8
Rubber and Misc. Plastics Products (SIC 30)	11	0.4	246	1.7	257	1.5
Stone, Clay, Glass & Concrete Products (SIC 32)	17	0.6	10	0.1	27	0.2
Primary Metal Industries (SIC 33)	668	25.3	487	3.4	1155	6.8
Fabricated Metal Products (SIC 34)	235	8.9	1504	10.4	1739	10.2
Industrial & Commercial Machinery & Computer Equipment (SIC 35)	29	1.1	80	0.6	109	0.6
Electronic Equipment and Components (SIC 36)	7	0.3	892	6.2	899	5.3
Transportation Equipment (SIC 37)	496	18.8	10,342	71.6	10838	63.4
Miscellaneous Manufacturing (SIC 23,24, 29, 38, 39)	44	1.7	27	0.2	71	0.4
Transportation, Communications, Electric, Gas & Sanitary Services (SIC 40-49)	270	10.2	42	0.3	312	1.8
Wholesale and Retail Trade (SIC 50-59)	35	1.3	3	<0.1	38	0.2
Insurance & Real Estate (SIC 60-67)	4	0.2	1	<0.1	5	<0.1
Services						
Hospitals (SIC 80)	38	1.4	230	1.6	268	1.6
Schools (SIC 82)	52	2.0	51	0.4	103	0.6
Misc. (SIC 70,72,73,75,76,79,87,88,89)	68	2.6	65	0.5	133	0.8
Public Administration (SIC 90-97)	79	3.0	7	<0.1	86	0.5
Total	2,638	100.0	14,444	100.1^b	17,082^a	99.8^b

^aType of industry was unknown in 2533 non-company reports and 12 company reports.

^bPercent does not add to 100 due to rounding

Table 6. Number of Occupational Disease Reports by Disease Type and Gender^a

DISEASE	Males		Females	
	Number	Percent	Number	Percent
Infectious and Parasitic Diseases (ICD 001-139)	5	<0.1	6	0.1
Neoplasms (ICD140-239)	101	0.7	0	--
Mental Disorders (ICD 290-319)	335	2.5	244	4.1
Diseases of the Nervous System and Sense Organs (ICD 320-389)	2191	16.0	477	8.1
Diseases of the Circulatory System (ICD 390-459)	11	0.1	2	<0.1
Diseases of the Respiratory System (ICD 460-519)	2795	20.5	152	2.6
Diseases of the Digestive System (ICD 520-579)	22	0.2	3	0.1
Diseases of the Skin and Subcutaneous Tissue (ICD 680-709)	620	4.5	509	8.6
Diseases of the Musculoskeletal System and Connective Tissue (ICD 710-739)	906	6.6	680	11.5
Symptoms, Signs and Ill-Defined Conditions (ICD 780-799)	230	1.7	207	3.5
Repetitive Trauma Injuries (ICD 800-999 except ICD 940 and ICD 980-989)	5321	39.0	3470	58.9
Burn Confined to Eye (ICD 940)	80	0.6	14	0.2
Toxic Effects of Substances Chiefly Non-Medicinal (ICD 980-989)	1043	7.6	131	2.2
Total^a	13,660	100.0	5,895	99.9^b

^aGender was missing on 72 reports.

^bPercent does not add to 100 due to rounding.

Table 7. Number of Reported Occupational Disease Fatalities

	<i>Number</i>	<i>Percent</i>
Fatal	70	0.4
Non-Fatal	19,550	99.6
Total ^a	19,620	100

^aVital Status was missing on 7 reports.

Table 8. Comparison of 1994 Occupational Illness Survey Data and 1990 MDCIS Workers' Disability Compensation Claims with 1992-2000 Occupational Disease Reports

DISEASE CATEGORY	MDCIS Survey & Compensation Claims				MDCIS Occupational Disease Reports ^a									
	1994 Survey ^b		1990 Claims ^c		1992-1993		1994-1995		1996-1997		1998-1999		2000	
	Number	Percent	Number	Percent	Mean Number ^d	Percent	Mean Number ^d	Percent	Mean Number ^d	Percent	Mean Number ^d	Percent	Number	Percent
Occupational Skin Diseases or Disorders	6,336	12.2	372	4.2	776	6.0	1,034	5.9	1,405	7.3	1,307	9.3	1,129	5.8
Dust Diseases of the Lung	186	0.4	12	0.1	914	7.1	966	5.5	1,159	6.0	3,225	15.6	978	5.1
Respiratory Conditions Due to Toxic Agents	2,590	5.0	87	1.0	290	2.3	570	3.0	799	4.1	1,481	7.2	2,001	10.4
Poisoning	765	1.5	403	4.6	207	1.6	315	1.8	631	3.3	1,120	5.4	1,174	6.1
Disorders Due to Physical Agents	1,944	3.7	80	0.9	469	3.6	419	2.4	414	2.1	328	1.6	183	0.9
Disorders Due to Repeated Trauma	36,994	71.0	3,425	38.7	7,151	55.8	10,601	60.3	11,293	58.3	9,644	46.8	9,977	51.7
All Other Occupational Illnesses	3,283	6.3	4,475	50.5	2,972	23.2	3,680	20.9	3,668	18.9	3,541	17.2	3,860	20.0
Number of Reports Per Year	52,098		8,851		12,779 ^e		17,585		19,369		20,644		19,302	

^aCounts published in previous years' OD reports for 1992-1997 have been corrected here.
^b1994 is the last year this report was generated. Combines public and private sector reports.
^c1990 is the last year this report was generated.
^dNumber of reports per year (averaged over the 2 years)
^eType of occupational disease was missing on 97 reports

APPENDIX A

Chronic Occupational Diseases

Multiple reports for an individual patient with one of the following diseases may be submitted within and across years, but only one of these submissions is counted in our statistics.

<u>ICD-9 Code</u>	<u>Description</u>
011	Pulmonary Tuberculosis
015	Tuberculosis of the bones and joints
135	Sarcoidosis
137	Tuberculosis , Late Effects of
140-239	Neoplasms (Cancers)
250-259	Diseases of Other Endocrine Glands
260-269	Nutritional Deficiencies
270-279	Metabolic and Immunity Disorders Except 276, Dehydration
280-289	Disease of the Blood and Blood Forming Organs
290-319	Mental Disorders Except 308:Acute Reaction to Stress, and 309: Adjustment Reaction
320-340	Selected Diseases of the Nervous System and Sense Organs
388-389	Disorders of the Ear: Noise Induce Hearing Loss, Tinnitus
390-409	Selected Diseases of the Circulatory System
491-505	Selected Diseases of the Respiratory System
509	Pleural Plaques with no parenchymal abnormality marked on the ILO Form
515	Interstitial Lung Disease, Pulmonary Fibrosis
517	Connective Tissue Lung Disease
520-579	Diseases of the Digestive System
580-629	Diseases of the Genitourinary System