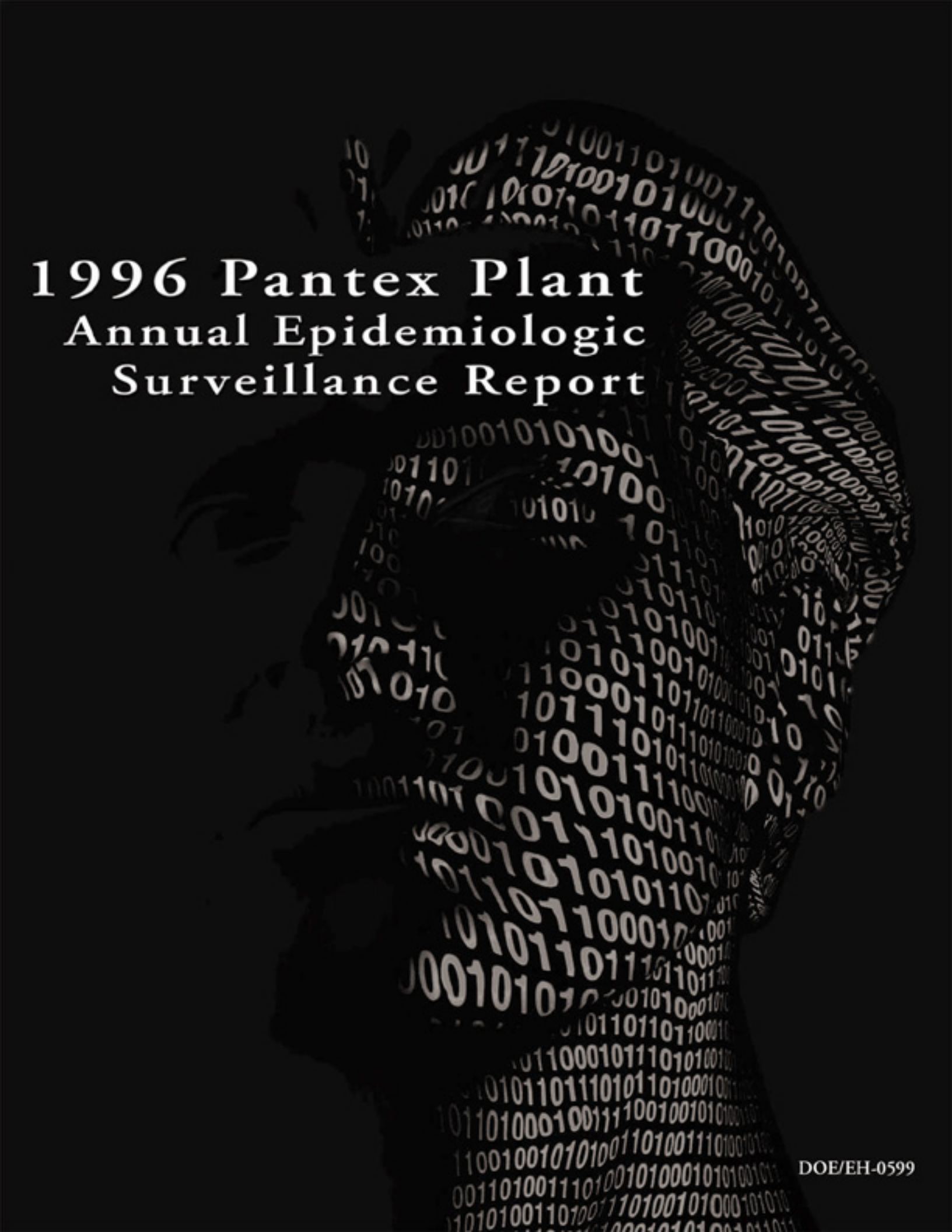
1996 Pantex Plant
Annual Epidemiologic Surveillance Report



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PANTEX 1996 Epidemiologic Surveillance Report

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Pantex Plant 1996

AT A GLANCE

Among male and female workers at Pantex, the most frequently reported diagnoses in 1996 were: muscle and skeletal conditions (back pain); injuries (strains and sprains); and respiratory conditions (upper respiratory infections).

The types of diagnoses did not vary significantly among the eight job categories examined. However, Craft and Repair workers, Production Technicians, and Material Handlers were at twice the risk for illness and injury compared with other groups.

There was a 37 percent increase in the number of health events involving return to work clearances from 1995 to 1996.

Among female workers, the Service and Craft and Repair groups had notably higher rates of injury attributable to work (OSHA recordables). Males classified in Service occupations had slightly elevated OSHA rates compared with other occupational categories, but these differences were not as large as for female workers.

Injuries, primarily sprains and strains, were the major diagnoses among OSHA events for both men and women.

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 to detect health problems among workers. The

Epidemiologic Surveillance Program monitors illnesses and health conditions that result in an absence of five or more consecutive workdays, occupational injuries and illnesses, and disabilities and deaths among current workers.

This report provides a summary of epidemiologic surveillance data collected from Pantex from January 1, 1996 through December 31, 1996. 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 data analyses were carried out. Epidemiologic surveillance has been ongoing at Pantex since 1994.

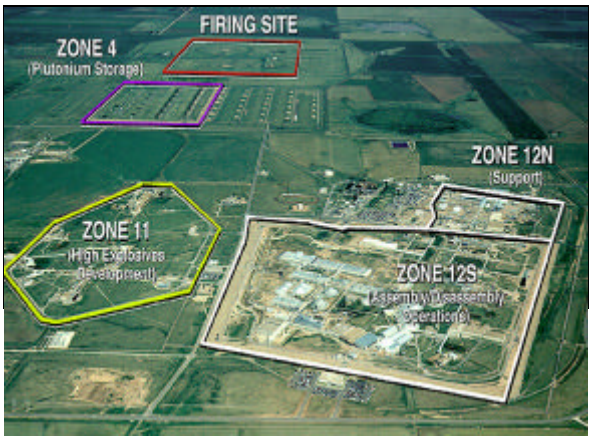
The Epidemiologic Surveillance report for Pantex has been redesigned for 1996. The information presented in this report provides highlights of the data analyses conducted. Earlier surveillance reports and additional supporting tables are posted on the Office of Epidemiologic Studies Web Site (**http://www.eh.doe.gov/epi**), or are available by request. The main sections of the report include: work force characteristics; absences due to injury or illness of five 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. This report includes a new section on time trends that provides comparative information on the health of the work force from 1994 to 1996.

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

DOE sites vary by mission, function, job classification, and worker exposures. 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. 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.

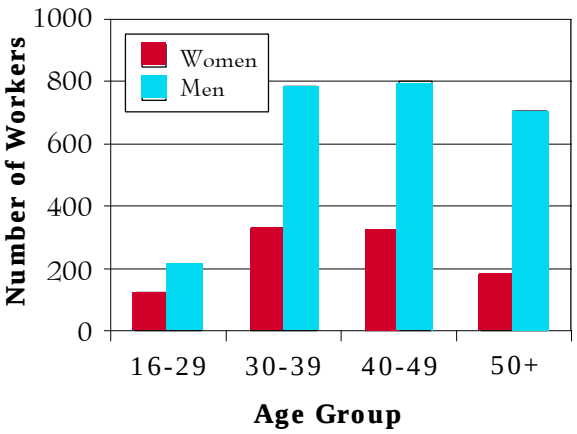
With the easing of political tensions between the United States and the former Soviet Union in the 1990 s, efforts began to reduce nuclear stockpiles. The disassembly of nuclear weapons at the Pantex Plant became a vital part of this operation.

