Epidemiology in Texas Annual Report 1996

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COVER:

Mission San Jose, founded by Fray Antonio Margil de Jesus in 1720, was the second in a chain of missions established along the San Antonio River in the 18th century. The first was the Mission San Antonio de Valero (the Ah). The missions, which formed the foundation for the city of San Antonio, are the greatest concentration of Catholic missions in North America.

Before the historic battle at the Alamo, San Jose was the largest and best known of the Texas Missions. Sustained by extensive fields and herds of livestock, the 300 early inhabitants prospered, and San Jose gained a reputation as a major cultural center. San Jose's legendary Rose Window (featured above) demonstrates the high craftsmanship of artisans who worked on the missions.

In the 1920s the San Antonio community began its efforts to preserve the artifacts of our national heritage. Since then, the San Antonio Conservation Society, a number of municipal agencies, the Texas Department of Parks & Wildlife, and the United States Congress hve all taken part. The Archdiocese of San Antonio and the National Park Service now work together to ensure tht visitors are able to enjoy the San Antonio Missions National Historical Park without disturbing parishioners who worship at traditional services held in the four active parish.

Cover and divider page art for the 1996 Epidemiology in Texas Annual Report is by Greg Patterson of the Texas Department of Health. The HHS Printing Services, Centrd Site, in Austin, printed this report.

Epidemiology in Texas
1996 Annual Report

TDH
TEXAS DEPARTMENT OF HEALTH

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Foreword

Anyone who compares the Epidemiology in Texas Annual Reports over the last 10 to 15 years cannot help but note how much the programs have grown and how our definition of public health epidemiology has changed. Our mission has evolved from counting reported cases of infectious diseases and responding to outbreaks and epidemics to more complex active surveillance systems and long term studies of the relationships between personal and environmental factors which may dispose toward disease or trauma.

In the 1990s public health epidemiology is more likely to tackle the "why me?" questions: "Why am I sick?" " Why am I injured?" "Why is my child born with a birth defect?" The quest for the cause of an illness is usually more tedious than the search for a dramatic cure. But determining disease risk is as important as discovering treatments. John Snow, for instance, did not discover the etiology of cholera in London in 1854. He reasoned why some people got sick and others did not. He responded, not by treating the disease, but by removing the risk factor.

One of the core functions of public health departments will always be to respond to outbreaks. That is an essential part of who we are and what we do. Outbreak epidemiology is vital, intriguing, and enormously beneficial. But it is not **all** we do, nor is it all we **should** be doing. Our *Epidemiology* in *Texas 1996 Annual Report* presents only a small portion, a summary of the dedicated hard work and expertise of public health epidemiologists around the state as they respond to clusters of diseases and search for risk factors. The many answers they discover in their relentless efforts to find out "why" we get sick and injured help create a Texas where we all can live longer and healthier lives.

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Preface

Disease Surveillance

Public health surveillance involves systematic collection, analysis, and dissemination of data regarding adverse health conditions. This information typically includes the incidence, prevalence, and geographic location of the condition; age, sex, and racelethnicity of the people affected; means by which the disease is transmitted; and historic trends. For many diseases, data regarding animal reservoirs and vectors also are essential. Surveillance involves investigating individual cases as well as epidemics.

During 1996 many Texas Department of Health (TDH) programs were responsible for coordinating surveillance of adverse health conditions in Texas. These programs included the following: Infectious Disease Epidemiology and Surveillance Division, Zoonosis Control Division, Noncommunicable Disease Epidemiology and Toxicology Division, Injury Prevention and Control Program, Tuberculosis Elimination Division, Immunization Division, Bureau of HIV and STD Prevention, Bureau of Laboratories, and Bureau of Chronic Disease Prevention and Control.

The value of epidemiologic surveillance cannot be overestimated. In public health, surveillance data are used to monitor disease trends; detect, respond to, and study new disease threats, outbreaks, or epidemics; identify risk factors; and plan, implement, and assess intervention and prevention services. Prompt feedback of current, accurate, and complete data is essential so that health professionals can provide the highest quality of medical care and policy makers can plan, manage, fund, and justify disease control activities and research.

Reporting

Texas law requires that certain conditions be reported. The *Reportable Conditions in Texas* form (TDH Stock No. 6-101a) lists all currently reportable conditions in Texas, guidelines for reporting, and telephone numbers where professional staff may be reached for consultation (Appendix A). Reporting forms may be obtained by calling the various divisions to which reports are made. TDH has a 24-hour, toll-free telephone reporting system. Health professionals who call (800) 705-8868 during business hours reach the nearest health department. After hours and on weekends, they reach TDH staff in Austin.

Most case reports must include the patient's name, date of birth, sex, racelethnicity, city of residence, date of onset, physician's name, and method of diagnosis. The exceptions are as follows. Chickenpox is reported by number of cases. HIV infections are reported by name for children under 13 years of age and by the last four digits of the social security number for adults and adolescents. HIV reports for all ages must also include the patient's age and date of birth; sex; racelethnicity; city, county, and zip code of residence; date of test; and physician's name, clinic address, and telephone number.

Surveillance data also are obtained from laboratory reports, case investigation forms, and TDH Bureau of Vital Statistics death certificates. Social and demographic information is collected to determine patterns of disease in the population, identify case contacts, and target control measures.

Explanatory Notes

Reportable conditions diagnosed in residents of other states in the US, while they are visiting Texas, are reported to the health authorities of the individual's home state. These cases are not included in this report. Reports regarding Texas residents who became ill while visiting other states are included in this report. The most current *Reportable Conditions in Texas* (form number 6-101a is located in the Appendix. Mortality data were obtained from the TDH Bureau of Vital Statistics or from individual program records.

The information in this report is subject to limitations which affect many data collection systems. Underreporting is a ubiquitous problem, but its extent differs among diseases. Reported rates of disease are affected by the estimation inherent in population projections. Care should be used in interpreting rates of annual disease incidence for small areas or for infrequently occurring diseases. Unless other information is available about area health conditions or temporal patterns of disease, such rates should not be used as indicators of the usual incidence of a disease.

TDH uses the following race/ethnicity designations*. For reporting purposes, when an individual is of mixed racial or ethnic origin, the category that most closely reflects his or her recognition in the community is used. In TDH reports, the term used to obtain the data is the one used to describe those data.

White: Persons having origins in any of the original people of Europe, North Africa, or the Middle East.

Hispanic: Persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

Black/African American: Persons having origins in any of the black racial groups of Africa. (The standard term used in epidemiologic reports is "Black." "African American" is often used in political or cultural 'contexts.)

Asian or Pacific Islander: Persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands (including China, Japan, India, Korea, the Philippines, and Samoa).

American Indian or Alaskan Native: Persons having origins in any of the original peoples of North America and who maintain cultural identification through tribal affiliation or community recognition.

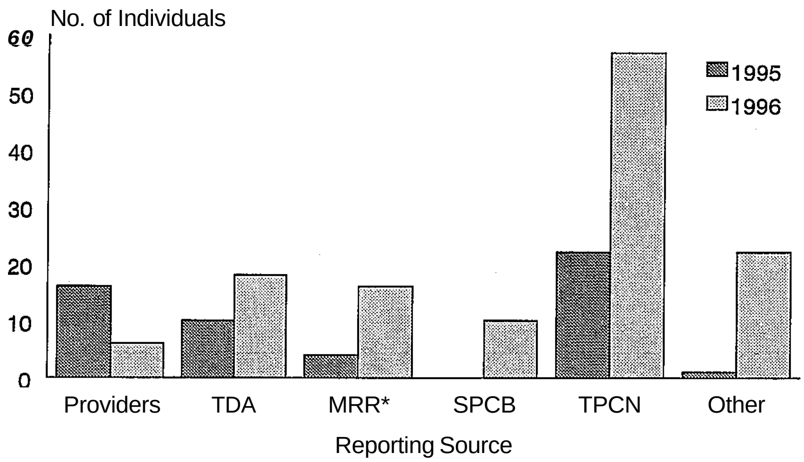
* Based on US Department of Commerce designations published in the CDC Manual of Procedures for National Morbidity and Public Health Activities

Reports

Acute Occupational Pesticide Poisoning

The Environmental and Occupational Epidemiology Program (EOEP) of the Texas Department of Health (TDH) conducts active surveillance of acute occupational pesticide poisoning throughout the state. This active surveillance uses a sentinel provider system: hospitals, clinics, and individual physicians who consent to be contacted regularly by EOEP staff, and quarterly death certificate reviews. Additionally in 1995, EOEP received funding from the National Institute for Occupational Safety and Health (NIOSH) to conduct field investigations of selected occupational exposures. As part of this effort, a system for receiving pesticide-related reports from the Structural Pest Control Board (SPCB), the Texas Department of Agriculture (TDA) and the newly established Texas Poison Center Network (TPCN) was put into place. The addition of these reporting sources is reflected in the increase in cases reported to EOEP in 1996 (129 cases reported in 1996 versus 56 cases reported in 1995) and in a change in the most common reporting sources (Figure 1).

Figure 1. Occupational Pesticide-Related Illnesses by Reporting Source, 1995-1996



*Medical Record Reviews

The majority of pesticide-related illnesses reported to EOEP in 1996 were in males (71%). Exposed individuals ranged in age from 13 years to 86 years, with the men being somewhat younger (mean age=37 years) than the women (mean age=41 years). Among the men with reported pesticide-related illnesses, 14 were under the age of 20 years and a large portion of these young men were employed in agriculture-related jobs (71%). Sixty-one percent of the persons reporting a pesticide-related illness were White, 4% were African American, 24% considered themselves Hispanic, and the remainder were either Asian/Pacific Islander (1 case) or of unreported racial/ethnic background.

Persons involved in farming, fishing, or forestry related occupations experienced by far the greatest number of occupation related pesticide illnesses reported to EOEP (43%). Technical, sales, and administrative workers reported the next highest incidence of exposure (17%).

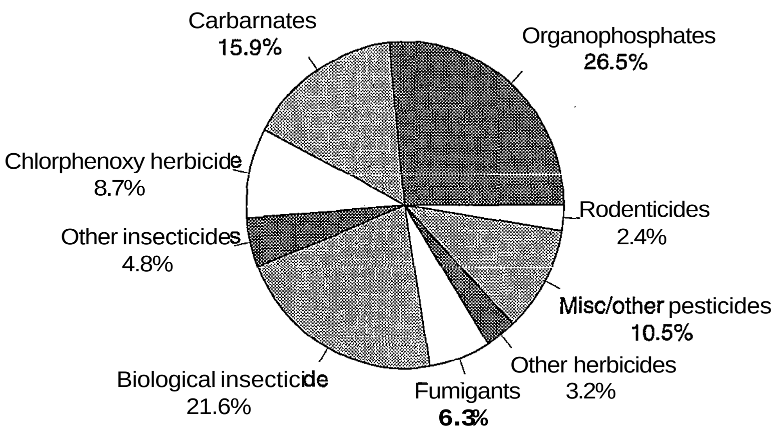
Corresponding to this distribution of occupations, the most commonly reported pesticides were organophosphates (26.5%), biological insecticides including pyrethroids (21.5%), and carbamates (16.0%). All three of these pesticides are commonly used on agricultural crops. Figure 2 shows the percent of reports received for various chemical or pesticide classifications.

The increase in occupational pesticide-related illnesses reported to EOEP in 1996 demonstrates the effectiveness of additional collaborative efforts with the Structural Pest Control Board and the Texas Poison Control

Network. The quantity, quality, and timeliness of information received regarding occupational pesticide exposures has clearly increased in the past year. Continued efforts are needed to maintain these new collaborative relations, as well as continue to utilize agreements with other existing reporting sources in order to develop a high-quality and comprehensive occupational pesticide exposure surveillance system for the state of Texas.

Noncommunicable Disease Epidemiology and Toxicology Division (512) 458-7269

Figure 2. Chemical Classification of Reported Pesticides

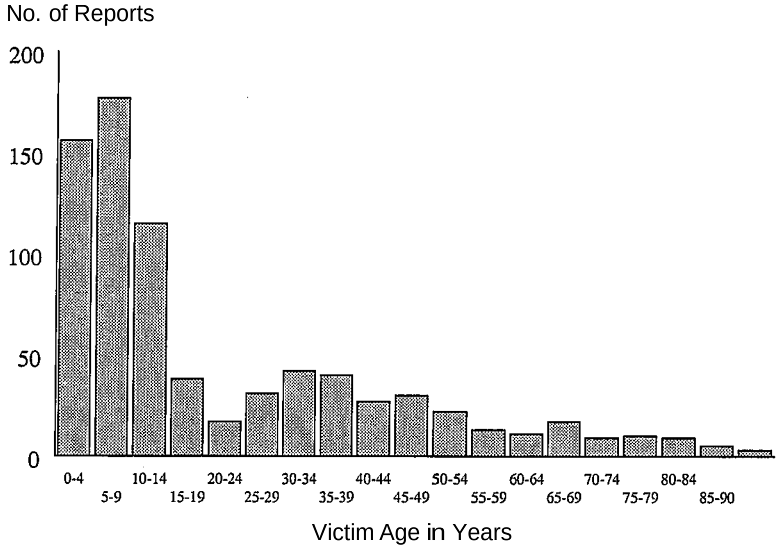


Animal Bites

The tendency of an animal to bite is a product of many factors including genetic predisposition to aggressiveness, maltreatment, late or inadequate socialization to people, quality of care, and behavior of the victim. To gain further insight into these factors and develop prevention recommendations, the Zoonosis Control Division of the Texas Department of Health analyzed voluntarily submitted reports of severe animal bites and attacks.* In 1996, 786 reports were received from local health departments, animal control agencies, and emergency health care providers in 86 of the 254 counties in Texas.

The data on severe animal bites collected in 1996 were comparable to that received in previous years. Two fatalities associated with dog bites were reported in 1996.

Figure 1. Victim's Age in Severe Animal Attacks



Victim Characteristics

Dog bites represent a significant source of morbidity and mortality in the pediatric age group (Figure 1). Analysis of the data revealed that children under the age of 11 were almost 4 times as likely to sustain a severe bite than were adolescents and adults. Particularly noteworthy is that injuries to the head were sustained by 119 (62%) bite victims under 6 years of age but by only 52 (13%) victims over 10 years of age. The anatomic location of dog bites in young children can largely be explained by their diminutive stature, which places the head in close proximity to the dog's mouth. Injuries to the head and neck are extremely serious because they can result in disfiguring wounds as well as life-threatening injuries involving hemorrhage and cranial trauma.

Animal Characteristics

Domestic dogs were involved in 681 (87%) of the incidents. Other species included domestic cat (81), bear (1), ferret (1), iguana (1), monkey (1), mouse (2), pot bellied pig (1), raccoon (2), rat (4), skunk (2), squirrel (1), wolf (1), wolf-dog hybrid (4), zebra (1), and unknown (2). Half the biting dogs and cats were vaccinated against rabies.

Eight breeds constituted over half (53%) of the dogs involved in severe attacks (Table 1). However, since breed prevalence figures are not available, it is unknown whether these figures represent breed predisposition to aggressiveness or merely large numbers of animals of these breeds. Cats and small breeds of dogs were infrequently reported since they are less likely than large breeds of dogs to inflict severe wounds.

*__Severe bite__ is defined as one in which the animal repeatedly bites or vigorously shakes its human victim, and the victim or a person intervening has extreme difficulty terminating the attack. ***Severe attack*** is defined as a puncture or laceration made by an animal's teeth which breaks the person's skin, resulting in a degree of trauma which would cause most prudent and reasonable people to seek medical care for treatment of the wound, without consideration of rabies prevention alone. For purposes of this report, the terms "severe bite" and "severe attack" will be used interchangeably.

Over one-third (38%) of the attacks involved extenuating circumstances which provoked the dog to attack. In the case of an animal bite, provocation is thought of in terms of an animal's innate response to certain human actions, such as teasing, startling, or abusing the animal; handling its puppies or kittens; playing roughly with the animal; or interfering with the animal when it is eating, guarding its territory, fighting with another dog, or pursuing a female in estrus.

Zoonosis Control Division (512)458-7255

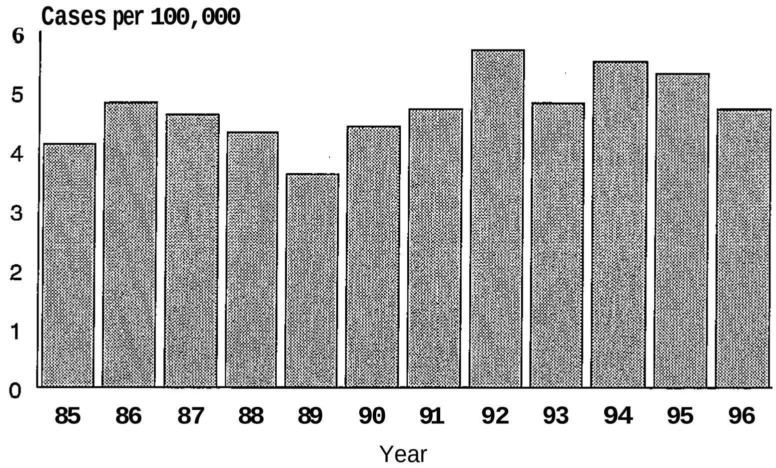
Table 1. Frequency of Dog Breeds Involved in Severe Attacks on Humans

Breed	No.	%
Chow chow	81	13
Rottweiler	64	10
Chow cross	46	7
German shepherd	41	6
Pit bull	33	5
Labrador retriever	29	5
Mixed	26	4
Labrador retriever cross	24	4
All others	297	46

Campylobacteriosis

Campylobacteriosis is an acute, enteric disease of variable severity. It is characterized by diarrhea, abdominal pain, malaise, fever, nausea and vomiting. The illness usually resolves within 2 or 3 days, rarely lasting more than 10 days. Prolonged illness may occur in adults, and relapses may occur. Gross or occult blood, mucus, and white blood cells are often present in the liquid stools. The organism, usually *Campylobacter* jejurzi, is an important cause of diarrheal illness in all parts of the world and all age groups, causing 5 to 14% of all diarrheal illnesses worldwide. Common-source outbreaks do occur, most often associated with foods or unchlorinated water. Since C. jejurzi can usually be cultured from raw poultry and pork products, undercooked chicken and pork are often associated with foodborne transmission.

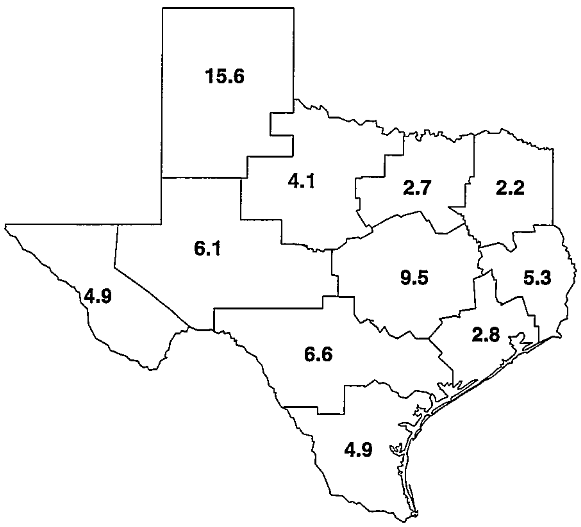
Figure 1. Campylobacteriosis Rates, 1985 - 1996



There were 897 cases of campylobacteriosis reported to the Texas Department of Health in 1996. Of these, 894 were culture-confirmed cases. The species of the organism was determined in 417 of the cases; all were C. *jejuni*. Statewide, the incidence rate of campylobacteriosis was 4.7 cases per 100,000 population. This rate has remained constant since 1985, the first full year campylobacteriosis became a reportable condition (Figure 1).

Figure 2 illustrates the incidence rate by Public Health Region. Individual county cases and rates can be found in the Regional Statistical Summaries in the back of this document. Although Region 1 has a much higher incidence rate when compared with the other regions, there seems to be no definable reason for this fact. Age groups, race/ethnicity, and other factors are comparable with those of other regions. There were no documented point-source outbreaks of campylobacteriosis in 1996. The incidence rate for Hispanics (6.5/100,000) was higher than that for Whites (2.7/100,000) or Blacks (1.5/100,000). Children under age 5 accounted for 23.7% of

Figure 2. Campylobacteriosis Rates (Cases per 100,000) by Public Health Region



the reported cases. As with the other diarrheal diseases, children under 5 years old had the highest incidence rate of any age group (13.3/100,000). The incidence rate for Hispanic children in this age group (20.9/100,000) exceeded that of Whites (5.2/100,000) or Blacks (2.8/100,000). Because all the enterics are transmitted through the fecal-oral route, the age-specific incidence rate is almost always highest for the under 5-year-old age group. It is surprising that, in 1996, White 20-29 year-olds had a higher incidence rate than did White children younger than 5 years.

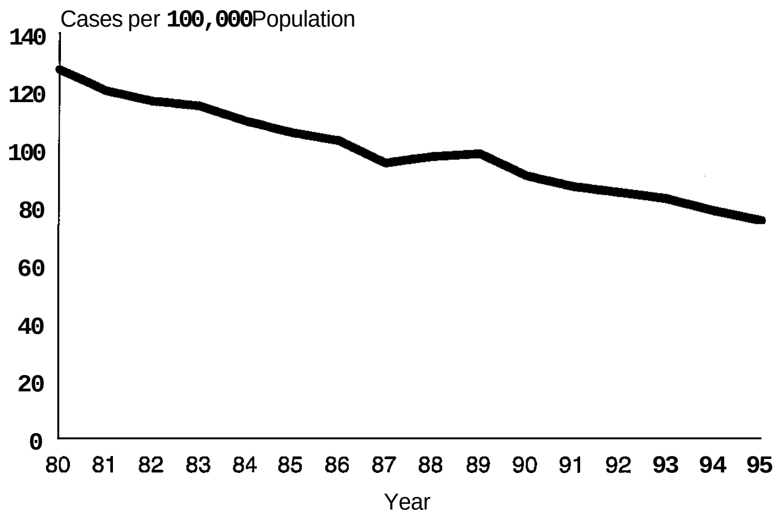
Infectious Disease Epidemiology and Surveillance Division (512)458-7676

Child Mortality

More than 10 out of every 10,000 Texas children younger than 18 years of age died in 1980. In 1995 approximately 7 of every 10,000 children died—a decrease of 41% (Figure 1). While this trend is encouraging, the fact that more than 4,000 Texas children still die each year warrants continued public health concern.

A closer examination of child mortality rates reveals that deaths from certain causes, such as motor vehicle crashes and those due to natural causes, have declined dramatically from 1980 to 1995, while intentional injury deaths (homicide and suicide) increased 32%. In addition to the different trends in causes of death, there are also different patterns in the distribution of deaths. Child mortality rates are higher for males than for females, and rates for African American children are higher than for children of other racial groups. The most marked differences, however, are among age groups.

Figure 1. Child Mortality, 1980-1995



Infant deaths

Figure 2 shows the number of deaths by age group due to "natural"' and "external" causes. Deaths identified as natural are deaths associated with diseases, congenital anomalies, perinatal conditions, and certain ill-defined conditions. They are to be distinguished from external causes of death which generally can point to one specific external event—such as collision, shooting, fire, and shaking—that initiated the chain of morbid conditions that resulted in death.

The majority of child fatalities occur to infants, children less than 1 year old. Nearly 60% of these infants die during the first month of life. Infant mortality is distinguished from that of older children not only by the number of deaths, but also by the manner. In 1995 more than 95% of the infant deaths were attributed to natural causes, most noticeably congenital anomalies, sudden infant death syndrome (SIDS), and disorders related to prematurity and low birth weight.

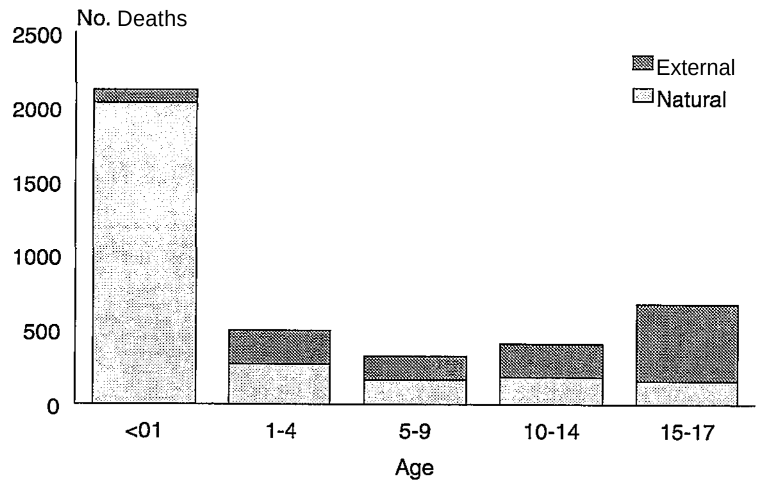
Child Deaths

While the overwhelming majority of infant deaths are due to natural causes, injuries are the leading cause of death for children older than 1 year, accounted for nearly 40% of the fatalities in this age group. The proportion of injury deaths increases with age: among children older than 9 years, nearly 70% of fatalities were due to some type of injury.

'Deaths identified as "natural" are somewhat misnamed. There is nothing natural about a child dying. These deaths are not necessarily expected and many are preventable. The term is used to distinguish from deaths due to external causes.

The most common cause of injury death among children is motor vehicle crashes, which in 1995 claimed the lives of 475 children in Texas (Table 1). Not surprisingly, nearly half of these deaths were to children ages 15 to 17 years. Intentional injury deaths (homicide and suicide) accounted for an additional 31% of the child fatalities during 1995. The 32% increase in the number of intentional injury deaths from 1980 through 1995 is associated with the increase in firearm fatalities during this period. Of the 238 intentional injury deaths to children in 1980, 123 (58%) involved firearms. In 1995, 253 (68%) of the 374 intentional injury deaths to children involved firearms.

Figure 2. Child Fatalities by Age, 1995



n=4,009, Source: TDH Vital Statistics
External: one specific external event--such as collision, shooting, fire, or shaking--that initiates a chain of morbid conditions
Natural: diseases, congenital anomalies, perinatai conditions, and certain ill-defined conditions

Child Fatality Review Teams

Until recently, there has been no system for coordination and communication among agencies that have information about a child, family, or circumstances of death. Until each piece of the puzzle is brought together, knowledge about the causes and circumstances of death of Texas' children is limited.

In 1995 the Texas Legislature amended Chapter 264 of the Family Code with the Child Fatality Review Team and Investigation statute, creating an organized approach for child fatality review. The legislation authorized local child fatality review teams, established a state committee charged with oversight and support, and specified duties to 3 state agencies: the Texas Department of Health, the Texas Department of Protective and Regulatory Services, and the Children's Trust Fund Council. Local teams, made up of law enforcement, prosecutors, medical examiners, health care professionals, child advocates and protective service professionals, public and mental health experts, and justices of the peace, review deaths in their jurisdictions for more detailed information regarding the nature and circumstances of each death. This review includes information about other people living with the child, the use of safety devices such as seat belts or smoke alarms, events surrounding SIDS deaths, the relationship of perpetrator to victim, and information about the weapon in intentional injury fatalities.

Table 1. Child Fatalities by Cause, 1995

Cause	No.	%
Motor Vehicle	475	40
Homicide	259	22
Drowning	126	10
Suicide	115	10
Other	88	7
Fire	78	6
Suffocation	40	3
Poisoning	14	1
Falls	8	1
Total	**1203**	

Source: Child Fatality Review Team Reports

While local teams are busily involved in reviewing child deaths, the state child fatality review team committee is making efforts to improve the necessary components of an effective statewide child fatality review system: death certification, reporting, and training for professionals who investigate child deaths. Efforts are being made to strengthen procedures to insure that child abuse cases are properly investigated by both law enforcement and child protective services agencies in a coordinated fashion. In addition, the committee has made specific recommendations for legislation designed to reduce the number of preventable child deaths in Texas.

The future of the State of Texas lies in the health and safety of its children today. Working together, agency officials, child advocates, and concerned citizens can find new and innovative ways to reduce the tragic impact of the unnecessary death of Texas children.

Bureau of Epidemiology (512) 458-7268

Elevated Blood Lead Levels in Adults

The Texas Administrative Code 99.1 requires reporting of elevated blood lead levels to the Texas Department of Health (TDH). The reporting level is 40 μg/L of blood in persons 15 years of age or older. In 1996 the Environmental and Occupational Epidemiology Program (EOEP) received 14,549 blood lead test results for 10,674 workers. Because the US Occupational Safety and Health Administration (OSHA) mandates blood lead testing for workers exposed to lead, EOEP often receives more than one test result for an individual. Table 1 shows the number of tests, individuals, and new cases reported by level during 1996.

Laboratories and physicians reported 415 elevated blood lead results for 167 workers. Reported elevated results decreased by 14% from 1995, while the number of workers represented increased by 23%. Elevated blood lead results for 1995 represented about 4 tests per worker and for 1996, about 3 tests per worker.

The majority of workers were male (163); 4 were female. Race was not reported for 83 workers. The race profile for the remaining workers (84) were as follows: 69 were White, 14 were African American, 1 was an Asian/ Pacific Islander. The reported ethnicity of workers shows that 40 workers were Hispanic.

Increased employer and employee awareness of the sources of lead exposure in the workplace and methods for reducing worker exposure are essential for the prevention of occupational lead poisoning. To help employers identify potential lead hazards, TDH offers free workplace consultation. Part of the typical consultation visit is an industrial hygiene inspection that includes measurement of air lead levels, observation of work practices to assess exposure risk, and recommendations for reducing worker exposures. A workplace consultation is offered to employers of workers with reported blood lead levels of 60 μg/L or greater and to all workers with blood lead levels averaging 50 μg/L over a 6-month period. Consultations are also conducted at the request of companies, whatever the lead level of workers.

Table 1. Distribution of Tests and Workers by Blood Lead Level

Blood Lead Level (Micrograms per Deciliter of Whole Blood)	No. of Tests[1]	No. of Individuals[2]	New Cases[3]
0 to 24	12,362	9,915	9,826
25 to 39	1,772	592	567
40 to 49	331	118	92
50 to 59	67	38	27
60 to 69	9	7	6
70 and above	8	4	5
TOTAL	**14,549**	**10,674**	**10,523**

[1] The total number of tests received for the year.
[2] The number of persons for whom reports were received for the year, excluding multiple reports for the same person (if more than one report is received, the highest blood lead level is reported.)
[3] The number of "new" entries into the system. "New" entries are persons reported to TDH for the first time during the current year (1996) and persons in the system in the current year who were not in the system in the immediate past year. Thus, for 1996, cases reported for the first time in 1996 are new and any cases not reported during the previous year (1995) but reported during the current year (1996) are new, even if they were reported in 1994 or earlier. Cases reported in both 1995 and 1996 are not new.

EOEP conducts follow-up on blood lead levels at or above 40 μg/L. Follow-up includes collecting industry and occupational information. If the information is not on the laboratory report, the laboratory that performed the analysis is contacted for additional information. Follow-up may end at this point if the laboratory cannot track the submitter because the report is over 60 days old. If the clinic or physician is known, they are contacted. However, often these clinics see workers referred by a company and file the employee's medical information by company name rather than by employee name. When EOEP does not know the company name, no additional tracking can be done, resulting in missing industry and occupational information. The distribution of elevated blood lead levels by industry and occupation is presented in Table 2.

Table 2. Industry and Occupation for Workers with Elevated Blood Lead Levels

Industry	Frequency	%
Manufacturing	123	73.7
Wholesale trade	13	7.8
Construction	11	6.6
Business and repair services	9	5.4
Retail trade	3	1.8
Professional and related services	3	1.8
Other	3	1.8
Missing Occupational Information	2	1.2

Occupation	Frequency	%
Missing Occupational Information	68	40.7
Operators, Fabricators, and Laborers	53	31.7
Precision Production, Craft, and Repairers	39	23.4
Managerial and Professional Specialties	3	1.8
Technical, Sales, and Administrative Support	3	1.8
Service	1	0.6

n=167

Case Investigation

During 1996, EOEP received a laboratory report that identified a blood lead level of 85 μg/L in one man. This employee works at a company where he repairs bearings for large turbines. The bearings have a babbitt lining that is repaired by building up a welded overlay; then the babbitt lining is ground to appropriate specifications. He has worked at the company for several years but during the past year has developed symptoms that included abdominal cramps, headache, joint aches, no energy, anemia, extensor weakness of his right wrist, poor memory, and nausea with no vomiting. He sought medical care from his private physician, and the result of this blood lead was 85 μg/L.

Since the exposure appeared to be occupational, the employer was contacted and a meeting at the company was scheduled. The employee and EOEP staff met with company representatives to determine the nature of the exposure and identify methods to reduce the exposure. The company had tested some of the babbitt material, and it showed a lead level of less than 1%. The lead content of the babbitt material varies and can be considerably higher if the bearings are old. The company recently had an industrial hygiene evaluation of the work area completed. The air sampling results showed airborne lead levels were below the Occupational Safety and Health Administration's Permissible Exposure Level. The employee's workplace did not have local exhaust ventilation.

The employee and his family were interviewed and questioned about possible lead exposure from hobbies, food sources, dishes, utensils, cosmetics, and medication. The home was inspected for lead sources. No obvious sources of environmental lead exposure were found during the interview. Analysis of blood samples from the family members indicated that none of their blood lead levels were elevated.

The employee saved shavings from the babbitt grinding process and noted which shavings made him feel sick. Since the lead content of the babbitt material varies depending on the age of the babbitt, he did not consistently feel sick when he repaired the bearings. Two samples made him feel sick. EOEP had these shavings analyzed and found that the 2 samples that made him sick were nearly 50% lead. This information was provided to the company along with recommendations to reduce the exposure. However, the company still was not convinced their work operation was contributing to the employee's lead exposure.

Following the employee's blood lead level of 85 μg/L, his physician referred him for additional follow-up and medical treatment. OSHA is involved in the case, and the employee is no longer working for the company. The employee's blood lead level has decreased since his removal from the occupational exposure. A blood test 6 months later showed a lead level of 17 μg/L.

Health Hazard Evaluation

A Texas company using lead in its manufacturing process had workers with elevated blood lead levels. The company conducted air monitoring and provided engineering controls, personal protective equipment, and blood lead testing for their workers. In spite of these efforts to reduce lead exposure, blood lead levels (BLL) continued to be 'elevated. Mean BLLs for the first 2 months of 1995 are listed in Table 3 by department.

The US Public Health Service guideline recommends employee blood lead levels be kept below 25 μg/L to prevent symptoms of lead poisoning.

In May 1994, the company requested a Health Hazard Evaluation from the US National Institute for Occupational Safety and Health (NIOSH). The company requested NIOSH assistance in determining employee exposures to lead and evaluating the local exhaust ventilation system to ensure that on-going engineering control upgrades would be effective in reducing employee exposures to airborne lead. A site visit was made in June 1994 and again in March 1995. During those visits personal breathing zone and area air samples were collected. Hand and surface wipe samples were obtained, and a unique biological monitoring method using saliva was field evaluated. The local exhaust ventilation system was evaluated, and real-time video monitoring techniques were used to evaluate employee work practices and exposures. Because wipe samples collected during the June 1994 visit confirmed the presence of lead on many environmental surfaces, a table-top cleaning study was conducted the following March to evaluate the effect of detergents, abrasive cleansers, and a 3% nitric acid solution to remove lead from various surfaces.

