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Pantex Plant Annual Epidemiologic Surveillance Report

Pantex 2000
Epidemiologic Surveillance Report

Questions or comments about this report or the Epidemiologic Surveillance Program may be directed to:

Dr. Cliff Strader at **cliff.strader@eh.doe.gov**
or Dr. Bonnie Richter at **bonnie.richter@eh.doe.gov**
United States Department of Energy
Office of Health Programs
Mail Stop: 270CC / EH-6
19901 Germantown Road
Germantown, MD 20874-1290

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http://tis.eh.doe.gov/health/epi/surv/ index.html

Pantex Plant 2000
At A Glance

Male workers lost 2,830 calendar days of work due to illness and injury in 2000. The leading causes of absence were due to muscles and skeleton conditions (22 percent), injuries (18 percent), and respiratory conditions (17 percent).

Female workers lost 1,520 calendar days of work mainly due to muscles and skeleton conditions (25 percent), injuries (12 percent), and digestive diseases (12 percent).

The rates of illness and injury between 1998 and 2000 have remained relatively stable.

The risk of injury and illness was highest among men in the Service / Security / Craft and Repair / Fire Department group. Among women, the highest risk of illness and injury was among the Nuclear Specialties / Production Technicians / Material Handlers group. These results are similar to what was noted in 1999 for men.

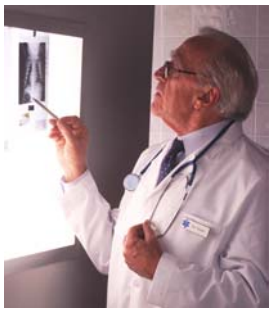
Injuries were the most common OSHA-recordable diagnoses (directly attributable to work) among men and women. The highest rates were among workers in the Service / Security / Craft and Repair / Fire Department group for both men and women. The rates for OSHA recordables have remained stable for the majority of occupational groups during the past 7 years.

Introduction

The U.S. Department of Energy's (DOE) commitment to assuring the health and safety of its workers includes the conduct of epidemiologic surveillance activities that provide an early warning system for health problems among workers. The Epidemiologic Surveillance Program monitors illnesses and health conditions that result in an absence of 5 or more consecutive workdays, occupational injuries and illnesses, and disabilities and deaths among current workers.

Epidemiologic surveillance has been ongoing at Pantex since 1994. This report provides a summary of epidemiologic surveillance data collected from the Pantex Plant from January 1, 2000 through December 31, 2000. The data were collected by a coordinator at Pantex and submitted to DOE's Epidemiologic Surveillance Data Center, located at Oak Ridge Institute for Science and Education, where quality control procedures and preliminary data analyses were carried out. The analyses were interpreted and the final report prepared by the DOE Office of Health Programs.

The information presented in this report provides highlights of the data analyses conducted on the 2000 data collected from Pantex. Earlier surveillance reports and additional supporting tables are posted on the Office of Health Programs' Web site (**http://tis.eh.doe.gov/health/epi/surv/index.html**) or are available by request. The main sections of the report include: work force characteristics; absences due to injury or illness of 5 or more consecutive workdays; workplace injuries, illnesses, and deaths that were reportable to the Occupational Safety and Health Administration ("OSHA-recordable" events); and disabilities and deaths among current workers. The 2000 report includes sections on time trends that provide comparative information on the health of the work force from 1994 to 2000.

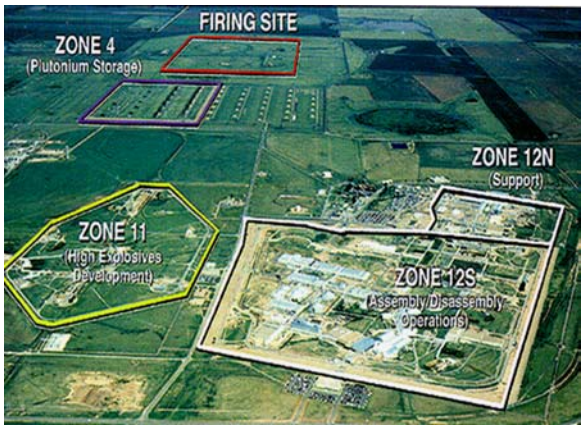


Note: In the figures and calculations that follow, percentages have been rounded to the nearest whole number.

DOE sites vary by mission, function, job classification, and worker exposures. Therefore, comparisons of Pantex with other DOE sites should be made with caution. In addition, many factors can affect the completeness and accuracy of health information reported at the sites, thereby affecting the observed patterns of illness and injury.

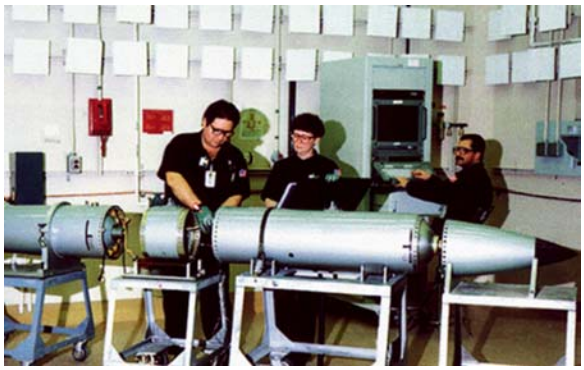
Site Overview

The Pantex Plant, located on the Texas Panhandle 17 miles northeast of Amarillo, was constructed in 1942 to serve as a conventional bomb plant for the U.S. Army. The plant was deactivated when World War II ended and remained vacant until 1949 when Texas Technological University purchased the site for $1 for experimental cattle-feeding operations. The land was sold subject to recall under the National Security Clause, and the Atomic Energy Commission requested the Army to reclaim and reopen the site in 1951 in order to expand nuclear weapons assembly facilities. By 1975, the Pantex Plant became the only nuclear weapons



assembly and disassembly plant in the U.S. With the downsizing of the DOE complex, the site assumed new responsibilities. Interim storage of plutonium pits was transferred to the plant in 1989 when a plutonium processing center was deactivated. With the easing of political tensions between the United States and the former Soviet Union in the 1990s, efforts began to reduce nuclear stockpiles. The disassembly of nuclear weapons at the Pantex Plant became a vital part of this operation.

Currently, the Pantex Plant has five primary operational missions: weapons assembly, weapons disassembly, evaluation of weapons, high explosive



research and development, and interim plutonium pit storage. The *Final Environmental Impact Statement for the Continued Operations of the Pantex Plant and Associated Storage of Nuclear Weapons Components* was approved in January 1997 by the Secretary of Energy Hazel O'Leary. The Environmental Impact Statement authorized the Pantex Plant to maintain the plant's current dismantlement mission and increase onsite interim storage of plutonium components. It is anticipated that the plant will downsize as weapons dismantlement work decreases over the next 10 years.

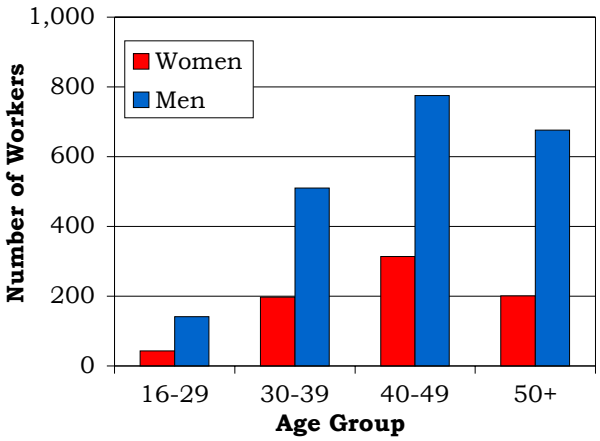
The Pantex Plant industrial operations are conducted for the DOE by a management and operating contractor (BWXT Pantex), the U.S. Army Corps of Engineers (COE), and Sandia National Laboratory.

The Pantex Work Force - 2000

A total of 2,857 Pantex employees were included in epidemiologic surveillance in 2000, 56 fewer workers than were present in 1999. The age

and gender distribution of the 2000 work force is shown in Figure 1. There were 755 (26 percent) women and 2,102 (74 percent) men in the work force. The average age of male Pantex workers was 45 years of age and 44 years for females. The majority of the workers was White (79 percent). Hispanics comprised 12 percent and African Americans about 6 percent of the work force; Asians and Native Americans made up the remaining 3 percent.

Figure 1. The Work Force by Gender and Age



The distribution of workers by job category and gender is shown in Figure 2. Individual job titles, as reported by Pantex, were grouped together into 11 job categories because there were either too few workers or health events within a particular job title that limited the analyses that could be conducted. Men and women were not distributed equally among the various job categories. Over half of the women (59 percent) were in the Office Management and Administration group, while slightly more than one-fourth of the men (29 percent) were part of this job category. The next largest group of male workers (19 percent) was in the Security group. Nine temporary workers (summer students, fellowships) were excluded from the 2000 report analyses. These workers reported no absences or OSHA events.