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 issued December 9, 1996. If the Environmental Impact Statement is accepted by the Secretary of Energy, the Pantex Plant will maintain it s current dismantlement mission and increase on-site interim storage of plutonium components. It is anticipated that the plant will downsize as weapons dismantlement work decreases over the next ten years. The current contractor, Mason and Hanger, took over the management and operating functions on October 1, 1956.

The Pantex Work Force - 1996

A total of 3,451 Pantex employees were included in epidemiologic surveillance in 1996, 27 fewer workers than were present in 1995. The age and gender distribution of the 1996 workforce is shown in Figure 1.

Figure 1. The Work Force by Gender and Age



There were 949 (27 percent) women and 2502 (73 percent) men in the work-force. The average age of male Pantex workers was 44 years of age and 41 years for females. The majority of the workers was White (82 percent). Hispanics com-prised 10 percent and African Americans about 6 percent of the work force; Asians and Native Americans made up the remaining 2 percent.

The distribution of workers by gender and job category are shown in Figure 2. Individual job titles reported by Pantex were grouped together into eight job categories. This is because there were either too few workers or health events within a particular job title, thereby limiting the type of analyses that could be conducted. Men and women were not distributed equally among the various occupational groups. We noted the largest gender differences in the Office Management and Administration who were primarily women, and Craft and Repair groups who were primarily men.

Figure 2. The Work Force by Job Category and Gender

Job Category	Women	Men
Office Management and Administration	541 57 %	741 30 %
Engineering, Scientific and Health Care	66 7 %	359 14 %
Technical Support	159 17 %	321 13 %
Service	34 3 %	83 3 %
Security	57 6 %	362 14 %
Craft and Repair	9 1 %	268 11 %
Production Technicians	56 6 %	266 11 %
Material Handlers	27 3 %	102 4 %

Number and Length of Absences

Epidemiologic surveillance examines illness and injury absences of five 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 five or more

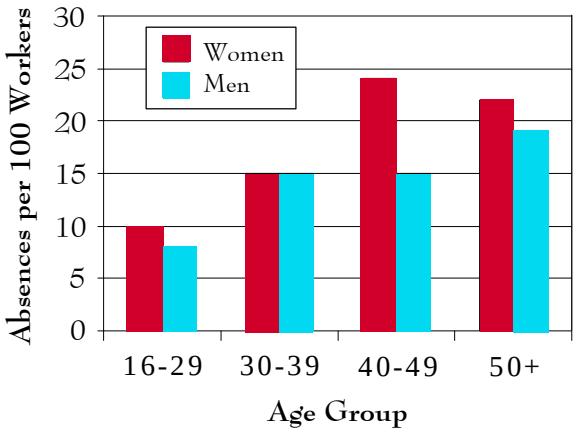
consecutive workdays. If an absence on a Friday continues through Tuesday, the length of that absence includes the weekend. All injuries and illnesses due to a work related incident must be reported. Non-occupational illnesses and injuries that involve absences less than five days do not routinely require a medical clearance for return to work and are excluded from these analyses.

One change from earlier surveillance reports is the exclusion of some types of health events resulting in an absence of five or more consecutive workdays. These include 15 women with reported absences due to maternity leave, and 6 men and 2 women with reported absences due to elective surgical procedures that were not related to the treatment of an illness or injury.

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

The number of 5-day absences due to injury or illness varied by gender and age as shown in Figure 3. There were 177 5-day absences among 949 women resulting in an absence rate of 19 (177/949) per 100 workers. Among the 2502 men, there were 382 absences resulting in an absence rate of 15 (382/2502) per 100 workers. The rate of 5-day absences tended to increase with age. Only 2 percent of female and 2 percent of male workers had reported two or more 5-day absences in 1996.

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 18 days for men and women. Within each age group, the average length of absence for women was slightly longer than for men and tended to increase with increasing age.

Figure 4. Number of Days Absent by Gender and Age

Sex	Age	Number of Absences	Number of Days Absent	Average Number of Days Absent
Women	16 - 29	12	151	13
	30 - 39	48	845	18
	40 - 49	78	1552	20
	50 +	39	555	14
	Total	177	3103	18
Men	16 - 29	18	213	12
	30 - 39	117	1569	13
	40 - 49	116	1926	17
	50 +	131	3159	24
	Total	382	6867	18

The number of 5-day absences due to illness or injury varied by job category for men and women as shown in Figure 5. Women tended to have slightly higher rates of absence across several similar job categories compared with men. Material handlers had the highest absence rate, 39 per 100 among male workers while men in the Engineering, Scientific and Health Care category had the lowest absence rate, 6 per 100 workers. Among women, Craft and Repair workers had the highest rate of 5-day absences, 44 absences per 100 workers while those in the Engineering, Scientific and Health Care category had the lowest rate, 5 absences per 100 workers.

The average duration of absences by occupation and gender is shown in Figure 6. There was no consistent pattern among average absence duration among men and women. Although Material Handlers had the highest rate of 5-day absences among men, the average duration of their absences, about 10 days, was shorter than other occupational groups. Technical support workers had the longest average number of days absent, 25 days. Among women, Security workers had the longest average absence, about 33 days and those in Engineering, Scientific, and Health Care had the shortest, 13 days.