At the time of each visit, approximately 150 employees, primarily Hispanic, were employed

Table 3. Company Employee Blood Lead Levels: January 1, 1995 to March 3,1995

Location	No. Employees	Observation	Mean BLL μg/L	Standard Deviation μg/L
Grid Casting	16	33	30	10.0
Lead Oxide Mill	4	10	40	8.2
Pasting	13	45	39	8.2
Ist Assembly	41	72	31	8.1
Pouching	10	18	30	9.3
2nd Assembly	16	23	35	11.0
Maintenance	11	43	43	7.0

in the manufacturing process. Since the company produces a number of unique and custom-sized batteries, the manufacturing process is not highly automated.

Workplace environmental monitoring indicated that the airborne lead exposures exceeded the OSHA allowable limits in several locations of the plant. The highest exposures were in the pasting, first assembly, and pouching areas of the plant. Concentrations of lead measured in the air and on environmental surfaces pointed to lead overexposure despite engineering controls. Biological monitoring of exposed workers' salivary lead and blood lead pointed to excessive lead exposures in many job categories.

NIOSH suggested taking a "worst-first" approach towards intervention in the workplace and on that basis made recommendations.

Respiratory Protection. Employees using respirators should

- Be clean shaven to achieve an optimum fit and seal with the face piece.
- Have quantitative respirator fit testing to determine actual fit factors.
- Have a minimum of 3 face-piece sizes and 2 brands of respirators to choose from when selecting their respirators.
- Clean respirator face pieces by hand washing or by machine washing in a machine recommended by the respirator's manufacturer.
- Insure the filter material does not become wet when the cartridges are damp wiped.
- Never tap or shake respirators in an attempt to dislodge accumulated dust.
- Be trained to understand that filter replacement is necessary whenever they notice any change in breathing resistance.

Worker Hygiene. To reduce their lead exposure, workers should

- Use hand cleaners specifically designed to remove metals from skin surfaces.
- Use disposable coveralls in certain areas with high lead exposure. These coveralls should be removed before employees leave their workstations for breaks or lunch.
- Have a "clean car day" to evaluate the presence of lead on the steering wheels or other dermal contact surfaces in employees' cars. This activity serves as a way to evaluate the presence of "take home" lead and as surveillance for adequate hand decontamination.

Cafeteria Decontamination. The tabletops in the cafeteria were found to be uniformly contaminated with lead. It appears that even aggressive cleaning using an acid solution, could not completely remove all traces of lead from the tabletops. The company should

- Replace the tabletops or discard the tables.
- Cover the tops of the tables with kraft paper, butcher paper, or plastic and replace the coverings daily or as often as needed. This could create more. hazardous waste and possible airborne lead dust upon removal of coverings.
- Replace the lead contaminated cutting board in the kitchen.
- Use steel or other smooth surface materials that can be cleaned.
- Remove and replace contaminated railings.
- Provide an automatic boot wash outside the lunchroom and encourage employees to use this before entering to control lead dust in the cafeteria.
- Provide floor mats in the entry to the cafeteria that will remove debris from boot soles.

Plant Decontamination. Settled dusts contribute to the problem of lead dust in the air. NIOSH recommended that the company

- Use polyethylene, canvas, or another material as a barrier or liner to prevent lead-contaminating dusts from being shed onto the floor.
- Resurface and seal the plant floor to reduce sources of potentially airborne lead that can contribute to inhalation exposures and to enable floor cleaning machines to effectively remove lead-containing residues from the floor.

- Never use dry-sweeping methods to clean. Use a portable High Efficiency Particulate Aspirator (HEPA) vacuums for cleaning.
- Require area supervisor to daily inspect workstation engineering controls to insure function as designed. OSHA is currently working with the company to assist them in instituting many of the NIOSH recommendations.

Noncommunicable Disease Epidemiology and Toxicology Division (512) 458-7269

Elevated Blood Lead Levels in Children

In children, elevated blood lead levels can cause serious adverse health effects that include decreased intelligence and behavior problems. Children may be exposed to lead in food, air, dust, and soil. Other sources of exposure to lead include lead-based paint, gasoline, solder, imported pottery, parental occupations and hobbies, and some folk medicines. Children are at greater risk for lead exposure than are adults because children tend to have more hand-to-mouth activity, and because their digestive systems absorb a greater portion of the ingested lead.

registry database, 90.9% were performed at the state laboratory. Only elevated blood lead test results are required by law to be reported, but most of the reports received were for nonelevated blood lead test results. Reports are prioritized by blood lead level so that the nonelevated reports are entered into the registry database only as time permits. There were 208,263 reports for blood lead tests entered into the registry database; 25,900 of these were reports of elevated blood lead test results. Tables 1 through 3 provide a summary of data collected during this first year of the registry's

Table 1. Confirmed Cases of Elevated Blood Lead Levels in Children, by Age (in months) and Lead Level

AGE (in months)	10-14 μg/L	15-19 μg/L	20-44 μg/L	45-69 μg/L	≥70 μg/L	TOTAL
0 - 11	305	91	60	1	0	457
12 - 23	1400	395	277	14	1	2087
24 - 35	1108	315	172	15	0	1610
36 - 47	850	206	118	7	0	1181
48 - 59	736	165	107	2	0	1010
60 - 71	402	113	51	1	0	567
72 - 180	841	170	107	4	0	1122
TOTAL	**5642**	**1455**	**892**	**44**	**1**	**8034**

The Texas Childhood Lead Registry began operation on January 1, 1996, when childhood lead poisoning and elevated blood lead levels in children became reportable conditions in the State of Texas. In this report, the term "elevated blood lead levels in children" means blood lead concentrations of 10 μg/L of blood or greater, in persons younger than 15 years old.

Laboratories and medical providers send reports of blood lead test results to the registry staff by telephone, mail, fax, and on computer diskette. During 1996, over 400,000 reports of blood lead test results were received; the majority of these reports were made by the Texas Department of Health Bureau of Laboratories. Of all tests entered into the

operation. In these tables, only the first validated elevated blood lead test result for a child is included. This means that a child with more than one test done during 1996 will have only one result included in the following tables, and only if the result is a validated elevated blood lead test result. A test result is "validated" if it is for a *venous* blood sample, or for the *second or subsequent capillary* blood sample collected during the year. In other words, the only test results that are considered to be *not* validated are test results for the first capillary blood specimen collected during the year. Initial capillary blood specimens submitted for blood lead analyses are often contaminated through improper collection techniques. For this reason, test results for initial capillary blood specimens are not used in

Table 2. Confirmed Cases of Elevated Blood Lead Levels in Children, by Race/Ethnicity and Lead Level

Race/Ethnicity	10-14 µg/L	15-19 µg/L	20-44 µg/L	45-69 µg/L	≥70 µg/L	TOTAL
Hispanic	3263	857	530	29	0	4679
Black, non-Hispanic	1292	322	203	8	0	1825
White, non-Hispanic	482	114	81	6	1	684
Asian, non-Hispanic	18	4	0	0	0	22
Native American, non-Hispanic	2	0	3	0	0	5
TOTAL	**5642**	**1455**	**892**	**44**	**1**	**8034**

this report. In the childhood lead registry database, there are records for 8,034 children who had at least one validated elevated blood lead test result during 1996.

Most of the children in the childhood lead registry are, or have been, enrolled in the Texas Health Steps Medicaid program. Because this program includes blood lead screening at specified ages, these children may be tested for lead more often than children who are not enrolled in the Texas Health Steps program. Thus, it is important to remember when considering the data in the following tables that the population of children tested for lead poisoning may not be representative of the total population of children in Texas. Of the 8,034 children in the registry who had at least one validated elevated blood lead test result, 7,168 (89.2%) have a Medicaid identification number in the registry and probably were enrolled in the Texas Health Steps program at the time the lead test was performed.

Table 1 shows that the majority of children reported with a validated elevated blood lead level in Texas are 1 or 2 years old. Toddlers often explore their environment by putting nonfood objects (including paint chips, dirt, and window sills and other painted surfaces) into their mouths and by crawling or playing on the floor. These two activities increase the risk for exposure to lead. Table 2 shows that the majority of children reported with a validated elevated blood lead level in Texas are of Hispanic ethnicity. Children living in poverty and those of minority ethnicity may be at increased risk for exposure to lead because they are more likely to reside in older homes, where lead-based paint is more common. Also, children living in poverty and those of minority ethnicity are more likely to be enrolled in Medicaid. Children enrolled in Medicaid may

Table 3. Confirmed Cases of Elevated Blood Lead Levels in Children, by Selected* Texas Counties

County	No. of Children
Harris	2037
Dallas	558
Bexar	549
Hidalgo	476
Cameron	357
El Paso	324
Galveston	323
Tarrant	221
Jefferson	146
McLennan	136
Webb	107
Travis	96
Nueces	85
Lubbock	78
Starr	78

*Counties included in this table were selected because at least 1% of children reported with validated elevated blood lead levels during 1996 had a home address reported within these counties.

be more likely to be tested for blood lead and to have their test results reported to the Texas Department of Health than children who are not enrolled in Medicaid. Thus, the fact that the majority of children reported with a validated elevated blood lead level in Texas are of Hispanic ethnicity may be due, in part, to more testing and reporting for children in this ethnic group. Tables 1 and 2 show that most children with validated elevated blood lead levels have blood lead concentrations of 10 to 14 μg/L of blood. Table **3** lists the 16 counties in Texas that have the largest number of reported cases of validated elevated blood lead levels in children.

Noncommunicable Disease Epidemiology and Toxicology Division (512) 458-7269

Enteroviruses, non-polio

The enteroviruses are a group of at least 67 recognized virus serotypes including polioviruses, coxsackie A and B viruses, echoviruses, and the numbered enteroviruses. Polioviruses are no longer a major threat in United States; however, vaccine strains are frequently isolated from young children. As a result, polioviruses isolated in 1996 have limited epidemiological significance and will not be included in this report. Infections caused by non-polio enteroviruses (NPEVs) are associated with a variety of symptoms but, contrary to what the name suggests, are infrequently associated with enteric disease. Although NPEV infections are usually mild or asymptomatic, patients may present with fever and a rash, herpangina, conjunctivitis, and CNS symptoms that range from aseptic meningitis and encephalitis to paralysis. The disease presentation of NPEV infection is unpredictable because a single enterovirus can cause many different symptoms as well as no symptoms. Individuals with immune deficiencies such as agammaglobulinemia may develop a chronic meningitis or meningoencephalitis.

NPEVs are found worldwide, and in Texas's temperate climate NPEVs are isolated primarily in summer and fall. The mode of transmission is mainly by the fecal-oral route. NPEV can be isolated from feces, pharyngeal specimens, spinal fluids, blood, urine, vesicle fluid, and conjunctiva. Virus can be recovered from the pharynx only during the first week of illness but can be recovered from fecal specimens for a period of at least 3 to 5 weeks. Therefore, a patient can serve as a source of infection long after his/her symptoms have resolved. The incubation period for NPEV infections is usually 1 to 2 weeks, but varies from 2 to 35 days.

Viruses are obligate intracellular parasites that require a living host system to grow and replicate. The Viral Isolation Laboratory uses a combination of cell cultures to isolate viruses. The isolates can be identified by serum neutralization or immunofluorescence. Imrnunofluorescence is used to identify 14 of the NPEVs, including coxsackie virus types A9 and A24; coxsackie virus types B1 through B6; echovirus types 6, 9, 11, and 30; and enterovirus types 70 and 71. For these viruses, the time necessary for serotype identification is generally 2 to 4 days from receipt of the specimen and is primarily dependent upon the speed with which the isolate grows in cell culture. For the NPEV that must be identified by serum neutralization test, the time necessary for serotype identification is generally several weeks, again dependent on the isolate's growth pattern. A more rapid diagnostic approach would be beneficial, and many investigators feel that polymerase chain reaction will be that rapid approach. The laboratory recovered a total of 120 NPEVs from 115 patients whose specimens were collected during 1996. Five patients had the same NPEV recovered from multiple specimens. The specimens were submitted from

Figure 1. NPEVs Recovered by Month of Specimen Collection

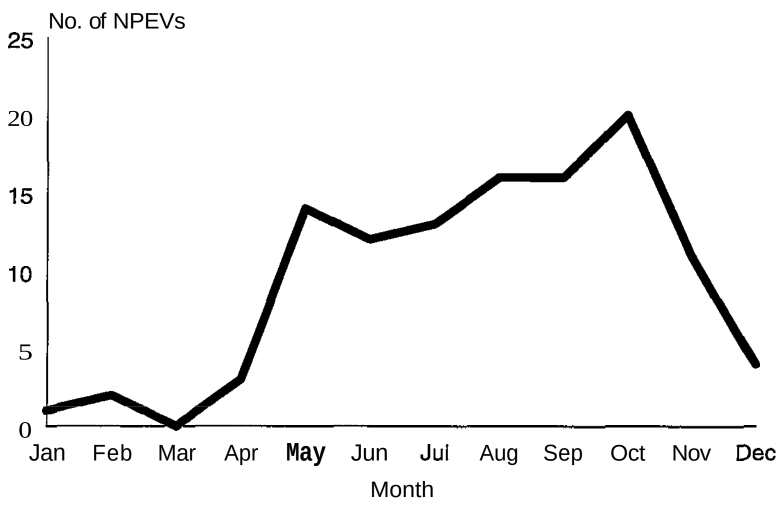
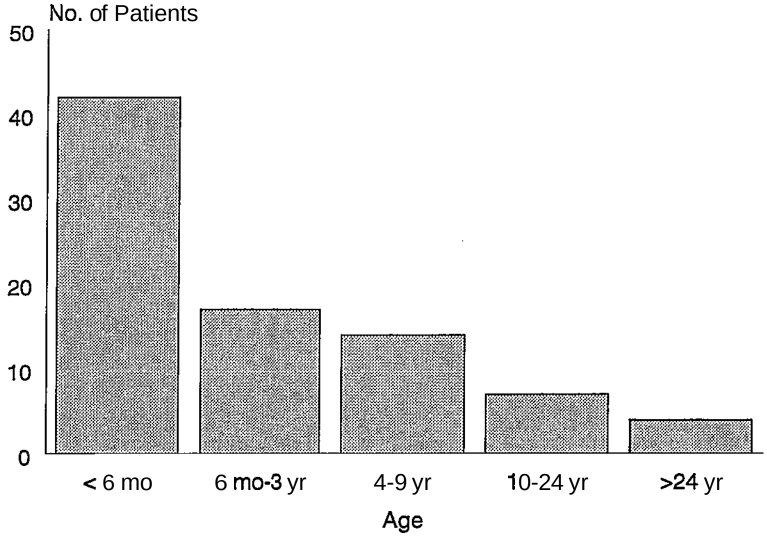


Figure 2. Age Distribution of Patients with NPEV



the following Texas counties: Bell, Brazos, Dallas, El Paso, Galveston, Harris, Lubbock, Navarro, Nueces, Potter, Tarrant, and Travis.

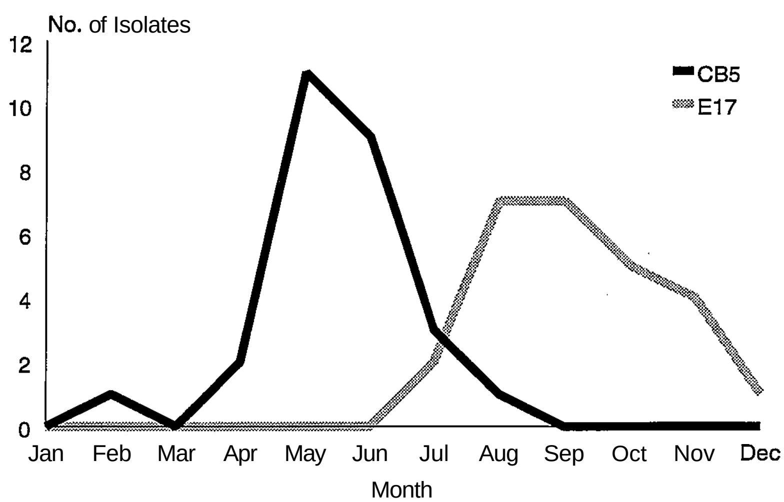
Dates of collection were available for 112 of the 120 specimens that yielded NPEV. NPEVs were recovered from specimens collected during every month of 1996 except March (Figure 1). Of the 120 specimens that yielded an NPEV, 102 (85%) were collected in the seven month period from May through November 1996. Ages were available for 84 of the 115 patients. Figure 2 shows the age profile of patients whose specimens yielded an NPEV. Half of the patients (42184) were younger than 6 months of age. Sex was indicated for 94 patients: 61 (64.9%) were male, and 33 (35.1%) were female.

Nineteen different NPEVs were isolated from specimens collected in 1996. Coxsackie viruses were isolated from 44 specimens. The following coxsackie virus types (number of isolates) were identified: A9 (7), B2 (4), B3 (1), B4 (4), and B5 (28). Echoviruses were isolated from 75 specimens. The following echovirus types (number of isolates) were identified: 2 (1), 4 (1), 6 (14), 7 (1), 11 (6), 14 (2), 16 (3), 17 (30), 18 (2), 21 (5), 22 (8), 25 (1), and 30 (1). Enterovirus type 71 was isolated from 1 specimen. Two specimens from 1 patient yielded coxsackie B virus type 4 isolates and 2 specimens from each of 4 patients yielded echovirus type 17 isolates. Coxsackie B virus type 5 (CB5) and echovirus type 17 (E17) were isolated most frequently. CB5 was recovered from the specimens of 28 patients and E17 was recovered from 30 specimens collected from 26 patients.

CB5 and E17 isolates formed two peaks of viral activity (Figure 3). Dates of collection were available for 27 of the 28 CB5 positive specimens and 26 of the 30 E17 positive specimens. The CB5 peak formed during the first half of the year and the E17 peak formed during the second half of the year. Only 4 CB5 isolates were recovered from specimens collected after July 1, 1996. No E17 isolates were recovered from specimens collected prior to July 1, 1996.

Bureau of Laboratories (512) 458-7318

Figure 3. CB5 and E17 Isolates by Month of Specimen Collection



Escherichia coli O157:H7 Infections

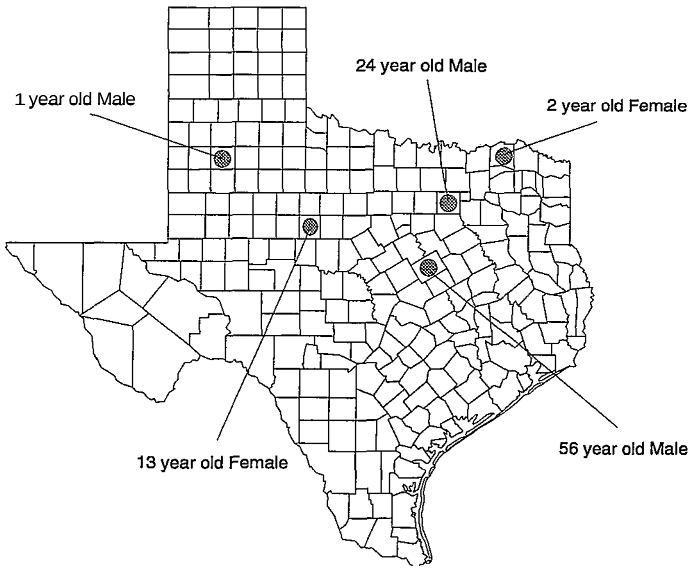
The spectrum of illness with E. *coli* O157:H7 infections ranges from asymptomatic infection to nonbloody diarrhea, bloody diarrhea, hemolytic uremic syndrome (HUS), thrombocytopenic purpura, and death. Typically, the illness begins with severe abdominal cramps and nonbloody diarrhea, which may become grossly bloody by the second or third day of illness. About half of all patients experience nausea and vomiting. Fever is usually absent or low grade. Symptoms of E. *coli* O157:H7 infection usually subside within 7 days, without sequelae. However, HUS develops in about 6% of patients. The mortality rate from E. *coli* O157:H7 infections is 3% to 5%.

There were 53 cases of culture-confirmed E. *coli* O157:H7 infections reported in 1996. As with the other diarrheal diseases, E. *coli* O157:H7 infections appear to infect younger persons at a much higher rate than they do older groups. The age group under 5 years of age accounted for 43.4% of all cases reported, and nearly 10% of the cases were younger than 1 year of age. Cases in Whites (78%) were reported more often than were cases in either Hispanics (18%) or Blacks (4%). HUS developed in 2 patients, both of whom recovered. There were no reported deaths associated with E. *coli* O157:H7 infections in 1996.

Although undercooked ground beef is usually associated with E. *coli* O157:H7 infections, only 3 of the 53 cases in 1996 were linked to ground beef consumption. In March 1996 a family purchased a 5-pound package of ground beef from a local retail grocery. This package was divided into 3 smaller lots, formed into patties, and frozen. A few weeks later, 1 of these packages was defrosted, prepared, and eaten by the family. The family took a second package with them on a camping trip the following weekend. During the camping trip, 1 of their 3 children had onset of a diarrheal illness (3 days after consuming a hamburger from the first lot). The second package of ground beef was cooked and served while the family was camping, and a second child had onset of a diarrheal illness 4 days later. Both of these cases were culture-confirmed E. *coli* O157:H7 infections. A third child became ill about 7 days after the onset of the second child's illness. This third case was thought to be transmitted from person-to-person, rather than from consumption of the contaminated food item.

During the investigation of this cluster of illness, the third package of hamburger was submitted to the Texas Department of Health (TDH) laboratory for testing and E. *coli* O157:H7 was isolated. When the isolates were compared using pulsed-field gel electrophoresis, they were found to be genetically indistinguishable. This was the first time that TDH was able to directly link an infected person with a food item contaminated with E. *coli* O157:H7. However, since the ground beef sample had been commingled with other food products (onions and spices had been added to

Figure 1. County of Residence for 5 Patients with Genetically Linked *E. coli* O157:H7 Infections



it), and had been handled in the process of forming the product into patties, a direct link to the original ground beef lot could not be made. Also, the family could not recall from which of 3 grocery retailers they may have purchased the ground beef. Because of these facts, further trace-back of the product was thought not to be of value. No additional cases of infection from that city were reported during the period between purchase of the ground beef and onset of the third case.

In October 1996, TDH was notified that a nationally distributed apple juice product had been implicated in several *E. coli* O157:H7 infections in the northwestern US. The product was distributed in Texas and the TDH Infectious Disease Epidemiology and Surveillance Division (IDEAS) was asked to ascertain whether any Texas cases could be associated with consumption of the product. All individuals with onset dates within the 2 weeks following the distribution date of the affected lots and who lived in areas in which the product was sold, were contacted.

None of the patients had a history of drinking the product. As an adjunct to this study, all *E. coli* O157:H7 isolates from TDH Laboratory were forwarded to the Centers for Disease Control and Prevention for typing. While none of the isolates matched those associated with consumption of the implicated apple juice, 5 appeared to be linked with one another. The ages of the 5 patients ranged from 1 to 56 years, and the onset of illness ranged from August 23 to November 11, 1996. Although these 5 patients had genetically indistinguishable strains of bacteria, they lived in widely separated locations, had no travel history outside their respective counties, and had no other commonalities which could be identified (Figure 1).

Infectious Disease Epidemiology and Surveillance Division (512)458-7676

Hantavirus Pulmonary Syndrome

Three cases of Hantavirus Pulmonary Syndrome (HPS) were reported to the Texas Department of Health in 1996. The first patient was a 25-year-old White man from Potter County who first complained of a severe headache on April 12. On April 15, he developed intense myalgia, fatigue, and prostration. The next day he had nausea, vomiting, diarrhea, cough, and dyspnea. On April 17, he experienced postural syncope and was taken to a local hospital. On arrival the man had a blood pressure of 90/60 mm Hg, pulse of 132, respiratory rate of 28, temperature of 101.2°F, and PO, of 46 mm Hg. His chest x-ray showed bilateral fibronodular infiltrates. Laboratory findings included a platelet count of 38,000/cu mm, a hematocrit level of 61%, an AST of 449 U/L, an ALT of 248 U/L, and an LDH of 957 U/L.

The patient was admitted and treated with fluids, antibiotics, and vasopressors. He developed refractory hypoxemia, hypotension, and acidosis and died 3 hours after arrival at the hospital. An autopsy disclosed diffuse alveolar pulmonary edema, bilateral pleural effusions, congestive hepatosplenomegaly, gastritis, and thyroiditis. Serum, sent to the University of New Mexico School of Medicine's Hantavirus Diagnostic Unit, tested positive for Sin Nombre virus.

The man, a truck driver who delivered auto parts in several rural West Texas communities, had no known rodent exposure. A team from the Zoonosis Control Division trapped rodents in Potter and Randall Counties. A total of 353 rodents, mostly Sigmodon hispidus, *Mus* musculus, Reithrodontomys megalotis, and Peromyscus maniculatus, were collected. Tissues from 10: 4 S. hispidus, 4 R. megalotis, and 2 P. maniculatus contained Sin Nombre virus.

The second HPS case was in a 26-year-old Hispanic woman from Gaines County. She had onset of fever and body aches on August 12. Three days later she went to a hospital emergency room where she had a temperature of 101"F, blood pressure of 90/50 mm Hg, pulse of 140, and respiratory rate of 32. Her PO, was 89 mm Hg and her chest x-ray showed bilateral pneumonia. Laboratory findings included a platelet count of 39,000/mm^3, and a hematocrit level of 35%.

The woman was transferred to a tertiary care center for severe respiratory distress. She died on August 16. On August 17, the University of New Mexico School of Medicine reported that her serum contained antibody to Sin Nombre virus.

The patient had been the meat market manager at a local grocery store. She had also worked as a maid, cleaning one local residence about once a week. She had not engaged in any recreational activities that would have put her at risk of infection.

Sanitarians assessed the home environment and work sites for rodent activity but found nothing remarkable. A team from the Zoonosis Control Division trapped 352 rodents, mostly *Mus* musculus, in Gaines County; none had hantavirus antibody.

The third patient was a 54-year-old African American man from Jefferson County. Prior to an emergency room visit on the evening of August 20th, the patient had felt fine except for some fatigue. During that day he had worked laying track at a cement plant. He received a prescription for antibiotics and a nebulizer treatment in the ER and was sent home. Within a few hours he began having severe shortness of breath, sweating, and a nonproductive cough. The man returned to the hospital on August 21 and was admitted to the intensive care unit with a temperature of 98.6°F, blood pressure of 90162 mm Hg, pulse of 96, respiratory rate of 16. His PO, was 53 mm Hg; Other laboratory findings included a platelet count of 65,000/mm^3, a hematocrit level of 47.6%. His condition worsened over the next few days; he was intubated on August 24 and remained on a ventilator for 7 days. The patient was extubated on August 31 and transferred to a general nursing unit on September 1. He made a full recovery.

Serum tested at the Texas Department of Health Laboratory contained hantavirus antibody. This specimen was forwarded to the University of New Mexico where it was found to be positive for Bayou virus.

This man's job required that he travel about one week at a time to different contract companies to lay or repair railroad tracks. His hobbies included fishing. The patient resides in 50-year-old house with several potential entry points for rodents, but he denied seeing rodents in the home. Rodent trapping was conducted in Jefferson and Orange Counties. A total of 195 rodents, mostly *Sigmodon* hispidus, *Mus musculus*, and Oryzomis palustris, were collected; tissues from 5 O. palustris contained hantavirus. Bayou virus was detected in the majority of rodent tissues examined. However, one of the rats was infected with a "new" hantavirus that is similar, but not identical, to Bloodland Lake virus, a virus found in *Microtus ochrogaster* in Missouri.

Nationally at least 157 HPS cases have occurred in *26* states. Fifty-nine percent of the cases have been in males. Patients have ranged in age from 11 to 69 years. The case-fatality rate is about 48%. Most cases have been caused by Sin Nombre virus. However, 6 cases have been caused by other hantaviruses: Bayou virus (3), New York virus (2), and Black Creek Canal virus (1). In addition to these known pathogens, there are at least 5 North American hantaviruses that have not been associated with human disease: Bloodland Lake virus, El Moro Canyon virus, Isla Vista virus, Muleshoe virus, and Prospect Hill virus.

Infectious Disease Epidemiology and Surveillance Division *(512) 458-7676*

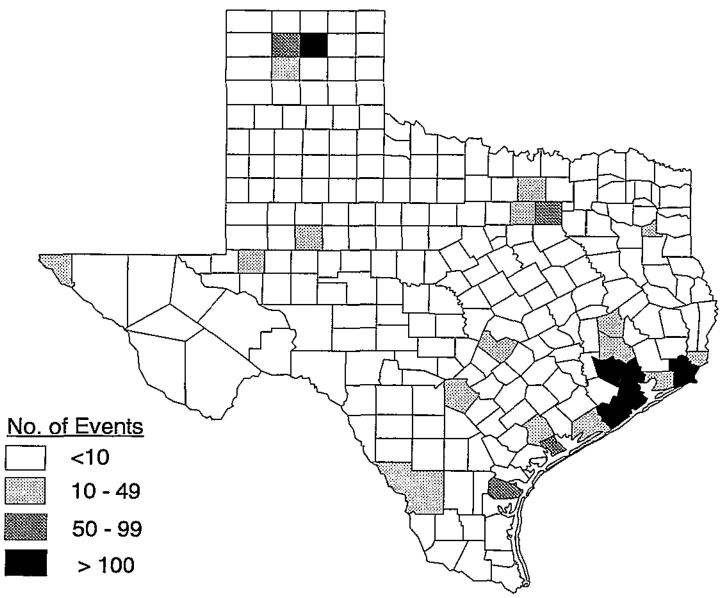
Hazardous Substances Emergency Events Surveillance

Under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR), the Texas Department of Health has conducted surveillance of hazardous substances emergency events in Texas since January 1993. The staff use a number of sources to collect information about these spills and releases involving state environmental agencies, local fire department hazardous materials units, hospitals, federal agencies, industry, and primary responsible parties. Data are collected on emergency events that meet the case definition of an uncontrolled, illegal or threatened release of hazardous substances or the hazardous by-products of substances. Information obtained about the releases is recorded on standardized data collection forms that include information on the event, substance released, individuals injured, injuries, evacuations, and emergency decontaminations.

In 1996, 2,488 reported hazardous substances emergency events met the case definition, compared with 2,118 events reported in 1995, 1,256 in 1994, and 1,260 in 1993. The increase in the number of spill events for 1995 and 1996 can be attributed in part to more reporting sources and increased efficiency in data collection. Of the 2,488 events reported in 1996, 2,265 (91%) occurred in fixed facilities, and 223 (9%) were related to transportation. Figure 1 shows the distribution of these events by county. As in previous years, the majority of releases occurred on the Texas Gulf Coast.

There were 2,546 individual chemicals, multiple chemicals, or chemical mixtures released in 2,488 events. Over 98.7% of releases from both fixed facility and transportation events involved one chemical or one mixture. Table 1 presents the most frequently spilled or released chemicals that were not part of mixtures. The 10 chemicals listed in the table were involved in approximately 31.1% of events for which the report listed only one chemical released. Sulfur dioxide releases accounted for 11.5% of single chemical releases from fixed facilities. At least another 525 (approximately one-half) of all reported releases involving mixtures of chemicals contained one or more of the ten chemicals listed on Table 1.

Figure 1. Number of Hazardous Substances Emergency Events by County



The frequency of hazardous substances releases varied by time of day, day of week, and time of year. Of the 2,488 events, approximately 67% occurred between 6 AM and 6 PM. Emergency events were less frequent on the weekends. The number of events was lowest October through December (536) and highest April through June (699).

A total of 250 persons experienced injuries related to emergency events. Approximately 19% of transportation events resulted in injuries compared with 8% of fixed facility events. Unlike previous years, in which the majority of those injured were

Table 1. Most Frequently Spilled or Released Chemicals

Rank	Chemical	Number	% of Cases
1	Sulfur dioxide	292	11.5
2	Ammonia	94	3.7
3	Benzene	94	3.7
4	Ethylene	61	2.4
5	Butadiene	60	2.4
6	Sulfuric acid	51	2.0
7	Sodium hydroxide	44	1.7
8	Carbon monoxide	40	1.6
9	Hydrogen sulfide	29	1.1
10	Hydrochloric acid	28	1.0
Total		**793**	**31.1**

from the general public, 1996 data showed that employees sustained 61% of injuries reported. Approxi-mately 30% of the remaining injuries were to the general public and 8% to emergency responders. The majority (80%) of those injured were males. Ages of the injured ranged from 1 year to 75 years with a median age of 34 years.

Over 66% of the injured were injured in 4 counties: Harris, Tarrant, Sherman, and Dallas. The rest of the injuries occurred in 31 other counties throughout Texas. Table 2 shows the types of injuries sustained in fixed facility or transportation events. Overall, respiratory irritation was the most common injury reported. Other injuries or symptoms frequently reported included eye irritation (20.4%), nausea and/or vomiting (16.4%), trauma (16%), and dizziness or other central nervous system signs or symptoms (8.4%). Approximately 28 (11%) of those injured sustained their injuries during a single event involving the release of anhydrous ammonia, a colorless liquid or gas with an intense odor and irritating fumes that are harmful, even fatal, when inhaled. Events involving 10 or more injuries included exposure to ammonia (25), molten sulfur (19), a mixture of acrolein and acrylic acid (16), a mixture of sulfuric acid and sodium hydroxide (11), and a nitrogen gas explosion (10). The rest of the victims were injured by exposure to a wide variety of chemicals.

Table 2. Distribution of Injuries by Type of Event

	Type of Event					
	Fixed Facility		Transportation		All Events	
Type of Injury	No. of Injuries	%	No. of Injuries	%	No. of Injuries	%
Chemical burns	10	3.4	0	0.0	10	2.8
Dizziness or other CNS*	13	4.5	3	4.3	16	4.4
Eye irritation	49	16.9	2	2.9	51	14.2
Headache	10	3.4	2	2.9	12	3.3
Heat stress	2	0.7	0	0.0	2	0.6
Nausea/Vomiting	28	9.7	11	15.7	39	10.8
Respiratory irritation	132	45.5	15	21.4	147	40.8
Skin irritation	9	3.1	3	4.3	12	3.3
Thermal burns	7	2.4	1	1.4	8	2.2
Trauma	17	5.9	23	32.8	40	11.1
Other	13	4.5	10	14.3	23	6.4
TOTAL	**290**		**70**		**360**	

The number of injuries is greater than the number of victims, since a victim can have more than 1 injury.
*Central nervous symptom or signs

Among the 250 persons injured, 32 (12.8%) were admitted to the hospital, and 19 died. Approximately 8.4% of those injured in fixed facility events and 4.4% of those injured in transportation related events were admitted to hospitals. Injured employees were more likely to be hospitalized (25) than were the general public (4) or responders (3).