Figure 2. The Work Force by Job Category and Gender

Job Category	Women	Men
Office Management & Administration	446 59%	600 28%
Engineering, Scientific, & Health Care	44 6%	243 12%
Technical Support	63 8%	202 10%
Heavy Computer Users	37 5%	44 2%
Service	24 3%	23 1%
Security	50 6%	399 19%
Craft & Repair	7 1%	240 11%
Fire Department	6 1%	35 2%
Nuclear Specialties	13 2%	22 1%
Production Technicians	44 6%	210 10%
Material Handlers	21 3%	84 4%

Number and Length of Absences

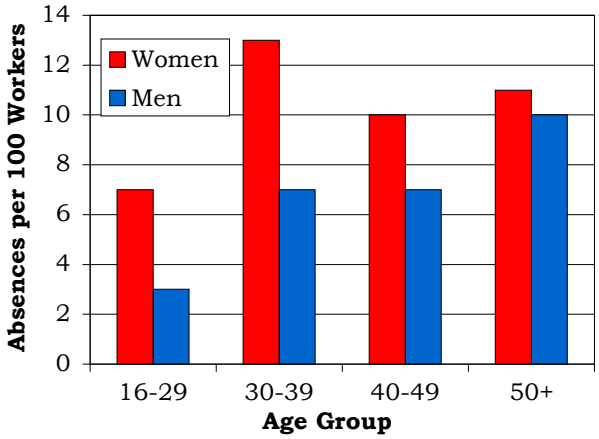
Epidemiologic surveillance examines absences of 5 or more consecutive workdays (also referred to as "5-day absences"). It is based on DOE Order 440.1 that requires contractor management to notify Occupational Medicine when a worker has been absent for 5 or more consecutive workdays. If an absence on a Friday continues through Tuesday, the length of that absence includes the weekend. All injuries and illnesses due to a work-related incident also must be reported. Non-occupational illnesses and injuries that involve absences less than 5 days do not routinely require a medical clearance for return to work and are therefore excluded from these analyses.

Certain types of health events resulting in an absence of 5 or more consecutive workdays were excluded from the analyses. These include five absences due to maternity leave and two absences, reported by one man and one women, due to elective surgical procedures not related to the treatment of an illness.

Throughout this report, analyses take gender, age, and occupation into account because the risk of illness and injury varies by these factors.

The rate of 5-day absences due to injury or illness varied by gender and age as shown in Figure 3. There were 83 5-day absences among 755 women resulting in an absence rate of 11 per 100 workers (83 / 755). There were 164 absences among 2,102 men resulting in an absence rate of 8 per 100 workers (164 / 2,102). The rate of 5-day absences among men increased with age. Among women, the absence rate peaked in the 30-39 year age group. Less than 1 percent of men and women reported more than one 5-day absence in 2000. The 247 absences reported in 2000 represent at least a 10 percent increase over the number of absences reported in 1998 (223) and 1999 (225).

Figure 3. Absence Rate by Gender and Age



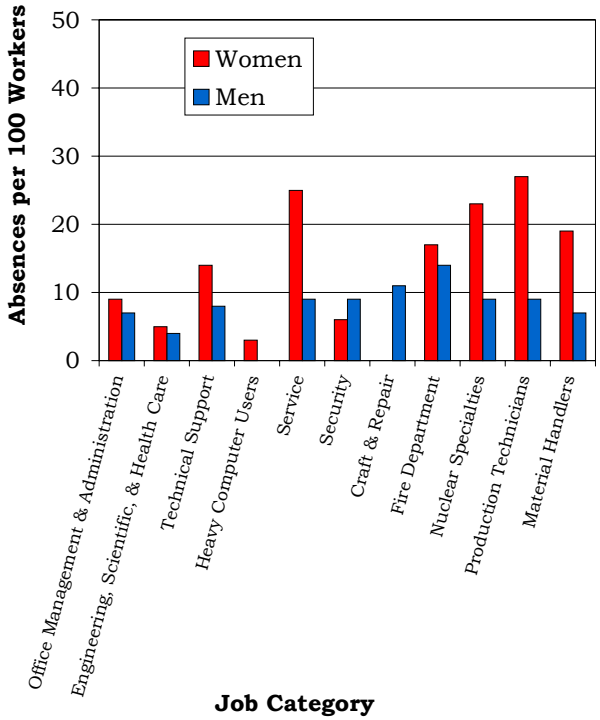
The average length of absence by gender and age is shown in Figure 4. The average length of absence was 17 days for men and 18 days for women. Age had little effect on the average absence duration among men or women.

Figure 4. Number of Days Absent by Gender and Age

Gender	Age	Number of Absences	Number of Days Absent	Average Number of Days Absent
Women	16-29	3	47	16
	30-39	25	449	18
	40-49	32	589	18
	50+	23	435	19
	Total	83	1,520	18
Men	16-29	4	71	18
	30-39	35	580	17
	40-49	56	1,060	19
	50+	69	1,119	16
	Total	164	2,830	17

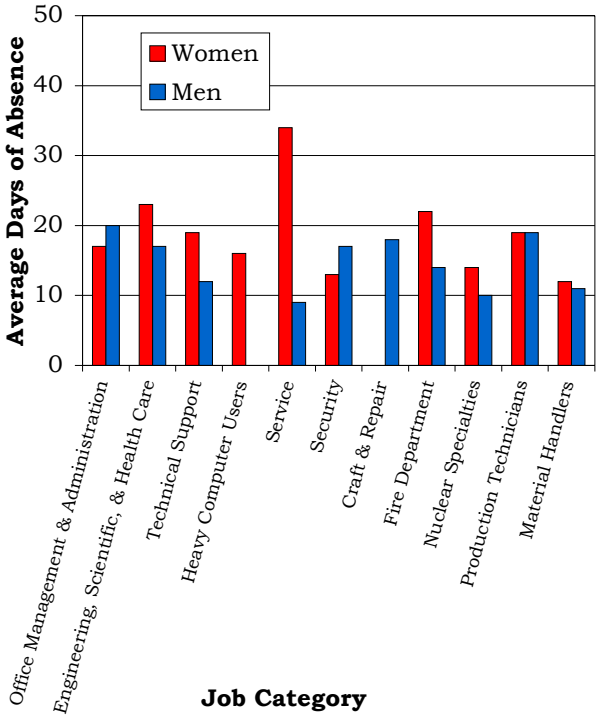
The rate of 5-day absences due to illness or injury varied by job category for men and women as shown in Figure 5. The absence rate was higher among women than men within the same job category except for the Security and Craft and Repair groups. Among men, Fire Department workers had the highest absence rate, 14 per 100 (5 / 35), while the 44 workers in the Heavy Computer Users group reported no absences. Among women, Production Technicians had the highest absence rate, 27 per 100 workers (12 / 44). Female Craft and Repair workers had no 5-day absences in 2000. The women in the Craft and Repair group have not reported any 5-day absences since 1996; however, there are few female workers in that job category.

Figure 5. Absence Rate by Job Category and Gender



The average duration of absence by job category and gender is shown in Figure 6. There was no consistent pattern for average absence duration among men and women within a job category. Males in the Office Management and Administration group had the longest average length of absence, 20 days. Male Service workers, with two absences reported, had the shortest average absence duration (9 days).

Figure 6. Average Duration of Absence by Job Category and Gender



Among female workers, Service workers had the longest average absence, 34 days. Among the six absences reported in this group, three lasted more than 28 days. Female Engineering, Scientific, and Health Care workers had the next longest absence duration (23 days). Women in the Material Handlers group averaged the shortest absences in 2000, 12 days.

Diagnostic Categories

Epidemiologic surveillance monitors *all* illnesses and injuries among active workers, because it is not always possible to determine which health

effects are due to occupational exposures and which are due to other causes. Most illness and injury diagnoses were reported to the occupational medicine clinic by workers who required return-to-work clearances. An absence due to illness or injury may involve more than one diagnosis, and epidemiologic surveillance includes all reported diagnoses. In addition, the OSHA 200 Log provides information on recorded occupational injuries and illnesses whether or not they involve absences.

This report organizes illness and injury categories based on a standard reference, the *International Classification of Disease, 9th Revision, Clinical Modification* (ICD-9-CM). This reference is used to classify health events for statistical purposes. You can find specific health conditions in the Explanation of Diagnostic Categories at the back of this report.

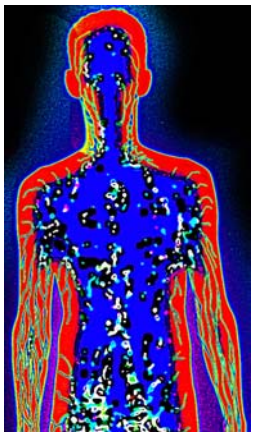
The number of reported diagnoses categorized according to the ICD-9-CM and number of lost calendar days are presented in Figure 7. Please note that the number of lost calendar days for each absence are counted more than once when multiple diagnoses occur in different diagnostic categories for the same absence. There were 113 diagnoses reported by female workers and 214 diagnoses reported by male Pantex workers in 2000. The most frequently reported diagnoses varied slightly by gender.

Figure 7. Number of Diagnoses and Lost Calendar Days by Diagnostic Category (Categorized by ICD-9-CM) and Gender

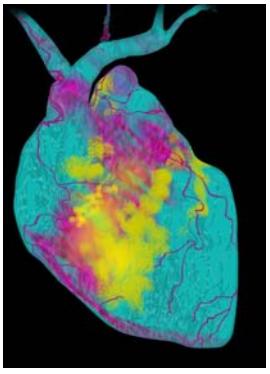
Diagnostic Category	Women		Men	
	Number of Diagnoses	Number of Lost Calendar Days	Number of Diagnoses	Number of Lost Calendar Days
Benign Growths	5	122	2	23
Blood	0	0	1	8
Cancer	4	53	4	51
Digestive	14	190	20	332
Endocrine / Metabolic	2	52	5	92
Existing Birth Condition	0	0	0	0
Genitourinary	11	314	7	103
Heart / Circulatory	1	18	21	362
Infections / Parasites	2	32	2	82
Injury	14	183	38	597
Miscarriage	1	7	NA	NA
Muscles & Skeleton	28	411	46	773
Nervous System	9	89	12	174
Psychological	2	46	0	0
Respiratory	9	82	36	381
Skin	0	0	2	66
Unspecified Symptoms	11	135	18	279

Note: Lost calendar days for each absence are counted more than once when multiple diagnoses occur in different diagnostic categories for the same absence.