Figure 5. Absence Rate by Job Category and Gender

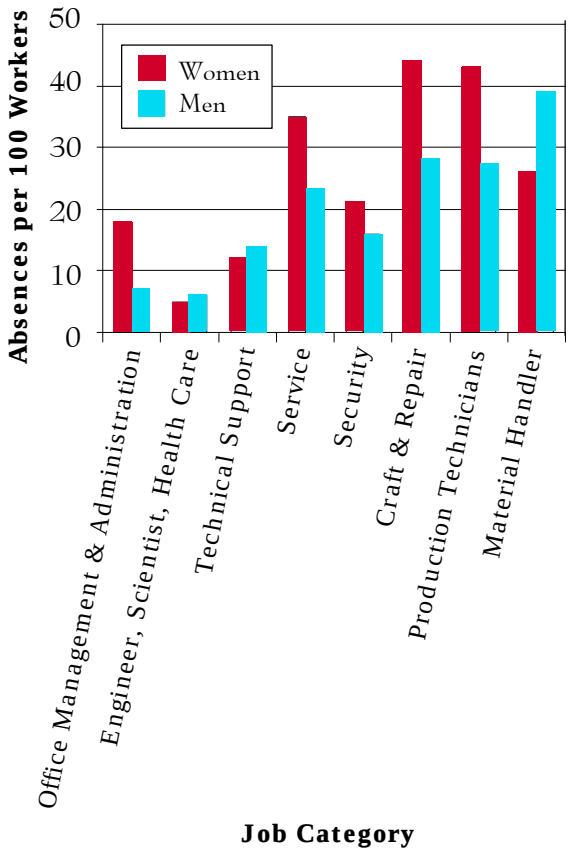
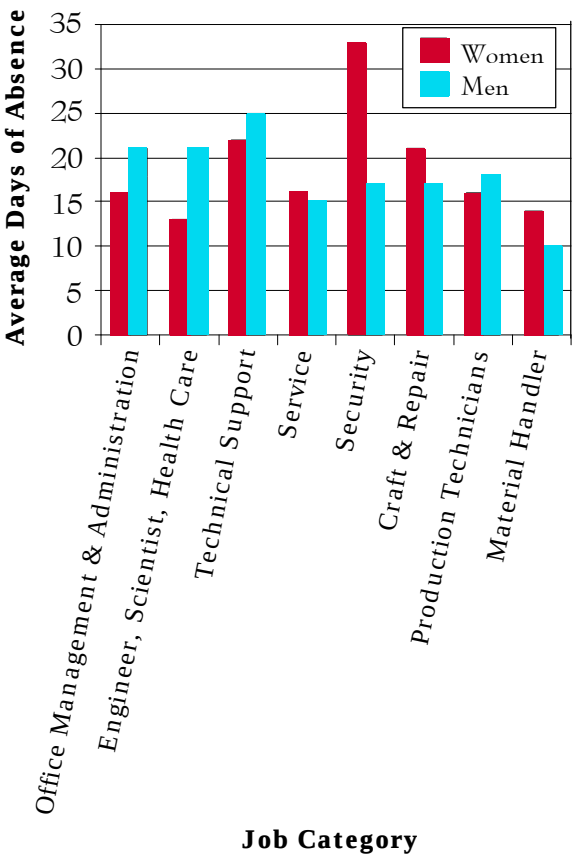


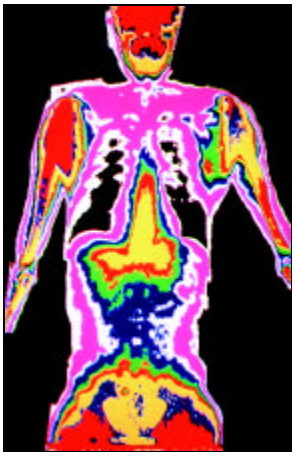
Figure 6. Average Duration of Absence by Job Category and Gender



Diagnostic Categories

Epidemiologic surveillance monitors *all* illnesses and injuries among active workers because it is not always possible to determine what health effects are due to occupational exposures and what 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 for each Diagnostic Category in the Explanation of Diagnostic Categories.



The number of reported diagnoses categorized according to the ICD-9 and number of lost calendar days are presented in Figure 7. There were 243 diagnoses reported by female workers and 499 diagnoses reported by male employees in 1996. The most frequently reported diagnoses varied little by gender.

Female employees lost 3,103 calendar days due to injury and illness. Among women, respiratory conditions (22 percent), muscular and skeletal conditions (16 percent), and injuries (14 percent) accounted for 52 percent of all reported diagnoses. The majority (51 percent) of respiratory conditions were due to acute upper respiratory infections (such as colds, etc.), chronic obstructive pulmonary disease (primarily bronchitis) (19 percent), and flu and pneumonia (13 percent). Back pain and disk injuries made up 54 percent of muscular and skeletal conditions, followed by rheumatism (28 percent) and arthritis (15 percent). Sixty-seven percent of the

injuries were reported as sprains and strains and 12 percent as fractures.

Men lost 6,867 calendar days due to injury and illness. Among male workers, 57 percent of all reported diagnoses were due to muscular and skeletal conditions (20 percent), injuries (19 percent), and respiratory conditions (18 percent).

A closer look at diagnoses affecting the muscles and skeleton showed that about 44 percent were back problems, 28 percent were arthritis, and 25 percent were rheumatism. Frequently reported injuries were sprains and strains (66 percent), dislocations (13 percent), and fractures (9 percent).

Acute respiratory infections accounted for 36 percent of the respiratory conditions, followed by other diseases of the respiratory tract (21 percent), and pneumonia and flu (20 percent).

These diagnoses did not vary much by age. Injuries, conditions affecting the respiratory system, and diagnoses of the muscles and skeleton ranked among the top three problems for men of all ages.

Among workers aged 50 and older, heart and circulatory system problems outnumbered injuries. Fourteen men reported 15 diagnoses of the heart/circulatory system; 11 were for ischemic heart disease (restricted blood flow to the heart).

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

Diagnostic Category	Women		Men	
	Number of Diagnoses	Number of Lost Calendar Days	Number of Diagnoses	Number of Lost Calendar Days
Benign Growths	3	48	3	42
Blood	0	0	2	14
Cancer	7	218	8	408
Digestive	16	315	38	505
Endocrine / Metabolic	0	0	13	127
Existing Birth Condition	0	0	4	148
Genitourinary	18	329	13	192
Heart / Circulatory	17	363	34	1009
Infections / Parasites	4	37	16	149
Injury and Poisoning	33	445	93	2061
Lung / Respiratory	53	460	89	805
Mental	15	330	16	277
Miscarriage	4	67	NA	NA
Muscles and Skeleton	39	1031	102	2193
Nervous System	12	170	26	529
Skin	7	77	8	81
Unspecified Symptoms	15	307	34	369

Note: Lost calendar days for each diagnosis are counted more than once if there are multiple diagnoses per absence.

There were a number of digestive diseases reported among men 40-49 years old. Fourteen men reported 16 diagnoses for the digestive system. A third of these were for gastroenteritis or colitis, the remainder was related to hernias, disorders of the teeth, stomach, and liver.

Among women**,** the most frequently reported diagnoses were not consistent among the various age groups. For those younger than age 40, the most frequently reported diagnoses involved the genitourinary system, all related to disorders of the reproductive organs. Diagnoses related to the heart and circulatory system were among the most frequently reported diagnoses reported by women ages 50 and older. These diagnoses were equally divided among high blood pressure, ischemic heart disease (restricted blood flow to the heart), irregular heartbeat and hemorrhoids. Four diagnoses of cancer (one lung, one skin, and two breast cancers) were reported among women age 50+. The two breast cancer diagnoses were reported by one woman.

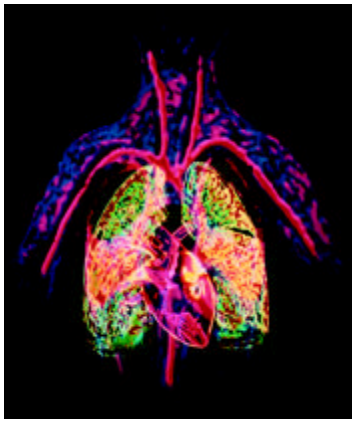


Figure 8 shows the frequency of reported diagnoses by occupation for men and women. The types of diagnoses did not vary significantly by job category.