Officials ordered evacuations in 98 (4.0%) of the 2,488 reported events. These evacuations were more likely to be ordered for fixed facility events than for transportation events. The estimated number of persons who left their homes, schools, or place of business ranged from 1 to 1,200 with a total of 10,631 persons evacuated. Ammonia releases accounted for approximately 19.3% of events with ordered evacuations, the highest proportion for any chemical release. An estimated 3,448 people were evacuated as a result of releases of ammonia.

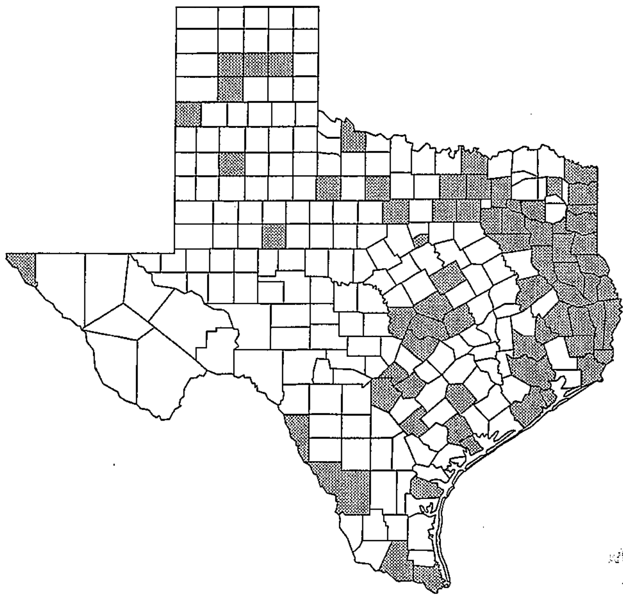
The information obtained from the hazardous substances emergency events surveillance system can help identify risk factors related to these events and the associated morbidity and mortality. In Texas these events are most likely to occur in the Gulf Coast counties and at fixed facilities. Although sulfur dioxide is the most frequently reported chemical released, acute injuries are more likely to occur with releases of ammonia. Employees who are injured in these events are more likely to sustain injuries serious enough to warrant hospitalization than members of the general public or responders. This information can be useful in education programs for manufacturers and transporters of hazardous substances as well as for local emergency planning committees, first responders, firefighters, hazardous materials units, and medical personnel.

Noncommunicable Disease Epidemiology and Toxicology Division (512) 458-7269

Health Risk Assessment and Toxicology

Texas Department of Health receives many requests for assistance regarding health concerns attributed to chemical exposures. These include concerns about chemicals in the water, the air, the soil, foods, and products used around the home like pesticides. The Health Risk Assessment and Toxicology (HRAT) program evaluates and addresses these concerns through Public Health Assessments and Health Consultations. In addition, HRAT educates community residents and health care providers about exposure to toxic chemicals. Funding and technical assistance for HRAT activities are provided by the Agency for Toxic Substances and Disease Registry (ATSDR), an agency within the Public Health Service in the US Department of Health and Human Services. In 1996, HRAT completed activities involving 87 sites in 70 counties (Figure 1).

Figure 1. HRAT Activities by County



Of the many chemically related hazards to which the HRAT program responded in 1996, three stand out as the most significant:

Alcoa (Point Comfort)/ Lavaca Bay Site, Calhoun County

Human consumption of mercury-contaminated fish from a prohibited area of Lavaca Bay can be harmful. Pregnant women need to be aware of the particular risk to a fetus. In the past, the Alcoa Corporation released mercury into the Bay. A closure order issued by TDH in 1988 prohibits the taking of fish and crabs from one section of Lavaca Bay near Alcoa. The HRAT program has been involved at the site for a number of years. This year HRAT

- Provided health clinics, grocery stores, government offices, and businesses in the Port Lavaca/ Point Comfort area with more than 8,800 pamphlets that illustrate the prohibited area and explain the health effects of mercury.

- Determined that the risk of exposure for a Vietnamese shrimping community in Seadrift (near Lavaca Bay) was low after conducting a door-to-door fish consumption survey. Though seafood consumption in this community is relatively high, the survey showed that the consumption of seafood from Lavaca Bay was low.

- Worked with the Community Advisory Panel to Alcoa (CAPA) to design health warning signs in English, Spanish, and Vietnamese. The signs were posted next to boat launches near the closure area. HRAT also worked with the CAPA; Alcoa; and local, state, and federal agencies to design and install 11 lighted signs on pilings in Lavaca Bay along the boundary of the prohibited area. The signs warn fishers or crabbers who may enter Lavaca Bay on the water of the prohibited area.

Brio Refining Site, Harris County

The groundwater and a nearby creek contain chemicals due to a large volume of buried wastes (including petroleum-related chemicals, styrene tars, and vinyl chloride) at this abandoned refinery site in Houston. TDH identified four untested residential water wells within one mile of the Brio site. Concerned citizens asked TDH to test the water from the wells to determine if it was safe. In addition, the US Environmental Protection Agency has been working with a Community Advisory Group (CAG) and the responsible parties at the site to develop an agreeable cleanup remedy. The CAG asked TDH to review the cleanup plan. Also, after Harris County Flood Control District (HCFCD) workers reported seeing and smelling chemicals in a creek that flows past the Brio site, HCFCD and ATSDR asked TDH to review sediment and creek water sampling data. As a result of these requests, HRAT

- Determined that the water in wells near the site did not pose a health risk to residents who used it. After taking samples of the well water and analyzing the sampling results, HRAT notified the well users of the results.
- Provided the CAG with recommendations on environmental methods for preventing human exposure to site contaminants. The CAG came to an agreement with the responsible parties on the proposed remedy for the site.
- Determined that creek sediments and creek water did not pose a health threat to workers in the area and notified concerned parties.

Mercury Poisoning Due to Beauty Cream Use

The use of Crema de Belleza—Manning, a beauty cream containing 6% to 10% mercury by weight, was discovered among residents in the US-Mexico border area. The beauty cream was produced and sold in Mexico, but also found in shops and flea markets near the US-Mexico border. The response to this health hazard was a joint effort, involving TDH regional staff; the Office of Border Health; the Associateship for Environmental and Consumer Health; the HRAT Program/Bureau of Epidemiology; and other local, state, and federal agencies. To protect public health, TDH

- Issued a press release in April 1996 alerting the public to the possible dangers associated with using the cream.
- Sent a medical alert to more than 600 border area physicians to notify them of the cream and its potential effects.
- Worked with the New Mexico Department of Health, the Centers for Disease Control and Prevention, and Mexican health officials to identify the problem. As a result, the Mexican Secretary of Health seized 35,000 containers of Crema de Belleza—Manning and stopped production of the cream in the state of Tampaulipas, Mexico.
- Worked with other health agencies to identify 345 beauty cream users (77 in Texas) in US-Mexico border states. Seventy percent of those tested had elevated mercury levels (defined as a level $>20\mu g/L$ in urine). The highest level reported was 1170 $\mu g/L$.

Highlights of other HRAT activities are shown in Table 1 on the following page.

Noncommunicable Disease Epidemiology and Toxicology Division (512) 458-7222

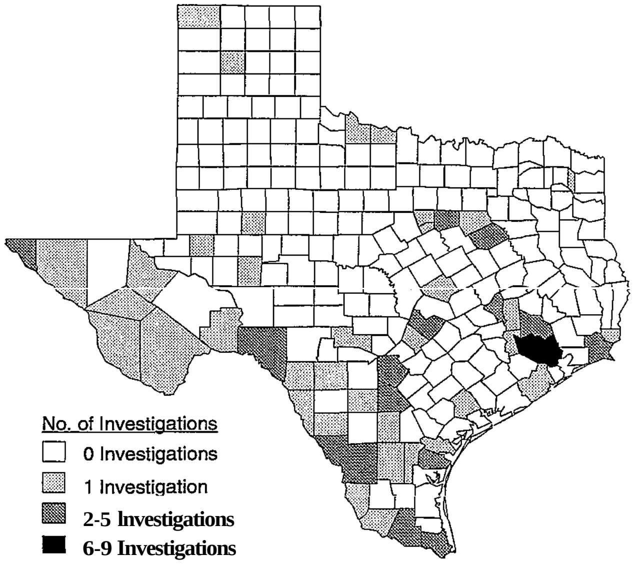
Table 1: Other HRAT Investigations

Investigation:	Result:
Dallas: comparison of soil lead levels in residential yards with blood lead levels of residents in the Cadillac Heights neighborhood near the National Lead smelter	worked with the Texas Natural Resource Conservation Commission to assure that contaminated soil in several yards be removed to decrease risk to young children
Robstown: analysis of chemicals in the air released from the OxyChem-McKenzie Road plant	found that air releases of chemicals from the plant were not likely to be the cause of health problems reported by residents in the area
El Paso: citizen concern about the prevalence of multiple sclerosis (MS) among former students of an elementary school	obtained funding to determine the prevalence of MS among the former students—study in design phase
Amarillo: community health concerns from residents near the Pantex Plant National Priorities List site	worked with the Birth Defects Monitoring Division and the Texas Cancer Registry to review available health outcome data; responded to concerns in Public Health Assessment

Health Studies Program Investigations

The Health Studies Program (HSP), is responsible for the investigation of noninfectious disease clusters, special surveillance projects, and the design and implementation of epidemiologic health studies. Each year, HSP conducts a wide variety of investigations related to health and the environment.

Figure 1. **Health Studies Program Investigations**



Background

Individual citizens, citizen groups, federal/state/local governmental agencies, environmental groups, and individual health professionals contact HSP with concerns that typically fall into two categories: concern that the incidence of a particular disease in a community is excessive and concern that an environmental exposure is causing a health risk in a community. HSP often works cooperatively with other Texas Department of Health (TDH) programs such as the Health Risk Assessment and Toxicology Program, the Texas Cancer Registry, and the Texas Birth Defects Monitoring Division to investigate these concerns. In addition, HSP works closely with local health departments; other state agencies including the Railroad Commission of Texas, the Texas Natural Resource Conservation Commission, the Texas Department of Agriculture; and federal agencies such as the Agency for Toxic Substances and Disease Registry.

Investigation Sites

In 1996, HSP completed 50 investigations throughout the state. Investigations encompassed 51 counties. The scope of the investigation may have covered an entire county or, more typically, a city or town within that county. Each investigation may have involved an environmental and/or health-related concern. Figure 1 displays the counties and the number of investigations conducted per county. Harris County accounted for the largest number of investigations with nine investigations completed for Houston/Harris County in 1996.

Environmental Concerns

The types of environmental issues addressed (including the number of investigations) are as follows:

4 general environmental concerns (14)
4 industrial emissions (12)
refinery operations (4 of the 12)
4 drinking water contamination (6)
♦ general chemical concerns (6)
4 indoor air problems (5)
4 Federal/State Superfund sites (4)
4 landfill issues (3)

Health Concerns

Health concerns included chronic diseases (50%), adverse reproductive outcomes (20%), and other miscellaneous conditions (30%) such as rashes, respiratory conditions, and cardiovascular problems. The majority (70%) of investigations addressed the following concerns:

Chronic Diseases
- cancer (18)
- Henoch-Schonlein purpura (1)
- autoimmune disorders (6)
  - systemic lupus erythematosus (4)
  - multiple sclerosis (1)
  - amyotrophic lateral sclerosis (ALS) (1)

Adverse Reproductive Outcomes
- birth defects *(5)*
  - Down syndrome (1)
  - neural tube defects (4)
- developmental delays (1)
- spontaneous abortion (2)
- other general adverse reproductive outcomes (2)

Among chronic diseases, cancer accounts for the largest number of investigations (18). HSP works closely with the Texas Cancer Registry to address all cancer-related concerns. In the past several years, however, there has been a marked increase in the number of requests for HSP to investigate autoimmune disorders such as lupus erythematosus and multiple sclerosis. Beginning in late 1997, HSP will collaborate with the Health Risk Assessment and Toxicology Program and the Agency for Toxic Substances and Disease Registry in an investigation of a possible increase in the incidence of multiple sclerosis in an El Paso community.

Birth defects account for a large proportion of complaints in the category of adverse reproductive outcomes. HSP works closely with the Texas Birth Defects Monitoring Division when responding to concerns regarding birth defects. In 1996, HSP assisted this division with an extensive investigation of Down syndrome in Ellis, Hood, Johnson, and Somervell Counties.

Noncommunicable Disease Epidemiology and Toxicology Division (512) 458-7222

Hepatitis A

Hepatitis A is an acute, self-limiting infection caused by an enterically acquired virus. The hepatitis A virus (HAV) is concentrated in stool, and infection is transmitted from person to person by the fecal-oral route. Illness begins abruptly, and symptoms commonly include fatigue, mild fever, malaise, nausea and vomiting, abdominal pain, and anorexia. Jaundice, dark-colored urine, and diarrhea occur less frequently. Many individuals, particularly young children, have asymptomatic infections. For this reason it is difficult to determine a population's level of susceptibility based solely on the incidence of symptomatic illness.

Hepatitis A is among the most frequently reported infectious diseases in Texas. This year, 3,460 cases were reported from 141 counties throughout the state. The 1996 total represents a 13.6% increase over the 3,001 cases reported in 1995. The statewide incidence rate rose from 16 per 100,000 population in 1995 to 18.2 per 100,000 population this year. This increase appears to be due to improved reporting of hepatitis from the rural counties. Two individuals died from acute hepatitis A infection in 1996, for a case-fatality rate of .06% (Table 1).

Of the 3,460 cases reported, 57% occurred in ethnic Hispanics, 23% in Whites, 4% in African Americans, and less than 1% in other racial groups. The incidence rates (cases per 100,000 population) were 35 for Hispanics, 7 for Whites, 6 for African Americans, and 7 for all others. This year, the incidence rate for males (20) was slightly higher than that for females (17) (Figure 1).

Hepatitis A spreads easily in families, child-care facilities, and schools. Accordingly, children have the greatest risk of infection: in 1996, one-third of all reported cases occurred in children under 10 years of age. The statewide incidence rate remained highest among 5- to 9-year-olds and increased from 47 in 1995 to 57 in 1996 (Figure 1). Incidence rates were particularly high among Hispanic children (80 for children under age 10). In contrast, the incidence rate for White children under age 10 was 8. Among Hispanics, children aged 5 to 9 accounted for 35% of the total reported cases and had an age-specific incidence rate of 129. Whites tend to acquire the disease later in life; 44% of cases affecting this group occurred in individuals 20 to 39 years (an age-specific incidence rate of 11).

There were no reported community-wide outbreaks of hepatitis A in 1996. However, significantly improved reporting from rural counties and along the Texas-Mexico border appears to explain much of the increase in incidence rates.

In December 1996 the Advisory Committee on Immunization Practices (ACIP) of the United States Public Health Service released new guidelines for the prevention of hepatitis A through active or passive immunization. The following statement was added to the goals of hepatitis A surveillance at the national, state,

Table 1. Incidence and Demographics of Hepatitis A, 1995 and 1996

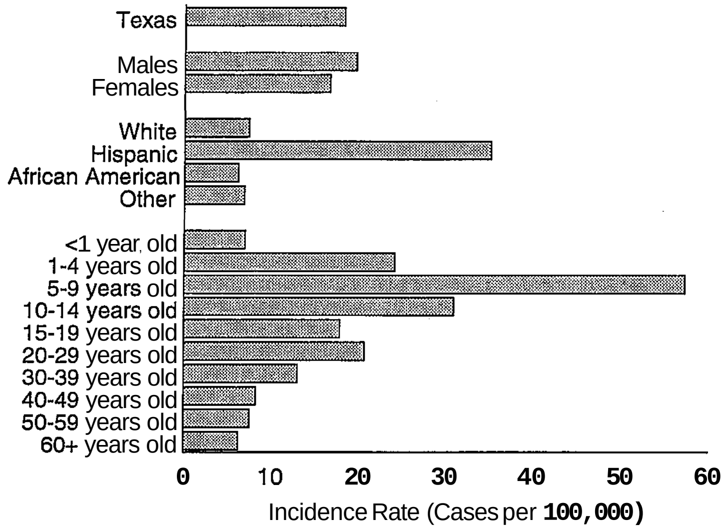
	1995	1996
Counties Reporting	140	141
Incidence Rate* Statewide	16	18
Incidence Rate* by Race/Ethnicity		
White	7	7
Hispanic	28	35
African American	5	6
Male/Female Ratio	1.1:1	1.1:1
Deaths	1	2
Case/Fatality Ratio	.3%	.6%
Case Total	3001	3460

*Cases per 100,000

and local levels: "determining the effectiveness of hepatitis A vaccination and determining missed opportunities for vaccination."

Groups identified as being at increased risk of hepatitis A infection include individuals (such as tourists, military personnel, and missionaries) who travel to developing countries, men who have sex with men, persons who use "street" drugs, and persons who work with nonhuman primates. Others who may be at risk include persons who have chronic liver disease, persons who have clotting-factor disorders (such as hemophilic patients), children who attend day-care facilities, and persons who work in day-care facilities.

Figure 1. Reported Cases of Hepatitis A per 100,000 Population by Sex, Race/Ethnicity, and Age



Groups that should receive pre-exposure hepatitis A vaccination include travelers to developing countries; persons with chronic liver disease; children who live in communities with high hepatitis **A** seroprevalence (30-40% in children under age 5); and, if indicated, children and young adults in communities that have intermediate hepatitis A seroprevalence (10-15% in children under 5). Prophylaxis of household and other close contacts with immune globulin remains the method of choice for controlling the spread of infection in an outbreak. Proper hygiene and handwashing remain essential in controlling the spread of hepatitis A virus and other foodborne illnesses.

Infectious Disease Epidemiology and Surveillance Division (512) 458-7676

Hepatitis B

Although the clinical symptoms of hepatitis B virus (HBV) are indistinguishable from those for other types of hepatitis, the epidemiologic characteristics are distinctive for a bloodborne disease. HBV is commonly transmitted by direct contact with infectious blood or sexual secretions. It may also appear in the saliva of persons with a high degree of infectivity (a positive hepatitis B "e" antigen [HBeAg] status). The severity of the disease ranges from clinically silent infections to fulminant hepatitis. Among adults, only 5 to 10% of acute hepatitis B virus infections progress to chronic infections; in contrast, up to 90% of infected newborns remain lifelong carriers if they are not treated with hepatitis B immune globulin (HBIG) and hepatitis B vaccine.

The transmission of hepatitis B virus is clearly associated with adult behaviors. In recent years, sexual contact with multiple partners has replaced injection drug use as the predominant risk factor in the United States. Additional risk factors include percutaneous contacts with blood (such as needlesticks) and household and/or sexual contact with a hepatitis B patient.

Hepatitis B infection has had a major impact on health care in Texas for over 30 years. However, the number of HBV infections has declined steadily from the all-time high of approximately 2,000 cases reported in 1991. This downward trend is also observed elsewhere in the US. One of the reasons for the decline is increased use of tests measuring the IgM antibody to the hepatitis B core antigen (IgM anti-HBc). This test helps clinicians distinguish acute hepatitis B infection from chronic hepatitis B infection. More than 99% of the Texas cases are reported on the basis of specific serologic testing.

In 1196, 1,258 cases of hepatitis B were reported to the Texas Department of Health (TDH) from 115 counties, a slight (3%) increase over the 1,211 cases reported in 1995. There were no reported hepatitis B outbreaks in 1996. Seven males and 1 female died of HBV infection in 1996: 2 were from El Paso County; 2, from Dallas County; and 1 each, from Cherokee, Lamar, Jim Wells, and Harris Counties. The case-fatality rate statewide was 0.6% (Table 1).

Table 1. Incidence and Demographics of Hepatitis B, 1995 and 1996

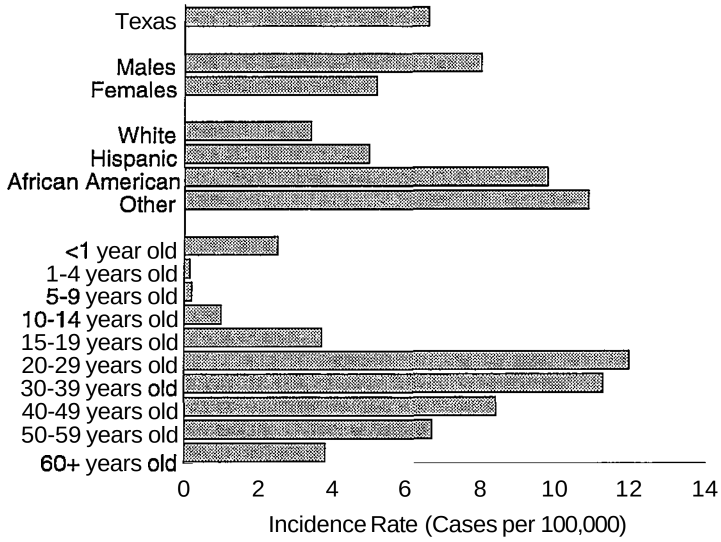
	1995	1996
Counties Reporting	122	115
Incidence Rate* Statewide	6.5	6.6
Incidence Rate* by Race/Ethnicity		
White	39.0	3.4
Hispanic	4.6	5.0
African American	10.3	9.8
Male/Female Ratio	1.4:1	1.5:1
Deaths	1	8
Case/Fatality Ratio	.1%	.6%
Case Total	1211	1258

*Cases per 100,000

Historically, males have accounted for more cases of HBV infection than have females. In 1996 the incidence rates were 8.0 per 100,000 population for males and 5.2 per 100,000 population for females. When incidence data are examined by gender and race/ethnicity, however, this overall pattern shows some variability. For hepatitis B cases identified among Whites and Hispanics, there are 1.5 to 2 males for every female. For cases among African Americans, however, the proportion is equal; and for cases among Native Americans, persons of Asian descent, and Pacific Islanders, there is a 3:2 ratio of females to males.

The distribution of hepatitis B cases by age group clearly shows a focus of incidence among sexually active age groups: adolescents and young adults (Figure 1). Approximately 50% of all hepatitis B cases occurred in persons aged 15 to 35 years; 81% occurred in persons under age 50. Fourteen percent of the cases reported among African Americans were in adolescents under the age of 20, whereas adolescents represented only 4% and 6% of the cases among Whites and Hispanics, respectively. For Hispanics and African Americans, incidence levels peaked in those aged 20 to 29 years, whereas for the rest of the population the age group with peak incidence levels for hepatitis B was the 30- to 39-year-olds. Acute hepatitis B incidence tapers off as the populations get older and prevalence increases.

Figure 1. Reported Cases of Hepatitis B per 100,000 Population by Sex, Race/Ethnicity, and Age



Hepatitis B vaccination is effective in preventing infection and is especially recommended for individuals who have multiple sex partners, use injectable drugs, live in the same household as a hepatitis B carrier, have occupational exposure to blood, and/or are newborn infants. In 1995 the US Public Health Service Advisory Committee on Immunization Practices (ACIP) recommended that previously unvaccinated children 11 years of age should receive hepatitis B vaccine. The Texas Department of Health has initiated an immunization program to protect adolescents from hepatitis B infection.

Infectious Disease Epidemiology and Surveillance Division (512) 458-7676

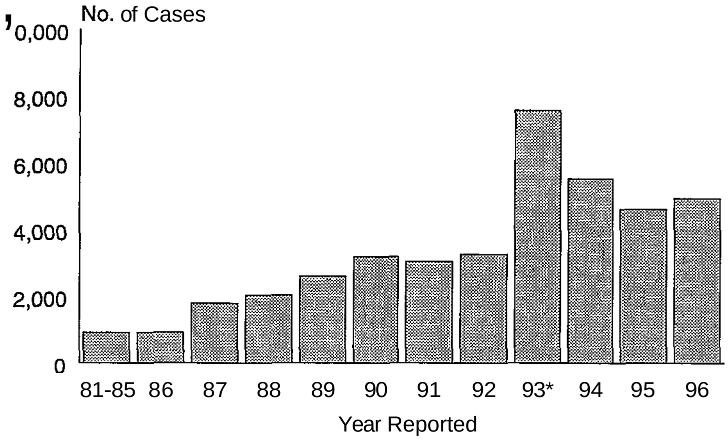
HIV/AIDS

Acquired immunodeficiency syndrome (AIDS) is a specific group of diseases or conditions that result from severe immunosuppression caused by infection with the human immunodeficiency virus (HIV). This virus specifically infects and depletes a subgroup of white blood cells called helper T-lymphocytes. These cells are also called CD4+ T-cells, which is a term based on laboratory tests that identify these cells by a specific cell surface marker, CD4+. The decline in the number of CD4+ T-cells is an indicator of HIV disease progression.

CDC has developed statistical methods for comparing the number of cases before and after the new definition to adjust for the sharp shift in numbers caused by the case definition change. The method, which is still being tested, adjusts the number of cases in the years since 1993 by estimating how many months later a case reported under the new definition would have probably also met the earlier criteria. Based on this estimate, these cases are then redistributed to this later time.

The CD4+ T-cell count became an important part of the AIDS surveillance case definition that the Centers for Disease Control and Prevention (CDC) revised in 1993. The new case definition includes all HIV-infected persons with CD4+ counts fewer than 200/μL of blood or less than 14% of total lymphocytes. Before this change, the case definition relied on a confirmed positive HIV test and the identification of one of several indicator diseases that commonly occur among immuno-compromised HIV-infected patients.

Figure 1. AIDS Cases by Year of Report, 1981-1996 40,307 Cumulative Cases Reported through December 31, 1996



'Expanded AIDS surveillance definition implemented

Identifying trends in the AIDS epidemic in recent years has been difficult because of the change in the AIDS case definition. The inclusion of the CD4+ criteria caused a marked increase in cases reported in 1993. The lower numbers from 1994 to 1996, after the peak in 1993, may not be a true decline in AIDS morbidity (Figure 1). Rather, a tremendous number of cases meeting the new definition artificially inflated the 1993 count. Many HIV-infected persons met the new criteria for AIDS months or years earlier than they would have met the previous criteria. A high percentage of recent AIDS cases are now reported based on CD4+ counts rather than AIDS indicator diseases (62% of those reported in 1996).

1996 Texas AIDS Statistics

The World Health Organization estimates that globally AIDS had afflicted over 6.7 million people by the end of 1996. Nationally, more than 500,000 AIDS cases have been reported. Through the end of 1996, 40,307 AIDS cases have been reported in Texas since the epidemic began in the early 1980s. Texas ranked fourth highest in the US with 4,932 AIDS cases reported in 1996. The overall rate was 26.0 AIDS cases per 100,000 population. In the US and in Texas, HIV/AIDS is the leading cause of death for men 25 to 44 years old. It ranks third in the nation and fourth in Texas as the leading cause of death for women in this age group.

During 1996 the rate of reported AIDS cases among African Americans (73.3 per 100,000 population) was more than 3 times higher than rates for Whites (20.3) or Hispanics (20.1). Among females, the case rate was 7.9 cases per 100,000 population. In the African American female population, however, the rate was significantly higher at 36.2 cases per 100,000. The Hispanic female rate was 5.4, and the White female rate was 3.6. The 1996 AIDS rate for males (44.6 per 100,000 population) was much higher than that for females (7.9). The African American male population had the highest rate, 113.5, followed by White males at 37.7 and Hispanic males at 34.5 AIDS cases per 100,000 population (Table 1).

Table 1. AIDS Cases Reported in 1996 by Sex and Race*

Sex/Race	Cases	%	Cases per 100,000
Males			44.6
White	1997	43.8	37.7
African American	1190	25.0	113.3
Hispanic	953	18.5	34.5
All Others	32	0.7	--
Females			7.9
White	199	3.3	3.6
African American	411	6.7	36.2
Hispanic	146	1.9	5.4
All Others	4	<0.1	--
Total Cases	**4932**	**100.0**	**25.0**

*The category ***All Others*** includes any racial/ethnic groups not listed as well as those cases not specifying race. Therefore, a rate is not calculated.

Although lower than in previous years, the exposure category "male-to-male sex" constituted the highest proportion (60.3%) of AIDS cases among men. Injecting drug use was the most likely route of transmission for 12.5% of men reported with AIDS in 1996. Among women, 43.3% were infected through heterosexual contact and 32.0% through the use of injecting drugs. A higher percentage of cases among women (22.2%) than men (12.5%) were initially left unclassified as to mode of exposure (Figure 2). For both sexes, the percentage of cases that remain unclassified will decrease as the investigations of risk are completed.

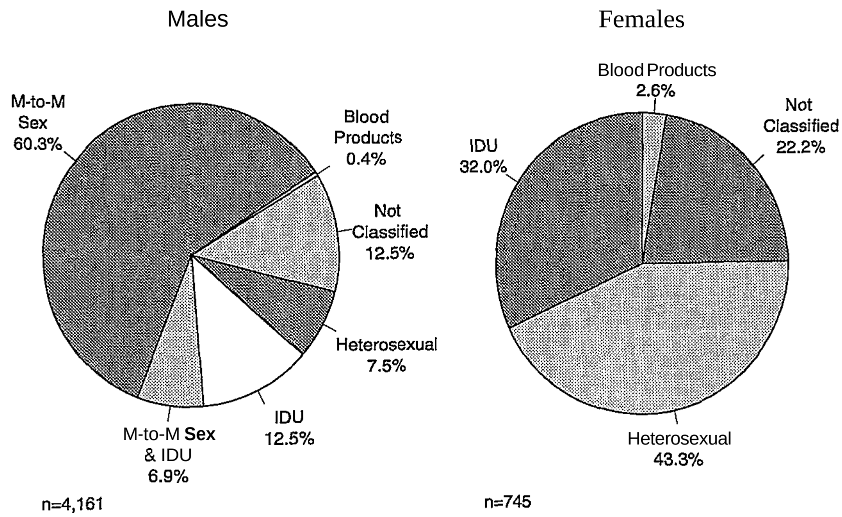
Most AIDS cases in Texas continue to be reported from metropolitan areas. The largest number of cases reported in 1996 was from Harris County (1,752) followed by Dallas (868), Bexar (403), Travis (254), Tarrant (219), and El Paso Counties (122). Ranking these counties by rate slightly affects the order. Harris County had the highest rate (56.4 per 100,000 population) followed by Dallas (42.2), Travis (41.0), and Bexar Counties (31.0). The rates of El Paso and Tarrant Counties were 17.5 and 15.7 cases per 100,000 population, respectively. Only 30 of the 254 counties in Texas have never reported an AIDS case. The Texas Department of Criminal Justice reported 6% of all 1996 AIDS cases; over half of these patients reported injecting drug use as the mode of exposure. Although still centered mainly in the metropolitan areas of the state, the HIV epidemic continues to spread to more rural areas, requiring all counties to face the challenges of providing prevention education, health care, and services.

HIV Reporting

AIDS cases reflect HIV infections beginning years earlier; therefore, reports of HIV infection rather than AIDS cases tend to reflect more recent infections. For health professionals to follow the current trends of a disease and to develop prevention strategies, prompt identification and reporting of infection is essential. HIV reporting would help meet this need, but the progress towards adequate HIV reporting has been slow.

In 1994 TDH began evaluating an experimental method of HIV infection reporting that does not use the person's name to identify the record. Rather than names, a unique identifier (UI) system is used. The UI is a combination of patient information that includes: the last four digits of the Social Security Number, date of birth, sex, and race/ethnicity. Of the 18,464 HIV infection reports received from 1994 to 1996, only 8,228 (45%) had complete UIs. Both underreporting and incomplete reports severely limit the usefulness of these data for measuring the level of HIV infection in the state.

Figure 2. Adult-Adolescent* AIDS Cases Reported in 1996 Mode of Exposure by Gender



'Age 13 or older at time of AIDS diagnosis

Some basic comparisons between HIV infection reports and AIDS case reports can be made in spite of the limitations of the HIV data. Because HIV infection reports include cases that have not yet progressed to AIDS, they provide a more current picture of the epidemic than AIDS case data. Differences in the demographic distribution of AIDS and HIV cases may show how the epidemic is changing. In the following comparisons, HIV cases with UI information that matched information in the AIDS registry were excluded from the HIV case data. Because these cases are already reported as AIDS, they are probably less recent infections and might mask trends.

In 1996, 2,131 HIV cases were reported; 27% were among women, compared with only 15% of the AIDS cases reported in 1996. African Americans composed 40% of HIV infection reports, but only 33% of AIDS cases reported. The percentage of AIDS cases for Whites was about 45% but only 36% among HIV infection reports. Similar differences are seen when comparing AIDS cases reported in 1992 and 1996. Of the AIDS cases reported in 1996, 15% were among women, compared with only 9% in 1992. In 1996 African Americans composed 33% of cases, an increase from 24% in 1992. These shifts indicate that HIV is spreading among women and African Americans.

HIV reporting is critical to the accurate and timely assessment of disease trends. New drug treatments now available to HIV-infected patients delay the decline of CD4+ counts and may also delay the progression to an AIDS-defining condition for these individuals. In the near future, a decline in the number of AIDS cases may be more a reflection of medical treatment delaying an AIDS-defining condition than the prevention of disease. These developments will reduce the usefulness of AIDS case data for analyzing the epidemic and increase the need for better HIV reporting.

Public health efforts to prevent disease hinge on relevant, complete, and timely data to distribute available funds appropriately for prevention and control programs.

HIV and STD Epidemiology Division
(512) 490-2545

Measles

Forty-seven cases of measles occurred during an outbreak that began in Kingwood (Harris County) on May 9,1996. Twenty-four cases were classified as confirmed, and 23 cases were classified as probable. A case was confirmed if serology results were consistent with current or recent measles virus infection, whereas a probable case met the clinical case definition but had noncontributory or no serologic or virologic testing.

Cases were reported in the following 6 counties in southeast Texas: Harris (34), Montgomery (5), Galveston (3), Liberty (3), Fort Bend (1), and Trinity (1). The first 12 confirmed cases that occurred were all epidemiologically linked either by attendance at the same school or day-care center or participation in swim team activities. A later case which occurred on July 25 was also linked to this Kingwood group. These 13 children ranged in age from 11 months to 13 years. Nine had been vaccinated with at least one dose of measles vaccine.

The first evidence that the outbreak had spread into neighboring counties occurred in mid-July when a child living in Daisetta (Liberty County) was reported to have a measles-like rash. Investigation revealed that this child's family had been in the Humble-Kingwood area throughout the Fourth of July holiday. Almost immediately thereafter, cases were confirmed in Montgomery County and in Galveston County.

These 47 measles cases do not reflect the full impact of this outbreak. Almost 300 suspected measles cases were reported and investigated between mid-May and late-October. Every suspected case of measles required an extensive investigation by public health staff that often included home visits to collect specimens for laboratory confirmation of the diagnosis, as well as documentation of the clinical illness and vaccine history. Suspected case-patients (or their parents) were also interviewed in order to gather information about where they might have been exposed or whom they may have infected during their communicable period. Most investigations took days or weeks to complete and required the cooperative efforts of several investigators and agencies. More than 250,000 doses of measles/mumps/rubella (MMR) or single-antigen measles vaccine were distributed to clinics and health departments throughout Harris and surrounding counties during this outbreak.