Female employees lost a total of 1,520 calendar days due to injury and illness. Among women, muscles and skeleton conditions (25 percent), injuries (12 percent), and digestive diseases (12 percent) accounted for 49 percent of all reported diagnoses. Rheumatism made up 39 percent of muscles and skeleton conditions, followed by deformities of the bone and cartilage (29 percent) and disk injuries and back problems (21 percent). Sprains and strains accounted for 57 percent of the injuries. Thirty-six percent of the digestive conditions were related to intestinal disorders, followed by gastroenteritis and colitis (21 percent) and gallbladder disease (21 percent).



Men lost 2,830 workdays due to injury and illness. Among male workers, 57 percent of all reported diagnoses were due to muscles and skeleton conditions (22 percent), injuries (18 percent), and respiratory conditions (17 percent). A closer look at diagnoses affecting the muscles and skeleton showed that about 35 percent were arthritis, 28 percent were disk disorders and back problems, and 28 percent were rheumatism. Frequently reported injuries were sprains and strains (39 percent), fractures (29 percent), and dislocations (13 percent). The most commonly reported respiratory conditions were upper respiratory conditions (47 percent), followed by bronchitis, asthma, and chronic airway obstruction (28 percent) and pneumonia and influenza (17 percent).



The above diagnoses did not vary much by age for men and women. Among male workers 50 years and older, conditions of the heart / circulatory system were among the most frequently reported diagnoses. Nine men in this age group reported 12 diagnoses; all but 1 of the diagnoses were ischemic heart disease (restricted blood flow to an artery). Among female workers 50 years of age and older, conditions of the nervous system were commonly reported. Five women reported 5 diagnoses: 3 diagnoses for peripheral nerve disorders, 1 diagnosis for an ear disorder, and 1 for an eye disorder. Few diagnoses were reported among workers less than 30 years old: 4 diagnoses among women and 6 diagnoses among men.

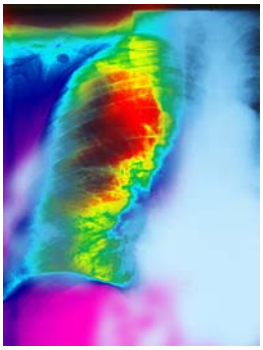


Figure 8 shows the frequency of reported diagnoses by job category for men and women. The types of diagnoses did not vary significantly by job category. Among women, muscles and skeleton conditions, digestive diagnoses, and genitourinary disorders were common. Among men, muscles and skeleton conditions, injuries, respiratory diagnoses, and heart / circulatory conditions frequently appeared in most occupational groups. The two cancer diagnoses among the female Material Handlers were both reported by the same worker.

Figure 8. Most Frequently Reported Diagnoses by Job Category and Gender

Job Category	Men	Women
Office Management & Administration	Muscles & Skeleton (15) Unspecified Symptoms (11) Injury (9) Heart / Circulatory (8)	Muscles & Skeleton (15) Unspecified Symptoms (9) Digestive (8) Nervous System (6)
Engineering, Scientific, & Health Care	Muscles & Skeleton (6) Injury (3) Nervous System (2) Respiratory (2)	Genitourinary (1) Respiratory (1)
Technical Support	Respiratory (4) Unspecified Symptoms (4) Injury (3) Muscles & Skeleton (3)	Genitourinary (4) Digestive (2) Injury (2) Respiratory (2) Unspecified Symptoms (2)
Heavy Computer Users	None	Injury (1)
Service	Respiratory (2) Heart / Circulatory (1)	Muscles & Skeleton (4) Digestive (1) Genitourinary (1) Psychological (1) Respiratory (1)
Security	Muscles & Skeleton (11) Respiratory (9) Digestive (8)	Respiratory (2) Digestive (1) Genitourinary (1)
Craft & Repair	Muscles & Skeleton (8) Heart / Circulatory (5) Injury (4)	None
Fire Department	Injury (2) Benign Growths (1) Heart / Circulatory (1) Nervous System (1) Respiratory (1)	Benign Growths (1)
Nuclear Specialties	Endocrine / Metabolic (1) Respiratory (1)	Muscles & Skeleton (4) Miscarriage (1)
Production Technicians	Respiratory (10) Injury (7) Muscles & Skeleton (2) Unspecified Symptoms (2)	Injury (6) Muscles & Skeleton (4) Digestive (1) Genitourinary (1) Nervous System (1) Psychological (1)
Material Handlers	Injury (3) Heart / Circulatory (1) Muscles & Skeleton (1) Respiratory (1)	Cancer (2) Digestive (1) Nervous System (1)

Note: Numbers in parentheses represent the number of reported diagnoses.

Rates of Disease Occurrence

A Word about Rates: The previous section considered the number of absences and health conditions among various worker groups. For example, Figure 7 shows that men reported 46 and women reported 28 diagnoses involving muscles and skeleton conditions during 2000. Men, therefore, reported over 60 percent more muscles and skeleton problems as women. As there are more than 2 1/2 times more men than women at Pantex, it seems reasonable to expect more muscles and skeleton diagnoses among men than women. Does this mean that men were at greater risk of muscles and skeleton disorders compared with women in 2000? To correctly answer that question, the total number of men and women in the work force must be considered. To compare risk among men and women, it is necessary to calculate the rate of muscles and skeleton diagnoses for each gender. Rates are calculated by dividing the number of muscles and skeleton diagnoses in a given gender by the total number of employees of that gender. Multiply this number by 1,000 to get the diagnosis rate per 1,000 workers. For example:

46 muscles and skeleton diagnoses ÷ 2,102 men = .022 x 1,000 = 22 muscles and skeleton diagnoses per 1,000 men

28 muscles and skeleton diagnoses ÷ 755 women = .037 x 1,000 = 37 muscles and skeleton diagnoses per 1,000 women

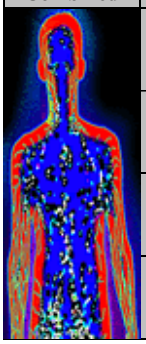
Comparing these rates now correctly suggests that the rate of reported muscles and skeleton conditions among women is about 70 percent higher than the rate for men. They are called **crude rates** because they do not account for possible differences between men and women such as age and other factors that might affect the individual's risk of having an injury. Because age is so strongly related to the risk of disease and injury, epidemiologists almost always take age into account when comparing groups. This is done by using age-specific categories or by statistical methods of adjustment.

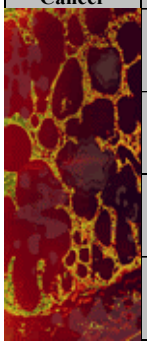
The diagnosis rate, also called the illness and injury rate, is the number of occurrences of a given disease or health condition observed over the course of a year per 1,000 workers at risk of getting that condition (see shaded box). One

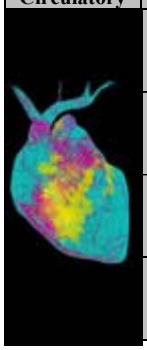
health condition, arthritis for example, may result in several 5-day absences over a year. Conversely, one 5-day absence may be associated with multiple diagnoses (e.g., the flu and a sprained wrist) recorded for epidemiologic surveillance.

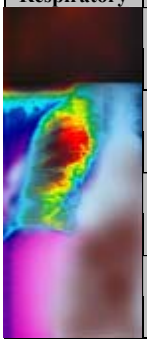
In the following set of analyses, the four age groups previously used were collapsed into two groups: workers less than 50 years of age and those 50 or older. In addition, the 11 job categories were combined into four larger groups. Five groups of diagnoses of particular interest to workers are presented in Figure 9: all illnesses and injuries combined; cancer; heart / circulatory system; respiratory system; and injury.

Figure 9. Illness and Injury Rates by Job Category, Gender, and Age

Diagnostic Category	Rate per 1,000			
All Illnesses & Injuries Combined	Job Category	Age	Men	Women
	Office Management & Administration / Heavy Computer Users	<50	66	103
		50+	145	175
	Engineering, Scientific, & Health Care / Technical Support	<50	73	182
		50+	82	53
	Service / Security / Craft & Repair / Fire Department	<50	115	162
		50+	150	105
	Nuclear Specialties / Production Technicians / Material Handlers	<50	82	310
		50+	146	250

Diagnostic Category	Rate per 1,000			
Cancer	Job Category	Age	Men	Women
	Office Management & Administration / Heavy Computer Users	<50	0	3
		50+	4	7
	Engineering, Scientific, & Health Care / Technical Support	<50	0	0
		50+	0	0
	Service / Security / Craft & Repair / Fire Department	<50	4	0
		50+	6	0
	Nuclear Specialties / Production Technicians / Material Handlers	<50	0	34
		50+	0	0

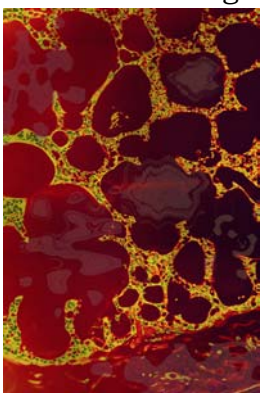
Diagnostic Category	Rate per 1,000			
Heart / Circulatory	Job Category	Age	Men	Women
	Office Management & Administration / Heavy Computer Users	<50	5	0
		50+	24	7
	Engineering, Scientific, & Health Care / Technical Support	<50	0	0
		50+	6	0
	Service / Security / Craft & Repair / Fire Department	<50	11	0
		50+	23	0
	Nuclear Specialties / Production Technicians / Material Handlers	<50	5	0
		50+	10	0

Diagnostic Category	Rate per 1,000			
Respiratory	Job Category	Age	Men	Women
	Office Management & Administration / Heavy Computer Users	<50	10	9
		50+	0	0
	Engineering, Scientific, & Health Care / Technical Support	<50	10	34
		50+	19	0
	Service / Security / Craft & Repair / Fire Department	<50	17	29
		50+	29	53
	Nuclear Specialties / Production Technicians / Material Handlers	<50	18	0
		50+	83	0

Diagnostic Category	Rate per 1,000			
Injury	Job Category	Age	Men	Women
	Office Management & Administration / Heavy Computer Users	<50	15	9
		50+	12	21
	Engineering, Scientific, & Health Care / Technical Support	<50	14	23
		50+	13	0
	Service / Security / Craft & Repair / Fire Department	<50	19	0
		50+	17	0
	Nuclear Specialties / Production Technicians / Material Handlers	<50	27	52
		50+	42	150

The rates for all illnesses and injuries combined were higher for male Pantex workers aged 50 and older compared with males younger than 50. Among females, rates were generally higher among younger workers. Among younger workers, women had higher rates than men in all job categories. No relationship was apparent between gender and job category for older workers. The highest rates for men were workers classified as Service / Security / Craft and Repair / Fire Department and for women workers classified as Nuclear Specialties / Production Technicians / Material Handlers. Among women, the lowest rates were for workers in the Office Management and Administration / Heavy Computer Users group and among men for workers in the Engineering, Scientific, and Health Care / Technical Support group.