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

Job Category Group	Men	Women
Administration	**Muscles and Skeleton (15)** **Respiratory (9)** **Injury (8)**	**Respiratory (28)** **Injury (18)** **Muscles and Skeleton (18)** **Genitourinary (14)**
Engineering / Scientific and Health Care	**Psychological (12)** **Muscles and Skeleton (6)** **Unspecified Symptoms (6)** **Injury (4)**	**Miscarriage (2)** **Muscles and Skeleton (1)**
Technical Support	**Injury (10)** **Respiratory (10)** **Muscles and Skeleton (9)** **Heart/ Circulatory (7)**	**Muscles and Skeleton (7)** **Respiratory (4)** **Psychological (3)**
Service	**Injury (7)** **Muscles and Skeleton (5)** **Digestive (3)**	**Respiratory (8)** **Skin (3)** **Nervous System (2)**
Security	**Injury (21)** **Muscles and Skeleton (19)** **Respiratory (14)**	**Muscles and Skeleton (6)** **Injury (4)** **Respiratory (3)**
Craft and Repair	**Respiratory (24)** **Injury (19)** **Muscles and Skeleton (18)**	**Psychological (2)** **Cancer (1)** **Digestive (1)**
Production Technicians	**Injury (20)** **Muscles and Skeleton (19)** **Respiratory (14)**	**Respiratory (7)** **Injury (6)** **Muscles and Skeleton (5)**
Material Handlers	**Respiratory (15)** **Muscles and Skeleton (11)**	**Respiratory (3)** **Infections / Parasites (2)** **Injury (2)**

Note: Numbers in parentheses are number of diagnoses reported.

Among men, muscular and skeletal conditions, injuries, and respiratory conditions appeared most often in nearly all occupational groups.

Among women, injuries, conditions affecting the muscles and skeleton, and respiratory diagnoses were common among most occupational groups. The most striking exception was for female Craft and Repair workers.

Rates of Disease Occurrence

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 box below).

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 93 and women reported 33 diagnoses involving injuries during 1996. Men, therefore, reported almost three times as many injuries as women. As there are more than 2 1/2 times as many men than women at Pantex, it seems reasonable to expect more injuries among men than women. Does this mean that men were at greater risk of injuries compared with women in 1996? To correctly answer the question, the total number of men and women in the workforce must be considered. To compare risk among men and women, it is necessary to calculate the injury rate for each gender. Rates are calculated by dividing the number injury 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:

93 injury diagnoses ÷ 2,502 men =
.037 x 1,000 =
37 injury diagnoses per 1,000 men

33 injury diagnoses ÷ 949 women =
.035 x 1,000 =
35 injury diagnoses per 1,000 women

Comparing these rates now correctly suggest that the rate of reported injuries among women is similar to 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 a 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.

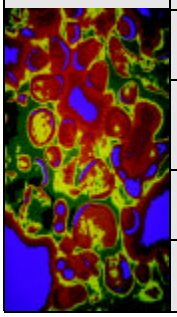
One health condition, arthritis for example, may result in several 5-day absences over a year. Conversely, one 5-day absence may be associated with multiple diagnoses (e.g. the flu and a sprained wrist) recorded on the return to work form.

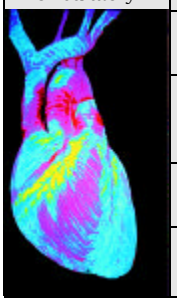
In the following set of analyses the four age groups previously used were collapsed into two, workers less than 50 years of age and those 50 years and older. These groups were collapsed to ensure that the number of diagnoses in each group was large enough to analyze. In addition, the eight occupational categories were combined into four larger groups. Five groups of diagnoses of particular interest to workers are presented in Figure 9: all diagnoses combined; cancer; heart/circulatory system; respiratory system; and injury.

In general, the rates for all illnesses and injuries combined were greater for male and female Pantex workers ages 50 and older. There was one exception, women ages less than 50 years and classified as Production/Technician/ or Material Handlers had an overall illness and injury rate greater than those women aged 50 and older.

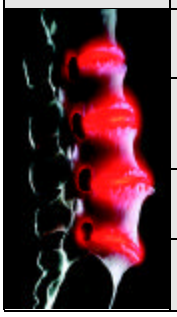
Figure 9. Illness and Injury Rates by Job Category, Gender, and Age.

Diagnostic Category	Rate per 1000			
All Illnesses & Injuries Combined	Occupational Group	Age	Men	Women
	Office Management and Administration	<50	63	242
		50+	119	286
	Engineering, Scientific, & Health Care/ Technical Support	<50	116	127
		50+	183	143
	Service, Security, Craft and Repair	<50	258	360
		50+	416	500
	Production Technicians, Material Handlers	<50	376	518
		50+	382	407

Diagnostic Category	Rate per 1000			
Cancer	Occupational Group	Age	Men	Women
	Office Management and Administration	<50	0	5
		50+	8	9
	Engineering, Scientific, & Health Care/ Technical Support	<50	0	0
		50+	6	0
	Service, Security, Craft and Repair	<50	4	12
		50+	0	0
	Production Technicians, Material Handlers	<50	4	0
		50+	18	111

Diagnostic Category	Rate per 1000			
Heart/ Circulatory	Occupational Group	Age	Men	Women
	Office Management and Administration	<50	0	5
		50+	8	80
	Engineering, Scientific, & Health Care/ Technical Support	<50	4	10
		50+	39	0
	Service, Security, Craft and Repair	<50	20	0
		50+	19	0
	Production Technicians, Material Handlers	<50	23	36
		50+	27	74

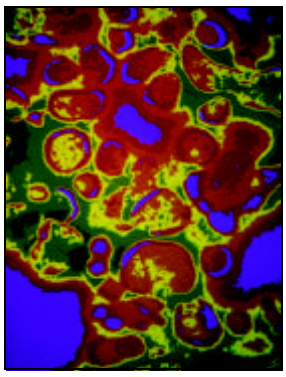
Diagnostic Category	Rate per 1000			
Respiratory	Occupational Group	Age	Men	Women
	Office Management and Administration	<50	6	40
		50+	23	98
	Engineering, Scientific, & Health Care/ Technical Support	<50	16	5
		50+	17	107
	Service, Security, Craft and Repair	<50	37	70
		50+	130	357
	Production Technicians, Material Handlers	<50	89	125
		50+	55	111

Diagnostic Category	Rate per 1000			
Injury	Occupational Group	Age	Men	Women
	Office Management and Administration	<50	13	42
		50+	8	0
	Engineering, Scientific, & Health Care/ Technical Support	<50	22	10
		50+	17	0
	Service, Security, Craft and Repair	<50	63	47
		50+	78	71
	Production Technicians, Material Handlers	<50	78	107
		50+	36	74

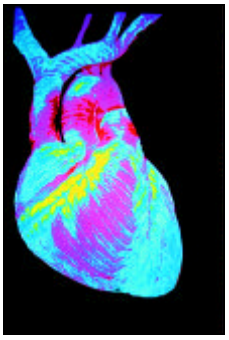
The highest illness and injury rates for all employees were for those individuals categorized as Service, Security, and Crafts and Repair. Rates for female employees were higher than for men in the same job category, regardless of age, with one exception, the rate for woman aged 50 and older in Engineering/Scientific and Health Care/ Tech Support.

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 the 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 *incidence* 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 with a given time, usually a year.