In response to this outbreak, both the Harris County Health Department and the Houston Health and Human Services Department required all students enrolled in public or private schools or child-care facilities within their jurisdictions to have 2 doses of measles vaccine on or after their first birthday. Students had to comply with these requirements in order to stay in school or childcare.

Two additional cases of measles occurred in Texas during 1996. Both infections were acquired outside the United States. The first was in a 23-year-old woman residing in Brownsville (Cameron County) who became ill in March after traveling into Mexico. The second was in a 28-year-old Italian Air Force pilot who was exposed to measles in Italy but became ill while in Wichita Falls (Wichita County).

Immunization Division (800)252-9152

Mumps

A total of 245 suspected cases of mumps were reported to public health officials in Texas in 1996, yet only 18% (441245) were considered to be confirmed or probable following case investigation and serologic testing. A confirmed case of mumps was one which met the clinical case definition and was serologically confirmed or one which could be epidemiologically linked to such a case. A probable case was one in which the illness met the clinical case definition; the patient was excluded (9 days) from childcare, school, or work as if they had a confirmed case of mumps; and no serological tests were ordered. Thirty-seven (84%) of the 44 cases in 1996 were classified as confirmed.

Twenty-five percent (11/44) of mumps infections in 1996 were acquired outside the United States. Case-patients reported travel to the following countries during their exposure periods: Argentina (1), Dominica (an island in the Dominican Republic) (1) Mexico (8), and the Philippines (1). Sixty-four percent (7/11) of the case-patients with imported disease had never been vaccinated against mumps or did not know their vaccine status.

Cases in 1996 were evenly distributed by sex with 22 cases each. The distribution of cases by race was, however, overwhelmingly White. Only 2 of the 44 mumps patients in 1996 were not White; 64% (27142) were of Hispanic ethnicity. Overall, 66% (29/44) of the patients with mumps reported in 1996 had been vaccinated with at least 1 dose of a mumps-containing vaccine. Cases of mumps occurred in every month throughout 1996.

Since January 1995, when the surveillance of mumps was expanded and serologic confirmation of all clinically diagnosed cases was strongly encouraged, 83% (426/531) of suspected mumps cases have been ruled out. Routine serologic testing has had a dramatic impact on reducing mumps morbidity in Texas.

Immunization Division (800) 252-9152

Nosocomial Legionnaire Disease in Bexar County

There are 35 currently recognized species of *Legionella* bacteria, any one of which can cause legionellosis in a susceptible host. Most diagnosed cases are due to infection with 1 of the 18 serogroups of L. *pneumophila*, with serogroups 1-6 being most commonly associated with human illness. All *Legionellae* live in water, and the bacteria can be recovered from almost any type of water source. The bacteria live primarily in warm water, growing best at temperatures from 95°F to 120°F.

Human cases of disease present either as Pontiac fever, an acute febrile illness that resolves spontaneously within 1 week, or as Legionnaire disease. Patients with Legionnaire disease typically present with pneumonia, myalgia, headache, and fever and may have gastrointestinal problems. The diagnosis can be confirmed by a positive culture from sputum or bronchial washings, a positive DFA on a sputum sample, a positive urine antigen test, or 4-fold rising IFA titers to a level of at least 1:128 between acute and convalescent samples taken 3-6 weeks apart. Infection occurs exclusively from environmental exposure to aerosols of contaminated water, and inhalation is the primary route of infection. There is no person-to-person transmission of legionellosis. The incubation period between infection and the onset of symptoms is usually 2 to 10 days. Patients usually respond to therapy with either erythromycin or doxycycline.

In November 1996 the Texas Department of Health (TDH) Infectious Disease Epidemiology and Surveillance Division was contacted about a cluster of Legionnaire disease cases at a hospital in San Antonio. The cluster was first recognized by the hospital infection control practitioner, who became suspicious after 4 patients with severe underlying conditions all developed Legionnaire disease from August through October 1996, and 3 patients died. Two of the patients were bone marrow transplant recipients, 1 patient had leukemia, and 1 patient had heart disease. TDH investigated the cluster and determined that 3 of the 4 patients had nosocomially acquired infections, and the fourth patient had a possible nosocomial infection. A fifth legionellosis case in the same facility appeared to be community acquired.

TDH personnel from Public Health Region 8 collected environmental samples from the hospital. *L. pneumophila* 1 was recovered from the hot water storage tanks and both the shower head and the water faucet in 1 patient's room. All of the positive environmental isolates were identical to 1 of the patient's positive sputum culture isolates when matched by pulsed field gel electrophoresis (PFGE) analysis at the TDH laboratory in Austin. In December, because of the strong evidence of nosocomial Legionnaire disease at the hospital, the facility flushed the water distribution system with super-heated water to eradicate the bacteria. Initial follow-up cultures collected in January 1997 were negative for *Legionellae* species.

As part of the outbreak investigation, TDH staff also contacted other San Antonio hospitals to determine if other cases could be found. A total of 11 legionellosis cases in 5 different hospitals were identified, and 8 of these infections were determined to be either possibly or definitely nosocomially acquired.

Infectious Disease Epidemiology and Surveillance Division (512) 458-7676

Outbreak of Chronic Diarrhea, Fannin County

In June 1996 north central Texas physicians reported an outbreak of chronic diarrhea among residents of Fannin County. The clinical illness of the patients was similar to an illness termed Brainerd Diarrhea, named for an outbreak of chronic diarrhea involving 122 persons in 1983 in Brainerd, Minnesota. In that outbreak, illness was associated with consumption of unpasteurized cow milk. In a second outbreak involving 72 persons in Illinois in 1987, illness was probably associated with untreated water served at a restaurant.

The Texas Department of Health and the Centers for Disease Control and Prevention, Atlanta, Georgia initiated an investigation to identify the etiologic agent and risk factors associated with illness. A case-patient was defined as a person who visited or resided in Fannin County with diarrhea lasting for 4 weeks or longer with onset after April 1, 1996.

Controls were selected from nonill persons who were meal companions of a case. An additional set of controls was selected from area telephone books. The telephone numbers preceding or after the patient's phone number were called until an appropriate nonill person was found.

A total of 99 persons met the case definition. Most (60%) persons were females. The median age was 63 years. Onset of illness for all case-patients occurred during the period of April 1 through July 29. (Figure 1).

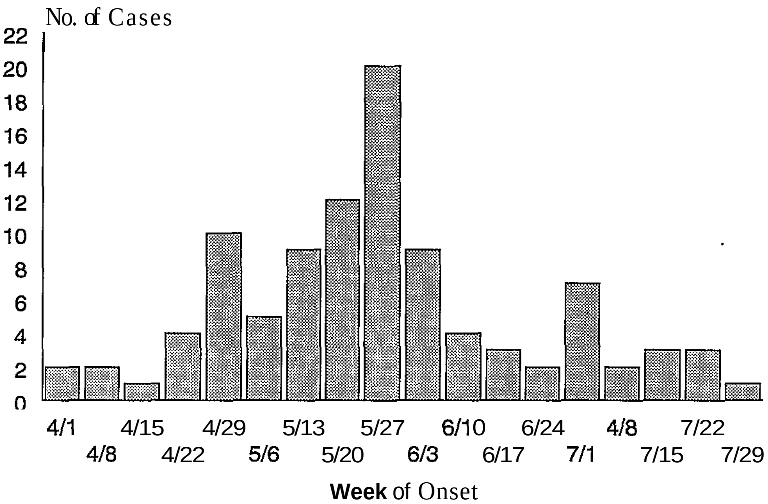
Approximately half the case patients had onset of illness in May 1996. By definition all case-patients experienced diarrhea. The median number of stool per day was 15. A majority of case-patients also experienced extreme urgency (75%), fecal incontinence (73%), and weight loss (72%). Few patients (4%) experienced fever.

Only 14% of the case-patients were hospitalized. In follow-up interviews conducted six months after the outbreak, 92% of the patients were still experiencing diarrhea. No etiology for the illness has been identified.

Eating at a particular restaurant in the city of Bonham (county seat of Fannin County) was associated with illness. Among Fannin County case-patients, 90% reported a history of eating at least once at the implicated restaurant in the four weeks prior to onset of illness, compared with 13% of telephone number selected controls (Odds Ratio 60.7; 95% confidence interval 19.8-186.1). The mean number of visits to the restaurant for case-patients was 3. The mean number of visits for controls with a history of eating at the restaurant was 2. Among non-Fannin County case-patients, 83% reported eating at the implicated restaurant, and 80% ate there only once in the 4 weeks prior to onset of illness.

The percentage of case-patients reporting eating at 1 of the other 11 restaurants in Bonham ranged from 0% to 13%. For the case-patients with a history of eating at the implicated restaurant only once, the median incubation

Figure 1. Chronic Diarrhea Outbreak, Fannin County



period was 11 days. None of the patients had a recent history of consuming unpasteurized dairy products.

The implicated restaurant closed during the investigation. No new cases have occurred since the restaurant closure.

Infectious Disease Epidemiology and Surveillance Division (512) 458-7676

Outbreaks of *Cyclospora* Infections

Cyclosporiasis is caused by a parasite named *Cyclospora cayetanensis*. After an incubation period of 5-12 days, infected persons experience watery diarrhea, nausea, weight loss, and fatigue. Very little is known concerning the host range, infective dose, and reservoir of this parasite. Before 1996, only three small outbreaks of infection acquired in the United States had been reported, and most cyclosporiasis cases in the United States occurred in overseas travelers. In contrast, in 1996 over 1,400 cyclosporiasis cases and over 50 outbreaks were reported in the United States. This report provides a description of two outbreaks in Texas, an overview of cyclosporiasis activity nationwide, and a description of diagnostic tests.

In late May 1996, the Texas Department of Health (TDH) was notified of *Cyclospora* infections in 3 Canadian businessmen. The businessmen had attended a May 9-10 meeting at a private club in Houston, Texas. Several other meeting attendees with a history of watery diarrhea were identified later. On June 4, 1996, TDH was notified of a second *Cyclospora* outbreak involving physicians who attended a dinner together May 22 at a Houston, Texas, restaurant. An investigation was initiated by TDH; the Houston Health and Human Services Department; and the Centers for Disease Control and Prevention.

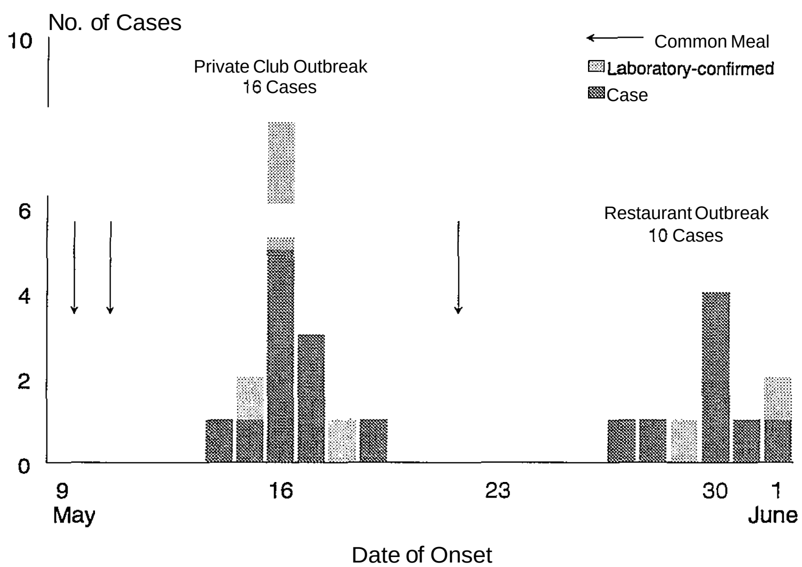
For these investigations a cyclosporiasis case-patient was defined as a person who ate at the private club on May 9 or May 10 or at the restaurant on May 22, and who became ill with diarrhea (3 or more watery stools in a 24-hour period) of at least 3 days duration.

Private Club Outbreak

Of the 28 persons who attended the May 9-10 business meeting, 26 were interviewed to collect information about occurrence of illness, travel history, and food exposures. Also interviewed were an additional 5 persons who attended a business luncheon at the club on May 10. Of 16 identified case-patients whose onsets of illness occurred May 14 through May 19, 8 became ill on May 16 (Figure 1).

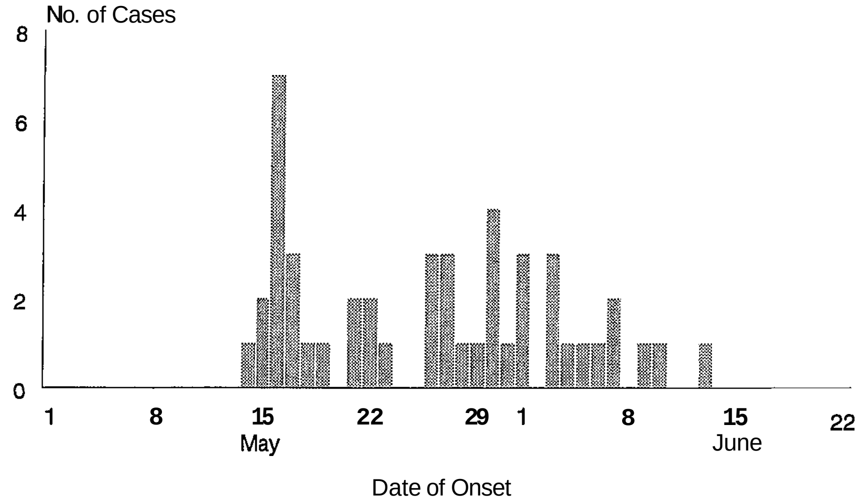
All 16 patients experienced diarrhea and weight loss. They also experienced anorexia (87%), fatigue (87%), nausea (75%), and abdominal cramps (75%). Stool specimens from 7 patients were positive for *Cyclospora*.

Figure 1. Cyclosporiasis Outbreaks, Houston



The patients came from 3 states and 2 foreign countries. A definite history of eating a berry dessert was reported by 12 of 13 case-patients and 1 of 11 controls (relative risk= 11.1, 95% confidence interval 1.68-72.8). No other food exposures were associated with illness. Case-patients recalled that the dessert contained strawberries, but restaurant staff reports were inconsistent concerning the types of berries in the dessert.

Figure 2. Outbreak-associated Cyclosporiasis Activity, May - June 1996



Summary of Cyclosporiasis Activity

From 1990 through 1995, only 0.04% of the 7,682 stool specimens examined at TDH were positive for *Cyclospora.* In May and June of 1996, however, 5 common-source *Cyclospora* outbreaks were reported in Texas: 4 in Houston and 1 in Dallas. A total of 49 cyclospora cases were associated with these 5 outbreaks. Outbreak-associated cases had onsets of illness from May 14 through June 13 (Figure 2). The attack rate ranged from 31% to 100%. The number of ill persons in each outbreak ranged from 5 to 17. At least one laboratory-confirmed case was identified in each outbreak (range=1-9).

Clinical illness in persons from the first two outbreaks included: diarrhea, 100%; fatigue, 96%; weight loss, 96%; anorexia, 91%; abdominal cramps, 78%; and nausea, 69%. Only 35% reported fever, and 13% reported vomiting. The diarrhea was described as watery by 87% of patients. The median weight loss was 6 pounds, with a range of 2-21 pounds. In addition to the 49 outbreak-associated cases, over 30 sporadic laboratory-confirmed cases were reported. Sporadic cases, primarily reported in Houston and Austin, had onset of illness dates May 8-June 24 (Figure 3). In 4 outbreaks, fresh berries were associated with illness. In the fifth outbreak, 5 persons who reported eating together at a restaurant became ill. All 5 reported eating either fresh raspberries or fresh strawberries.

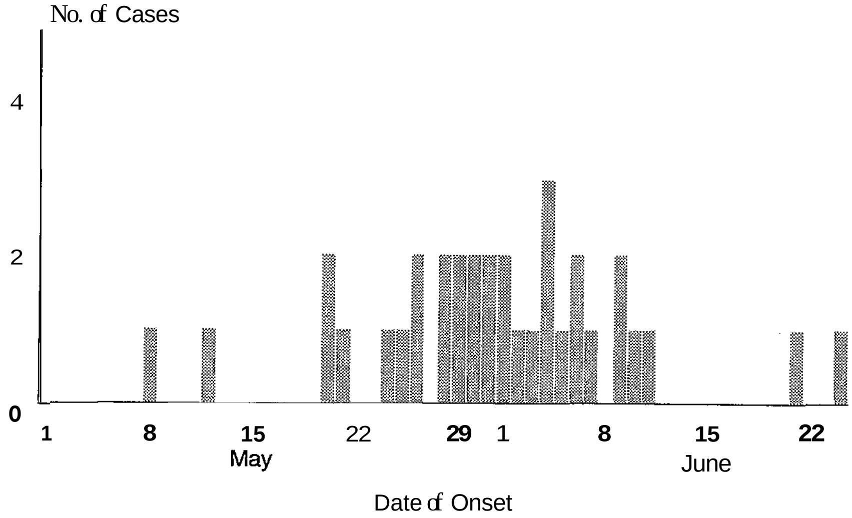
In 1996, over 1,465 cyclosporiasis cases were reported from Canada and the United States. Almost half the cases were associated with 55 common-source outbreaks occurring from May 3 through June 14. Fresh raspberries were served at 50 events, could have been served at 4

Restaurant Outbreak

Nineteen persons who had eaten food items prepared at the restaurant on May 22 were interviewed; 13 had eaten together. Of 10 persons with illness onset dates May 27- June 1, 4 had onset on May 30 (Figure 1). Stool specimens from 2 patients were positive for *Cyclospora. A* history of eating a dessert was reported by all 10 case-patients and 1 of 9 controls. The case-patients reported eating 5 different types of desserts. Restaurant staff reported that they garnished all their desserts with either one fresh strawberry (for regular patrons) or with a strawberry, blackberry, and raspberry (for VIPs). A definite history of eating the strawberry garnish was reported by 7 of 10 cases and none of the 8 controls (relative risk=undefined, Fisher exact test=0.00015). Four persons (3 case-patients and 1 control) could not recall whether or not they ate the strawberry. No other food exposures were associated with illness. None of the case-patients reported a history of eating any berries other than strawberries. However, since some restaurant patrons were served blackberries and raspberries on their dessert plates, it is possible that some case-patients ate these other berries but couldn't recall them.

more, and were not served at only one. For 11 events, raspberries were the only type of berry served. An association between consumption of the berry item (raspberries with or without other berries) and cyclosporiasis was found in 27 outbreaks in which investigations were conducted. Overall, the occurrence of outbreaks in the United States in 1996 was linked to consumption of Guatemalan raspberries.

Figure 3. Sporadic, Laboratory-confirmed Cyclosporiasis Activity, May - June 1996



Identification of Organism

Diagnosis is dependent upon finding the typical oocysts, described below, in normally passed fecal specimens. Examination must be performed by an experienced parasitologist. A series of 3 specimens collected over a period of 3 to 5 days is recommended. Since permanent stains are not useful in demonstrating this organism, a stool specimen preserved in 10% formalin is satisfactory for examination. (A lima-bean sized portion of a stool specimen mixed well in a 1:3 specimen to formalin proportion is adequate.) If, however, information on the presence of organisms other than *C. cayetanensis* also is desired, a kit containing PVA-fixative as well as 10% formalin should be used. Specimens should be placed into Postal-Service approved mailing containers and sent to the Texas Department of Health Bureau of Laboratories, Medical Parasitology Section, 1100 West 49th Street, Austin, Tx 78756.

Cyclospora cayetanensis, a coccidian parasite of humans, was formerly referred to as "cyanobacteria-like bodies" (CLBs). While similar in many ways to *Cryptosporidium parvum*, the oocysts of *C. cayetanensis* can be differentiated from those of the former on the basis of size. *C. cayetanensis* oocysts measure 8 to 10 microns, while those of *Cryptosporidium pawum* measure 4 to 6 microns. On wet smears, *Cyclospora* oocysts are non-refractile spheres which resist staining with iodine and will autofluoresce green to blue with epifluorescense. They do not stain with trichrome, but appear instead as clear, round, often wrinkled structures. They present as "variably" acid-fast with the commonly used acid-fast staining procedures. Those exhibiting an acid-fast nature often stain dark red (or fluoresce brightly if Truant's procedure is used), with a cytoplasm having no apparent internal organization.

Treatment

In an **immunocompetent** adult, the antibiotic regimen of choice for cyclosporiasis is 160 mg/800 mg of trimethopridsulfamethoxazole, taken orally twice a day for 7 days. The **immunocompromised** adult should be treated with 160 mg/800 mg of trimethoprim/sulfamethoxazole, taken orally 4 times a day for 10 days, followed by 160 mg/800 mg of trimethoprim/sulfamethoxazole, taken oralley 3 times per week for suppressive therapy.

Infectious Disease Epidemiology and Surveillance Division (512) 458-7676

Pediatric Injury Mortality Trends - an Overview, 1980 - 1994

The Texas Department of Health conducted an investigation to assess pediatric injury mortality trends in Texas from 1980 through 1994. Pediatric was defined as occurring in children younger than 20 years of age. Mortality data on Texas children were obtained from the Bureau of Vital Statistics using EPIGRAM. Population figures were obtained from the Texas A and M University State Data Center.

Pediatric injury mortality rates in Texas declined 37% from 46 deaths per 100,000 population in 1980 to 29.2 deaths per 100,000 population in 1994 (Table 1).

During this same 15-year period, the death rate for **unintentional** injuries (eg, motor vehicle crashes, falls, drownings, etc) declined 50% for Texas children 0 through 19 years of age. The amount of the decrease varied among the different unintentional injuries, from a 25% reduction in the death rate due to poisonings to the highest interval reduction of 93% for injuries caused by motorcycle drivers.

In contrast, **intentional** injury (homicide and suicide) mortality rates have increased. There has been a 16% increase in the rate of intentional death among Texas children, from 9.3 deaths per 100,000 population in 1980 to 10.8 deaths per 100,000 population in 1994. There also was a 50% increase in the firearm-related homicide rate for Texas children from 1980 and 1994.

Table 1. Comparison of Injury Deaths and Rates Among 0- to 19-Year-Old Children and Adolescents by Type of Injury*

	E Codes	1980 Deaths	1980 Rate per 100,000	1994 Deaths	1994 Rate per 100,000	Rate Interval Change
All Injuries	**E880-E999**	**2240**	**46.0**	**1720**	**29.2**	**-37%**
All Unintentional Injury Deaths	**E800-E949**	**1760**	**36.1**	**1055**	**17.9**	**-50%**
Motor vehicles	E810-E825	1047	21.5	676	11.5	-47%
Occupants	E810-E825 (.0.1)	642	13.2	461	7.8	-41%
Pedestrians	E810-E825 (0.7)	214	4.4	104	1.8	-59%
Motorcyclist drivers	E810-E825 (0.2)	72	1.5	5	0.1	-93%
Pedacyclists	E800-E807 (0.3) E810-E825 (0.6) E826-E829 (0.1)	30	0.6	25	0.4	-33%
Drownings	E8320, E832, E910	239	4.9	119	2.0	-59%
Residential fire/burns	E890-E899	100	2.1	64	1.1	-48%
Falls	E880-E888	33	0.7	17	0.3	-57%
Poisonings (solids/liquids)	E850-E866	21	0.4	15	0.3	-25%
Poisonings (gases/vapors)	E867-E869	8	0.2	8	0.1	-50%
All Intentional Injury Deaths	**E950-E978**	**454**	**9.3**	**636**	**10.8**	**+16%**
Homicidellegal intervention	E960-E978	306	6.3	431	7.3	+16%
Firearm homicide	E965.0-E965.4	173	3.6	318	5.4	+50%
Suicide	E950-E959	148	3.0	205	3.5	+17%
Firearm suicide	E955.0-E955.4	106	2.2	150	2.5	+14%

*1980 denominator used, **4,871,293**; 1994 denominator used **5,895,818**

Successes in reducing unintentional injuries across the country can be attributed to many factors, including improvements in technology, educational efforts, and policy changes. In the area of traffic safety, for instance, motor vehicles are being designed to be safer, policies exist requiring the use of safety belts and safety seats, and the public is being educated on the proper use of such occupant devices. Other explanations for these successes include better trauma care and, perhaps, decreased exposure to injury threats. (The decrease in pedestrian death rate may be due to fewer children walking to school and thus less exposure to traffic.)

Injury mortality rates among Texas children have been substantially reduced over the last 15 years. However, more work needs to be done, both to continue the downward trend for unintentional injury deaths and to reverse the upward trend of intentional injury deaths.

Injury Prevention and Control Program
(512) 458-7266

Rabies in Animals

Rabies is a viral zoonosis affecting the central nervous system. The mode of transmission is by saliva containing rabies virus being introduced into an opening in the skin or through mucous membranes, usually via the bite of a rabid animal. Animals considered to be high risk for transmitting rabies in Texas include bats, skunks, foxes, raccoons, and coyotes.

In 1996, 351 (3%) of 11,371 animal specimens tested in Texas were confirmed positive for rabies. This was the lowest yearly total for Texas since 1990 (Figure 1). Rabies in wild or domestic animals occurred in 94 of the 254 Texas counties in 1996 (Figure 2). Travis County had the highest number of rabies cases per county statewide with 33 cases (32 bats and 1 cat).

Rabies in wildlife accounted for 88% of the cases throughout the state. Bats were the primary reservoir in 1996 (34% of all positive cases). In the 3 years prior to 1996, bats were responsible for the second highest number of rabies cases in a species. During 1996, 120 bats were positive for rabies compared with 123 in 1995. Of all bats tested for rabies, 12% were positive in 1996 and 13% were positive in 1995.

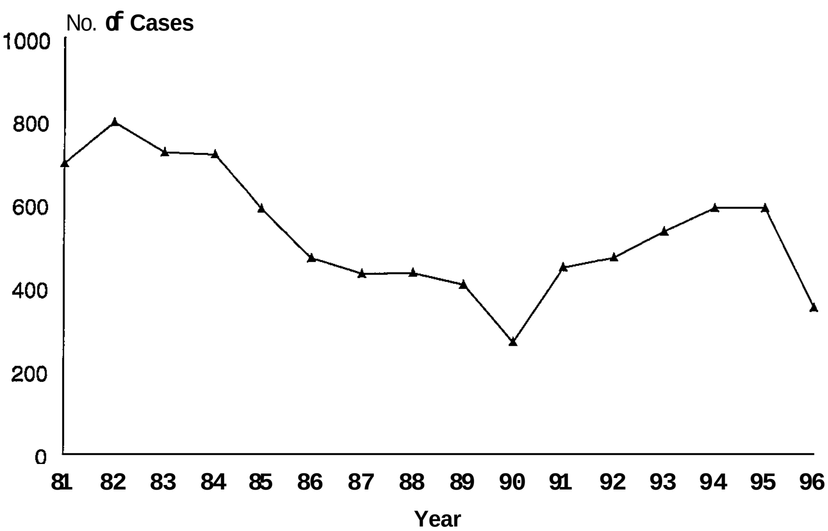
Skunks had the second highest number of rabies cases in a species with 78 cases (22% of all positive cases) in 1996 compared with 69 (12% of all positive cases) in 1995. Of all skunks tested for rabies, 17% were positive in 1996, versus 14% in 1995.

Rabies in domestic animals (12% of all positive cases) continued to be a serious concern because rabid domestic animals are 5 to 10 times more likely to come into contact with humans' than are rabid wildlife. Tables 1 and 2 compare the numbers of domestic and wildlife rabies cases, respectively, for the various animal species for 1995 and 1996. In 1996 the highest number of cases occurred in March, with skunks and foxes being the predominant rabid species during that month.

The gray fox rabies epizootic, which began in 1988 in West Texas, expanded in an easterly direction with the addition of 2 counties (Burnet and Blanco); 48 counties have been involved since 1988. Foxes had the third highest number of rabies cases in a species, including 59 cases (17% of all positive cases) with the Texas fox variant. In 1995, foxes were the primary reservoir with 134 cases (23% of all positive cases) with the Texas fox variant.

The South Texas canine rabies epizootic, which also began in 1988, expanded northward by 1 county (San Patricio) during 1996; 21 counties have been involved since 1988. In 1996, from 11 counties in the epizootic area, 13 coyotes (68% of all rabid coyotes) and 6 dogs (40% of all rabid dogs) tested positive for the canine rabies variant. In 1995, 75

Figure 1. Confirmed Cases of Animal Rabies: 1981-1996

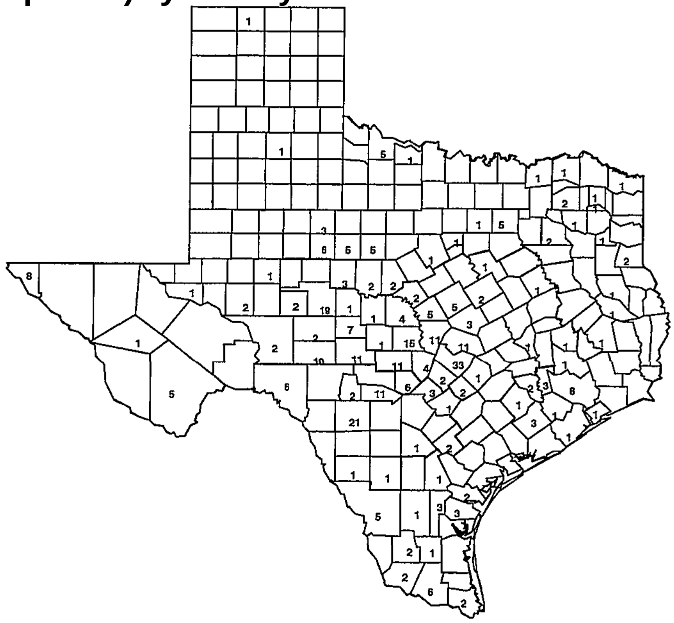


coyotes (94% of all rabid coyotes) and 36 dogs (65% of all rabid dogs) tested positive for canine rabies from 18 South Texas counties.

In response to the epizootics, the Oral Rabies Vaccination Programs (ORVP) for coyotes in South Texas was initiated in February 1995, and the ORVP for gray foxes in West-Central Texas was initiated in January 1996; implementation has continued on a yearly basis. These programs target wild animals because they are the primary reservoirs for rabies.

Immunization is accomplished by aerial distribution of a bait containing oral rabies vaccine. The goals of the ORVP are to create zones of vaccinated coyotes and gray foxes along the leading edges of the epizootics and, subsequently, to halt the expansion of the epizootics and eventually eliminate them.

Figure 2. Confirmed Cases of Animal Rabies (all species) by County



Of all positive rabies cases, 20 (6%) were the canine variant of rabies virus in 1996 versus 142 (24%) in 1995; and 101 (29%) were the Texas fox rabies variant in 1996, compared with 244 (41%) in 1995. These cases included spillover of the canine or Texas fox variant to a wide variety of species, such as cats, raccoons, livestock, and bobcats.

Zoonosis Control Division (512) 458-7255

Table 1. Confirmed Cases of Rabies in Domestic Animal Species: 1995 and 1996

Species	1995	1996
Dogs	55	15
Cats	25	10
Cows	23	10
Horses	6	4
Goats	9	3
Sheep	1	1
Total	**119**	**43**

Table 2. Confirmed Cases of Rabies in Wild Animal Species: 1995 and 1996

Species	1995	1996
Skunks	69	78
Bats	123	120
Foxes	137	60
Coyotes	80	19
Raccoons	41	25
Other	21	6
Total	**471**	**308**

Rickettsial Diseases

Three rickettsia1 or rickettsia-like diseases of humans are reportable to the Texas Department of Health: flea-borne typhus, caused by either Rickettsia typhi or Rickettsia azadii; Rocky Mountain spotted fever (RMSF), caused by Rickettsia rickettsii; and ehrlichiosis, usually caused by Ehrlichia *chaffeensis*.

Forty-one cases of flea-borne typhus were confirmed this year. Twenty-one patients were female; 20 were male. Their ages ranged from 3 to 75 years. Case investigations were completed for 33 of the cases; 8 patients were lost to follow-up. As usual, most of the typhus cases occurred in patients who resided in South Texas: 13 in Hidalgo County; 7 in Nueces County; 5 in Cameron County; 3 in Jim Wells County; and 1 each in San Patricio, Starr, and Willacy Counties. Two patients resided in central Texas: 1 in Comal County, the other in Guadalupe County.

Onsets of illness occurred in January (4 cases), April (1), May (7), June (5), July (3), September (4), October (7), and November (2). Symptoms included fever (100% of patients investigated), headache (82%), nausea and/or vomiting (67%), malaise (52%), myalgia (52%), diarrhea (39%), chills (36%), anorexia (33%), and arthralgias (21%). Thirteen (39%) persons had a rash. All but 7 patients were hospitalized; none of the patients died.

Five cases of RMSF were confirmed in 1996. Three patients were female and 2 were male; they resided in Bosque, Sabine, Smith, Wichita, and Willacy Counties. Two patients were children aged 2 and 7; the remaining 3 patients were adults in their forties. Onsets of illness were in May, June, July, September, and October. All of the patients were hospita-lized; 2 patients died. All of the patients had fever. Other symptoms included malaise (4 patients), myalgia (3), nausea and/or vomiting (2), and headache (1); 4 persons had a rash. Only 2 patients recalled a tick bite prior to illness.

Human ehrlichiosis became a notifiable disease in Texas in 1996. Two cases were reported. The first patient was a 38-year-old male from Dallas County. He had onset of fever, vomiting, malaise, myalgia, and rash in June, 7 days after receiving a tick bite in Arkansas. The second patient was a 27-year-old female from Hidalgo County, who became ill in July. Her symptoms included fever, chills, headache, nausea/vomiting, anorexia, arthralgia, malaise, myalgia, diarrhea, and rash. One patient had thrombocytopenia; both had elevated liver enzymes. Both patients were hospitalized.