Cancer rates presented in this report are based on reported 5-day absences during the year. A worker



may experience several periods of absence from one cancer diagnosis due to medical complications or treatment regimens. Each absence results in a separate report of a cancer diagnosis; however, it does not imply that this is a new cancer. The cancer rates in this report are not comparable to the *incident rates* frequently published in many articles on cancer with which you may be familiar. Incident cancer rates are based on the number of new cancer cases diagnosed within a given time, usually a year.

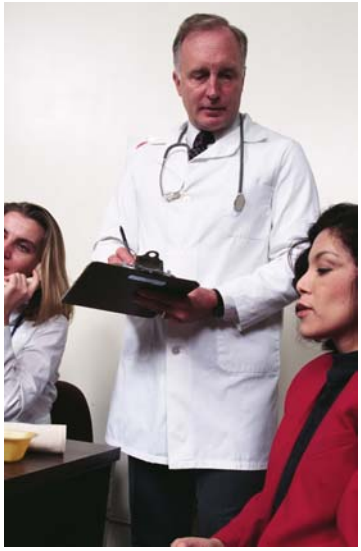
The likelihood that an individual in the U.S. develops cancer increases with age. Our data tend to reflect this observation, although few cancer diagnoses were reported by Pantex workers in 2000. Three men reported four 5-day absences due to cancer. Each man reported only one type of cancer: cancers of the larynx, prostate, and skin. Three women reported four 5-day absences for cancer. One woman had two absences for colon cancer, another woman had one absence for breast cancer, and the third woman had one absence for lymphoma. The woman who reported lymphoma reported the same diagnosis in 1996. None of the other workers who reported cancer in 2000 had reported it previously.

Among men, workers aged 50 or more had the highest rates of heart / circulatory problems. Men categorized as Service / Security / Craft and Repair / Fire Department had the highest rate of heart / circulatory disorders. This is different from what has been observed since 1998, with men in the Nuclear Specialties / Production Technicians / Material Handlers group having the highest rates in 1998 and 1999. Nine of the 17 men reporting heart / circulatory disorders were aged 50 and older; all but 1 of the 12 diagnoses among these older workers involved ischemic heart disease (restricted blood flow through an artery). Only 1 diagnosis for heart / circulatory problems was reported among women.

Generally, workers aged 50 and older reported higher rates of respiratory disease among men. Among

women, age was not related to the rate of respiratory disease. Men 50 years and older in the Nuclear Specialties / Production Technicians / Material Handlers group had the highest rate, 83 per 1,000. Service / Security / Craft and Repair / Fire Department workers 50 years of age and older had the highest rate, 53 per 1,000, among female workers. Service workers had almost 6 times and Production Technicians almost 3 times the risk of respiratory disease compared to workers in other job categories.

Men under the age of 50 tended to have a higher rate of injury diagnoses compared to older men in the same job category. No association with age was seen among women. The highest rates of injury for men and women were in the Nuclear Specialties / Production Technicians / Material Handlers category, the same category as in 1999. Production Technicians were almost 4 times more likely to report an injury diagnosis compared to workers in other job categories.



In a different set of analyses, the risk of illness and injury among workers classified in one job category was compared with the risk to workers in the other 10 job categories. The risk of reporting an injury or illness diagnosis was 50 percent greater among Production Technicians compared to workers in other job categories. Office Management and Administration workers were almost 4 times more likely to report a diagnosis for symptoms and ill-defined conditions than other workers.

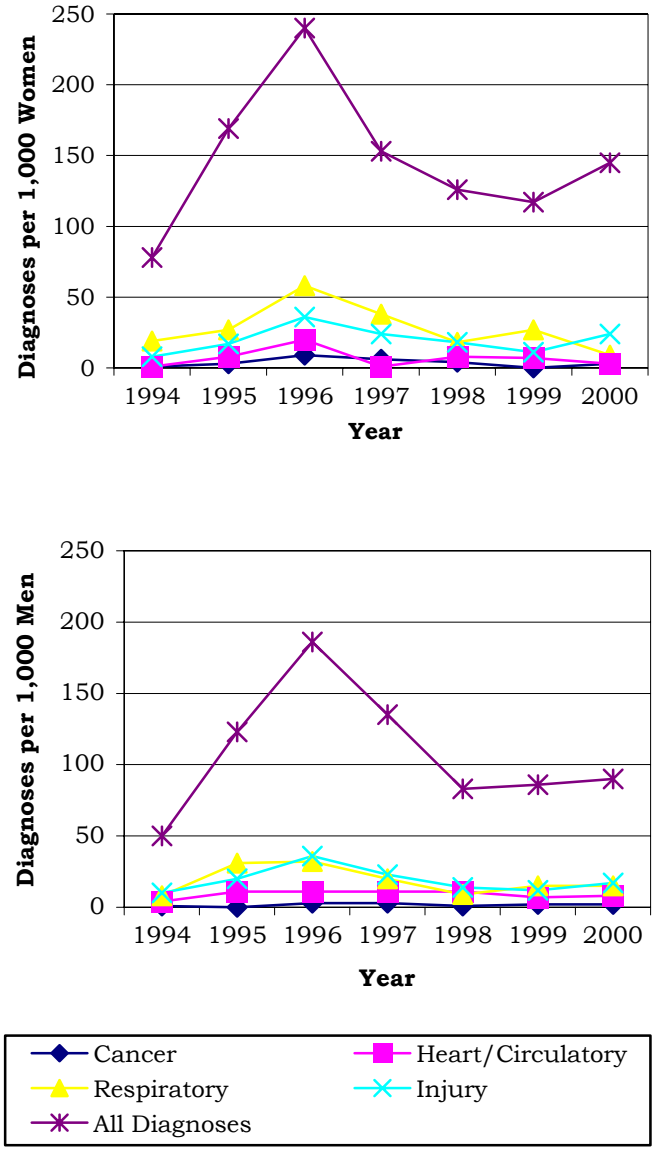
Time Trends

Why Are Rates Age-Adjusted?

The injury and illness rates in this section of the report are **age-adjusted**. Differences in the age composition among groups of workers are taken into consideration in the analyses and one rate is calculated for an entire group. This allows us to make comparisons between different groups of different ages. Age-adjusted rates are calculated using the age distribution of the 1970 U.S. population as a reference.

Age-adjusted rates for selected diagnosis categories from 1994 to 2000 are presented in Figure 10. It is important to note that the age-adjusted rates for the year 1994 presented in this report differ from the *1994 Annual Epidemiologic Surveillance Report* due to the elimination of health conditions resulting from maternity leave.

Figure 10. Age-Adjusted Rates for Selected Diagnostic Categories for Women and Men from 1994 to 2000