The likelihood that an individual in the U.S. develops cancer increases with age. Our data reflect this observation. Cancer rates in most occupational categories were highest among older workers. Fifteen 5-day absences related to cancer were reported, eight diagnoses among eight men and seven diagnoses among six women. None of the workers reporting cancer in 1996 reported cancer in 1995. Four of the 14 (29 percent) workers reporting cancer were Production Technicians who made up 9 percent of the work force. Production Technicians were almost 4 times more likely to report cancer than any other occupational group. There was no evidence of excess cancer of any one specific type.



In general, men and women ages 50 and older had the highest illness rates due to heart and circulatory problems regardless of occupation. Office Managers/Administrators and Production Technicians/Material Handlers had the highest rates among females compared with other occupations. Men categorized as Engineering/ Scientific/Health Care and Technical Support had the highest rates of heart and circulatory disorders compared with other job categories. Fifteen of the 34 diagnoses among men occurred in workers aged 50 and older; 16 of the 34 diagnoses involved ischemic heart disease (restricted blood flow through an artery). Women reported 17 heart/circulatory diagnoses; 11 were among women aged 50 or over. Eight of the 17 diagnoses involved hypertension or ischemic heart disease.



Women had higher rates of respiratory disease than men, and both male and female workers aged 50 and older generally had higher rates of respiratory disease than younger workers. Service/Security/Craft and Repair workers had the highest rates of respiratory diagnoses among men and women ages 50 and older compared with other occupational

categories. Production technicians and material handlers had the highest rates of respiratory illness among those aged less than 50.

There was no consistent pattern of injury diagnoses with age, although Pantex workers under 50 appeared to be at slightly more risk than those 50 or older. Production technicians were nearly 3 times more likely to report an injury than other occupational groups. They were also almost 5 times more likely to report a back sprain or strain. Craft and repair workers were 4 times more likely to report a dislocation than other groups. The Craft and Repair workers made up 8 percent of the workforce but reported 4 of the 14 dislocations.

The risk of illness and injury among workers classified in one occupational group was compared with workers in the remaining seven occupational categories. Craft and Repair workers, Production Technicians, and Material Handlers generally were at twice the risk for illness and injury compared with all other groups. The first two groups had 4 times the risk of cancer, and Material Handlers had 2 times the risk of cancer (3, 4, and 1 cancer cases, respectively) when compared with other occupational groups. However, the overall cancer rates in these populations were very low when compared with the US population. Also of interest was the 13-fold increased risk of various skin conditions among Craft and Repair workers compared with other groups.

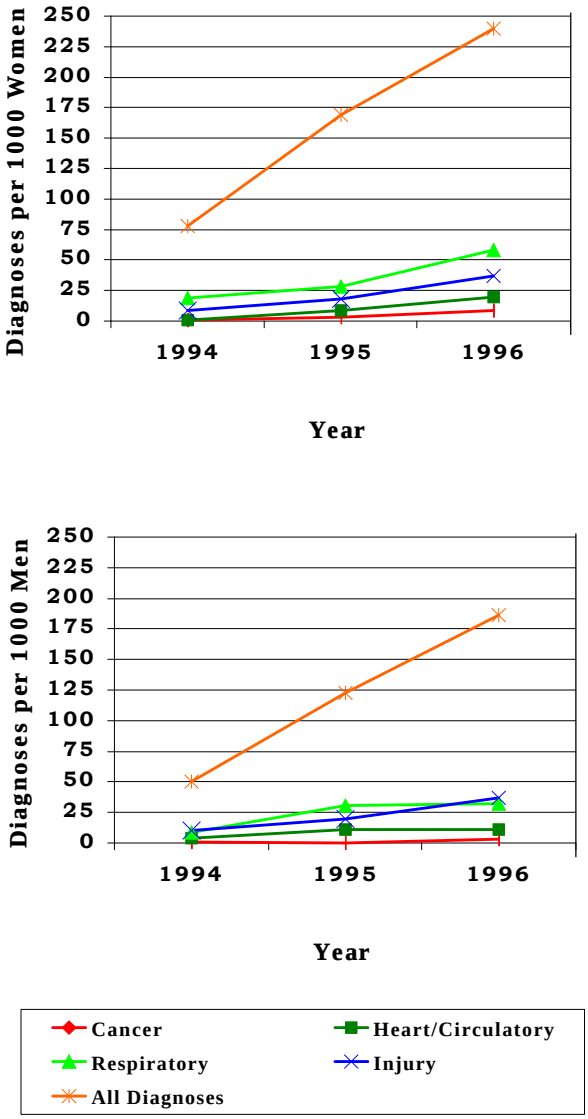
Why Are Rates Age-Adjusted?

The injury and illness rates in this section of the report are **age-adjusted.** Differences in the age composition between 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 groups of different ages. Age-adjusted rates are calculated using the age distribution of the 1970 U.S. population as a reference.

Time Trends

There are now three years of epidemiologic surveillance data for Pantex workers, and we can begin to analyze illness and injury trends over time in the workforce. Age-adjusted rates for selected illness and injury categories 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 those reported in the *1994 Annual Epidemiologic Surveillance Report* due to the exclusion of absences resulting from maternity leave.

Figure 10. Age-Adjusted Rates for Selected Diagnostic Categories for Men and Women from 1994 to 1996