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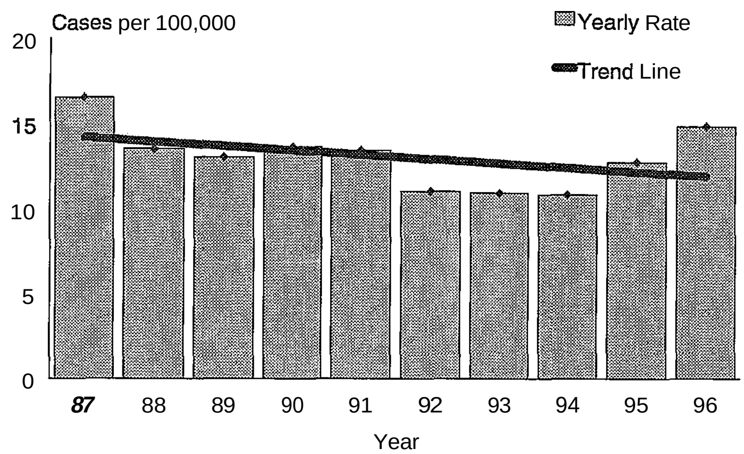
Salmonellosis

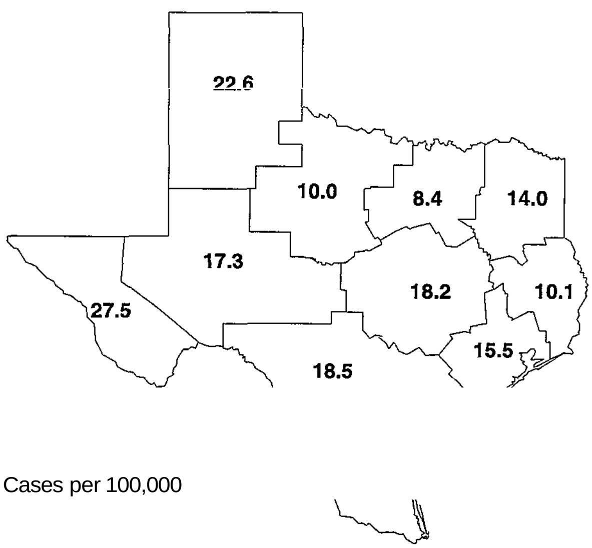
There were 2,799 cases of salmonellosis reported statewide in 1996, the most cases reported statewide since 1987, and the third highest number of cases in one year since it became reportable in 1951. The 1996 incidence rate was 14.8 cases per 100,000 population—a 16.5% increase over the rate for 1995, the second increase in 2 years after 10 years of decline (Figure 1) and the highest incidence rate of salmonellosis since 1987.

Figure 1. Salmonellosis Rates 1987 - 1996



The incidence of salmonellosis was higher among Hispanics (17.1/100,000) than among Whites (7.9/100,000) or Blacks (7.0/100,000). Figure 2 illustrates the geographic distribution of salmonellosis by public health region. The Regional Statistical Summaries give the number of cases and incidence rates for each county. Although the mean age was 20.7 years, the median age was 8.0 years, and children under 5 accounted for nearly 40% of all reported cases. The incidence rate for this age group (69.2/100,000) was the highest of any age group. As with the population as a whole, the incidence rate of Hispanics in this age group (179.0/100,00) far exceeded that of Whites (47.1/100,000) or Blacks (29.7/100,000).

Figure 2. Salmonellosis Rates by Public Health Region



Cases per 100,000

The species of the infecting organism was identified and reported for 1,621 (57.9%) of the cases. *Salmonella typhimurium* was the most often identified species (22.5% of all isolates identified). *S. typhimurium, S. newport* (12.5%), *S. enteritidis* (6.4%), *S. montevideo* (4.3%), and *S. oranienburg* (4.0%) comprise the 5 most commonly identified species.

There was only 1 reported salmonellosis outbreak. In this outbreak, 50 of 65 persons who had attended a church supper experienced symptoms. Although the species was not identified, 1 isolate was identified as belonging to Group D.

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Screening Refugee Populations for Intestinal Parasites

The Texas Department of Health (TDH) Refugee Health Screening Program (RHSP) uses Refugee Medical Assistance funds from the USDHHS Office of Refugee Resettlement for preventive health screening services to refugees, including screening for intestinal parasites. In October 1994 TDH laboratories began providing parasite screening services to the program, with initial submissions coming from the Houston/Harris County RHSP, the largest recipient of refugees in Texas. In January 1995 the Refugee Clinic of Parkland Hospital's Community Oriented Primary Care Clinic in Dallas, the state's second largest refugee resettlement area, began submitting, followed in July of 1996, by RHSPs in Amarillo and Austin. The one other local public health program in a principal resettlement area, Fort Worth, utilizes in-house laboratory services and does not routinely submit specimens to TDH.

Since inception of RHSP, 2,635 refugees have been screened for intestinal parasites. Almost half of these refugees (1,236) were screened during the 1996 calendar year. The 1,236 refugee examinations performed during 1996 represented 50.4% (33.5% positive; 16.9% negative) of the 2,451 stool specimens examined during that year from all sources. While 50.4% of all specimens examined were from refugees, 67.9% (821 of 1209) of all positive results came from the refugee population (Table 1).

Overall, 627 specimens contained a single species of parasite (single infections); 582 contained more than one species of parasite (mixed infections). Refugee specimens accounted for 365 (58.2%) of the 627 single infections and 456 (78.4%) of the 582 mixed infections detected in 1996. The high positivity among refugees is likely due to a combination of poor or compromised sanitary conditions and crowded populations prevalent in many of the tropical areas from which these populations emigrated.

Of primary concern were organisms considered to be certain or potential pathogens in humans. The most commonly detected human pathogens were the intestinal nematodes *Ascaris lumbricoides* (roundworm), *Trichuris truchiura* (whipworm), and hookworm; and the protozoans *Entamoeba histolytica*, *Giardia lamblia,* and *Blastocystis hominis* (Table 2). Of the organisms detected in refugees during 1996, only the flukes *Schistosoma mansoni* and *Clonorchis sinensis* are not endemic in the United States. Because the required snail intermediate hosts of these two worms do not exist in this country, there is no danger of these worms being introduced.

Additionally, the nematode parasites would not likely pose a risk for transmission via food preparation or handling since, with the exception of *Enterobius vermicularis*, they require a period of 2 to 3 weeks in the external environment (soil) for maturation. The protozoan parasites, however, would pose such a risk in individuals working in a food handling capacity.

Table 1. A Summary of Stool Specimen Results for 1996.

	Non-refugees	%	Refugees	%	Total	%
Single - Positive	262	10.7	365	14.9	627	25.6
Mixed - Positive	126	5.1	456	18.6	582	23.7
Total Positive	388	15.8	821	33.5	1209	49.3
Total Negative	827	33.8	415	16.9	1242	50.7
Total Specimens	**1215**	**49.6**	**1236**	**50.4**	**2451**	**100.0**

Screening refugees for intestinal parasites has proven to be a very successful public health effort. The numbers of specimens received from refugees continues to grow each year.

As more refugees are screened, more of their infections will be detected and treated. The ensuing reduction in the numbers of these debilitating infections should result in healthier, more productive individuals entering the work force.

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Table 2. Parasites Detected in Stool Examinations

	Total	Non-refugee	%	Refugee	%
Helminths:					
A.lumbricoides	85	3	3.5	82	96.5
T. trichiura	149	8	5.4	141	94.6
T. orientalis	13	0	0.0	13	100.0
Hookworm	137	6	4.4	131	95.6
D. latum	2	0	0.0	2	100.0
H. nana	44	18	40.9	26	59.1
S. stercoralis	26	6	23.1	20	76.9
E. vermicularis	4	4	100.0	0	0.0
C. sinensis	4	0	0.0	4	100.0
S. mansoni	6	0	0.0	6	100.0
S. haematobium	1	1	100.0	0	0.0
Taenia spp.	5	4	80.0	1	20.0
Protozoans:					
E. histolytica	66	6	9.1	60	90.9
G. *lamblia*	132	47	35.6	85	64.6
D. fragilis	51	35	68.6	16	31.4
C. parvum	9	7	77.8	2	22.2
C. cayetanensis	44	44	100.0	0	0.0
B. hominis	768	187	24.3	581	75.7
E. hartmanni	158	44	27.8	114	72.2
*E. coli**	217	74	34.1	143	65.9
*E. nana**	247	58	23.5	189	76.5
*I. butschlii**	56	5	8.9	51	91.1
*C. mesnili**	15	3	20.0	12	80.0
*T. hominis**	1	1	100.0	0	0.0

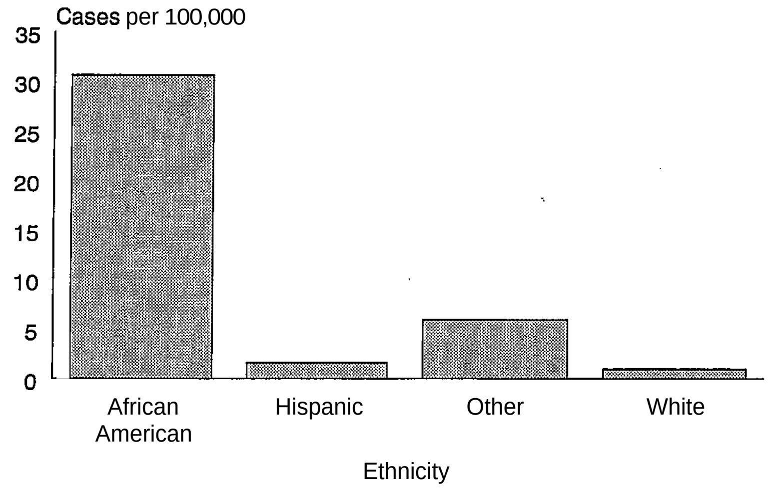
* Considered to be commensal (non-pathogenic) in humans.

Sexually Transmitted Diseases

Primary and Secondary Syphilis

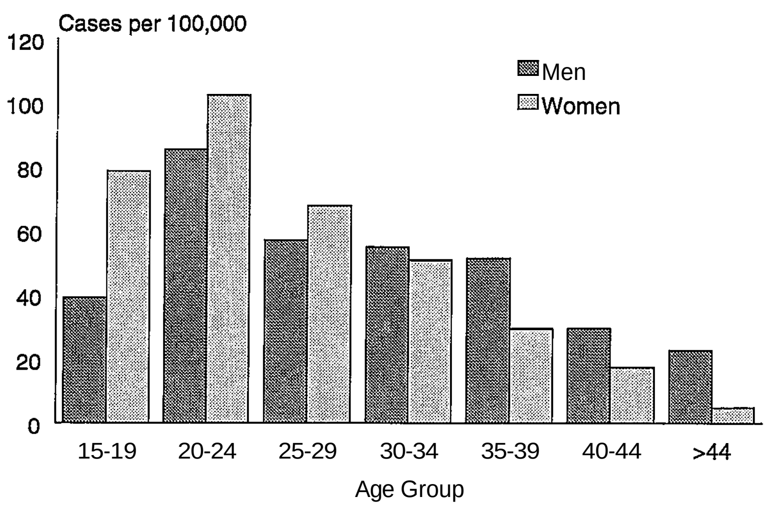
The spirochete *Treponema pallidum* causes syphilis. Primary lesions (ulcer or chancre at the site of infection) followed by secondary infection (manifestations that include rash, mucocutaneous lesions, and adenopathy) characterize the acute form of syphilis. Untreated syphilis progresses into a chronic disease with long periods of latency. Statewide, 890 cases of primary and secondary (P&S) syphilis were reported in 1996. This 43% decrease from cases reported in 1995 continues a downward trend. The number of P&S syphilis cases reported in 1996 was 83% less than the number reported in 1990. The overall state rate in 1996 for P&S syphilis was 4.7 cases per 100,000 population—the lowest rate since 1958.

Figure 1. Primary and Secondary Syphilis Case Rates by Ethnicity



African Americans continue to account for the majority (75%) of P&S syphilis cases reported in Texas. The rate of P&S syphilis among African Americans was 30.6 cases per 100,000 population in 1996. Although more than 44% lower than in 1994, the rate for African Americans remained extremely high compared with other ethnic groups (Figure 1). The case rate for Hispanics was 1.6 cases per 100,000 population, for Whites 1.0 case per 100,000 population, and for other ethnic groups (including cases with race unspecified) 6.0 cases per 100,000 population. African American men and women aged 20 to 24 years showed the highest rates: 85.3 cases per 100,000 population for men of this age group and 102.3 cases per 100,000 population for-women (Figure 2). The extremely high case rate for both sexes indicates the continuing severity of the problem of P&S syphilis among young African Americans in Texas.

Figure 2. Primary and Secondary Syphilis Case Rates Among African Americans by Age Group and Sex



As in 1995, more than one-third of the patients were aged 15 to 24 years, and the number of cases in men and in women were almost equal. Women accounted for 436 cases (49.0% of the total) compared with 453 cases among men.

Early Latent Syphilis

The early latent stage of syphilis follows untreated secondary syphilis after a period of weeks or months. In this latent stage, positive clinical signs are absent, and detection of syphilis relies upon serologic tests.

In 1990 slightly over 5,000 cases of P&S and of early latent syphilis were reported with similar rates of 30.4 and 29.9, respectively (Figure 3). Since that time, the rate of P&S syphilis has steadily declined. However, the early latent syphilis rate increased in 1991 and since then has decreased more slowly than the P&S syphilis rate. This slow decline of early latent syphilis rates is typical of periods of decreasing syphilis morbidity. Although both P&S syphilis and early latent syphilis cases were considerably lower in 1996 compared with 1990, the number of early latent syphilis cases (2,167) was more than double the number of P&S syphilis cases. For 1996 the overall rate of early latent syphilis (11.4 cases per 100,000 population) was over twice the rate for P&S syphilis (4.7 cases per 100,000 population). Nonetheless, both rates were the lowest since the late '50s.

In 1996 African Americans constituted 65% of all early latent syphilis cases, followed by 20% Hispanics and 11% Whites. Women aged 15 to 24 years made up 43% of all females with early latent syphilis while men in this age group accounted for slightly more than 23% of all cases in males.

Congenital Syphilis

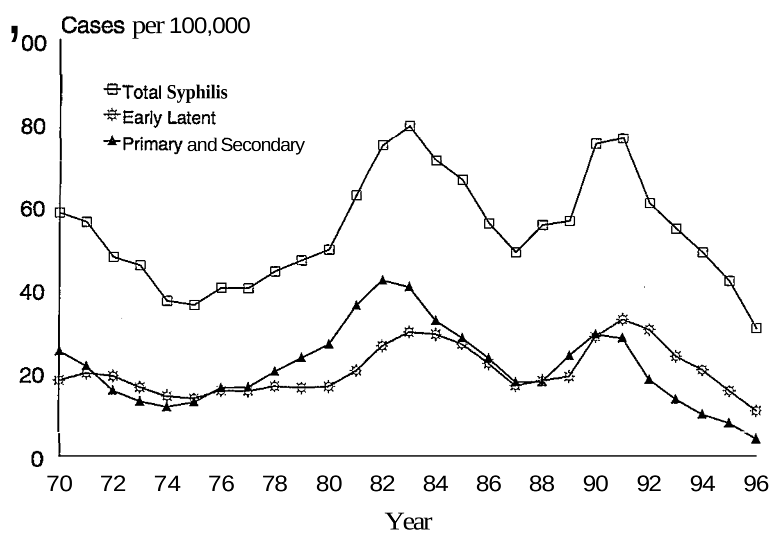
Congenital syphilis, one of the most serious forms of the disease, may cause abortion, stillbirth, or premature delivery, as well as numerous severe complications in the newborn. In 1996, 189 cases of congenital syphilis were reported, marking the fourth straight year of decline. The lower number of congenital syphilis cases in 1996 represented a 2% decrease from 1995. With 122 cases, Harris County had the highest number of congenital cases—34 cases more than in 1995. The increase in 1996 is probably due to improved adherence to the congenital syphilis case definition and probably does not reflect a true rise in incidence. Cameron County had the second-highest number with 8 cases. Statewide, 49% of congenital cases were in African Americans; 33%, among Hispanics; and 10%, in Whites. The proportion of congenital syphilis cases among Hispanics was higher than the proportion of either P&S cases or early latent syphilis cases in this ethnic group.

Chlamydia

Infections caused by the bacteria *Chlamydia trachomatis* are among the most common of all sexually transmitted diseases. Chlamydia infection in women can result in serious complications such as pelvic inflammatory disease and ectopic pregnancy. After chlamydia became reportable in 1987, the number of cases soared, reflecting increased testing but not increased disease. Reports of chlamydia in 1996 totaled 43,003, a 4% decline from the previous year (Figure 4).

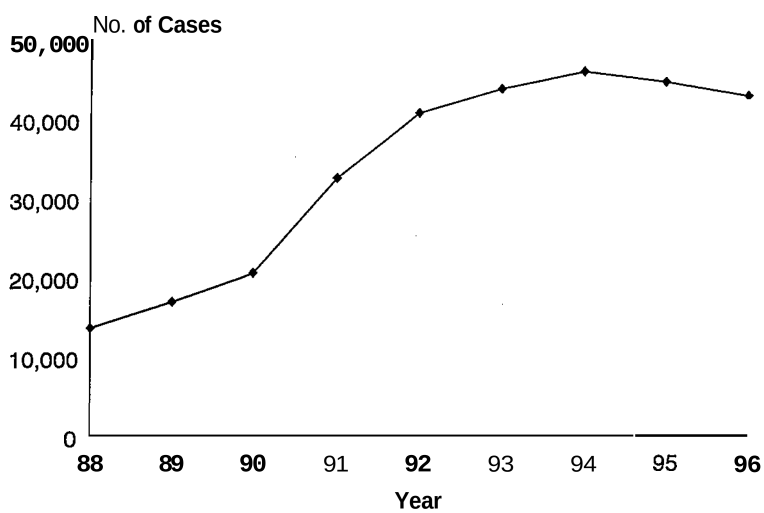
Of the total chlamydia cases reported in 1996, 86% were in females. Women are more likely

Figure 3. Syphilis Case Rates, 1970-1996



to be screened for chlamydia during clinical exams for family planning, prenatal care, and routine pap smear testing. Because of the increased risk of severe outcomes (including the potential to infect a newborn child), chlamydia screening programs focus on women. Males are often asymptomatic and therefore do not seek treatment. Given that men make up such a small proportion (less than 15%) of chlamydia cases reported, there is no way to estimate the true incidence of chlamydia in the Texas population.

Figure 4. Chlamydia Cases, 1988-1996



Due to the overwhelming proportion of cases among women, rates for each sex should be examined separately. The 1996 case rate for females was 386.1 cases per 100,000 population with African American women having the highest rate (807.6) followed by Hispanic women (577.5) and Whites (116.6 cases per 100,000 women). Men showed the same racial/ethnic distribution as women but with far lower rates. However, if males were equally targeted for screening and testing, incidence among males would be higher than suggested by case reports.

Over 70% of all reported chlamydia patients were aged 15 to 24 years of age. With more than 26,000 cases reported for women 15 to 24 years of age alone, the rates for chlamydia among young women age 15 to 19 years and 20 to 24 years were 2,170.6 cases and 1,734.4 cases per 100,000 population, respectively.

Gonorrhea

The bacteria *Neisseria gonorrhoeae* causes gonorrhea. Left untreated, gonorrhea may lead to sterility in men and pelvic inflammatory disease, ectopic pregnancy, and sterility in women. The 23,124 cases reported in 1996 represent a 25% decrease from the number of cases reported in 1995. In Texas, the rate of gonorrhea has been steadily decreasing since 1978, when it reached a peak of 683.4 cases per 100,000 population (Figure 5).

The 1996 overall rate for gonorrhea was 121.9 cases per 100,000 population with females (123.2) having a slightly higher rate than males (119.6). Among age groups, the highest rate for females was found in women aged 15 to 19 years (645.8 cases per 100,000 population) followed by those aged 20 to 24 years (457.5 cases per 100,000 population). Men in these age groups also had higher rates than did other males. Gonorrhea among women aged 15 to 24 years comprised 64% of all cases in females; men of the same age group accounted for 50% of all gonorrhea cases among males.

The rate for African Americans (618.7 cases per 100,000 population) is over 9 times greater than that for Hispanics (67.4 cases per 100,000 population) and 23 times higher than the rate for Whites (27.2 cases per 100,000 population). African American men had the highest rate of all race-sex groups with 715.3 cases per 100,000 population. As was seen for all gonorrhea cases, African Americans aged 15 to 24 years accounted for the greatest share of

African American cases (55% of those reported); they also represented 32% of all cases reported, regardless of race or age.

The highest rates of gonorrhea occurred in eastern Texas. This is not surprising considering that African Americans have a high rate of gonorrhea and that more African Americans live in east Texas than in other areas of the state. The lowest rates of reported gonorrhea occurred along the border with Mexico.

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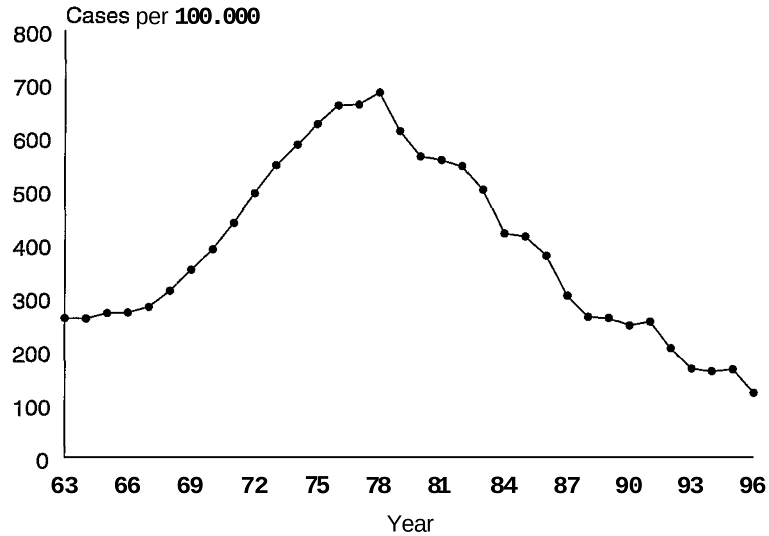
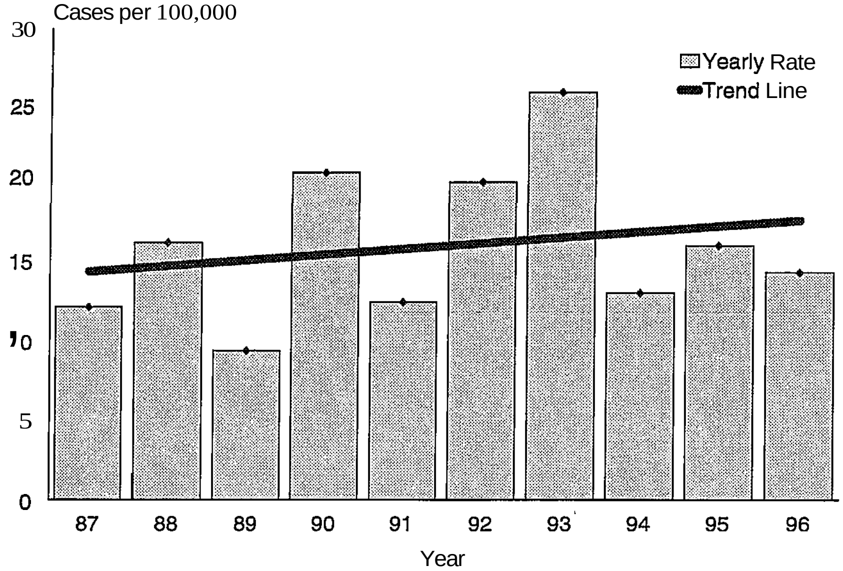
Figure 5. Gonorrhea Case Rates, 1963-1996



Shigellosis

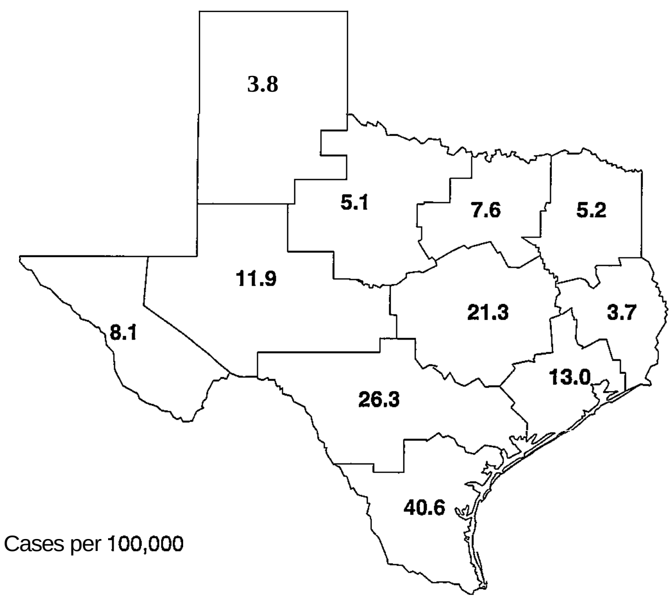
There were 2,757 cases of shigellosis reported in 1996. The incidence rate was 14.5 cases per 100,000 population. Although this was a 10.5% decrease from 1995, the 10-year trend of increasing shigellosis morbidity continues (Figure 1). Figure 2 illustrates the distribution of shigellosis by region. Individual county case-counts and the corresponding rates can be found in the Regional Statistical Summaries section at the back of this publication.

Figure 1. Shigellosis Rates 1987 - 1996



The incidence rate of shigellosis was higher among Hispanics (25.9/100,000) than among Blacks (13.2/100,000) or Whites (5.91100,000). Although the mean age for shigellosis patients was 13.4 years, children less than 5 years of age constituted 37.5% of all patients, and the corresponding incidence rate of 65.8/100,000 was the highest for any age group. As with the population as a whole, the incidence rate of Hispanics in this age group (96.2/100,000) far exceeded that of Blacks (56.5/100,000) or Whites (26.8/100,000).

Figure 2. Shigellosis Rates by Public Health Region



The species of the infecting organism was identified and reported in 1,833 (66.5%) of the cases. *Shigella sonnei* was the most often identified species (77.7%) followed by *S. flexneri* (18.7%), *S. boydii* (2.3%) and S. *dysenteriae* (1.3%).

In August 1996, 49 individuals with *S. sonnei* were reported from Corpus Christi. Although the Corpus Christi/Nueces County Health Department investigated each individual case of culture-confirmed shigellosis no single source could be identified for the community-wide outbreak. The local health department instituted many intervention efforts including TV and radio interviews and public service messages, visits to local schools and day care centers, and handouts on control measures to patients, parents, and students. Despite these efforts, the outbreak continued through the end of the year. From August through December

1996, 222 culture-confirmed patients were reported from Corpus Christi. It was later noted that the increase in shigellosis cases began in April 1996. Figure 3 illustrates the number of shigellosis cases in Corpus Christi by month of onset for 1995 and 1996. Community-wide outbreaks in urban areas are extremely difficult to control. Similar outbreaks in San Marcos in 1993 and Caldwell in 1992, resulted in 348 and 432 cases of shigellosis respectively before they were brought under control.

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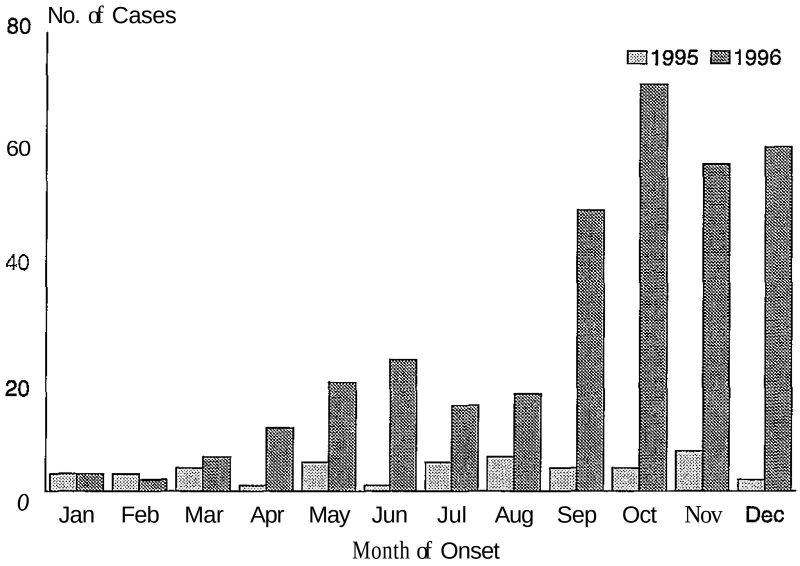
Figure 3. Shigellosis Cases, Corpus Christi, 1995 vs 1996

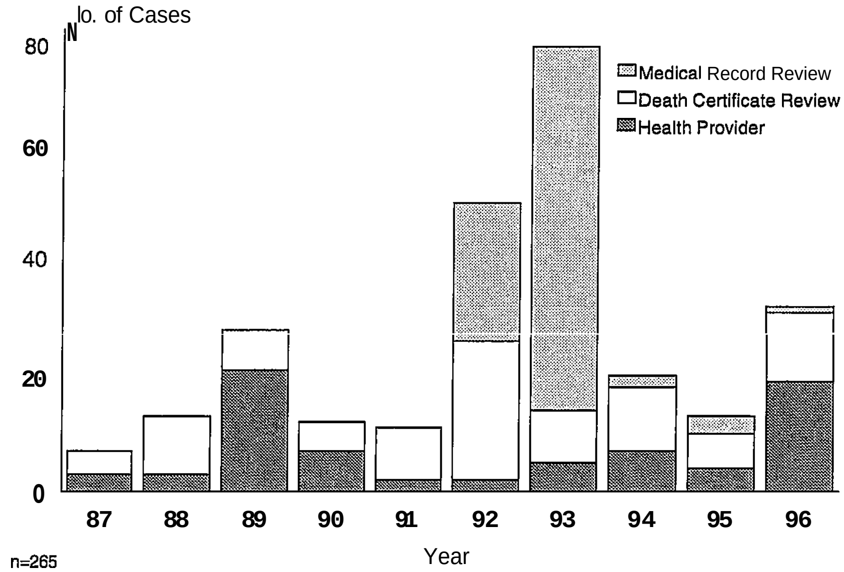


Silicosis and Asbestosis: Ten Years of Surveillance

Two occupational lung diseases, asbestosis and silicosis, are reportable to the Texas Department of Health as mandated in the Occupational Disease Reporting Law. These 2 lung diseases were included in this reporting law because they both have a well-understood etiology, predominately result from occupational exposures, and are preventable.

As in most states Texas law requires that designated professionals, primarily physicians and laboratorians, to report specific information regarding certain diseases and other adverse health conditions to the state health department. This reporting results in passive surveillance, that is, the health department receives the report and will act on the information received based on a standard protocol. With passive surveillance, the health departments typically make no effort to ascertain unreported cases. Active surveillance, however, occurs when state health departments attempt to identify otherwise unreported cases of a reportable condition, often for the purpose of more complete documentation of the magnitude of the problem.

Figure 1. Silicosis Reports, 1987-1996



Since reporting started in 1986, Environmental and Occupational Epidemiology Program (EOEP) staff have augmented the passive reporting of asbestosis and silicosis required by law by conducting quarterly reviews of death certificates to identify certificates with asbestosis or silicosis listed as a cause of death. In 1992 the EOEP began conducting active surveillance for silicosis, made possible by financial assistance from National Institute for Occupational Safety and Health (NIOSH). This active surveillance includes annual reminders to physicians and hospitals of the reporting requirement; statewide review of hospital medical records of patients discharged with a diagnosis of silicosis; and initiation of a sentinel provider system for silicosis reporting, whereby pulmonary and occupational medicine physicians are called by an EOEP staff member on a quarterly basis to assess newly diagnosed cases of silicosis.

Figure 2. Asbestosis Reports, 1987-1996

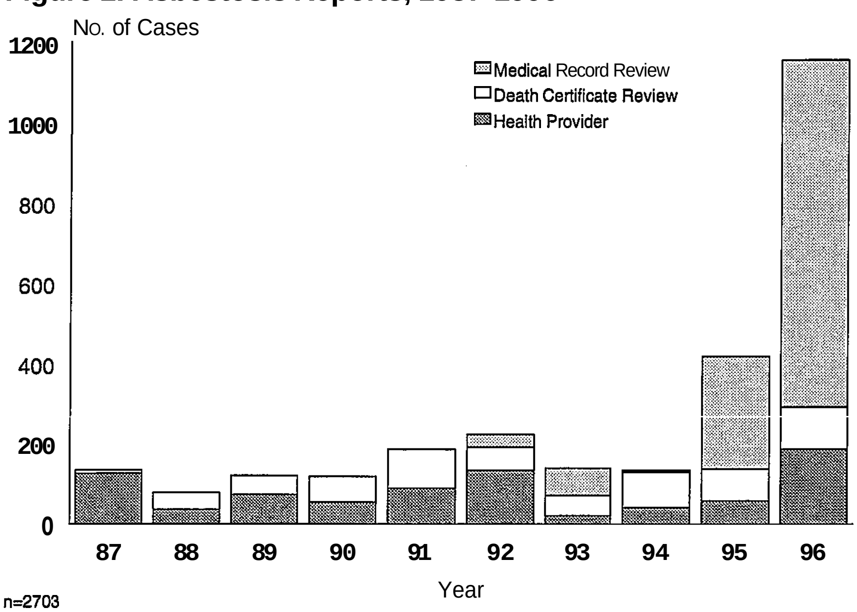


Table 1. Industry and Occupation Categories Reported for Workers with a Confirmed Diagnosis of Silicosis, 1987-1996

Category	No.	%
Industry		
Manufacturing	74	35
Construction	52	24
Mining	12	6
Services	7	3
Government	3	1
Other	13	6
Missing industry information	52	24
Occupation		
Operators, Fabricators, Laborers	74	35
Precision Production, Craft and Repair Occupations	71	33
Service Occupations	4	2
Managerial and Professional Specialty Occupations	4	2
Technical, Sales and Administrative Support Occupations	3	1
Other	7	3
Missing occupation information	50	24

Although the NIOSH funding is for active silicosis surveillance only, asbestosis surveillance often can be included. As a result, the number of identified cases of asbestosis has increased substantially since 1992, and the methods of case ascertainment reflect this active surveillance effort. Figures 1 and 2 show the source of cases for silicosis and asbestosis over the past 10 years and illustrate the significant increase in cases from passive surveillance (where most reports are received from physicians) to active surveillance (where the majority of reports are from medical record and death certificate reviews).

Silicosis

Silicosis is a lung disease that results from inhalation of crystalline silica. The relationship between dusty work conditions and occupational lung disease has been described since antiquity, and methods for the prevention of silicosis have been recommended by the US Department of Labor at least since the early 1930s. Workers at high risk of silicosis have included miners, quarry workers, foundry workers, and sandblasters. Many of these occupations continue to be high risk today.

In the 10-year period from 1987 to 1996, 265 individuals with silicosis were reported to the EOEP. Of these, 213 had a confirmed diagnosis of silicosis, and illness in 52 was reported as suspected silicosis or silica exposure only. The remainder of this report will discuss only the 213 individuals with a confirmed diagnosis of silicosis.

Two hundred ten (99%) of the workers were male; silicosis was reported in only 3 female workers. The average age at diagnosis was 59 years (range 21 to 97 years). One hundred forty-three workers with silicosis (67%) were White, 63 (30%) African American, 1 (0.5%) Asian/Pacific Islander, and 1 (0.5%) American Indian/Eskimo. Information on race was missing for 5 (2%) of the workers. There were 62 (29%) workers identified as Hispanic, 140 (66%) as non-Hispanic. Ethnicity was not reported for 11 workers.