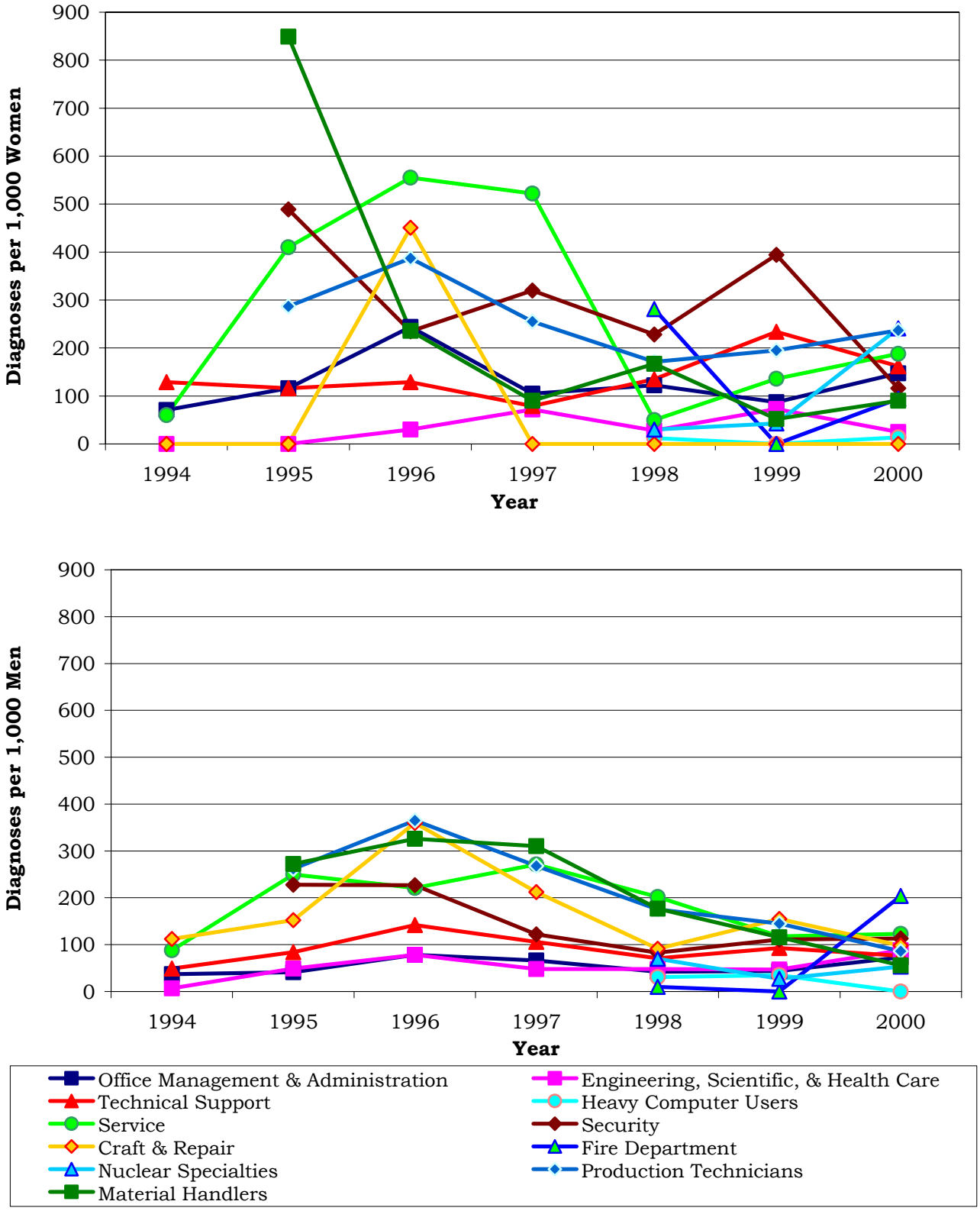


The decline in the rate of diagnoses that began in 1997 and persisted into 1998 has not continued into 1999 and 2000. The underreporting that began in 1997 and continued into 1998 was the result of a change in health insurance companies and its impact seems to have leveled off in 1999 and shown a slight reversal in 2000. The 2000 rates for men were about the same as the 1999 rates, but the rates for women actually increased from 117 diagnoses per 1,000 workers in 1999 to 145 diagnoses per 1,000 workers in 2000.

The increase in age-adjusted rates for all illness and injury categories noted in 2000 was also noted for injury. The rates for heart / circulatory conditions and cancer among men and women have remained low from 1994 to 2000. Respiratory disease rates were not increased among men or women in 2000 compared to 1999.

The age-adjusted rates of illness and injury by job category for the past 7 years are shown in Figure 11. The Heavy Computer Users (those who type more than 8 hours per day) and Fire Department groups appear in this figure for the first time because they were added in 1998 and now have 3 years of data available. The 2000 rates for men in most job categories remained below the 1996 rate, which was the highest rate over the 7-year period for most job categories. The exception is Engineering, Scientific, and Health Care workers where the rate in 2000 was greater than the 1996 rate. The increase in the 2000 rate for Office Management and Administration workers is due in part to separation of the Heavy Computer Users from this group; the rate for Heavy Computer Users has been less than the rate for Office Management and Administration workers over the last 3 years. The large variation in the rate for Fire Department workers results from the small number of workers in this group. There was no consistent decline in the rates across the job categories among women; however, women in most job categories reported few diagnoses in 2000. For 6 of the 11 job categories, women within the job category reported five or fewer diagnoses.

Figure 11. Age-Adjusted Rates for All Diagnoses Combined Among Women and Men by Job Category from 1994 to 2000



Sentinel Health Events for Occupations

A sentinel health event for occupation (SHEO) is a disease, disability, or death that is likely to be occupationally related. Its occurrence may serve as a warning signal that materials substitution, engineering control, personal protection, or medical care may be required to reduce the risk of injury or illness among the work force. Sixty-four medical conditions associated with workplace exposures from studies of many different industries have been identified as sentinel health events (refer to the Supporting Tables).

Although sentinel health events may indicate an occupational exposure, many may result from non-occupational exposures. Due to this uncertainty, sentinel health events are assessed in two categories:

Definite Sentinel Health Events: Diseases that are unlikely to occur in the absence of an occupational exposure. Asbestosis, a lung disease resulting from exposure to asbestos, is an example.

Possible Sentinel Health Events: Conditions such as lung cancer or carpal tunnel syndrome may or may not be related to occupation. Detailed occupational and non-occupational information is required to determine the work-relatedness of the illness. For example, lung cancer may result from asbestos exposure or smoking. Carpal tunnel syndrome may result from a job requiring typing or from a hobby such as playing the piano.

No definite sentinel health events were identified among Pantex workers in 2000. Five of 327 diagnoses (2 percent) were identified as possible sentinel health events (Figure 12). Four of the possible sentinel health events were identified as carpal tunnel syndrome, reported by four workers (one woman and three men), and resulted in 54 lost calendar days. These employees were aged 40+. The woman was in the Office Management and Administration job category. One each of the male workers was in Engineering, Scientific, and Health Care; Security; and Craft and Repair job categories.

Figure 12. Characteristics of SHEOs by Gender

	Total Number of SHEO Diagnoses		Total Number of Days Absent	
	Men	Women	Men	Women
Definite	0	0	0	0
Possible	4	1	46	18
Total	4	1	46	18

Disabilities Among Active Workers

None were reported in 2000.

Deaths Among Active Workers

During 2000, two deaths occurred among Pantex workers (one male Office Management and Administration worker and one male Materials Handler). The deaths were due to a heart attack and a self-inflicted gunshot wound.

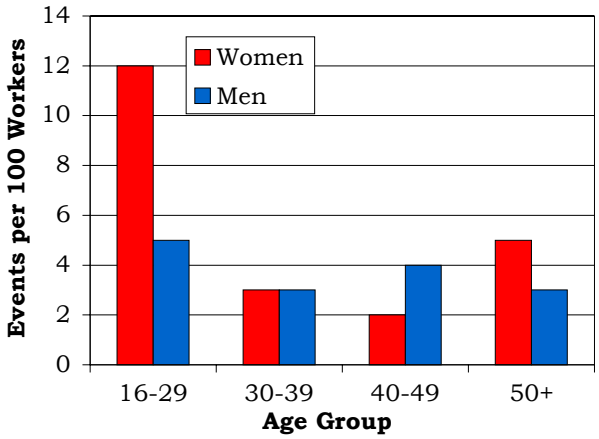
OSHA-Recordable Events

The Occupational Safety and Health Administration (OSHA) requires employers to maintain a record of occupational injuries and illnesses that

have occurred among employees and to make that information available to OSHA on request. Employers maintain the information from these OSHA-recordable events in the OSHA 200 Log. OSHA-recordable events differ from health events captured through return-to-work clearances in at least two important respects: 1) they do not necessarily result in days lost from work, and 2) they are usually accompanied by a specific determination that they are work-related.

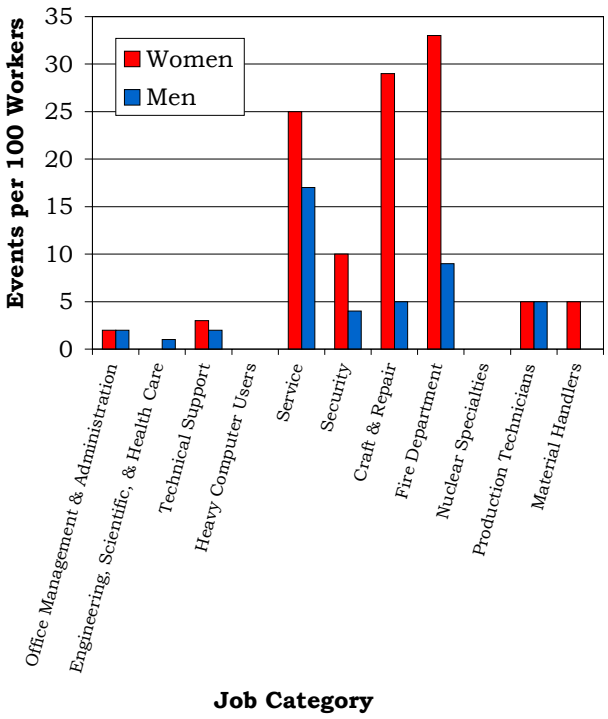
The distribution of OSHA-recordable events by gender and age is shown in Figure 13. There were 29 OSHA-recordable events among women and 66 OSHA-recordable events among men. The rate of OSHA-recordable events was similar for men (3 per 100 workers) and women (4 per 100 workers). The average number of lost or restricted workdays increased with age among women. Among men, lost and restricted workdays increased with age among workers up to age 50.

Figure 13. OSHA-Recordable Events by Gender and Age



The distribution of OSHA-recordable events by job category and gender is shown in Figure 14. Women had higher rates of OSHA-recordable events compared with men in six job categories: Technical Support, Service, Security, Craft and Repair, Fire Department, and Material Handlers. The Fire Department had the highest rate of OSHA events (33 per 100 workers) among women. Service workers had the highest rate of OSHA events among men (17 per 100).

Figure 14. OSHA-Recordable Events by Job Category and Gender



The average number of workdays lost or with restricted activity due to an OSHA event was similar for women (16 days) and men (15 days). Among all workers, Production Technicians had the highest average number of lost and restricted workdays (26 days). The same job category had the highest average number of lost or restricted workdays among women (53 days). This was based on two events, one of which was a back strain resulting in 1 lost workday and 104 days restricted.