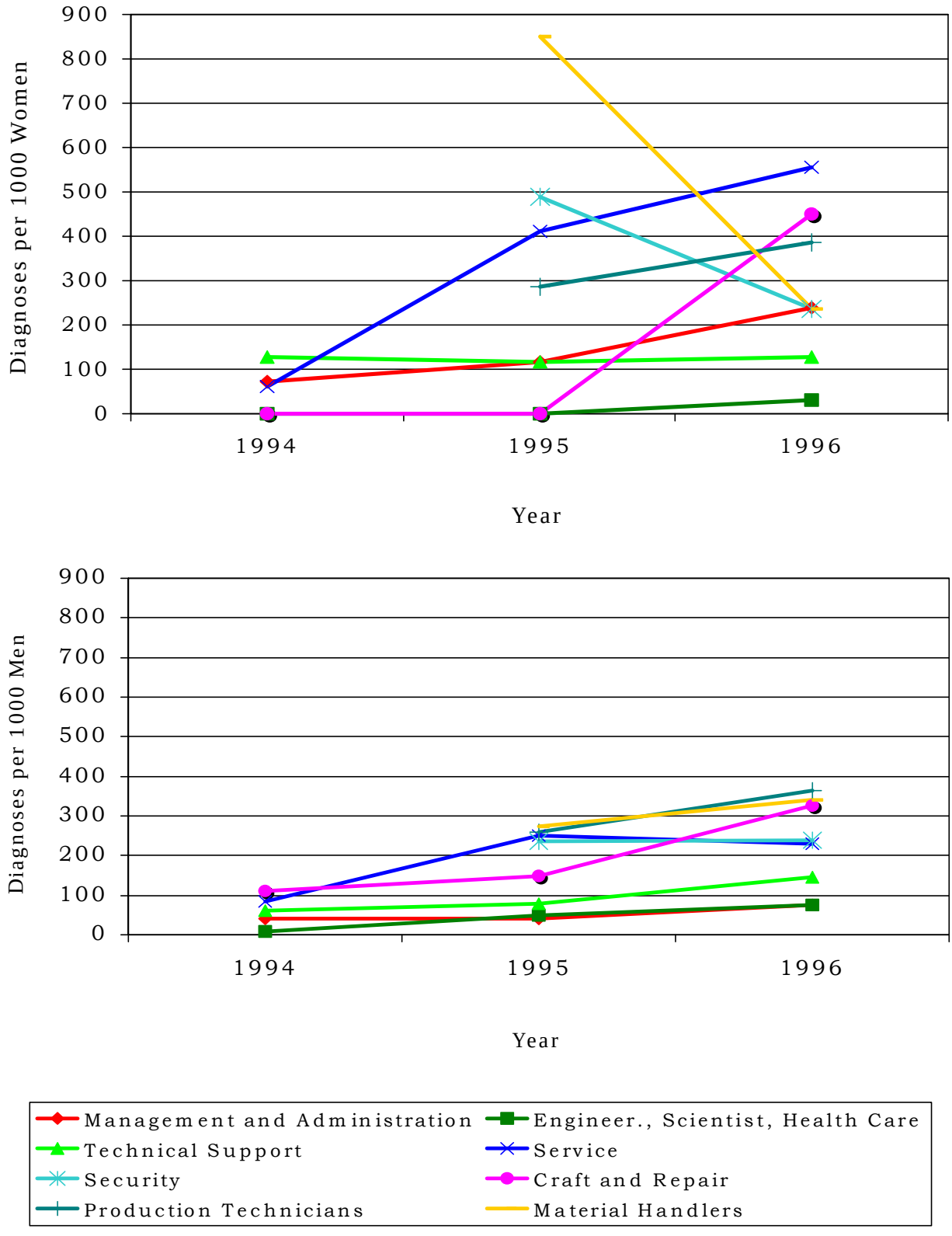
The age adjusted rates for all illness and injury categories combined have increased among men and women over the past three years. This is especially true between 1994 and 1995 and may be related to the startup of the epidemiologic surveillance program. Reporting often increases substantially after the first year of the program, as awareness of the reporting requirement increases.

There was a striking increase in the number of health events involving return-to-work clearances in 1996. Pantex reported 37 percent more health events in 1996 than were reported in 1995. A number of factors may have contributed to this increase. By mid-1996, it was well known that there was going to be a reduction in force (RIF) at the site. The pending RIF may have stressed the work force, leading to an increase in the number of absences. In addition, methods used to identify health events improved, which may also have contributed to the increase.

Usually five years of data are needed to determine the direction of a trend, therefore we will continue to examine these data annually to determine if they level off at a stable rate or continue to increase.

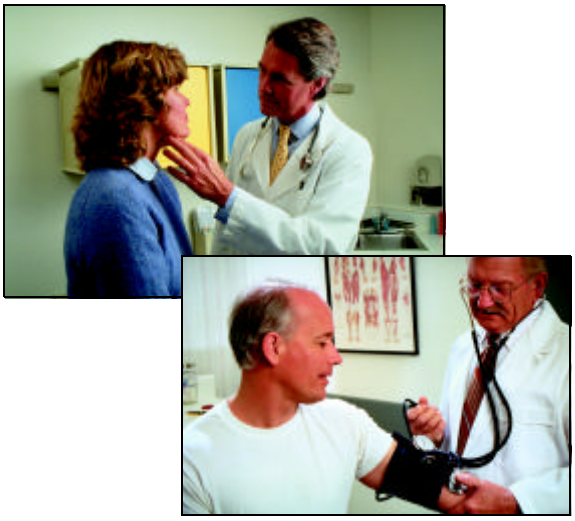
The rates for all diagnostic categories, combined, among men and women increased in four occupational groups: Office Management and Administration; Engineers, Scientists, and Health Care; Service; and Craft and Repair (Figure 11). Security Workers, Production Technicians and Material Handlers were assigned separate job categories in 1995, therefore no trend data for these groups are yet available. The increases observed in 1996 did not result from an increase in any particular type of disease or within any one age group.

Figure 11. Age-Adjusted Rates for All Diagnoses Combined Among Women and Men by Job Category from 1994 to 1996



Sentinel Health Events for Occupations (SHEOs)

An occupational sentinel health event (SHEO) is a disease, disability, or death which is likely to be occupationally related. It s 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 workforce. Sixty-four medical conditions associated with workplace exposures from studies of many different industries have been identified as sentinel health events.



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 from cigarette 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 in 1996. Seventeen of 742 (2 percent) diagnoses were identified as *possible* sentinel health events (Figure 12). Nine of 17 sentinel health events were identified as carpal tunnel syndrome. It was reported by 6 workers and resulted in 200 lost calendar days. Four (44 percent) of the carpal tunnel diagnoses were reported by workers in the Office Management and Administration group. Five (56 percent) occurred among workers aged 40 to 49.

Figure 12. Characteristics of SHEOs by Gender

	Total Number of SHEOs		Total Number of Days Absent	
	Men	**Women**	**Men**	**Women**
Definite	**0**	**0**	**0**	**0**
Possible	**9**	**8**	**165**	**230**
Total	**9**	**8**	**165**	**230**

Disabilities Among Active Workers

At Pantex, a worker is placed on long-term disability when absent 30 days or longer. One percent of the workforce (40/3451 workers) was on long-term disability in 1996. The percentage on disability was about the same for men and women (excluding those on maternity leave). Medical diagnoses were reported for 31 of the 40 workers. Among these 31 workers, 10 were on disability for muscle/skeleton conditions; 7 for heart/circulatory problems; 5 due to maternity leave; 2 each for anxiety, stress, hernias, and injuries; and 1 each for diabetes, carpal tunnel syndrome, and chronic fatigue syndrome. Thirteen percent (5/40) of the disabilities occurred among Material Handlers, who made up 4 percent of the workforce.

Deaths Among Active Workers

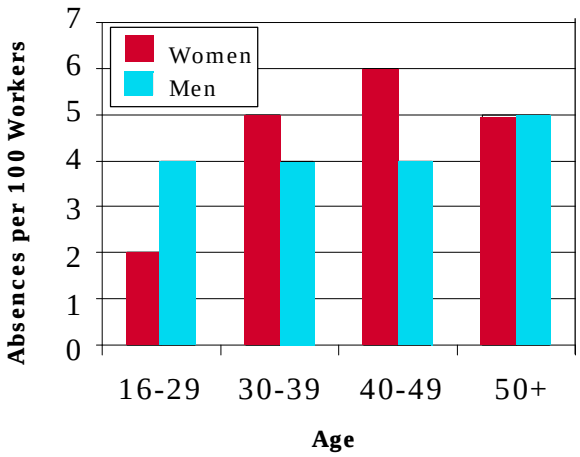
Two deaths occurred among Pantex workers in 1996. One man and one woman died from injuries sustained in separate motor vehicle accidents.

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 upon 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.