Table 1 lists the number of workers by major industry division and by occupational category. Of workers in the general occupational categories listed, 71 were Sandblasters1 Painters, 20 General Laborers, 11 were Managers or Supervisors, 5 were Coal Miners,

Table 2. Industry and Occupation Categories Reported for Workers with a Confirmed Diagnosis of Asbestosis, 1987-1996

Category	No.	%
Industry		
Manufacturing	1077	35
Construction	609	24
Transportation, Communication and Public Utilities	127	6
Services	78	3
Retail Trade	27	1
Wholesale Trade	25	1
Other	28	1
Missing industry information	440	18
Occupation		
Precision Production, Craft and Repair Occupations	869	36
Operators, Fabricators, Laborers	695	29
Managerial and Professional Specialty Occupations	74	3
Technical, Sales and Administrative Support Occupations	65	3
Service Occupations	43	2
Other	12	.5
Missing occupation information	653	27

4 were Molders, 2 were Rock Crushers or Drillers.

Having a chronic lung condition such as silicosis often results in increased risk for other lung diseases. In addition, smoking is known to increase the risk of many chronic lung conditions, including silicosis (given silica exposure). Occasionally it is possible to obtain information on other lung conditions or on the smoking status of individuals whose silicosis is reported to the EOEP. Of these 213 workers with silicosis, 11 also had a diagnosis of asbestosis, 29 had tuberculosis, and 8 had lung cancer. Smoking status was available for 191 workers, of whom 58 were identified as current smokers.

Asbestosis

Like silicosis, asbestosis is a chronic fibrotic lung disease which results from inhalation of a mineral, in this case asbestos fibers, in the workplace. Asbestos is currently used in many products including roofing, drain pipes, floor tile, and insulation and fireproofing. Substitute materials have replaced asbestos since 1972, but the process of removing these asbestos-containing materials continues to pose a potential hazard.

During the 10-year period from 1987 to 1996, EOEP received reports of suspected or confirmed diagnoses of asbestosis in 2,703 individuals: 2,411 with a confirmed diagnosis of asbestosis and 292 with suspected asbestos or asbestos exposure only. The majority of the workers reported with asbestosis were male: 2,310 (96%). Of the 101 females, 42 (42%) were housewives whose only exposure was to a male family member who worked with asbestos (take-home exposure). Information on race and ethnicity was available for only 1,844 and 1,100 workers, respectively. Of these, 1,530 (83%) were White, and 314 (17%) were African American; 58 (5%) were Hispanic, and 1,042 (95%), non Hispanic.

Unfortunately, not all reports contain work histories complete enough to identify the industry or occupation where the exposure occurred. Table 2 lists the industry and occupation of workers for whom this information was reported.

As with silicosis, EOEP occasionally is able to obtain information on other lung conditions or smoking status for individuals with asbestosis. In addition to the 11 workers with asbestosis and silicosis, 37 of the 2,411 workers with asbestosis reported from 1987 through 1996 also had mesothelioma, and 79 had lung cancer.

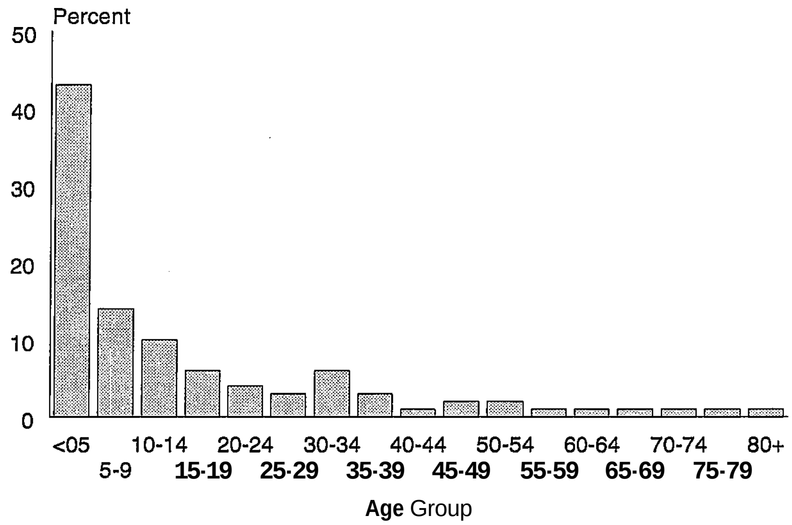
Smoking status was reported for 2,365 individuals, 1,005 (43%) of whom were current smokers.

Noncommunicable Disease Epidemiology and Toxicology Division (512) 458-7269

Submersion Injuries

Submersion injury describes drownings and near-drownings. Drowning is defined as a "death resulting from suffocation within 24 hours of submersion in water"; near-drowning is defined as "survival for at least 24 hours after suffocation from submersion in water." In cases of near-drownings, a person is underwater long enough to suffer the consequences of lack of oxygen, which can include brain damage.

Figure 1. Drowning/Near-Drowning Reports by Age Group



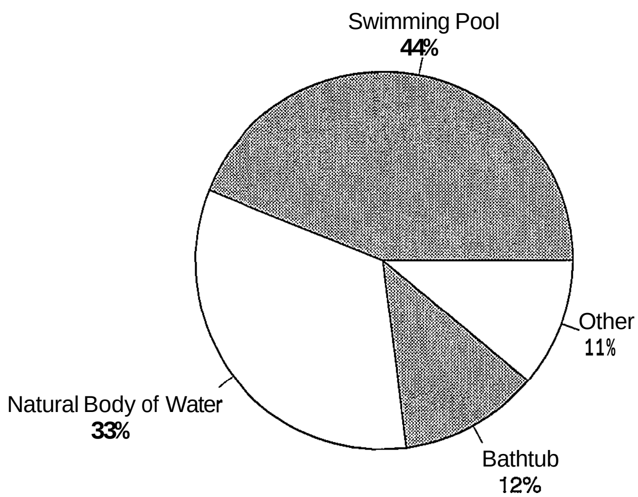
n=324

Submersion injuries have been a reportable condition in Texas since 1994. Physicians and hospitals that treat such injuries are required to report to the local/regional health department or to the Texas Department of Health. Information collected include items such as demographic data, etiology, location, the use of flotation devices, and extent of injury.

During 1996, 337 Texan cases of submersion (drowning and near-drowning) injuries were reported to the Texas Department of Health's Injury Prevention and Control Program. One hundred and twenty-six (37%) persons drowned, while 197 (59%) were alive 24 hours after submersion; 14 (4%) had unknown status.

Ages ranged from 7 months to 93 years; 43% (1401324) of injuries were to children under 5 years of age (Figure 1). Males accounted for 235 (70%) of injured Texans. In persons under 15 years of age females had a higher percentage of injuries (76%) than did males (62%); however, in persons aged 15 to 34 years males had a higher percentage of injuries (21%) than did females (11%). The racial/ethnic distribution of injuries is as follows: 134 (40%) White, 106 (31%) Hispanic, 65 (19%) African American, 16 (5%) other, and 16 (5%) unknown. The percentage of submersion injuries for people of all ages is lower for Whites and higher for Hispanic, African Americans, and other races when compared with the racial composition of the entire state.

Figure 2. Drowning/Near Drowning by Location



n=310

As Figure 2 shows, 40% (1361336) of the injuries occurred in swimming pools (most often at the victim's private residence). Of injuries that occurred at swimming pools, 57% (751136) were among children under 5 years of age. Other locations for submersion injuries include natural bodies of water (33%) and bathtubs (12%).

Nine percent (311337) of those injured had pre-existing medical conditions or physical impairments (eg, seizure disorder, cerebral palsy, mental retardation, autism, or coronary artery disease). Preexisting medical conditions and/or physical impairments may produce symptoms that increase the potential risk for submersion injuries such as dizziness or loss of consciousness.

At least 5% (171337) of injuries involved alcohol. More males than females had used alcohol frequently (15/17 versus 2117). Alcohol involvement was unknown/undetermined for an additional 38% of the injuries.

Cardiopulmonary resuscitation (CPR) was performed at the injury scene by nonprofessionals (ie, bystanders/rescuers) in at least 39% (1321337) of the incidents.

Among persons who received CPR, 18% died and 82% survived. Two hundred and twenty-nine (68%) of patients in submersion cases reported to TDH were treated in a hospital. However, not all persons who experience a submersion incident seek medical attention. Since these cases may not be reported to TDH, the actual number of submersion cases is likely to be higher than the number reported (which would result in a lower percentage of all reported submersion cases treated at a hospital).

Of the 197 individuals who survived a near-drowning, 13% (251197) suffered some manner of neurological deficit; an additional 22% of survivors had unknown/undetermined deficits at time of discharge.

Since the beginning of the submersion injury surveillance effort in January 1994, 732 Texas cases have been reported to the Texas Department of Health's Injury Prevention and Control Program. Swimming pools account for 39% of the submersion injuries. Sixty-eight percent of all submersions occur to males. In 1995, the Bureau of Vital Statistics received death certificates on 335 Texans that had "accidentally" drowned.

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Texas Neural Tube Defect Project: Primary Prevention of the Recurrence of Neural Tube Defects

In late summer of 1992 TDH responded to a Centers for Disease Control and Prevention (CDC) request for proposal (RFP) to implement neural tube defect (NTD) surveillance and risk reduction activities in a high prevalence area. The RFP also requested a case-control study of risk factors for NTD occurrence. TDH was awarded a cooperative agreement based on a proposal to carry out these activities in the 14 counties along the Texas-Mexico border: Cameron, Hidalgo, Starr, Webb, Zapata, Maverick, Kinney, Val Verde, Terrell, Brewster, Presidio, Jeff Davis, Hudspeth, and El Paso. This report describes the surveillance and intervention activities of the Texas Neural Tube Defect Project (TNTDP).

The surveillance component of the TNTDP involves prospective casefinding through the following data sources: hospitals, birthing centers, ultrasound centers, abortion centers, prenatal clinics, genetics clinics, and birth attendants which include lay midwives, certified nurse midwives, and non-hospital physicians. Physician surveys and vital record data are used for quality control purposes.

Data for the years 1993-1995 are summarized in Table 1. El Paso County continues to have a lower NTD rate than the other 13 border counties considered in aggregate. When all 36 months of data (1993-1995) are combined for the rest of the border counties, this difference is statistically significant ($p < 0.01$).

For January 1, 1993 through June 30, 1996 there were 208 resident NTD-affected births/terminations (cases). Of these cases, 185 (89%) occurred in the 4 most populated border counties—Cameron, Hidalgo, El Paso, and Webb. The remaining 10 border counties accounted for 9% of the births in the study area and 23 (11%) of the NTD-affected pregnancies in the study area. Seventy-nine (43%) of the cases were anencephaly, 91 (50%) were spina bifida, and 14 (7%) were encephalocele.

One hundred ninety-three (93%) of the 208 resident NTD cases were White-Hispanic; 91% of the residents and 92% of the occurrent live births in the study area were Hispanic. Of the 15 non-Hispanic cases, 2 (13%) were African American, 1 (7%) was Korean, 1 (7%) was

Table 1. NTD Rate by County of Residence and Period: January 1, 1993 - December 31, 1995

		Anencephaly		All NTDs	
County	Period	Cases*	Rate†	Cases*	Rate†
Cameron	1993-1995	13	5.6	36	15.6
Hidalgo	1993-1995	23	6.0	60	15.7
Webb	1993-1995	14	9.5	27	18.4
El Paso	1993-1995	17	3.6	39	8.3
Other 10	1993-1995	12	9.8	22	17.9
Total	1993	28	6.2	63	14.0
Total	1994	30	6.7	65	14.4
Total	1995	21	4.7	56	12.4
Total	1993-1995	79	5.8	184	13.6

* NTD cases exclude the following accompanying conditions: trisomy, triploidy, Turner's syndrome, and amniotic band syndrome
† Cases per 10,000 live births and stillbirths

Table 2. NTD Rate by Gestational Age and County of Residence, January 1,1993 - June 30,1996

	220 Weeks Gestational Age			All Gestational Ages		
County	**No.**	**Rate***	**95% CI‡**	**No.**	**Rate†**	**95% CI‡**
Cameron	28	10.4	6.9-15.0	41	15.2	10.9-20.7
Hidalgo	62	13.9	10.8-17.8	68	15.2	11.8-19.3
Webb	28	16.4	10.9-23.6	30	17.5	11.8-25.0
El Paso	35	6.4	4.5-8.9	46	8.4	6.2-11.2
Other 10	19	13.2	8.0-24.0	23	16.0	10.2-24.0
Total	**172**	**10.9**	**9.3-12.7**	**208**	**13.2**	**11.5-15.1**

* Cases per 10,000 live births and stillbirths; ≥ 20 weeks gestational age
† Cases per 10,000 live births and stillbirths; all gestational age
‡ CI, Confidence Interval

Egyptian, and 11 (73%) were non-Hispanic Whites.

A gestational age was known for 205 of the 208 NTD-affected pregnancies; 33 (16%) were induced or spontaneously aborted at less than 20 weeks gestation; 53 (26%) were delivered or induced from 20 through 33 weeks gestation; and 119 (58%) were delivered at 34 weeks or less. A prenatal (any time prior to labor or termination) diagnosis was reported for 72% of the resident cases. The cumulative data in Table 2 demonstrate how excluding fetuses that failed to reach a gestational age of 20 weeks lowers the rates.

All women identified through the surveillance protocol are contacted by telephone, letter, and/or in person. Women who live outside the study area and women with NTD-affected pregnancies before 1993 are provided education but not given folic acid. Those women whose index pregnancy was delivered or terminated in 1993 or later and who reside in the study area are enrolled in the inter-vention program. These women are interviewed and provided preconception, pregnancy, and NTD risk-reduction education and counseling. If they are contracepting, they are given a multivitamin with 0.4 mg folic acid; if they are not, they are placed on a daily regimen of a multivitamin with 4 mg folic acid.

The current status of enrollment in the folic acid intervention program is detailed in Table 3. From January 1, 1993 through September 30, 1996, 223 women were identified who met the full intervention case definition (residence in 1 of the study area counties and delivery or termination after January 1, 1993). Forty-four (17%) of the 223 women were not eligible for enrollment. Of the 179 eligible women, 54 (30%) refused enrollment, quit, or were lost to follow-up; 16 (9%) consented but were pending enrollment; and 109 (61%) were on folic acid and 16 of these were pregnant.

The primary objective of the TNTDP is prevention of recurrent folic-acid preventable NTDs. Pregnancy outcomes subsequent to the index NTD-affected pregnancy are reported in Table 4 for the period January 1, 1993, through September 30, 1996. For this period, 62 women who qualified for folic acid supplementation had 1 or more pregnancies subsequent to their NTD-affected pregnancy. Of these women, 48 had 1 subsequent pregnancy only, 10 women each had 2 pregnancies, and 4 women had 3 pregnancies for a total of 80 subsequent pregnancies. In 60 of the subsequent pregnancies, an outcome had already occurred: 46 (77%) of the pregnancies resulted in non-NTD affected live births; 13 (21%) in miscarriages or incomplete spontaneous abortions; and 1 (2%) in a recurrent NTD. The woman who had a recurrent NTD-affected pregnancy had refused enrollment in the intervention program, despite the extensive efforts of the field team. Two women known to be pregnant were lost to follow-up and 18 (23%) women were pregnant as of September 30, 1996.

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Table 3. Enrollment in Folic Acid Intervention Program by Status, January 1, 1993 - September 30,1996

Status	No.	%	Status	Nonpreg	Preg	%
Consented and on folic acid	109	61-	4.0 mg	15	4	17
			0.4 mg	73	11	77
			0.8-1.0mg	5	1	6
Consented/not on folic acid	16	9	Pending	16		100
Eligible/not enrolled	54	30	Lost	22		41
			Refused	29		54
			Quit	3		5
Total eligible women	179	100				
Total ineligible women	44		Moved	22		50
			Tubal ligation	22		50
Total identified women	**223**					

Table 4. Subsequent Pregnancies by Pregnancy Outcome and Year of Index Pregnancy, January 1,1993 - September 30, 1996*

Pregnancy Outcome	1993†	1994†	1995†	1996†	Total	%‡
Non-NTD affected live birth	28	14	4	0	46	77
Spontaneous abortion	5	6	2	0	13	21
Recurrent NTD	1§	0	0	0	1	2
Total live births/spontaneous abortions	34	20	6	0	60	100
Moved/Lost to follow-up	1	1	0	0	2	--
Pending pregnancy	7	2	6	3	18	--
Total subsequent pregnancies	**42**	**23**	**12**	**3**	**80**	

* revised 10128196
† number of pregnancy outcomes in case series to date
‡ percent subsequent live births/spontaneous abortions
§ woman was lost to follow-up and not taking folic acid

Texas Poison Center Network

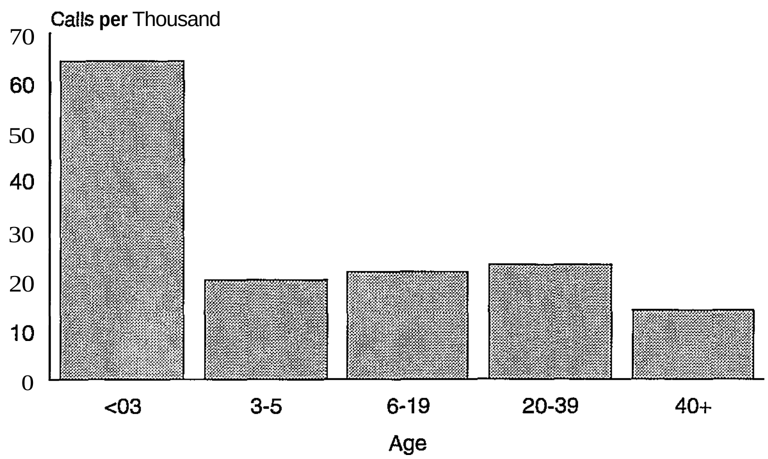
The Texas Poison Center Network represents a culmination of various efforts to reduce the tragic number of poisonings in Texas. Created in 1993 by Senate Bill 773, the Network consists of 2 state agencies, the Texas Department of Health and the Advisory Commission on State Emergency Communications, and 6 poison centers. The centers are located in Amarillo, Dallas, El Paso, Galveston, San Antonio, and Temple. Together, these 6 centers serve the entire state of Texas.

On September 1, 1994, the Network established a single phone number, 1-800-POISON-1, as the common access point from anywhere in the state. The network provides a variety of services including emergency treatment information, professional education to health care providers, and public education targeting pre-school and school-aged children and their parents regarding the dangers of poisonings and how to prevent them. Phone calls to the center include requests for information regarding poisons, drugs and drug identification, and animal poison exposures. Over 80% of the calls to the network, however, concern a person exposed to a potentially toxic substance.

Each of the centers is staffed by specially trained doctors, pharmacists, nurses, and paramedics who provide immediate treatment advice in response to exposure calls. Of every 4 calls to a poison center, 3 result in the caller safely handling the situation at home. This avoids costly ambulance transportation and unnecessary emergency room expenses. Specifically, for every dollar spent in support of a poison center, $6 to $9 in unnecessary emergency health care are saved'.

During 1996 the Texas Poison Center Network received 151,459 phone calls concerning a person exposed to a poison representing an average of 1 exposure call every 3 minutes for 24 hours a day, 365 days a year. Exposures occur primarily to pre-school children, most prominently among infants and toddlers, ie children less than **3** years old (Figure 1). More than 40% of the exposures handled by the Network occur in this age-group. This total is 3 times that for children who are 3 to 5 years old.

Figure 1. Human Exposure Calls by Age



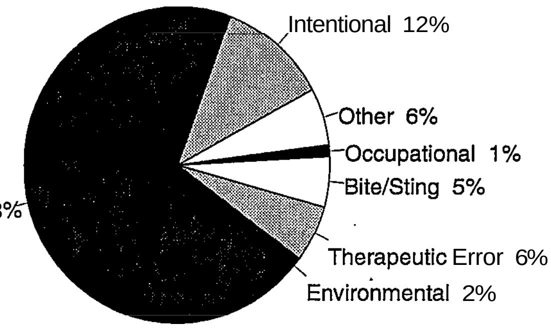
Cause of Exposures

As can be seen in Figure 2, nearly 70% of all exposures called in to the network were general accidents. Most commonly, these are unintentional exposures at home. The other types of unintentional exposure account for an additional 20% of the cases. Intentional exposures, which include attempts to get high or commit suicide, comprise 12% of the calls, a total of nearly 18,000 people.

Exposure Substances

Table 1 contains the list of the most common exposure substances. The majority of exposures are to substances commonly found in the home.

Figure 2. Cause of Exposure



n=151,459

Analgesics, such as ibuprofen, aspirin, and acetaminophen account for 1 in 10 poison exposures. Other common poison exposure substances include bleach, laundry detergent, perfume, and antihistamines.

Treatment and Outcomes

The primary mission of the Texas Poison Center Network is to reduce the incidence and cost of poisonings. In an effort to accomplish that mission the Network combines cost savings with good medical outcomes. In 1996 more than 75% of the human exposures were treated at home and less than 7% required admission to a health-care facility. Cost savings occur when only those patients who truly need emergency medical care are transported and treated at the emergency room or physician's office.

About half of all exposure calls are followed through to final outcome by Network professionals. More than 90% of the poison exposures in 1996 which were followed resulted in only minor or no clinical effects to the patient. Fewer than 4 of every 1,000 exposures resulted in a life-threatening event or death.

Bureau of Epidemiology
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References

1. Miller, Ted R., Lestina, Diane C. Costs of poisoning in the United States and savings from poison control centers: **A** benefit-cost analysis. Annals of Emergency Medicine 1997; 29 (2):239-245.

Table 1. Top 10 Exposure Substances

Substance	No.	%
Analgesics	15,849	10.5
Cleaning Substances	14,163	9.4
Personal Care Products	12,979	8.6
Cold and Cough Medications	8,638	5.7
Bites/Envenomations	8,413	5.6
Plants	6,920	4.6
Foreign Bodies	5,963	3.9
Topical Medications	5,385	3.6
Insecticides/Pesticides	5,167	3.4
Sedatives	5,043	3.3

Trauma Registry: Occupant Protection Use

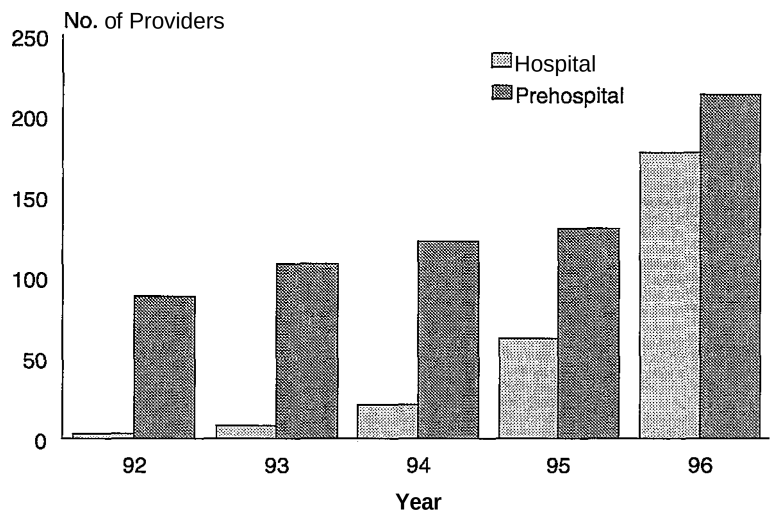
In 1989 the Texas Legislature passed a bill establishing the Texas Trauma Registry (TTR) whose primary purpose is

- to develop and maintain a trauma reporting and analysis system to identify major or severe trauma patients
- to identify the total amount of uncompensated trauma care
  to monitor trauma patient care

All prehospital providers and hospitals in Texas are required to electronically transmit data about trauma patients to TTR.

During 1996 TTR received 130,833 electronic patient records from 213 (29%) prehospital (EMS) providers and 26,583 electronic patient records from 177 (37%) hospitals. These numbers continue to increase as several additional prehospital providers and hospitals come online each month. Figure 1 shows the trend of growth that has occurred in electronic data participation during the years 1992 through 1996. The goal is to collect data from all prehospital providers and hospitals in Texas (approximately 742 and 482 respectively).

Figure 1. Hospital and Prehospital Participation



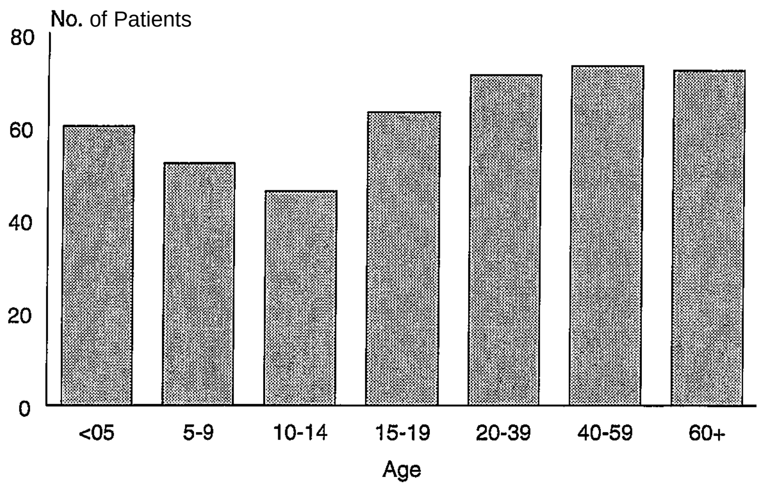
One area of TTR data analysis involves Healthy People 2000 Objectives related to injury. One injury-related objective is to "increase use of occupant protection systems, such as safety belts, inflatable safety restraints, and child safety seats, to at least 85% of motor vehicle occupants." There is also a Healthy People 2000 objective to increase use of occupant protection systems to 95% for children aged 4 and younger.

To determine the progress of meeting the objectives for occupant protection use, TTR staff reviewed 1996 prehospital data. Specifically, staff examined occupant protection use in motor vehicle crashes (MVCs) by age groups. Of the 130,833 prehospital records received, 22,157 (17%) concerned patients injured as drivers or occupants of a motor vehicle. Occupant protection use was 68% for all patients and 60% for patients aged 4 years and younger. (See Figure 2.) Occupant protection use in MVCs was highest among patients 40 to 59 years of age (73%) and lowest among patients younger than 20 years of age (58%). Among these patients, the percentage of MVC patients who used occupant protection was least (46%) in those 10 to 14 years old. This analysis by age group revealed similar rates of occupant protection use among the following age groups: 20-39 years (71%), 40-59 years (73%), and 60 years and older (72%).

In the age group 40-59 years, the subgroup 50-59 years (75%) had the highest percentage of MVC patients having used occupant protection.

Occupant protection information for major trauma patients (revised trauma score <11) was

Figure 2. Occupant Protection* Use in Motor Vehicle Crashes



*seat belts, shoulder harness, airbag or child restraint

also examined. Of the total 26,583 records received, 7,732 (29%) were patients injured as drivers or occupants of a motor vehicle.

Occupant protection use was reported for only 450 of the 655 patients whose injuries were classified as major trauma. The usage rate of those 450 (29%) was well below the 85% objective.

These statistics are derived from limited reporting of data and may not be representative of Texas as a whole. As the goal to collect trauma data from all Texas prehospital providers and hospitals is achieved, a more accurate profile of the scope, impact, and magnitude of trauma in Texas will be gained.

Reference

Healthy People 2000 - National Health Promotion and Disease Prevention Objectives. U.S. Department of Health and Human Services, 1990; DHHS Publication No. (PHS) 91-50212.

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Traumatic Spinal Cord Injuries

Traumatic spinal cord injury (SCI) is defined as an "acute, traumatic lesion of the neural elements in the spinal cord, resulting in temporary or permanent sensory deficit, motor deficit, or bladder/bowel dysfunction." These injuries are particularly devastating due to

- the permanent nature of such injuries
- the relatively young age of the victims
- the high costs of both acute and long-term care

Traumatic spinal cord injuries have been a reportable condition in Texas since 1994. Physicians and hospitals are required to report such injuries to the local/regional health department or to the Texas Department of Health. Information collected includes items such as demographic data, etiology, intentionality, level and extent of injury, use of occupant restraints or helmets, and discharge status.

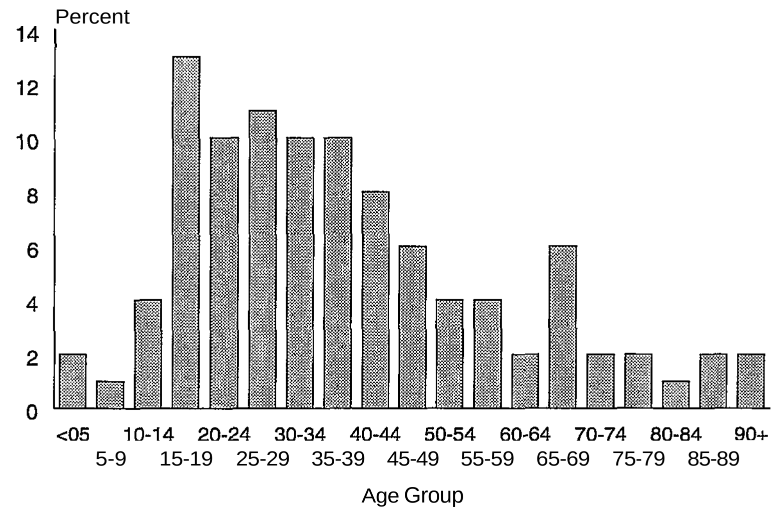
During 1996, 188 Texans sustaining traumatic spinal cord injuries were reported to the Texas Department of Health's Injury Prevention and Control Program. Twenty-two (12%) died in the hospital, while 49 (26%) entered long-term rehabilitation programs.

Ages ranged from 1 to 96 years. Forty percent (731182) of injuries were to people under 30 years of age (Figure 1). Males accounted for 129 (69%) of injured Texans. The racial/ethnic distribution of injuries is as follows: 120 (64%), white; 38 (20%), Hispanic; 26 (14%), African American; and 4 (2%), other.

Motor-vehicle-related (MV) injuries accounted for 114 (61%) of SCIs to Texans (Figure 2). Among these, 81 (71%) individuals were injured as automobile occupants; 10, in pedestrian-vehicle crashes; 8, as occupants in pickup truck cabs, 4, in motorcycle crashes; 3, in bicycle-vehicle crashes; and 8, in other vehicle crashes. Safety belts, child restraints, air bags, or helmets were not used in at least 37% of MV-related injuries (restraint use was unknown in an additional 22% of injuries).

As Figure 2 illustrates, other mechanisms accounted for the remaining 74 (39%) injuries. Among these, 33 (45%) were due to falls; 14 (19%), to penetrating wounds (guns, glass); 7 (9%), to sports, and 20 (27%), to other causes (falling or crushing objects). Overall, gunshots accounted for 7% of SCIs.

Figure 1. Spinal Cord Injuries by Age Group

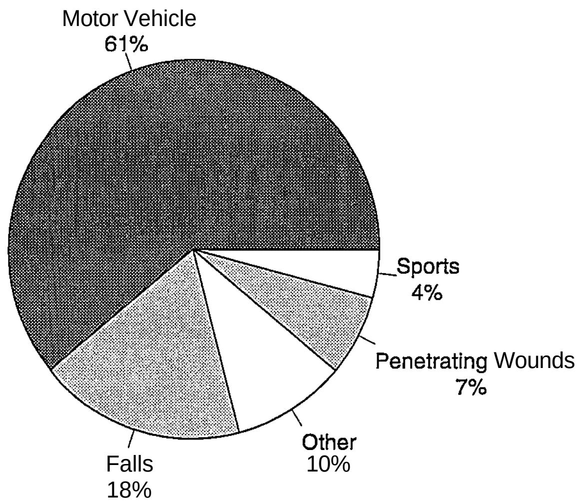


n=182 (with known age)

Intent of injury was known for 178 (95%) of incidents. Ninety-three percent were unintentional, 6% were assaults, and 1% were self-inflicted.

Forty (21%) injuries were reported as alcohol-related (ie, alcohol was involved in the injury, but was not necessarily consumed by the victim). Alcohol involvement was either unknown or undetermined for an additional 54% of injuries.

Figure 2. Spinal Cord Injuries by Etiology



Information concerning job-related injuries was available for 173 (92%) of the cases. Of these, 16 (9%) were job-related. Six patients (38%) received an injury as the result of a fall, while 5 (31%) were in motor vehicles, and 5 (31%) were injured by falling/crushing objects.

Information on type and extent of injury was available for 174 (93%) of the cases. Of these, 80 (46%) resulted in paraplegia, and 94 (54%) resulted in quadriplegia. The most severely injured persons (ie, injuries to spinal cord in the neck resulting in total loss of sensation and movement below the injury) accounted for 31 (18%) cases of known severity.

Since the beginning of the voluntary traumatic spinal cord injury surveillance effort in January 1991, approximately 1,700 Texans have been reported to the Texas Department of Health's Injury Prevention and Control Program. Motor-vehicle-related crashes account for 49% of SCIs. Seventy-six percent of all SCIs occur to males.

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Tuberculosis

Tuberculosis (TB) is caused by the members of the *Mycobacterium* tuberculosis complex, which include the acid-fast bacilli M. tuberculosis, M. bovis, and M. *africanum*. TB transmission generally occurs when a susceptible person inhales airborne infectious droplet nuclei produced by an individual with contagious disease. Factors that increase the risk of TB disease include residence in a community where TB is prevalent, substance abuse, homelessness, incarceration, and certain medical conditions such as diabetes and human immunodeficiency virus (HIV) infection.

During the 1970s and early 1980s, Texas experienced a decline in reported TB cases that averaged 3% per year. Had this decline continued, the number of TB cases reported for 1996 would have been fewer than 1,300. However, an increase in reported cases began in the mid-1980s and continued through 1994, when the number of cases reached a 20-year high of 2,542.

In 1996, there were 2,103 cases of TB (11.1 per 100,000 population) reported in Texas, compared with 2,369 cases (12.7 per 100,000) in 1995. Seventy percent (1,480) of the 1996 TB cases were reported from 9 counties: Bexar, Cameron, Dallas, El Paso, Harris, Hidalgo, Nueces, Tarrant, and Travis. Eight Texas cities have populations greater than 250,000: Houston, Dallas, San Antonio, El Paso, Austin, Fort Worth, Arlington, and Corpus Christi. Fifty-eight percent of the 1996 TB cases (Table 1) were reported from these metropolitan areas, which contain 32% of the state's population. Of the 2,103 total cases, 586 (28%) were reported from the city of Houston. Dallas ranked second with 204 cases (9.7%), San Antonio was third with 120 cases (5.7%), and Austin was fourth with 86 cases (4%). The 4 cities with the highest rates (cases per 100,000 population) were Houston (33.2), Dallas (18.9), San Antonio (11.8), and Austin (17.0). TB cases in Texas accounted for 10% of the 21,327 cases reported in the United States in 1996.