Diagnostic and Accident Categories for OSHA-Recordable Events

Ninety-five OSHA events were recorded on the OSHA 200 Logs, 29 diagnoses among women and 69 diagnoses among men as shown in Figure 15. Injuries accounted for 62 percent of the diagnoses reported by women; the most common involved adverse reactions to external causes (28 percent), followed by sprains and strains (22 percent). Among men, injuries accounted for 78 percent of the diagnoses reported, the most common being primarily sprains and strains (43 percent). Adverse reactions to external causes (19 percent) were frequently reported OSHA-recordable events among men.

Figure 15. OSHA-Recordable Diagnoses by Diagnostic Category and Gender

Diagnostic Category	Gender	
	Women	Men
Digestive	0	1
Muscles & Skeleton	5	5
Nervous System	3	3
Skin	1	3
Unspecified Symptoms	2	3
Injury	18	54
Fractures – Upper Limb	0	1
Fractures – Lower Limb	1	4
Dislocations	0	1
Back Sprains & Strains	1	11
Other Sprains & Strains	3	12
Open Wounds – Head, Neck, Trunk	1	1
Open Wounds – Upper Limb	0	1
Superficial Injuries	2	3
Bruises	3	5
Foreign Bodies Entering Orifice	0	3
Burns	0	1
Unspecified Injuries	2	1
Adverse Reactions to External Causes	5	10

One of the 95 OSHA events was described as "an accident" in the OSHA logs (Figure 16). This accident was reported by a male Service worker, aged 30-39, and involved a chemical splash to his right eye with no lost or restricted workdays.

Figure 16. OSHA-Recordable Accidents by Type and Gender

Accident Category	Gender	
	Women	Men
	Number of Accidents	Number of Accidents
Other Accidents	0	1
Hot, Corrosive, or Caustic Material / Steam	0	1
Total	0	1

Rates of OSHA-Recordable Events

The rates of all OSHA-recordable events for all diagnoses by age and job categories and gender are shown in Figures 17 and 18. The OSHA-

recordable rates among both men and women were highest among Service / Security / Craft and Repair / Fire Department workers. Most of the OSHA health conditions involved injuries. When the rate for OSHA-recordable injuries was considered separately, the same group had the highest rates for men and women. Workers in the Service / Security / Craft and Repair / Fire Department group accounted for 27 percent of the work force and 55 percent of the OSHA events.

Figure 17. OSHA-Recordable Rates by Age and Job Categories Among Women, All Diagnoses Combined

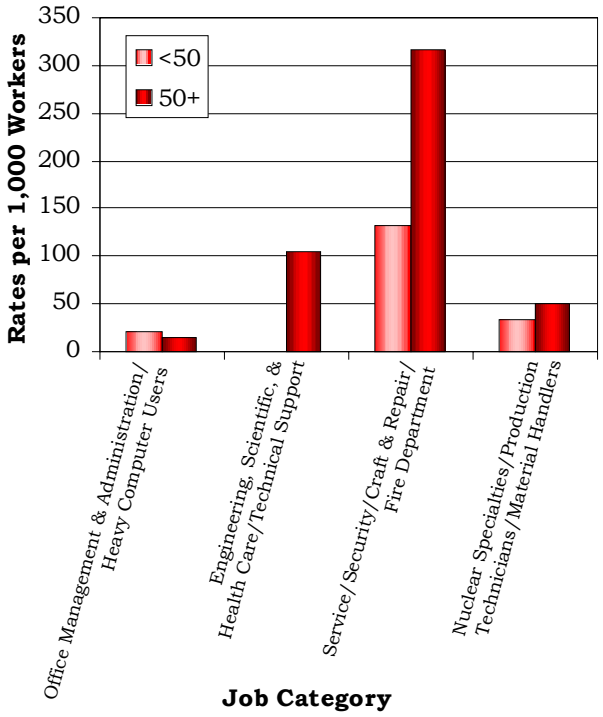
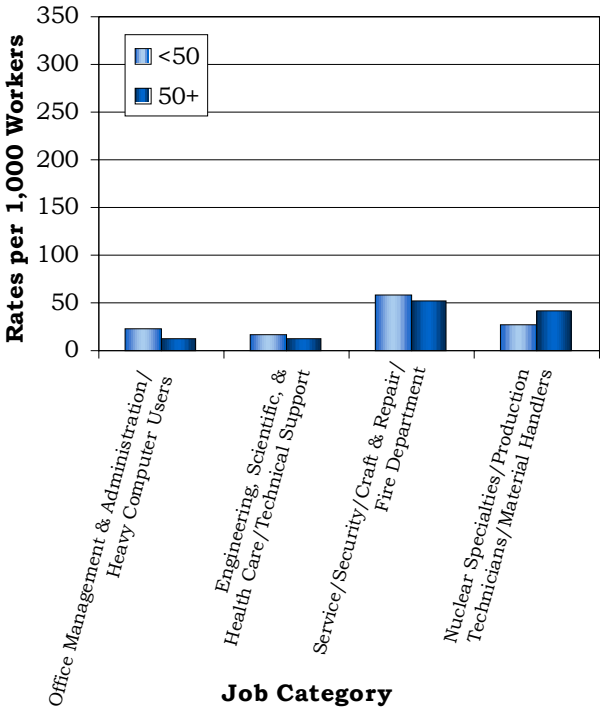
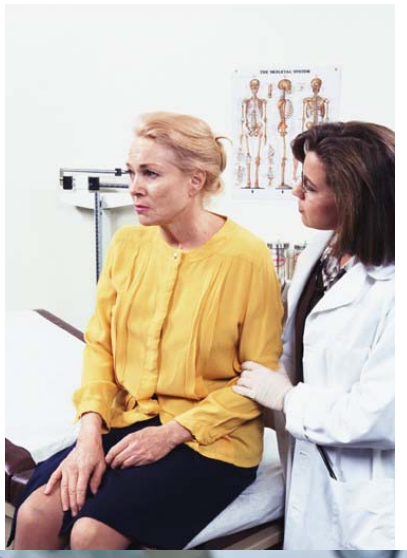


Figure 18. OSHA-Recordable Rates by Age and Job Categories Among Men, All Diagnoses Combined



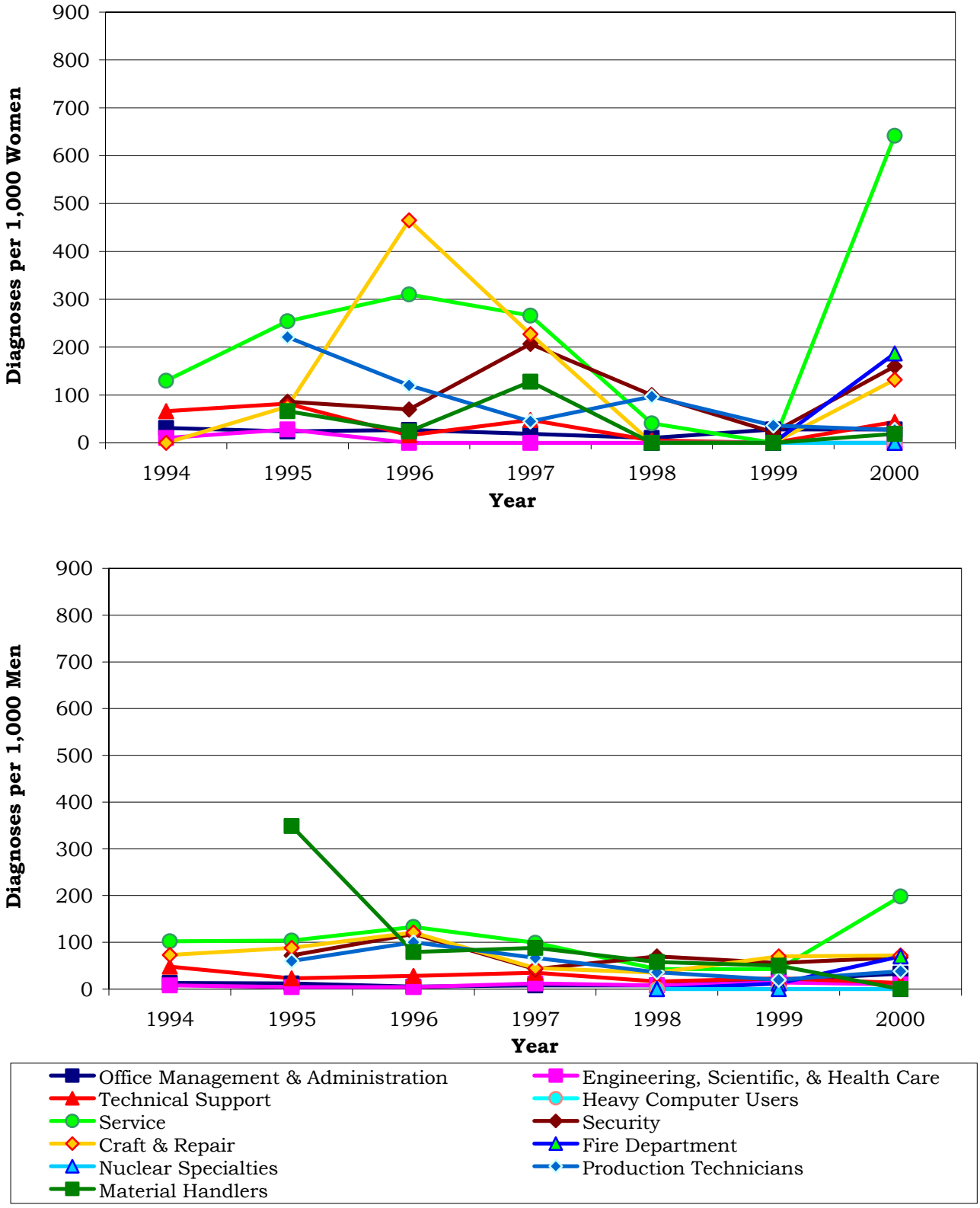
Craft and Repair and Service workers were over twice as likely to suffer an injury as other workers. Craft and Repair workers were 4 times more likely to report a back sprain or strain, while sprains and strains other than the back were more likely among Security workers (6 times) and the Fire Department (8 times). Production Technicians were at increased risk (4 times) of unspecified effects from external causes.