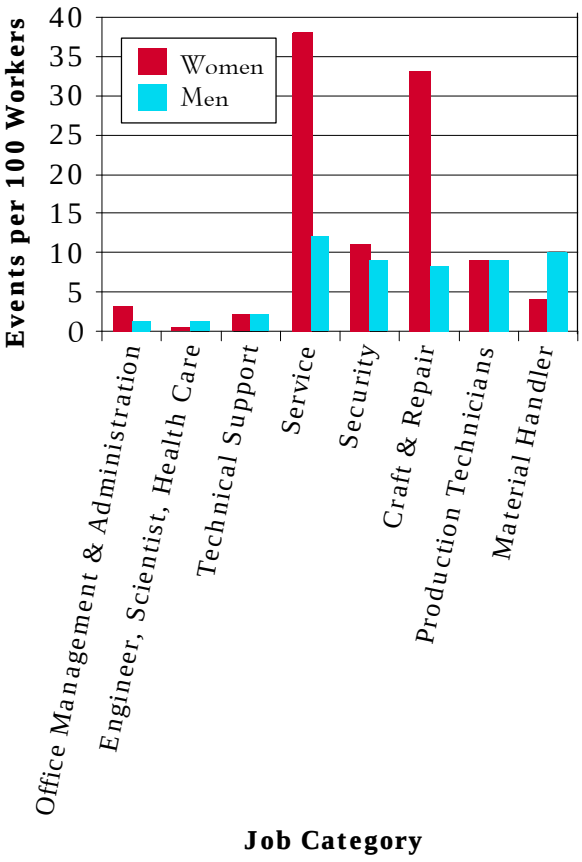
The distribution of OSHA events by age and gender is shown in Figure 13. There were 42 women with at least one OSHA recordable event and 107 men with at least one recordable event noted. The rate of OSHA events was similar for men (4 per 100) and women (5 per 100) and did not differ significantly by age group.

Figure 13. OSHA Recordable Events by Gender and Age.



The rates of OSHA recordable events by occupational category and gender is shown in Figure 14.

Figure 14. OSHA Recordable Events by Job Category and Gender



Among female Pantex workers, the Service and Craft and Repair groups had noticeably higher rates of injury and illnesses attributable to work compared with other occupational groups. Males classified in Service occupations had slightly elevated OSHA rates compared to the occupational categories, but the differences between groups were not as marked as for female workers.

Overall, the average number of workdays lost or with restricted activity due to an OSHA event was quite low. There were a total of 205 lost calendar days for women and 83 lost calendar days for men. Women averaged 5 lost or restricted workdays compared with 1 lost or restricted workday for men. There was no apparent relationship between age and the number or lost or restricted workdays. Nor was there any apparent relationship between the average number of lost or restricted workdays due to an OSHA event and job categories among men. Among women, Technical Support workers averaged 43 days of restricted or lost workdays for four OSHA events.

Diagnostic and Accident Categories for OSHA Recordable Events

There were 157 OSHA events recorded on the OSHA 200 Logs. From these there were 55 diagnoses among women and 123 diagnoses among men as shown in Figure 15.

Figure 15. OSHA Recordable Diagnoses by Diagnostic Category and Gender

Diagnostic Category	Sex	
	Women	Men
Digestive	0	2
Mental	0	1
Muscles and Skeleton	4	17
Nervous System	6	5
Skin	0	4
Unspecified Symptoms	7	2
Injury	38	92
Fractures - Skull	1	0
Fractures - Neck, Trunk	0	1
Fractures - Lower Limb	2	1
Back Sprains and Strains	5	10
Other Sprains and Strains	5	23
Open Wounds - Head, Neck, Trunk	0	4
Open Wounds - Upper Limb	4	14
Open Wounds - Lower Limb	0	2
Superficial Injuries	0	2
Bruises	6	6
Crushing Injuries	1	0
Foreign Bodies Entering Orifice	0	8
Burns	3	2
Unspecified Injuries	9	16
Adverse Reactions to Non-medical Substances	1	1
Adverse Reactions to External Causes	1	2

Among women, injuries accounted for 69 percent of the diagnoses reported; the most common (26 percent) type of OSHA-recordable injury was sprains and strains.

Twenty-four percent of the reported injuries among women were unspecified injuries and 16 percent were bruises. Among men, injuries accounted for 75 percent of the diagnoses reported, again primarily due to sprains and strains (36 percent). Open wounds (22 percent) and unspecified injuries (17 percent) were also frequently reported among men. There were nine cases of carpal tunnel syndrome among men and women.

Sixty-nine percent (105) of the 157 OSHA events were described as an accident in the OSHA logs and this distribution is shown in Figure 16. The majority of events were described as other accidents, 19/29 (66 percent) among women and 51/76 (67 percent) among men. Overexertion and strenuous movements made up the majority of that category. Falls made up the second most common type of accident for both men and women.

Figure 16. OSHA Recordable Accidents by Type and Gender

Accident Category	Sex	
	Women	Men
	Number of Accidents	Number of Accidents
Motor Vehicle Traffic	1	1
Motor Vehicle Non-Traffic	1	1
Non Motor Vehicle	1	1
Poisoning - Non-medical	1	0
Falls	5	14
Fire	1	0
Natural / Environmental Factors	0	1
Submersion / Suffocation / Foreign Bodies	0	7
Other accidents	19	51
Accident Caused by Machinery	0	3
Caught Between Objects	1	1
Cutting /Piercing Instrument / Object	4	9
Hot, Corrosive, or Caustic Material / Steam	0	3
Overexertion and Strenuous Movements	8	24
Repetitive Trauma	1	0
Struck by an Object	5	10
Unspecified Cause	0	0

Rates of OSHA-Recordable Events

The rates of all OSHA recordable events by age category, gender, and occupational group are shown in Figures 17 and 18. Women, of all ages tended to have higher rates compared with men for similar job categories. The OSHA recordable rates among women were highest among Service/Security/Craft and Repair workers. OSHA rates among men were highest for Production/ Technicians/Material Handlers, and Service/Security/Craft and Repair workers. Most of the OSHA health conditions involved injury and poisoning. Service/Security/Craft and Repair workers accounted for 24 percent of the work force, but 55 percent of the OSHA-recordable events.