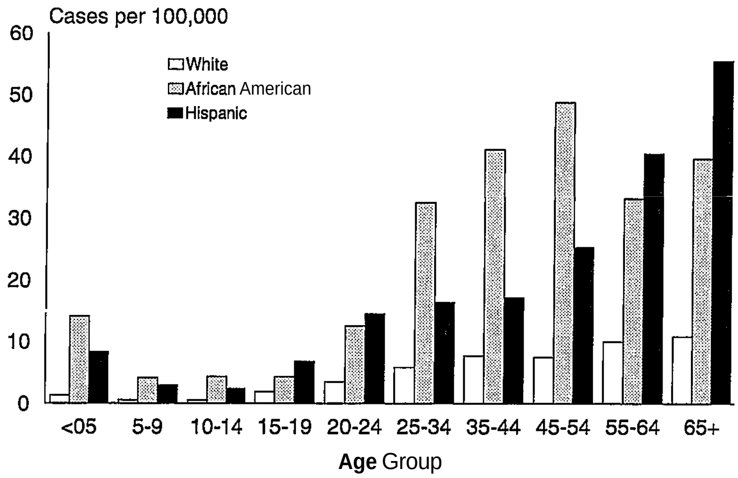
Of the 1996 Texas TB cases, 635 (30%) of the individuals were foreign-born. Almost all were from areas with high levels of TB infection. Individuals born in Mexico accounted for 384 cases reported in Texas (18% of the total, 60% of the foreign-born cases). Immigrants from 48 countries comprised the remaining cases in the foreign-born. They came from Vietnam (66), the Philippines (27), India (23), Honduras (21), El Salvador (17), South Korea (9), Guatemala (8), and Pakistan (7). It is estimated that one-third of the world's population is infected with tuberculosis. Those who do not receive adequate chemoprophylaxis after infection will continue to be at risk of developing TB disease and thus may become sources of infection for others.

During 1996 Texas received 3,869 refugees, accompanying immigrants, parolees, and asylees from 43 countries. The majority came from 5 countries: Vietnam (1,470), Bosnia (696), Iraq (464), Somalia (387), and Cuba (309). Tuberculosis screening, performed on 3,030 individuals, yielded a 40% positive TB skin test rate. Evaluation of these positive reactors resulted in 49 individuals' receiving TB

Table 1. Tuberculosis Morbidity in Cities

City	No. of Cases	Population	Cases per 100,000
Arlington	20	296,729	6.7
Austin	86	504,692	17.0
Corpus Christi	43	272,582	15.8
Dallas	204	1,081,105	18.9
El Paso	82	590,879	13.9
Fort Worth	69	494,061	14.0
Houston	586	1,762,802	33.2
San Antonio	120	1,014,103	11.8
Cities Subtotal	**1210**	**6,016,953**	**20.1**
Texas Total	**2103**	**18,967,764**	**11.1**

Figure 1. Reported Cases of Tuberculosis by Age Goup, Race/Ethnicity



The Texas Legislature passed Chapter 89 of the Texas Health and Safety Code in 1993. This law requires county jails with 100 or more beds to implement TB screening, treatment, and reporting programs. By the end of 1996, all 79 jails covered by the law were in compliance. In 1995 the 8 largest metropolitan areas in Texas accounted for 79% of jail-related TB cases; in 1996 the percentage was 77%. The Texas Department of Criminal Justice (TDCJ) reported 40 cases of TB in 1996, with an additional 11 cases diagnosed on admission. The TDCJ TB case rate (cases per 100,000 population) in 1991 was 171.3, then declined from 92.3 in 1994 to 38.5 in 1996. It is likely that the comprehensive TB screening implemented following the new law as well as the improvements in the timeliness and accuracy of TB diagnosis in correctional facilities contributed to the dramatic decrease in inmates with undiagnosed TB being sent to TDCJ.

treatment (14 with active disease). Preventive therapy was given to 596 individuals.

Seventy-seven percent (1,616) of 1996 TB cases occurred in racial and ethnic sub-populations: 42% among Hispanics, 26% among African Americans, and 9% among Asian/Pacific Islanders. The case rates for all ages by racelethnicity were as follows: White, 6.0; African American, 25.3; Hispanic, 16.0; and other (Asian and Native American), 37.1. The age distribution of 1996 cases by racelethnicity is shown in Figure 1.

In 1996, 144 tuberculosis cases were reported in persons younger than 15 years of age, a decrease of 25% from the 193 cases reported for this group in 1995 (Figure 2). These 1996 cases occurred primarily in Hispanic and African American children. The cases per 100,000 population for children by race/ethnic group were as follows: White, 0.8; African American, 7.7; and Hispanic, 4.8. TB transmission to children is most likely related to contact with adults with infectious disease. In 1996 adults 25 to 44 years old accounted for 811 (39% of the total) TB cases. The rates for adults in this age group by racelethnicity were as follows: White, 7.0; African American, 37.0; and Hispanic, 16.8.

HIV/AIDS was the third leading risk factor for TB cases reported in 1996. Matching between the AIDS and TB case registers revealed that 247 (11.7%) of all reported TB cases in 1996 were also found to have HIV/AIDS. More than 70% of the HIVITB co-infected patients live in the 7 most populous Texas cities; 38% live in Houston. The ethnic/racial demographics of the HIV/TB co-infected patients were as follows: African American (non-Hispanic), 48%; Hispanic, 27%; White (non-Hispanic), 25%.

Drug-resistant TB continues to be an important issue for TB control. In 1996, 141 of the new TB cases reported involved drug-resistant M. *tuberculosis* (8.6% of the 1,646 culture-positive TB cases). At the end of 1996, 320 TB cases resistant to at least one TB drug were under management in Texas.

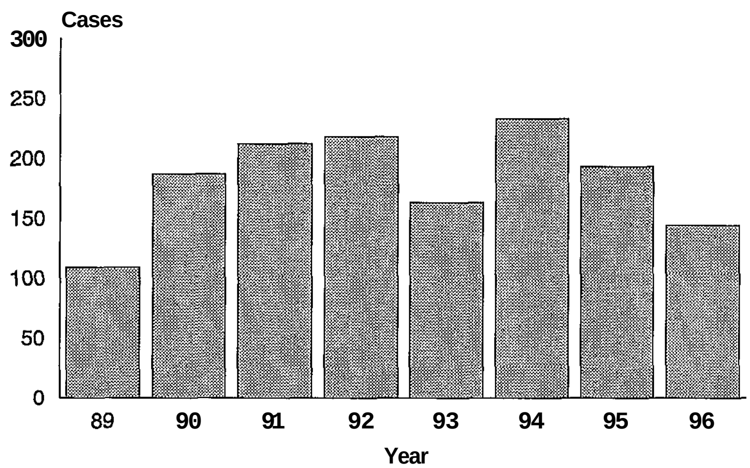
Any M. tuberculosis strain that is resistant to both isoniazid (INH) and rifampin (RIF) is classified as multidrug-resistant tuberculosis (MDR-TB). The treatment of TB without the use of INH and RIF poses a major challenge to health-care providers and to patients in terms of medication regimens and length of therapy. Of the 141 drug-resistant cases in 1996, 21 were identified as being multidrug-resistant (1.3% of the culture-positive total). Eighteen (86%) of the individuals with MDR-TB were foreign-born. Of these, 12 were from Mexico, 2 from the Philippines, 2 from India, 1 from Korea, and 1 from the Dominican Republic; 10 reported previous TB therapy in their country of origin. Although no acquired MDR-TB cases were reported, 3 of the 21 MDR-TB cases were classified as recurrent MDR-TB.

Prevention of TB transmission to new hosts is a basic function of TB control. The current strategy is to identify cases, recently-infected persons, and infected persons at high risk of developing active disease in order to offer appropriate therapy. Such therapy should reduce transmission, recurrence, and the risk of developing disease once infected. Directly observed therapy (DOT) for all TB cases and suspects has an important role in the success of this strategy.

DOT requires that each dose of TB medication be taken while under observation by a responsible person; it can be accomplished whether the patient receives medication at a clinic, in a hospital, at home, in a jail, or even "on the street." Without exception, patients with TB organisms of suspected or proven resistance to isoniazid or rifampin are to be on DOT. As of December 1996, 90% of patients with open Texas cases were reported as receiving their treatment via DOT. In tuberculosis surveillance a case is "opened" at the time of initial diagnosis. It remains open until treatment is completed or completion of treatment is determined to be impossible, ie, TB is subsequently ruled out, the patient dies, or the patient becomes lost to follow-up.

Several new TB control efforts are being attempted in Texas. Among them is Ten Against TB (TATB), a collaborative effort of the 10 US-Mexico border states to meet the challenges to effective TB prevention and control practices posed by an international border. This innovative initiative, coordinated by the TB Elimination Division, addresses opportunities in TB control in the border region that cannot be handled effectively by either nation acting alone.

Figure 2. Tuberculosis Cases in Patients Younger Than 15 Years of Age: 1989-1996



The Texas Department of Health (TDH) was awarded a grant from Centers for Disease Control and Prevention (CDC) to participate in the National Tuberculosis Genotyping and Sentinel Surveillance Network. This cooperative project involves staff in the Tuberculosis Elimination Division, the Bureau of Laboratories, and the RFLP-DNA finger-printing laboratory at the Texas Center for

Infectious Diseases (TCID) in San Antonio. The surveillance area, which consists of the Metroplex region (Dallas and Tarrant Counties) and the Lower Rio Grande Valley region (Cameron and Hidalgo Counties), averages 500 TB cases annually, of which 75% to 80% are culture-positive. The project goal is to submit at least one TB culture from each culture-positive TB case reported in the surveillance area for DNA fingerprinting by the RFLP laboratory. DNA band patterns will be used in conjunction with contact investigation and other information to identify clusters of related cases and examine the mechanisms of TB transmission.

In 1996 the number of TB cases and the associated case rates continued the decline from the 1994 20-year Texas high. The continued use of standard initial four-drug therapy, DOT, and institutional control measures in correctional facilities should allow this trend to continue. The goal of the Tuberculosis Elimination Division is to reduce the number of new TB cases by using a combination of proven methods and of promising new approaches to prevent TB transmission. Since the global TB problem will continue to affect TB elimination in Texas, it is important that the state participate in the development of TB control methods that will be effective beyond its borders.

Tuberculosis Elimination Division
(512) 458-7447

Tuberculosis Contact Investigation Evaluation Study

In 1996 the Texas Department of Health (TDH) evaluated the completeness and effectiveness of tuberculosis (TB) contact investigation efforts in Texas. Contact investigations are essential for identifying persons at high risk of infection due to recent contact with an infectious tuberculosis patient. Recently-infected individuals who receive preventive therapy with isoniazid (INH) are at much lower risk of developing active tuberculosis in the future. Contact investigation efforts are also important for identifying source cases for newly infected children or children with active tuberculosis. Infectious tuberculosis patients pose a special risk to small children, since children less than 6 years old are specifically at risk for developing the most severe forms of disease: miliary tuberculosis and TB meningitis.

This study focused on contact investigations conducted for tuberculosis cases reported in 1994. Reported cases from 1994 were selected because it was a recent time period, and all cases from that year should have been reported and closed due to completed therapy before June 1996. All contact investigations for these cases also should have been completed. A stratified random sample of 11% of the total case registry from 1994 was selected for evaluation. The sample was stratified by Public Health Region, with 25 cases from each region sampled randomly for inclusion. This allowed for statistical comparison between regions during data analysis.

For the 273 tuberculosis cases studied, a total of 3,691 contacts were identified. The mean number of contacts identified per case was 14, but the median number of contacts identified per case was only 6. This result means that for one half of the cases reviewed, there were 6 or fewer contacts identified in the contact investigation. There were 633 pediatric contacts (contacts aged younger than 15 years) identified, for an average of 2.3 pediatric contacts per case. There were 44 cases with no contacts identified (16% of all cases enrolled in the evaluation); 32 pulmonary TB cases had no contacts identified (14% of all pulmonary TB cases).

Contact investigations in Texas typically began very quickly once the individual with suspected TB was identified. Most investigations began within 10 days of the case being diagnosed as either confirmed or suspected TB. When contact investigation efforts were evaluated for completeness, 4 important questions were raised regarding outcomes. First, what percentage of contacts received at least a first-round Mantoux Purified Protein Derivative (PPD) tuberculin skin test? Second, what percentage of contacts who tested negative in their baseline test received a follow-up PPD in 12 weeks to identify tuberculin skin test converters? Third, how many infected contacts received chest radiographs to rule out evidence of active disease? Finally, how many infected contacts were provided with INH preventive therapy to reduce their risk of developing active tuberculosis? Table 1 describes the results of the investigation.

It is important to recognize that the risk level for a particular contact is subjectively assigned by the contact investigator in the field. In

Table 1. Contact Investigation Results

Risk Level	1st PPD Placed	%	1st PPD Read	%	Positive Reactors	%	2nd PPD Placed	%	2nd PPD Read	%	TST Converters	%
High	1333	(41)	1299	(97)	335	(26)	250	(26)	234	(94)	28	(12)
Low	1443	(45)	1396	(97)	151	(11)	103	(8)	100	(97)	5	(5)
Unspecified	458	(14)	449	(98)	51	(11)	37	(9)	30	(81)	4	(13)
Total	**3225**		**3144**	**(97)**	**537**	**(17)**	**390**	**(15)**	**364**	**(93)**	**37**	**(10)**

general, it seemed in this evaluation study that field investigators considered household contacts to be high risk contacts and nonhousehold contacts were considered to be low risk contacts. It appeared that many contact investigations never expanded beyond the circle of household contacts.

There were 106 previously positive reactors identified in these investigations: 537 positive reactors identified in the first round of PPD skin testing, and 37 tuberculin skin test converters identified through follow-up testing. This gives a total of 680 contacts who could be appropriate candidates for chest radiograph evaluation for evidence of active tuberculosis. There were 796 contacts who did receive a chest radiograph evaluation. Table 2 describes the contacts who were evaluated in this manner.

There were 574 persons identified whose cases should have been evaluated for preventive therapy (537 initial positive reactors and 37 skin test converters). Some additional persons were prescribed INH prophylaxis due to factors other than demonstrated TB infection. The data available on the age and health of the identified contacts were incomplete, making a full analysis of the appropriateness of preventive therapy prescriptions impossible.

There were 466 contacts prescribed INH in this evaluation study sample, and records indicate that 430 (92%) completed their preventive therapy.

Some conclusions can be reached. Large numbers of contacts to infectious tuberculosis patients do not receive a full evaluation.

Identified contacts usually get a first round Mantoux (PPD) tuberculin skin test (TST). Follow-up skin testing efforts to identify tuberculin skin test converters are not as thorough as they should be. The majority of actual Mantoux PPD tuberculin skin test converters are not identified in current efforts.

Unfortunately, investigations often stop if all contacts to a case test negative on their first PPD. However, the first PPD only establishes the baseline status of the contacts: follow-up testing is required to identify skin test converters. In our evaluation, 12% of high-risk contacts, 5% of low-risk contacts, and 13% of contacts whose risk is unspecified converted their TST when receiving a thorough evaluation. Less than 25% of identified contacts were completely evaluated, however, indicating that many TST converters were probably never recognized. For this reason, follow-up testing of identified contacts is essential.

There were 321 contacts to pulmonary tuberculosis patients identified in this study who received no evaluation for tuberculosis infection or active disease. It is reasonable to estimate that 55 of these contacts would have reacted to their first PPD. Based on conversion rates of the contacts who were evaluated in this study, the skin test for 32 of these 321 contacts would have converted if they had been tested through 2 rounds. Additionally, 2,298 contacts should have received a second PPD skin test ut did not. Of these, 229 contacts would have converted their TST and 298 additional contacts identified in this sample would have been offered preventive INH.

Table 2. Comparison of Chest X-Ray Recommended Versus Evaluation Done

Category	CXR Recommended	CXR Done	%	CXR Not Done	%
Previous Positive Reactor	Yes	90	85	16	15
Positive Reactors - 1st TST	Yes	375	70	162	30
TST Converters	Yes	35	95	2	5
Contacts Not PPD Tested	Physician Decision	55	15	305	85
No Evidence of Infection	No	241	9	2410	78
Total		**796**	**22**	**2895**	**78**

These findings suggest that contact investigation efforts in Texas need to be improved. The majority of real tuberculin skin test converters are not identified in current investigation efforts. More thorough contact investigations and aggressive use of preventive therapy would enable tuberculosis control programs in Texas to significantly reduce the number of preventable tuberculosis cases reported annually.

Infectious Disease Epidemiology and Surveillance Division (512) 458-7676

Border State Study of Tuberculosis in Hispanics

After increasing sharply from 1987 to 1994, the number of TB cases reported in Texas is once again on the decline. In 1987 there were 1,757 cases of TB reported. By 1994 the number of reported cases had increased to 2,542 cases, a 69% increase in the number of reported cases during that 7-year period. Since 1994 the number of reported cases has declined for 2 consecutive years, with 2,123 cases reported in 1996, representing a decrease of 17% over the past 2 years.

The epidemiology of tuberculosis has changed substantially in recent years. HIV-TB coinfection, homelessness, substance abuse, and immigration from TB endemic countries contributed to the increase in the number of reported cases from 1987 to 1994. Foreign-born residents who have immigrated to Texas from countries in Africa, Asia, and Latin America now represent a much higher proportion of the overall tuberculosis case load in Texas than they had previous years.

Tuberculosis infection is much more common in many of these countries than it is in the United States. More than one fourth (26%) of all the tuberculosis cases reported in Texas in 1995 were diagnosed in foreign-born patients. Persons born in Mexico represented 61% of all the foreign-born patients whose TB was diagnosed in Texas in 1995. Regarding TB patients born in Mexico who developed TB in the United States in 1995, more than 80% of the cases were diagnosed in Texas, California, Arizona, and New Mexico.

From 1995 to 1996, the Texas Department of Health collaborated with public health officials in California, Arizona, New Mexico, and the Centers for Disease Control and Prevention to study tuberculosis in Hispanic patients along the US-Mexico border. Consenting patients were interviewed by bilingual health department staff, using a standardized questionnaire. Patient interviews included questions about migration history, symptoms, treatment, and health care seeking behaviors. Clinical data were also collected from the patients's medical records and data collected from the tuberculosis surveillance database at TDH headquarters in Austin. Study participants in Texas included the local health departments in Dallas County, Fort Worth/Tarrant County, Austin/Travis County, El Paso City/County, Webb County, Hidalgo County, Cameron County, Nueces County, and the City of Houston. Data collection began in October, 1995, and continued through January, 1996.

Both foreign-born and US-born Hispanic tuberculosis patients or their guardians were interviewed in Texas. The following data pertain to both groups:

- patients interviewed: 228
- sex: male, 55%; female, 45%
- mean age: 43 years (range: 1 month-89 years)
- US residency (mean length of stay): 18 years (range: 4 months-81 years)
- country of birth: Mexico, 51%; US, 42%; Cuba, El Salvador, France, Guatemala, or Honduras, 6%

The majority of the patients born in Mexico came from 1 of the 4 Mexican states that share a common border with Texas (Chihuahua, Coahuila, Nuevo Leon, and Tamaulipas). There were small numbers of patients from many other parts of Mexico, including all of the central interior Mexican states.

Detailed migration histories were obtained from 133 foreign-born study participants. These patient's frequency of travel to Mexico was as follows:

- traveled to Mexico at least once since immigrating to the US: 72%
- traveled to Mexico within the year prior to being diagnosed with TB: 58%
- traveled to Mexico at least once per year: 50%
- traveled to Mexico more than 1 year before being diagnosed with TB: 42%

- traveled to Mexico at least once per month: 27%
- traveled to Mexico at least once per week: 14%

Eighty-five percent of the patients in this study had pulmonary tuberculosis. The median duration of symptoms before seeking medical treatment was 4 months (range: 2 weeks-11 years). Almost a third (28%) of the patients interviewed reported receiving prior treatment or prior preventive tuberculosis therapy. Only 8% of the patients interviewed reported receiving treatment outside the United States. Hispanic patients living in counties bordering Mexico were much more likely to have drug-resistant tuberculosis than patients living in nonborder counties, regardless of their country of origin. Table 1 compares drug resistance levels between patients living in border and nonborder counties in Texas.

CDC supports 4 binational projects targeting tuberculosis control along the US-Mexico border. These projects involve collaboration between health officials in paired cities on either side of the border in promoting tuberculosis control and tuberculosis prevention activities. Three of the binational sites are along the Texas-Mexico border (El Paso and Ciudad Juarez; Laredo and Nuevo Laredo; and McAllen/ Brownsville and Reynosa/Matamoros in the lower Rio Grande Valley). This study found that at least 60% of the Mexican born patients had ties with a community where a binational project is in operation. The remaining 40% of the Mexican born patients diagnosed with tuberculosis during the study period were from nonborder regions in Mexico.

Immigration from TB-endemic countries contributes an increasing proportion of the newly diagnosed tuberculosis cases in Texas each year. Mexico is the largest single source of foreign-born patients diagnosed in Texas. However, most of the tuberculosis patients in Texas acquired their infection here, and Texas produces more home-grown tuberculosis than many other areas of the United States. The location of the binational tuberculosis control projects in El Paso, Laredo, and the lower Rio Grande Valley is appropriate, since 60% of the foreign born patients we interviewed were from these areas. These projects will not help prevent all cases, since 40% of the patients we interviewed were from interior Mexico, where there are no binational projects. Foreign born patients are more likely to have drug resistant strains of tuberculosis than do Texas patients overall, but the current levels of drug resistance remain relatively low. All newly diagnosed patients remain good candidates for initial 4-drug therapy with isoniazid, rifampin, ethambutol, and pyrazinimide, until culture results can be obtained that demonstrate the drug susceptibility patterns for that particular patient.

Table 1. Comparison of Drug Resistance: Residents of Nonborder Versus Border Counties

Drug Resistance	% of Nonborder Counties	% of Border Counties	Risk Ratio
Isoniazid (INH)	3.9	6.9	1.76
Rifampin (RIF)	0.3	1.4	4.66
Ethambutol	1.3	2.8	2.15
Streptomycin	3.4	8.6	2.52
INH + RIF (MDR-TB)	0.3	1.1	3.66

Infectious Disease Epidemiology and Surveillance Division (512) 458-7676

Varicella Surveillance Project

The Varicella Surveillance Project (VSP) being conducted in Travis County by the Texas Department of Health's Immunization Division concluded 2 complete years of data collection at the end of 1996. This 5-year project was funded by the national Centers for Disease Control and Prevention (CDC) to determine the baseline incidence of varicella (chickenpox) in Travis County, as well as to determine changes in the epidemiology of the disease after vaccine licensure. The project began in January 1995 and will continue through December 1999. Two similar surveillance projects—also funded by the CDC—are being conducted in West Philadelphia (Pennsylvania) and in the Antelope Valley of Los Angeles County (California).

The approximately 500 reporting sentinels participating in the Travis County VSP include licensed day-care facilities, public schools and universities, public health clinics, private physicians, and hospitals. Cases are reported to project staff every two weeks, and each case is thoroughly investigated to obtain detailed epidemiologic information including varicella vaccination status.

A confirmed case was one which met the case definition for chickenpox, was successfully investigated, and resided within the study area (Travis County). Cases were dropped if a health professional offered an alternative diagnosis or it was determined that the case-patient resided outside of Travis County. During the first year of the VSP (1995), almost 4,000 reported cases were investigated, and 3,146 cases of chickenpox were confirmed. During the second year of the VSP (1996), 2,042 suspected cases were investigated by project staff; 76% (1,548) of these were confirmed. Although definite reasons for the 51% decrease in confirmed cases from 1995 to 1996 are unknown, a reasonable explanation is that 1995 may have been an outbreak year which reduced the number of susceptibles in the county in 1996. A review of 1995 statewide data revealed that varicella morbidity was up in most counties in 1995, supporting this theory. Another possible factor in the reduction of morbidity in 1996 is that children may have been vaccinated as recommended. Continued data collection and analysis are needed to confirm either hypothesis.

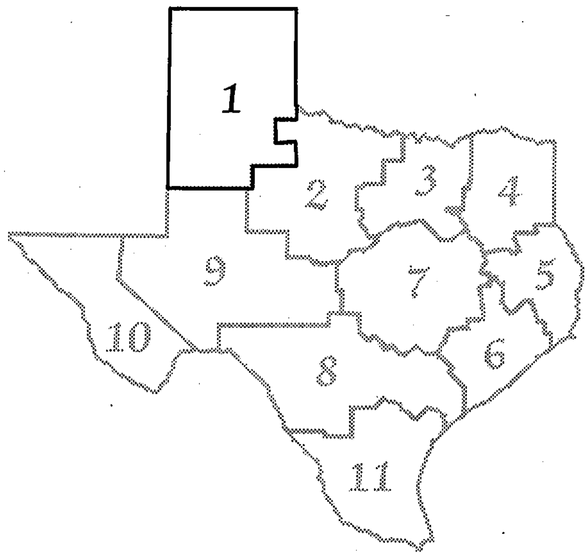
Cases were fairly evenly distributed between the sexes with males accounting for 51% of the cases. Seventy-eight percent of confirmed cases were White, 18% were Black, 2% were Asian or Pacific Islander, and <1% were Native American. The race for another 1% was reported as other or unknown. Varicella is a seasonal disease, and although cases occurred in every month throughout the year, for the majority (66%) disease onset occurred during the winter and spring (January through May).

Ten percent (15111548) of patients with confirmed varicella cases in Travis County identified through the VSP experienced complications from their infections. The reported complications included cerebellitis (2), changes in mental status (47), pneumonia (5), encephalitis (1), and secondary infections (100). Identified sites of secondary infection were skin (49), ears (22), respiratory system (17), and eyes (10). Ten varicella patients were hospitalized. Hospital stays ranged from 1 to 30 days (median: 4 days).

Twenty-nine of the case-patients with confirmed varicella through the Travis County VSP in 1996 had been vaccinated against varicella prior to onset of disease; 20 were considered breakthrough cases, and 6 were most likely vaccinated after their exposure to varicella. Varicella vaccine was licensed in the United States in March 1995. Use of the vaccine began almost immediately in the private sector, but the vaccine did not become available in public sector until the summer of 1996.

Immunization Division (800) 252-9152

Regional Statistical Summaries



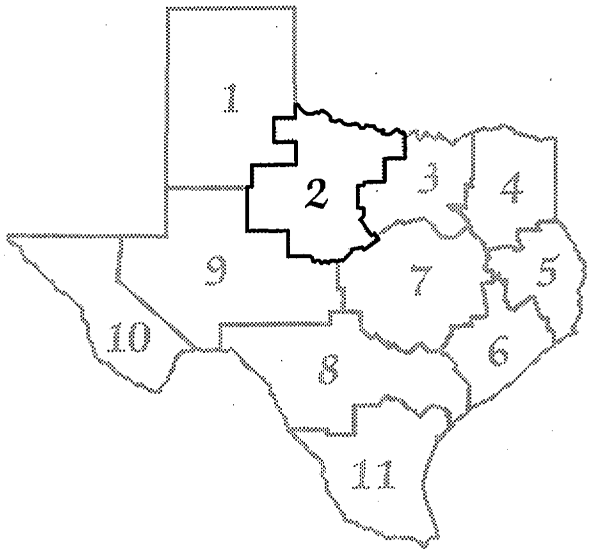
Public Health Region 1

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 1 - 1996

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
ARMSTRONG	1,997	0	0.0	0	0.0	1	50.1	0	0.0
BAILEY	7,284	0	0.0	12	164.	1	13.7	0	0.0
BRISCOE	1,932	0	0.0	0	0.0	0	0.0	0	0.0
CARSON	6,498	1	15.4	0	0.0	1	15.4	0	0.0
CASTRO	9,393	0	0.0	29	308.	6	63.9	0	0.0
CHILDRESS	6,660	0	0.0	13	195.	3	45.0	0	0.0
COCHRAN	4,668	0	0.0	4	85.7	0	0.0	0	0.0
COLLINGSWORTH	3,446	0	0.0	14	406.	4	116.1	0	0.0
CROSBY	7,501	0	0.0	10	133.	1	13.3	0	0.0
DALLAM	5,478	0	0.0	5	91.3	0	0.0	0	0.0
DEAF SMITH	19,823	1	5.0	69	348.	10	50.4	0	0.0
DICKENS	2,496	0	0.0	7	280.	0	0.0	0	0.0
DONLEY	3,532	0	0.0	5	141.	3	84.9	0	0.0
FLOYD	8,670	0	0.0	15	173.	0	0.0	0	0.0
GARZA	5,228	0	0.0	23	439.	5	95.6	0	0.0
GRAY	23,376	2	16.8	35	149.	24	102.7	0	0.0
HALE	36,014	0	0.0	59	163.	22	61.1	0	0.0
HALL	3,731	0	0.0	11	294.	1	26.8	0	0.0
HANSFORD	5,865	0	0.0	2	34.1	0	0.0	0	0.0
HARTLEY	4,585	0	0.0	0	0.0	0	0.0	0	0.0
HEMPHILL	3,663	0	0.0	1	27.3	0	0.0	0	0.0
HOCKLEY	24,492	0	0.0	24	98.0	15	61.2	0	0.0
HUTCHINSON	25,088	0	0.0	35	139.	10	39.9	0	0.0
KING	376	0	0.0	0	0.0	0	0.0	0	0.0
LAMB	14,786	0	0.0	26	175.	7	47.3	0	0.0
LIPSCOMB	3,094	0	0.0	0	0.0	0	0.0	0	0.0
LUBBOCK	228,029	16	7.0	882	386.	576	252.6	4	1.8
LYNN	6,819	0	0.0	6	88.0	1	14.7	0	0.0
MOORE	18,608	0	0.0	45	241.	9	48.4	0	0.0
MOTLEY	1,469	0	0.0	1	68.1	0	0.0	0	0.0
OCHILTREE	9,109	0	0.0	15	164.	0	0.0	0	0.0
OLDHAM	2,239	0	0.0	1	44.7	1	44.7	0	0.0
PARMER	10,264	1	9.7	6	58.5	2	19.5	0	0.0
POTTER	103,292	26	25.2	570	551.	285	275.9	0	0.0
RANDALL	101,784	2	2.0	178	174.	62	60.9	0	0.0
ROBERTS	1,017	0	0.0	0	0.0	0	0.0	0	0.0
SHERMAN	2,912	0	0.0	0	0.0	0	0.0	0	0.0
SWISHER	8,639	0	0.0	15	173.	1	11.6	0	0.0
TERRY	13,993	0	0.0	11	78.6	5	35.7	0	0.0
WHEELER	5,539	0	0.0	9	162.	0	0.0	0	0.0
YOAKUM	9,197	0	0.0	6	65.2	1	10.9	0	0.0

REGIONAL TOTALS	762,586	49	5.8	2,144	281.	1,057	138.6	4	0.5
STATEWIDE TOTALS	18,967,764	4,932	26.0	43,003	226.	23,124	121.9	890	4.7



Public Health Region 2

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 2 - 1996

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
ARCHER	8,218	0	0.0	0	0.0	0	0.0	0	0.0
BAYLOR	4,203	0	0.0	0	0.0	0	0.0	0	0.0
BROWN	34,310	1	2.9	3	8.7	0	0.0	0	0.0
CALLAHAN	11,910	0	0.0	0	0.0	0	0.0	0	0.0
CLAY	10,005	0	0.0	1	10.0	0	0.0	0	0.0
COLEMAN	9,374	3	32.0	0	0.0	0	0.0	0	0.0
COMANCHE	13.217	14	105.9	0	0.0	0	0.0	0	0.0
COTTLE	2,176	0	0.0	0	0.0	0	0.0	0	0.0
EASTLAND	17,806	0	0.0	1	5.6	0	0.0	0	0.0
FISHER	4,707	0	0.0	0	0.0	0	0.0	0	0.0
FOARD	1,739	0	0.0	0	0.0	0	0.0	0	0.0
HARDEMAN	5,078	0	0.0	0	0.0	0	0.0	0	0.0
HASKELL	6,639	0	0.0	0	0.0	0	0.0	0	0.0
JACK	6,901	0	0.0	1	14.5	0	0.0	0	0.0
JONES	18,239	0	0.0	1	5.5	0	0.0	0	0.0
KENT	1,010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,758	0	0.0	0	0.0	0	0.0	0	0.0
MITCHELL	9,808	2	20.4	1	10.2	0	0.0	0	0.0
MONTAGUE	16,446	6	36.5	1	6.1	0	0.0	0	0.0
NOLAN	16,829	0	0.0	0	0.0	0	0.0	0	0.0
RUNNELS	11,343	I	8.8	I	8.8	0	0.0	0	0.0
SCURRY	18,837	I	5.3	I	5.3	0	0.0	0	0.0
SHACKELFORD	3,215	0	0.0	0	0.0	0	0.0	0	0.0
STEPHENS	9,207	2	21.7	0	0.0	0	0.0	0	0.0
STONEWALL	1,979	0	0.0	1	50.5	0	0.0	0	0.0
TAYLOR	124,450	11	8.8	27	21.7	0	0.0	0	0.0
THROCKMORTON	1,844	0	0.0	0	0.0	0	0.0	0	0.0
WICHITA	126,979	4	3.2	2	1.6	0	0.0	0	0.0
WILBARGER	15,196	0	0.0	0	0.0	0	0.0	0	0.0
YOUNG	17,413	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	533.836	45	7.9	41	7.7	0	0.0	0	0.0
STATEWIDE TOTALS	18,967,764	3.460	18.2	1,258	6.6	205	1.1	40	0.2

REPORTED CASES OF SELECTED GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 2 - 1996

		AMEBIASIS		CAMPYLOBACTER		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
ARCHER	8,218	0	0.0	2	24.3	1	12.2	0	0.0
BAYLOR	4,203	0	0.0	0	0.0	1	23.8	0	0.0
BROWN	34,310	0	0.0	0	0.0	1	2.9	0	0.0
CALLAHAN	11,910	0	0.0	0	0.0	1	8.4	0	0.0
CLAY	10,005	0	0.0	0	0.0	0	0.0	0	0.0
COLEMAN	9,374	0	0.0	0	0.0	0	0.0	0	0.0
COMANCHE	13,217	0	0.0	0	0.0	1	7.6	I	7.6
COTTLE	2,176	0	0.0	0	0.0	0	0.0	0	0.0
EASTLAND	17,806	0	0.0	0	0.0	0	0.0	0	0.0
FISHER	4,707	0	0.0	0	0.0	0	0.0	0	0.0
FOARD	1,739	0	0.0	0	0.0	0	0.0	0	0.0
HARDEMAN	5,078	0	0.0	0	0.0	0	0.0	0	0.0
HASKELL	6,639	0	0.0	0	0.0	0	0.0	0	0.0
JACK	6,901	0	0.0	0	0.0	0	0.0	0	0.0
JONES	18,239	0	0.0	0	0.0	1	5.5	0	0.0
KENT	1.010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,758	0	0.0	0	0.0	0	0.0	0	0.0
MITCHELL	9,808	0	0.0	0	0.0	1	10.2	0	0.0
MONTAGUE	16,446	0	0.0	1	6.1	0	0.0	1	6.1
NOLAN	16,829	0	0.0	1	5.9	7	41.6	1	5.9
RUNNELS	11,343	0	0.0	0	0.0	4	35.2	1	8.8
SCURRY	18,837	0	0.0	0	0.0	2	10.6	1	5.3
SHACKELFORD	3,215	0	0.0	0	0.0	0	0.0	0	0.0
STEPHENS	9,207	0	0.0	0	0.0	0	0.0	0	0.0
STONEWALL	1,979	0	0.0	0	0.0	0	0.0	0	0.0
TAYLOR	124,450	0	0.0	13	10.4	21	16.9	8	6.4
THROCKMORTON	1,844	0	0.0	0	0.0	0	0.0	0	0.0
WICHITA	126,979	0	0.0	3	2.4	8	6.3	13	10.2
WILBARGER	15,196	0	0.0	2	13.2	1	6.6	I	6.6
YOUNG	17.413	0	0.0	0	0.0	3	17.2	0	0.0