Time Trends for OSHA-Recordable Events

The age-adjusted rates for OSHA-recordable events from 1994 to 2000 by job category among men and women are shown in Figure 19. During the 7-year period, the overall rates for OSHA-recordable events among men and women remained stable for the majority of the occupational groups. Women in the Service category showed a rate increase for 2000. This was due to the small number of workers in this group. We will continue to examine these trends as more years of data are gathered. There were no significant changes in injury rates for men and women during this time period.

Figure 19. Age-Adjusted Rates for All OSHA-Recordable Diagnoses Combined Among Women and Men by Job Category from 1994 to 2000



Glossary

Adjustment: A mathematical procedure for rates in which the effects of differences of a characteristic (such as age or gender) between groups have been removed. The purpose of adjustment is to allow comparisons between two or more groups with the effect of the differences for the characteristic removed.

Age-Adjusted Rate: A rate that has been mathematically adjusted to account for the effects of differences in the age composition between groups.

Age-Specific Rate: A rate that is calculated for a specific age group (e.g., 16 to 29 years old). Only people in the specific age group are included in the calculation of the rate.

Confidence Interval: A range of values determined by the degree of random variability in the data. The width of the confidence interval is affected by the size of the group being studied and how often the event whose true value is sought occurs. Generally, as the size of the group or the frequency of the event increases, the width of the confidence interval decreases. The level of confidence, for example a 95 percent confidence level, indicates the percentage (e.g., 95 percent) of time that the true value is expected to fall within the confidence interval if the mathematical procedure is repeated 100 times.

Demographics: Characteristics of human populations related to their size, density, age distribution, and vital status.

Diagnosis (diagnoses): Identification of a disease or health condition from signs and symptoms.

Diagnosis Rate: The number of occurrences of a given disease or health condition observed during a given time period per the number of workers at risk of getting that disease during that time period. It is usually multiplied by 100 or 1,000 to produce a rate expressed as a convenient number.

Diagnostic Category: A particular type of disease, a group of related health conditions, or diseases that all affect the same organ system.

Epidemiologic Surveillance: The ongoing evaluation of the health of a human population which is based on the collection and interpretation of demographic and health information for that population.

Epidemiology: The study of the distribution and determinants of diseases and health conditions in human populations.

ICD-9-CM Code: An abbreviation for the *International Classification of Diseases, 9th Revision, Clinical Modification*. An internationally accepted standardized system for the classification of disease and health data collected from medical records.

OSHA: An acronym for the Occupational Safety and Health Administration.

OSHA Event: An abbreviation used throughout this report for an OSHA-Recordable Event.

OSHA-Recordable Event: An accident that occurs on the job and involves fatalities (regardless of time between injury and death), time lost from work, transfer of employment, medical treatment other than first aid, loss of consciousness, or restriction of work or motion. Also included is any diagnosed occupational health event reported to the employer that is neither fatal nor results in workdays lost. By law, these events are recordable in the OSHA 200 Log.

Person-Year: A unit of measurement combining the number of people being studied with the time that each was observed equivalent to one person followed for one year. For example, 5 persons followed for one year contribute five person-years, as do 10 people each followed for half a year.

Relative Risk: The ratio of the occurrence of a disease or health condition in one group compared to the rate of occurrence of that same disease or health condition in another group.

Explanation of Diagnostic Categories

Throughout this report, health conditions have been grouped into a number of diagnostic categories which come from the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM). For the text of this report the categories are abbreviated to make the report easier to read. The following table lists the abbreviated categories used throughout the annual report and the corresponding ICD-9-CM codes found in the supporting tables.

Abbreviated Categories Used in the Annual Report	ICD-9-CM Codes
Benign Growths	210-229 235-239
Blood	280-289
Cancer	140-208 230-234
Digestive	520-579
Endocrine / Metabolic	240-279
Existing Birth Conditions	740-759
Genitourinary	580-629
Heart / Circulatory	390-459
Infections / Parasites	001-139
Injury	800-999
Miscarriage	630-676
Muscles and Skeleton	710-739
Nervous System	320-389
Psychological	290-319
Respiratory	460-519
Skin	680-709
Unspecified Symptoms	780-799

ICD-9-CM Codes

All conditions	001-V82	All reported health events
Infectious and parasitic diseases	001-139	Diseases caused by bacteria, viruses, and parasites
• Intestinal infections	001-009	Infections of the bowel or gut
• Tuberculosis	010-018	TB in the lungs and other organs
• Zoonotic bacterial diseases	020-027	Bacterial diseases that animals transmit to humans
• Other bacterial diseases	030-041	Whooping cough, diphtheria, strep throat, and gangrene
• Human Immunodeficiency Virus (HIV) infection	042	AIDS
• Poliomyelitis and other non-arthropod diseases of the central nervous system	045-049	Viral meningitis (swelling of the layers covering the brain and spinal cord); viral encephalitis (swelling of the brain); and polio
• Viral diseases accompanied by exanthem	050-057	Diseases accompanied by rashes or blisters like chickenpox, measles, shingles, and herpes
• Arthropod-borne viral diseases	060-066	Encephalitis (swelling of the brain) caused by bites from virus-carrying ticks or mosquitoes
• Other diseases caused by viruses and chlamydiae	070-079	Viral hepatitis, mumps, rabies, and mononucleosis
• Rickettsioses and other arthropod-borne diseases	080-088	Rocky Mountain spotted fever, malaria, and lyme disease
• Other spirochetal diseases	100-104	Trench mouth and Weil's disease (jaundice caused by coil-shaped bacteria)
• Mycoses	110-118	Athlete's foot; fungal infections of fingernails and toenails; and thrush
• Helminthiases	120-129	Pinworms, tapeworms, roundworms, and whipworms

• Other infectious and parasitic diseases	130-136	Lice, chiggers, scabies, and mites
• Late effects of infectious or parasitic diseases	137-139	Side effects of TB, chickenpox, or polio even though the disease is no longer active
Malignant neoplasms	140-208, 230-234	All cancers, regardless of the part of the body affected
• Lip, oral cavity, and pharynx	140-149	Lip, mouth, throat, and tongue
• Digestive organs and peritoneum	150-159	Stomach, esophagus (tube that transports food to the stomach), intestines, colon, rectum, anus, liver, pancreas, and gallbladder
• Respiratory system and intrathoracic organs	160-165	Sinuses, throat, voice box, lungs, and heart
• Bone, connective tissue, skin, and breast	170-176	Bone, muscle, ligament, tendon, blood vessels, fat, skin, and breast
• Genitourinary organs	179-189	Kidney, bladder, and cervix, ovary, uterus, and prostate
• Other and unspecified sites	190-199	Eye, brain, and thyroid
• Lymphatic and hematopoietic tissue	200-208	Leukemia, lymphoma, Hodgkin's disease, multiple myeloma, lymphosarcoma, and reticulum cell sarcoma
• Carcinoma in situ	230-234	A cancer that is confined to the site of origin (has not spread to neighboring tissue)
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature	210-229 235-239	Tumors that are not cancerous or do not exhibit cancerous behavior, regardless of the part of the body affected
Endocrine, nutritional, and metabolic diseases and disorders of the immune system	240-279	Diseases affecting the hormone secreting glands and organs. Overactive thyroid; underactive thyroid; vitamin deficiency; diabetes; gout; and problems affecting the antibody producing system

Disorders of the blood and blood forming organs	280-289	Anemia and hemophilia (excludes leukemia)
Mental disorders	290-319	Psychiatric diagnoses - Non-psychotic disorders: depression; anxiety, fear, and stress disorders; alcoholism; drug dependence; and eating disorders, such as anorexia; Psychotic disorders: dementia, schizophrenia, and manic depression
Diseases of the nervous system and sense organs	320-389	Huntington's chorea; Alzheimer's and Parkinson's disease; epilepsy; multiple sclerosis; migraine; diseases of the eye, such as cataract and glaucoma
• Inflammatory diseases of the central nervous system	320-326	Bacterial meningitis (swelling of the layers covering the brain and spine); bacterial encephalitis (swelling of the brain); and brain and spinal abscesses
• Hereditary and degenerative diseases of the central nervous system	330-337	Alzheimer's and Parkinson's disease, tremors, and Huntington's chorea
• Other disorders of the central nervous system	340-349	Multiple sclerosis (MS), cerebral palsy, epilepsy, and migraine
• Disorders of the peripheral nervous system	350-359	Nerve disorders of the face, carpal tunnel syndrome, muscular dystrophy
• Disorders of the eye	360-379	Inflammation and ulcers of the eye and eyelid; detached retina; pink eye; problems with tear ducts; glaucoma; and cataracts
• Diseases of the ear and mastoid	380-389	Infections of the outer, middle, or inner ear; ringing of the process ears; hearing loss