Figure 17. OSHA Recordable Rates by Age Category and Occupation Among Women

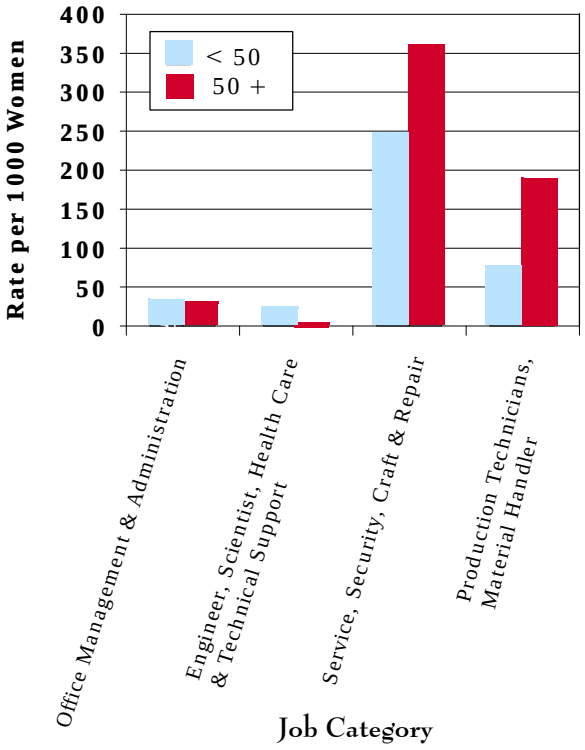
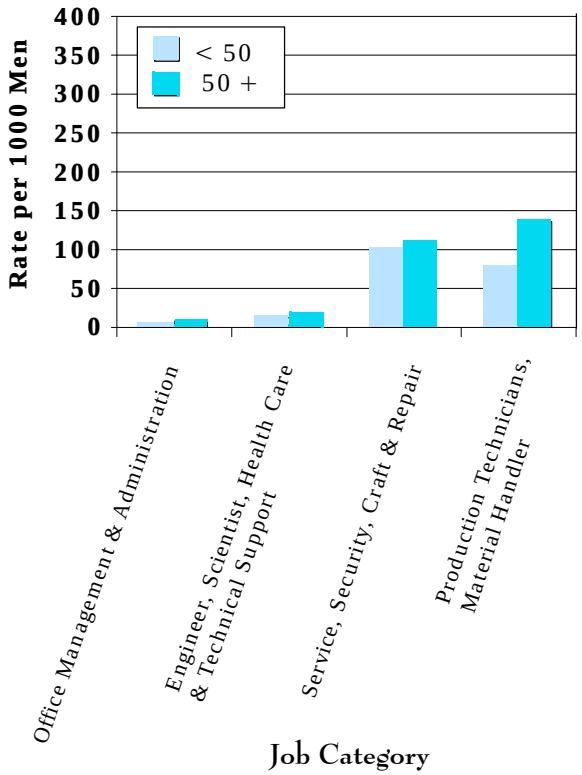


Figure 18. OSHA Recordable Rates by Age Category and Occupation Among Men



Service Workers were at almost 6 times higher risk of back sprains and strains compared with other workers, while Security workers showed a 4 times higher risk for sprains and strains (excluding the back). A higher risk of sprains and strains was also seen among Production technicians and Material Handlers. Service workers and Craft and Repair workers showed at least a 4-fold risk for open wounds of the upper limb compared with other occupational groups. Security, Craft and Repair, and Service workers showed a higher risk of bruises than other workers.

Time Trends for OSHA-Recordable Events

The age-adjusted rates from 1994 to 1996 are shown in Figures 19 and 20. Security Workers, Production Technicians, and Material Handlers were categorized as part of other occupational groups prior to 1995, and rates for these groups were not available.

Figure 19. Age-Adjusted Rates for All OSHA-Recordable Diagnoses Among Women by Occupation from 1994 to 1996

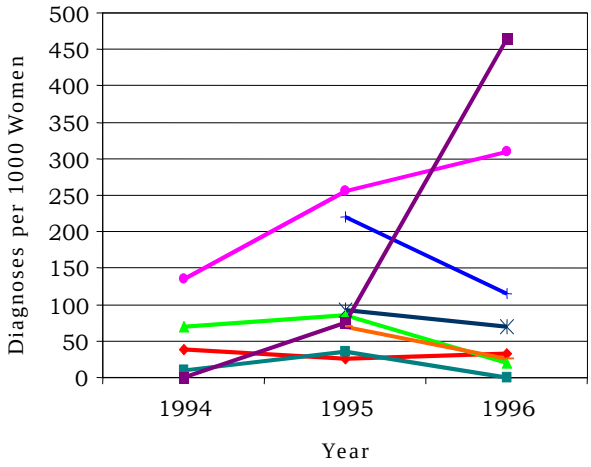
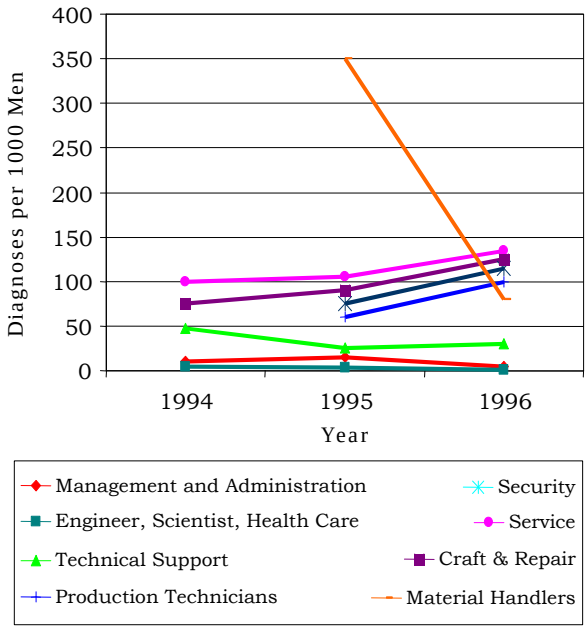


Figure 20. Age-Adjusted Rates for All OSHA-Recordable Diagnoses Among Men by Occupation from 1994 to 1996



During the 3-year period, the rates for OSHA-recordable events among men and women did not change greatly for the majority of the occupational groups. Rates for men in the Material Handlers group showed a significant decline 1995 to 1996 due to general decline not in any one category in particular. There was a large increase in the rates between 1995 and 1996 among female Craft and Repair workers. However, because only two years of data were available, it is impossible to determine any trend in the workforce. We will continue to examine these trends as more years of data are gathered.

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, Ninth 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 categories in numeric order according to ICD-9-CM.

Terms Used in the Supporting Tables	ICD-9-CM Codes
Benign and Other Neoplasms	210-229 235-239
Blood and Blood Forming Organs	280-289
Malignant Neoplasms (Cancer)	140-208 230-234
Digestive System	520-579
Endocrine and Metabolic Diseases	240-279
Congenital Anomalies (Birth Conditions)	740-759
Genitourinary System	580-629
Circulatory System	390-459
Infectious and Parasitic Dieaeses	001-139
Injury and Poisoning	800-999
Respiratory System	460-519
Mental Disorders	290-319
Musculoskeletal System	710-739
Nervous System and Sense Organs	320-389
Pregnancy and Childbirth (Miscarriage)	630-676
Skin and Subcutaneous Tissue	680-709
Sysptoms, Signs and Ill-Defined Conditions	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 nonarthropod 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 chicken pox, 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, 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	Cancers of the 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, and skin	170-173	Bone, muscle, ligament, tendon, blood vessels, fat, and skin
• Genitourinary organs	179-189	Cervix, uterus, prostate, kidney, and bladder
• 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 - Nonpsychotic 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 process	380-389	Infections of the outer, middle, or inner ear; ringing of the 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	451-459	Phlebitis (swelling of a vein) and thrombophlebitis (swelling of a vein which has a blood clot)
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 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 stomch), 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)
• Noninfectious 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 digestive system	570-579	Diseases of the liver, gallbladder, and pancreas; hepatiis; 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 disorder	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; 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
• Nonspecific 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