Diseases of the circulatory system	390-459	Rheumatic fever, heart murmurs, heart attacks, angina, hardening of the arteries, varicose veins, hemorrhoids, and phlebitis
• Acute rheumatic fever	390-392	High fever and joint pain with possible heart damage
• Chronic rheumatic heart disease	393-398	Long lasting swelling and damage to the heart which results from rheumatic fever
• Hypertensive disease	401-405	High blood pressure
• Ischemic heart disease (Restricted blood flow to the heart)	410-414	Heart attack and angina
• Diseases of pulmonary circulation	415-417	Blood clots in the lung and pulmonary aneurysm (bulge that develops in the wall of the pulmonary artery, which is the artery that carries blood to the lungs)
• Other forms of heart disease	420-429	Swelling of the inner lining, middle lining, or sac enclosing the heart; heart failure; and irregular heartbeat
• Cerebrovascular disease	430-438	Stroke, bleeding in the brain, and blockage or low blood flow in blood vessels of the brain
• Diseases of the arteries and capillaries	440-448	Hardening of the arteries; aneurysm (bulge that develops in the walls of arteries); and blood clots
• Diseases of the veins, lymphatics, and other circulatory system diseases	451-459	Phlebitis (swelling of a vein), thrombophlebitis (swelling of a vein which has a blood clot), varicose veins, and hemorrhoids

Diseases of the respiratory system	460-519	Colds, sinusitis, laryngitis, pneumonia, influenza, chronic bronchitis, asthma, and emphysema
• Acute respiratory infections	460-466	Colds, sore throat, sinus infections, swollen tonsils, and bronchitis
• Other diseases of the upper respiratory tract	470-478	Allergies, hay fever, sinus infections, bronchitis, and sore throat that continue for a long time
• Pneumonia and influenza	480-487	"The flu" and pneumonia caused by a bacteria or virus
• Chronic obstructive pulmonary diseases and allied conditions	490-496	Emphysema and asthma
• Pneumoconiosis and other lung diseases caused by external agents	500-508	Black lung; miners' asthma; asbestosis; silicosis; berylliosis; and conditions caused by chemical fumes and vapors
• Other diseases of the respiratory system	510-519	Pleurisy (swelling of the lining of the lungs), collapsed lung, and respiratory failure
Diseases of the digestive system	520-579	Diseases affecting the teeth and mouth, salivary glands, digestive tract, and the abdominal cavity. Examples include dental abscess, ulcers, appendicitis, hepatitis (excluding viral hepatitis), cirrhosis of the liver, gallstones, pancreatitis, abdominal hernia, and intestinal polyps
• Diseases of the oral cavity, salivary glands, and jaw	520-529	Tooth problems (too many, too few, abnormal shape or size, cavities, bleeding gums, toothaches), and infections and swelling of the mouth, jaw, and tongue
• Diseases of the esophagus, stomach, and duodenum	530-537	Ulcers of the esophagus (tube that transports food to the stomach), stomach, and small intestine; indigestion; and uncontrollable vomiting

• Appendicitis	540-543	Swelling of the appendix (rupture, surgery, or both may result)
• Hernia of the abdominal cavity	550-553	Ruptures of the groin and diaphragm (muscle which separates the chest area from the lower part of the trunk)
• Non-infectious enteritis and colitis	555-558	Crohn's disease and swelling of the intestine and colon
• Other diseases of the intestines and peritoneum	560-569	Irritable bowel syndrome, blockage of the intestine, constipation, and diarrhea
• Other diseases of the digestive system	570-579	Diseases of the liver, gallbladder, and pancreas; hepatitis; blood in stool; and bleeding in the stomach and intestine
Diseases of the genitourinary system	580-629	Diseases affecting the kidneys, the prostate, and testes; benign breast diseases; infertility (male and female); diseases of the ovary; pelvic inflammatory disease; and menstrual disorders
• Nephritis, nephrotic syndrome, and nephrosis	580-589	Swelling of the kidney; swelling of the small blood vessels in the kidney; and kidney failure
• Other diseases of the urinary system	590-599	Swelling and infection of the kidney and bladder; kidney stones; and difficulty urinating
• Diseases of the male genital organs	600-608	Enlarged prostate; swelling of the scrotum and prostate; and abscess of the prostate
• Disorders of the breast	610-611	Benign tumors, cysts, and infections of the breast
• Inflammatory disease of the female pelvic organs	614-616	Swelling of the uterus, ovary, fallopian tubes, or cervix
• Other diseases of the female genital tract	617-629	Conditions associated with menopause and postmenopause; PMS; infertility; and cramps

Complications of pregnancy, childbirth, and the puerperium	630-676	Miscarriage; complications of pregnancy, such as hemorrhage; pregnancy-related high blood pressure; preeclampsia; and premature labor or other complications of labor
• Ectopic and molar pregnancy	630-633	Development of fetus outside the uterus and growth of cysts
• Other pregnancy with abortive outcome	634-639	Miscarriage and complications associated with miscarriage
• Complications mainly related to pregnancy	640-648	Abnormal bleeding and possible miscarriage; infections; high blood pressure caused by pregnancy; and premature labor
• Normal delivery, and other indications for care in pregnancy, labor, and delivery	650-659	Delivery requiring little or no assistance; multiple births; breech birth; and problems of the fetus or placenta which affect care of mother
• Complications occurring mainly in the course of labor and delivery	660-669	Long labor; unusually fast delivery; and abnormal bleeding after delivery
• Complications of the puerperium	670-676	Infections of the breast; blood clot in lung; and varicose veins
Diseases of the skin and subcutaneous tissue	680-709	Acne, cellulitis, sunburn, psoriasis, and seborrhea
• Infections of the skin and subcutaneous tissue	680-686	Abscesses, boils, hair-containing cysts, and pus-filled blisters
• Other inflammatory conditions of skin and subcutaneous tissue	690-698	Skin rashes caused by detergents, oils, greases, solvents, sun, food, drugs, or medicine
• Other diseases of the skin and subcutaneous tissue	700-709	Corns, calluses, heat rash, swollen hair follicles, acne, and ingrown fingernails and toenails

Diseases of the musculoskeletal system and connective tissue	710-739	Arthritis, systemic lupus erythematosus, ankylosing spondylitis, herniated intervertebral disc ("slipped disc"), lumbago, sciatica, rheumatism, tendonitis, and osteoporosis
• Arthropathies and related disorders	710-719	Arthritis; joint pain and stiffness; and other diseases of the connective tissue which supports and connects internal organs, forms bones and blood vessel walls, and attaches to bones
• Dorsopathies	720-724	Swelling of the spine; herniated, slipped, and ruptured disc; rheumatoid arthritis of the spine; lumbago; and sciatica
• Rheumatism, excluding the back	725-729	Swelling and degeneration of joints, muscles, tendons; tennis elbow; and bursitis
• Osteopathies, chondropathies, and acquired musculoskeletal deformities	730-739	Fracture caused by bone disease; osteoporosis; curvature of the spine; flat foot; hammer toe; and development of deformities of the nose, toes, feet, legs, arms, and hands
Congenital anomalies	740-759	Spina bifida; cleft palate; harelip; and various chromosomal anomalies, such as Klinefelter's syndrome
Certain conditions originating in the perinatal period	760-779	Maternal high blood pressure; maternal malnutrition; ectopic pregnancy; breech birth; fetal malnutrition or slow growth; injuries related to birth trauma; and perinatal jaundice
Symptoms, signs, and ill-defined conditions	780-799	Blackout, chills, dizziness, fatigue, pallor, abnormal weight loss, undiagnosed chest pain, and heartburn

• Symptoms	780-789	Hallucinations, fainting, convulsions, dizziness, fatigue, fever, sleep disturbance, rash, headache, sore throat, chest pain, nausea, vomiting, and heartburn
• Non-specific abnormal findings	790-796	Abnormal x-ray, blood, stool, and urine test results
• Ill-defined and unknown causes of morbidity and mortality	797-799	Senility; asphyxia; respiratory arrest; nervousness; and unexplained death within 24 hours of onset of symptoms
Injury and poisoning	800-999	Dislocation of joints; sprains and strains of associated muscles; concussions; bruises; cuts; internal injuries from crushing, puncture, tearing, or blunt impact; burns; blisters; poisoning; frostbite; heatstroke; and complications of medical or surgical care
• Fractures, all sites	800-829	Cracks or breaks of any bone
• Dislocations	830-839	Separation of a bone from its normal socket or joint
• Sprains and strains of joints and adjacent muscles	840-848	Strains are injuries to muscle from overuse or stretching the muscle beyond its normal limit; sprains are injuries involving tearing or overextending the ligaments of a joint
• Intracranial injuries excluding those with skull fractures	850-854	Concussions; internal bruises; and bleeding within the head without a fracture of the bones of the skull
• Internal injuries of the thorax, abdomen, and pelvis	860-869	Bruising, crushing, tearing, or rupturing the chest, abdomen, and pelvis and the organs within these areas of the body
• Open wounds	870-897	Animal bites; cuts; lacerations; punctures; and amputations, excluding the arteries and veins

• Other injuries and late effects of external causes	900-999	Miscellaneous injuries, including injuries to the arteries and veins; problems that occur an extended period of time after the injury has taken place (”late effects”); superficial bruises and abrasions; burns; post-injury shock; poisoning; toxic side effects of chemicals; heatstroke; electrocution; and altitude sickness
Supplementary classifications related to personal or family history of disease	V10-V19	Covers situations in which the person is not ill or injured but has a personal or family history of problems, such as cancer, mental illness, allergies, or arthritis that may affect his or her risk of illness
Supplementary classifications related to health care for reproduction and child development	V20-V28	Problems related to pregnancy, postpartum care, contraception, outcome of delivery, and physical development of child
Contact with health services for reasons other than illness or injury	V50-V59	Care for workers who have been treated previously for an illness or injury that is no longer present but who receive care to complete treatment or prevent recurrence

NOTES