REGIONAL TOTALS	533,836	0	0.0	22	3.7	53	9.9	27	5.0
STATEWIDE TOTALS	18,967,764	130	0.7	897	4.7	2,800	14.8	2,757	14.5

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 2 - 1996

COUNTY	1996 POP.	ASEPTIC MENINGITIS CASES	ASEPTIC MENINGITIS RATE	CHICKENPOX CASES	CHICKENPOX RATE	ENCEPHALITIS CASES	ENCEPHALITIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
ARCHER	8,218	0	0.0	2	24.3	0	0.0	1	12.2
BAYLOR	4,203	0	0.0	0	0.0	0	0.0	1	23.8
BROWN	34,310	2	5.8	47	137.0	0	0.0	2	5.8
CALLAHAN	11,910	1	8.4	0	0.0	0	0.0	0	0.0
CLAY	10,005	0	0.0	0	0.0	0	0.0	1	10.0
COLEMAN	9,374	2	21.3	0	0.0	0	0.0	2	21.3
COMANCHE	13,217	0	0.0	7	53.0	0	0.0	0	0.0
COTTLE	2,176	0	0.0	0	0.0	0	0.0	0	0.0
EASTLAND	17,806	0	0.0	0	0.0	0	0.0	0	0.0
FISHER	4,707	0	0.0	0	0.0	0	0.0	0	0.0
FOARD	1,739	0	0.0	0	0.0	0	0.0	0	0.0
HARDEMAN	5,078	0	0.0	0	0.0	0	0.0	0	0.0
HASKELL	6,639	0	0.0	0	0.0	0	0.0	2	30.1
JACK	6,901	0	0.0	0	0.0	0	0.0	1	14.5
JONES	18,239	1	5.5	1	5.5	0	0.0	0	0.0
KENT	1,010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,758	0	0.0	31	651.5	0	0.0	0	0.0
MITCHELL	9,808	0	0.0	0	0.0	1	10.2	0	0.0
MONTAGUE	16,446	0	0.0	0	0.0	0	0.0	0	0.0
NOLAN	16,829	0	0.0	32	190.1	0	0.0	0	0.0
RUNNELS	11,343	0	0.0	0	0.0	0	0.0	I	8.8
SCURRY	18,837	0	0.0	0	0.0	0	0.0	0	0.0
SHACKELFORD	3,215	0	0.0	0	0.0	0	0.0	0	0.0
STEPHENS	9,207	0	0.0	0	0.0	0	0.0	0	0.0
STONEWALL	1,979	0	0.0	0	0.0	0	0.0	0	0.0
TAYLOR	124,450	8	6.4	197	158.3	0	0.0	6	4.8
THROCKMORTON	1,844	0	0.0	0	0.0	0	0.0	0	0.0
WICHITA	126,979	4	3.2	119	93.7	0	0.0	16	12.6
WILBARGER	15,196	0	0.0	1	6.6	0	0.0	I	6.6
YOUNG	17,413	0	0.0	5	28.7	0	0.0	0	0.0

REGIONAL TOTALS	533,836	18	3.4	442	82.8	1	0.2	34	6.4
STATEWIDE TOTALS	18,967,764	927	4.9	20,332	107.2	31	0.2	2.103	11.1

REPORTED CASES OF VACCINE PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 2 - 1996

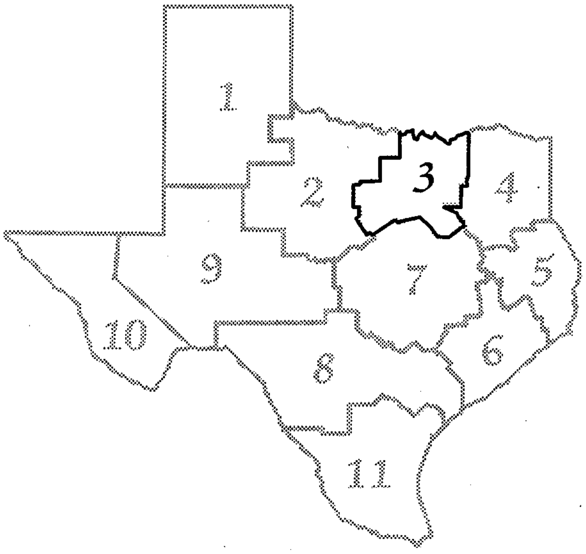
COUNTY	1996 POP.	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
ARCHER	8,218	0	0.0	0	0.0	0	0.0	0	0.0
BAYLOR	4,203	0	0.0	0	0.0	0	0.0	0	0.0
BROWN	34.310	0	0.0	0	0.0	0	0.0	0	0.0
CALLAHAN	11,910	0	0.0	0	0.0	0	0.0	0	0.0
CLAY	10,005	0	0.0	0	0.0	0	0.0	0	0.0
COLEMAN	9,374	0	0.0	0	0.0	0	0.0	0	0.0
COMANCHE	13,217	0	0.0	0	0.0	0	0.0	0	0.0
COTTLE	2,176	0	0.0	0	0.0	0	0.0	0	0.0
EASTLAND	17,806	0	0.0	0	0.0	0	0.0	0	0.0
FISHER	4,707	0	0.0	0	0.0	0	0.0	0	0.0
FOARD	1,739	0	0.0	0	0.0	0	0.0	0	0.0
HARDEMAN	5,078	0	0.0	0	0.0	0	0.0	0	0.0
HASKELL	6,639	0	0.0	0	0.0	0	0.0	0	0.0
JACK	6,901	0	0.0	0	0.0	0	0.0	0	0.0
JONES	18,239	0	0.0	0	0.0	0	0.0	0	0.0
KENT	1.010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,758	0	0.0	0	0.0	0	0.0	0	0.0
MITCHELL	9,808	0	0.0	0	0.0	0	0.0	0	0.0
MONTAGUE	16,446	0	0.0	0	0.0	0	0.0	0	0.0
NOLAN	16,829	0	0.0	0	0.0	0	0.0	0	0.0
RUNNELS	11,343	0	0.0	0	0.0	0	0.0	0	0.0
SCURRY	18,837	0	0.0	0	0.0	0	0.0	0	0.0
SHACKELFORD	3.215	0	0.0	0	0.0	0	0.0	0	0.0
STEPHENS	9,207	0	0.0	0	0.0	0	0.0	0	0.0
STONEWALL	1,979	0	0.0	0	0.0	0	0.0	0	0.0
TAYLOR	124,450	0	0.0	0	0.0	0	0.0	0	0.0
THROCKMORTON	1,844	0	0.0	0	0.0	0	0.0	0	0.0
WICHITA	126,979	1	0.8	0	0.0	0	0.0	0	0.0
WILLBARGER	15,196	0	0.0	0	0.0	0	0.0	0	0.0
YOUNG	17,413	0	0.0	0	0.0	0	0.0	0	0.0

REGIONAL TOTALS	533,836	1	0.2	0	0.0	0	0.0	0	0.0
STATEWIDE TOTALS	18,967,764	49	0.3	44	0.2	151	0.8	8	0.0

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 2 - 1996

COUNTY	1996 POP.	AIDS CASES	AIDS RATE	CHLAMYDIA CASES	CHLAMYDIA RATE	GONORRHEA CASES	GONORRHEA RATE	P & S SYPHILIS CASES	P & S SYPHILIS RATE
ARCHER	8,218	0	0.0	4	48.7	4	48.7	0	0.0
BAYLOR	4,203	0	0.0	2	47.6	6	142.8	0	0.0
BROWN	34,310	2	5.8	15	43.7	6	17.5	0	0.0
CALLAHAN	11,910	0	0.0	0	0.0	0	0.0	0	0.0
CLAY	10,005	0	0.0	6	60.0	2	20.0	0	0.0
COLEMAN	9,374	0	0.0	3	32.0	2	21.3	0	0.0
COMANCHE	13,217	2	15.1	2	15.1	1	7.6	0	0.0
COTTLE	2,176	0	0.0	0	0.0	0	0.0	0	0.0
EASTLAND	17,806	0	0.0	2	11.2	0	0.0	0	0.0
FISHER	4,707	1	14.7	0	0.0	0	0.0	0	0.0
FOARD	1,739	0	0.0	0	0.0	0	0.0	0	0.0
HARDEMAN	5,078	1	19.7	18	354.5	5	98.5	0	0.0
HASKELL	6,639	1	15.1	5	75.3	2	30.1	0	0.0
JACK	6,901	0	0.0	8	115.9	0	0.0	0	0.0
JONES	18,239	I	5.5	1	5.5	3	16.4	0	0.0
KENT	1,010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,758	0	0.0	0	0.0	1	21.0	0	0.0
MITCHELL	9,808	1	10.2	0	0.0	1	10.2	0	0.0
MONTAGUE	16,446	2	12.2	4	24.3	0	0.0	0	0.0
NOLAN	16,829	0	0.0	22	130.7	8	47.5	0	0.0
RUNNELS	11,343	0	0.0	8	70.5	0	0.0	0	0.0
SCURRY	18,837	0	0.0	17	90.2	4	21.2	0	0.0
SHACKELFORD	3,215	0	0.0	0	0.0	1	31.1	0	0.0
STEPHENS	9,207	0	0.0	6	65.2	2	21.7	0	0.0
STONEWALL	1,979	0	0.0	0	0.0	0	0.0	0	0.0
TAYLOR	124,450	12	9.6	77	61.9	62	49.8	0	0.0
THROCKMORTON	1,844	0	0.0	1	54.2	1	54.2	0	0.0
WICHITA	126,979	16	12.6	464	365.4	215	169.3	6	4.7
WILBARGER	15,196	4	26.3	14	92.1	9	59.2	0	0.0
YOUNG	17,413	I	5.7	17	97.6	3	17.2	I	5.7
REGIONAL TOTALS	533.836	44	8.2	696	130.37	338	63.3	7	1.3
STATEWIDE TOTALS	18,967,764	4,932	26.0	43,003	226.7	23.124	121.9	890	4.7



Public Health Region 3

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 3 - 1996

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
COLLIN	356,942	41	11.5	25	7.0	1	0.3	0	0.0
COOKE	31,841	1	3.1	1	3.1	I	3.1	0	0.0
DALLAS	2,058.136	280	13.6	221	10.7	32	1.6	1	0.0
DENTON	357,913	35	9.8	15	4.2	0	0.0	I	0.3
ELLIS	106,000	6	5.7	4	3.8	0	0.0	0	0.0
ERATH	30,465	1	3.3	1	3.3	0	0.0	0	0.0
FANNIN	26,793	0	0.0	4	14.9	0	0.0	0	0.0
GRAYSON	96,497	21	21.8	11	11.4	0	0.0	0	0.0
HOOD	36,897	33	89.4	0	0.0	0	0.0	0	0.0
HUNT	70,589	8	11.3	2	2.8	0	0.0	0	0.0
JOHNSON	120,283	6	5.0	5	4.2	0	0.0	0	0.0
KAUFMAN	63,704	2	3.1	3	4.7	0	0.0	0	0.0
NAVARRO	42,303	2	4.7	0	0.0	0	0.0	0	0.0
PALO PINTO	26,215	0	0.0	2	7.6	0	0.0	0	0.0
PARKER	81,853	6	7.3	9	11.0	1	1.2	0	0.0
ROCKWALL	34,301	0	0.0	1	2.9	0	0.0	0	0.0
SOMERVELL	6,017	4	66.5	0	0.0	0	0.0	0	0.0
TARRANT	1,391,979	165	11.9	78	5.6	25	1.8	2	0.1
WISE	39.645	1	2.5	0	0.0	1	2.5	0	0.0
REGIONAL TOTALS	4,978,373	612	12.3	382	7.7	61	1.2	4	0.0
STATEWIDE TOTALS	18,967,764	3,460	18.2	1,258	6.6	205	1.1	40	0.2

REPORTED CASES OF SELECTED GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 3 - 1996

		AMEBIASIS		CAMPYLOBACTER		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
COLLIN	356,942	0	0.0	4	1.1	27	7.6	15	4.2
COOKE	31,841	0	0.0	1	3.1	2	6.3	4	12.6
DALLAS	2,058,136	38	1.8	80	3.9	198	9.6	172	8.4
DENTON	357,913	1	0.3	7	2.0	19	5.3	24	6.7
ELLIS	106,000	0	0.0	3	2.8	6	5.7	16	15.1
ERATH	30,465	0	0.0	I	3.3	1	3.3	0	0.0
FANNIN	26,793	0	0.0	0	0.0	0	0.0	1	3.7
GRAYSON	96,497	0	0.0	2	2.1	14	14.5	19	19.7
HOOD	36,897	0	0.0	0	0.0	1	2.7	0	0.0
HUNT	70,589	0	0.0	0	0.0	9	12.7	3	4.2
JOHNSON	120,283	0	0.0	0	0.0	14	11.6	9	7.5
KAUFMAN	63,704	0	0.0	1	1.6	7	11.0	1	1.6
NAVARRO	42,303	0	0.0	6	14.2	3	7.1	1	2.4
PALO PINTO	26,215	0	0.0	0	0.0	1	3.8	0	0.0
PARKER	81,853	0	0.0	0	0.0	6	7.3	0	0.0
ROCKWALL	34,301	0	0.0	0	0.0	2	5.8	0	0.0
SOMERVELL	6,017	0	0.0	0	0.0	2	33.2	3	49.9
TARRANT	1,391,979	0	0.0	26	1.9	105	7.5	108	7.8
WISE	39.645	0	0.0	1	2.5	0	0.0	2	5.0

REGIONAL TOTALS	4,978,373	39	0.8	132	2.7	417	8.4	378	7.6
STATEWIDE TOTALS	18,967,7644	130	0.7	897	4.7	2,800	14.8	2,757	14.5

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 3 - 1996

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
COLLIN	356,942	34	9.5	596	167.0	0	0.0	5	1.4
COOKE	31,841	0	0.0	1	3.1	0	0.0	0	0.0
DALLAS	2,058,136	183	8.9	3,092	150.2	4	0.2	256	12.4
DENTON	357,913	12	3.4	333	93.0	0	0.0	10	2.8
ELLIS	106,000	2	1.9	0	0.0	0	0.0	2	1.9
ERATH	30,465	0	0.0	2	6.6	0	0.0	I	3.3
FANNIN	26,793	0	0.0	0	0.0	0	0.0	2	7.5
GRAYSON	96,497	4	4.1	26	26.9	1	1.0	6	6.2
HOOD	36,897	1	2.7	35	94.9	0	0.0	0	0.0
HUNT	70,589	1	1.4	56	79.3	1	1.4	7	9.9
JOHNSON	120,283	3	2.5	16	13.3	0	0.0	4	3.3
KAUFMAN	63,704	0	0.0	0	0.0	0	0.0	4	6.3
NAVARRO	42,303	0	0.0	250	591.0	0	0.0	I	2.4
PALO PINTO	26,215	2	7.6	0	0.0	0	0.0	1	3.8
PARKER	81,853	2	2.4	0	0.0	0	0.0	5	6.1
ROCKWALL	34,301	1	2.9	0	0.0	0	0.0	0	0.0
SOMERVELL	6,017	0	0.0	0	0.0	0	0.0	0	0.0
TARRANT	1,391,979	51	3.7	434	31.2	1	0.1	106	7.6
WISE	39.645	3	7.6	0	0.0	0	0.0	3	7.6
REGIONAL TOTALS	4,978,373	299	6.0	4,841	97.2	7	0.1	413	8.3
STATEWIDE TOTALS	18,967,764	927	4.9	20,332	107.2	31	0.2	2,103	11.1

REPORTED CASES OF SELECTED VACCINE PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 3 - 1996

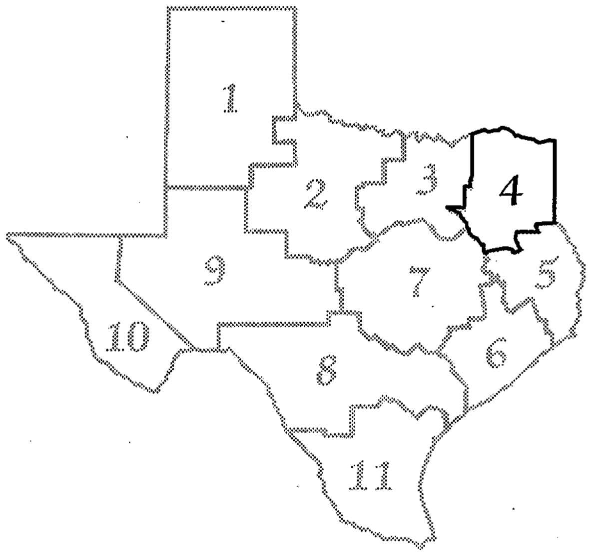
		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
COLLIN	356,942	0	0.0	1	0.3	0	0.0	0	0.0
COOKE	31,841	0	0.0	0	0.0	2	6.3	0	0.0
DALLAS	2,058.136	0	0.0	5	0.2	0	0.0	1	0.0
DENTON	357,913	0	0.0	0	0.0	3	0.8	0	0.0
ELLIS	106,000	0	0.0	0	0.0	0	0.0	0	0.0
ERATH	30,465	0	0.0	0	0.0	0	0.0	0	0.0
FANNIN	26,793	0	0.0	0	0.0	0	0.0	0	0.0
GRAYSON	96,497	0	0.0	0	0.0	1	1.0	0	0.0
HOOD	36,897	0	0.0	0	0.0	2	5.4	0	0.0
HUNT	70,589	0	0.0	0	0.0	0	0.0	0	0.0
JOHNSON	120,283	0	0.0	0	0.0	0	0.0	0	0.0
KAUFMAN	63,704	0	0.0	1	0.0	0	0.0	0	0.0
NAVARRO	42,303	0	0.0	0	1.6	0	0.0	0	0.0
PALO PINTO	26,215	0	0.0	0	0.0	0	0.0	0	0.0
PARKER	81,853	0	0.0	0	0.0	0	0.0	0	0.0
ROCKWALL	34,301	0	0.0	0	0.0	0	0.0	0	0.0
SOMERVELL	6,017	0	0.0	0	0.0	0	0.0	0	0.0
TARRANT	1,391,979	0	0.0	0	0.0	11	0.8	0	0.0
WISE	39,645	0	0.0	0	0.0	0	0.0	0	0.0

REGIONAL TOTALS	4,978,373	0	0.0	7	0.1	19	0.4	I	0.0
STATEWIDE TOTALS	18,967,764	49	0.3	44	0.2	151	0.8	8	0.0

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 3 - 1996

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
COLLIN	356,942	16	4.5	288	80.7	166	46.5	4	1.1
COOKE	31,841	2	6.3	36	113.1	21	66.0	0	0.0
DALLAS	2,058,136	868	42.2	5,309	258.0	5,745	279.1	226	11.0
DENTON	357,913	29	8.1	335	93.6	140	39.1	2	0.6
ELLIS	106,000	8	7.5	150	141.5	96	90.6	0	0.0
ERATH	30,465	0	0.0	67	219.9	9	29.5	0	0.0
FANNIN	26,793	3	11.2	21	78.4	11	41.1	0	0.0
GRAYSON	96,497	13	13.5	240	248.7	105	108.8	2	2.1
HOOD	36,897	3	8.1	23	62.3	3	8.1	0	0.0
HUNT	70,589	8	11.3	78	110.5	78	110.5	2	2.8
JOHNSON	120,283	6	5.0	93	77.3	12	10.0	1	0.8
KAUFMAN	63,704	8	12.6	67	105.2	41	64.4	2	3.1
NAVARRO	42,303	2	4.7	99	234.0	66	156.0	2	4.7
PALO PINTO	26.215	4	15.3	27	103.0	4	15.3	0	0.0
PARKER	81,853	7	8.6	29	35.4	6	7.3	0	0.0
ROCKWALL	34,301	3	8.7	20	58.3	14	40.8	0	0.0
SOMERVELL	6,017	0	0.0	2	33.2	1	16.6	0	0.0
TARRANT	1,391,979	219	15.7	1,864	133.9	1,331	95.6	95	6.8
WISE	39,645	2	5.0	42	105.9	2	5.0	1	2.5
REGIONAL TOTALS	4,978,373	1,201	24.1	8,790	176.6	7.851	157.7	337	6.8
STATEWIDE TOTALS	18,967,764	4,932	26.0	43,003	226.7	23,124	121.9	890	4.7



Public Health Region 4

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 4 - 1996

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
ANDERSON	51,556	11	21.3	2	3.9	1	1.9	0	0.0
BOWIE	85,894	31	36.1	6	7.0	2	2.3	0	0.0
CAMP	10,426	2	19.2	1	9.6	0	0.0	0	0.0
CASS	29,873	3	10.0	1	3.3	0	0.0	0	0.0
CHEROKEE	43,242	13	30.1	3	0.0	2	4.6	0	0.0
DELTA	4,814	0	0.0	0	0.0	0	0.0	0	0.0
FRANKLIN	8,002	1	12.5	1	12.5	0	0.0	0	0.0
GREGG	106,835	19	17.8	8	0.0	2	1.9	0	0.0
HARRISON	60,899	2	3.3	1	1.6	0	0.0	0	0.0
HENDERSON	68,968	3	4.3	4	5.8	0	0.0	0	0.0
HOPKINS	29,399	2	6.8	1	3.4	0	0.0	0	0.0
LAMAR	43,918	2	4.6	3	6.8	0	0.0	0	0.0
MARION	10,245	0	0.0	0	0.0	1	9.8	0	0.0
MORRIS	12,951	0	0.0	0	0.0	0	0.0	0	0.0
PANOLA	23,136	0	0.0	0	0.0	0	0.0	0	0.0
RAINS	7,565	0	0.0	0	0.0	0	0.0	0	0.0
RED RIVER	13,964	2	14.3	3	21.5	0	0.0	0	0.0
RUSK	44,809	3	6.7	0	0.0	1	2.2	0	0.0
SMITH	162,186	27	16.6	17	10.5	0	0.0	0	0.0
TITUS	24,865	1	4.0	1	4.0	0	0.0	0	0.0
UPSHUR	32,701	1	3.1	0	0.0	1	3.1	0	0.0
VAN ZANDT	41,189	28	68.0	0	0.0	4	9.7	0	0.0
WOOD	32,112	2	6.2	1	3.1	3	9.3	0	0.0

REGIONAL TOTALS	949,549	153	16.1	53	5.6	17	1.8	0	0.0
STATEWIDE TOTALS	18,967,764	3,460	18.2	1,258	6.6	205	1.1	40	0.2

REPORTED CASES OF SELECTED GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 4 - 1996

COUNTY	1996 POP.	AMEBIASIS CASES	AMEBIASIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	SALMONELLOSIS CASES	SALMONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE
ANDERSON	51,556	0	0.0	1	1.9	7	13.6	1	1.9
BOWIE	85,894	0	0.0	6	7.0	13	15.1	13	15.1
CAMP	10,426	0	0.0	1	9.6	0	0.0	0	0.0
CASS	29,873	0	0.0	0	0.0	2	6.7	0	0.0
CHEROKEE	43,242	0	0.0	1	2.3	4	9.3	1	2.3
DELTA	4,814	0	0.0	0	0.0	0	0.0	0	0.0
FRANKLIN	8,002	1	12.5	0	0.0	0	0.0	0	0.0
GREGG	106,835	1	0.9	0	0.0	9	8.4	6	5.6
HARRISON	60,899	1	1.6	2	3.3	4	6.6	1	1.6
HENDERSON	68,968	0	0.0	0	0.0	1	1.4	2	2.9
HOPKINS	29,399	0	0.0	0	0.0	4	13.6	0	0.0
LAMAR	43,918	0	0.0	3	6.8	7	15.9	1	2.3
MARION	10,245	0	0.0	0	0.0	0	0.0	0	0.0
MORRIS	12,951	0	0.0	0	0.0	1	7.7	0	0.0
PANOLA	23,136	0	0.0	0	0.0	0	0.0	0	0.0
RAINS	7,565	0	0.0	0	0.0	1	13.2	0	0.0
RED RIVER	13,964	0	0.0	2	14.3	1	7.2	0	0.0
RUSK	44,809	0	0.0	0	0.0	5	11.2	2	4.5
SMITH	162,186	0	0.0	5	3.1	60	37.0	14	8.6
TITUS	24,865	0	0.0	0	0.0	4	16.1	4	16.1
UPSHUR	32,701	1	3.1	0	0.0	3	9.2	2	6.1
VAN ZANDT	41,189	0	0.0	0	0.0	5	12.1	0	0.0
WOOD	32,112	0	0.0	0	0.0	2	6.2	2	6.2
REGIONAL TOTALS	949,549	4	0.4	21	2.2	133	14.0	49	5.2
STATEWIDE TOTALS	18,967,764	130	0.7	897	4.7	2,800	14.8	2,757	14.5

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 4 - 1996

COUNTY	1996 POP.	ASEPTIC MENINGITIS CASES	RATE	CHICKENPOX CASES	RATE	ENCEPHALITIS CASES	RATE	TUBERCULOSIS CASES	RATE
ANDERSON	51,556	0	0.0	8	15.5	0	0.0	5	9.7
BOWIE	85,894	5	5.8	282	328.3	0	0.0	6	7.0
CAMP	10,426	1	9.6	0	0.0	0	0.0	0	0.0
CASS	29,873	0	0.0	0	0.0	0	0.0	1	3.3
CHEROKEE	43,242	0	0.0	0	0.0	0	0.0	3	6.9
DELTA	4,814	0	0.0	0	0.0	0	0.0	0	0.0
FRANKLIN	8,002	0	0.0	0	0.0	0	0.0	0	0.0
GREGG	106,835	15	14.0	26	24.3	0	0.0	10	9.4
HARRISON	60,899	1	1.6	11	18.1	0	0.0	2	3.3
HENDERSON	68,968	I	1.4	0	0.0	0	0.0	6	8.7
HOPKINS	29,399	0	0.0	2	6.8	0	0.0	I	3.4
LAMAR	43,918	0	0.0	1	2.3	0	0.0	3	6.8
MARION	10,245	0	0.0	0	0.0	0	0.0	0	0.0
MORRIS	12,951	0	0.0	0	0.0	0	0.0	2	15.4
PANOLA	23,136	I	4.3	0	0.0	0	0.0	3	13.0
RAINS	7,565	0	0.0	0	0.0	0	0.0	1	13.2
RED RIVER	13,964	0	0.0	0	0.0	0	0.0	'0	0.0
RUSK	44,809	I	2.2	3	6.7	0	0.0	2	4.5
SMITH	162,186	16	9.9	553	341.0	1	0.6	7	4.3
TITUS	24,865	0	0.0	0	0.0	0	0.0	2	8.0
UPSHUR	32,701	3	9.2	0	0.0	0	0.0	2	6.1
VAN ZANDT	41,189	0	0.0	40	97.1	1	2.4	2	4.9
WOOD	32,112	I	3.1	1	3.1	0	0.0	1	3.1
REGIONAL TOTALS	949.549	45	4.7	927	97.6	2	0.2	59	6.2
STATEWIDE TOTALS	18,967,764	927	4.9	20,332	107.2	31	0.2	2,103	11.1

REPORTED CASES OF SELECTED VACCINE PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 4 - 1996

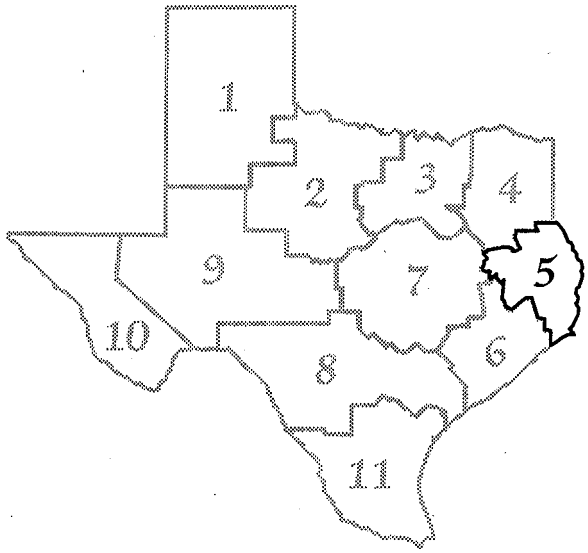
COUNTY	1996 POP.	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
ANDERSON	51,556	0	0.0	0	0.0	0	0.0	0	0.0
BOWIE	85,894	0	0.0	0	0.0	4	4.7	0	0.0
CAMP	10,426	0	0.0	0	0.0	0	0.0	0	0.0
CASS	29,873	0	0.0	0	0.0	0	0.0	1	3.3
CHEROKEE	43,242	0	0.0	0	0.0	0	0.0	0	0.0
DELTA	4,814	0	0.0	0	0.0	0	0.0	0	0.0
FRANKLIN	8,002	0	0.0	0	0.0	0	0.0	0	0.0
GREGG	106,835	0	0.0	0	0.0	0	0.0	0	0.0
HARRISON	60,899	0	0.0	0	0.0	0	0.0	0	0.0
HENDERSON	68,968	0	0.0	0	0.0	0	0.0	0	0.0
HOPKINS	29,399	0	0.0	0	0.0	0	0.0	0	0.0
LAMAR	43,918	0	0.0	0	0.0	0	0.0	0	0.0
MARION	10,245	0	0.0	0	0.0	0	0.0	0	0.0
MORRIS	12,951	0	0.0	0	0.0	0	0.0	0	0.0
PANOLA	23,136	0	0.0	0	0.0	2	8.6	0	0.0
RAINS	7,565	0	0.0	0	0.0	0	0.0	0	0.0
RED RIVER	13,964	0	0.0	0	0.0	0	0.0	0	0.0
RUSK	44,809	0	0.0	0	0.0	0	0.0	0	0.0
SMITH	162,186	0	0.0	1	0.6	3	1.8	0	0.0
TITUS	24,865	0	0.0	0	0.0	0	0.0	0	0.0
UPSHUR	32,701	0	0.0	0	0.0	0	0.0	0	0.0
VAN ZANDT	41,189	0	0.0	0	0.0	0	0.0	0	0.0
WOOD	32,112	0	0.0	0	0.0	0	0.0	0	0.0

REGIONAL TOTALS	949,549	0	0.0	1	0.1	9	0.9	1	0.1
STATEWIDE TOTALS	18,967,764	49	0.3	44	0.2	151	0.8	8	0.0

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 4 - 1996

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
ANDERSON	51,556	1	1.9	27	52.4	26	50.4	0	0.0
BOWIE	85,894	12	14.0	108	125.7	97	112.9	9	10.5
CAMP	10,426	0	0.0	1	9.6	3	28.8	1	9.6
CASS	29,873	2	6.7	19	63.6	10	33.5	5	16.7
CHEROKEE	43,242	2	4.6	43	99.4	38	87.9	0	0.0
DELTA	4,814	0	0.0	0	0.0	2	41.5	0	0.0
FRANKLIN	8,002	1	12.5	3	37.5	1	12.5	0	0.0
GREGG	106,835	14	13.1	116	108.6	42	39.3	66	61.8
HARRISON	60,899	6	9.9	59	96.9	61	100.2	2	3.3
HENDERSON	68,968	4	5.8	27	39.1	33	47.8	2	2.9
HOPKINS	29,399	4	13.6	24	81.6	9	30.6	0	0.0
LAMAR	43,918	3	6.8	45	102.5	43	97.9	3	6.8
MARION	10,245	1	9.8	8	78.1	2	19.5	0	0.0
MORRIS	12,951	0	0.0	17	131.3	6	46.3	7	54.0
PANOLA	23,136	2	8.6	27	116.7	6	25.9	1	4.3
RAINS	7,565	0	0.0	0	0.0	0	0.0	0	0.0
RED RIVER	13,964	0	0.0	5	35.8	7	50.1	0	0.0
RUSK	44,809	2	4.5	22	49.1	10	22.3	0	0.0
SMITH	162,186	15	9.2	437	269.4	295	181.9	7	4.3
TITUS	24,865	2	8.0	34	136.7	11	44.2	0	0.0
UPSHUR	32,701	1	3.1	32	97.9	7	21.4	1	3.1
VAN ZANDT	41,189	1	2.4	17	41.3	7	17.0	0	0.0
WOOD	32,112	4	12.5	8	24.9	5	15.6	0	0.0
REGIONAL TOTALS	949,549	77	8.1	1.079	113.6	721	75.9	104	11.0
STATEWIDE TOTALS	18,967,764	4,932	26.0	43,003	226.7	24,124	127.2	890	4.7



Public Health Region 5

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 5 - 1996

COUNTY	1996 POP.	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS C CASES	HEPATITIS C RATE	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATE
ANGELINA	73,018	2	2.7	1	1.4	0	0.0	0	0.0
HARDIN	42,292	0	0.0	2	4.7	0	0.0	0	0.0
HOUSTON	21,592	0	0.0	2	9.3	0	0.0	0	0.0
JASPER	32,009	6	18.7	2	6.2	0	0.0	0	0.0
JEFFERSON	238,890	8	3.3	29	12.1	4	1.7	1	0.4
NACOGDOCHES	56,398	2	3.5	3	5.3	0	0.0	0	0.0
NEWTON	14,195	0	0.0	0	0.0	0	0.0	0	0.0
ORANGE	81,771	1	1.2	11	13.5	0	0.0	0	0.0
POLK	35,637	1	2.8	4	11.2	0	0.0	0	0.0
SABINE	10,024	0	0.0	0	0.0	0	0.0	0	0.0
SAN AUGUSTINE	7,970	0	0.0	0	0.0	0	0.0	0	0.0
SAN JACINTO	19,228	0	0.0	0	0.0	2	10.4	0	0.0
SHELBY	21,891	5	22.8	1	4.6	0	0.0	0	0.0
TRINITY	12,325	0	0.0	3	24.3	1	8.1	0	0.0
TYLER	18.075	0	0.0	2	11.1	0	0.0	0	0.0
REGIONAL TOTALS	685.315	25	3.6	60	8.8	7	1.0	1	0.1
STATEWIDE TOTALS	18,967,764	3,460	18.2	1.258	6.6	205	1.1	40	0.2

REPORTED CASES OF SELECTED GASTROINTESTINAL DISEASES AND RATES PER 100,0000 POPULATION

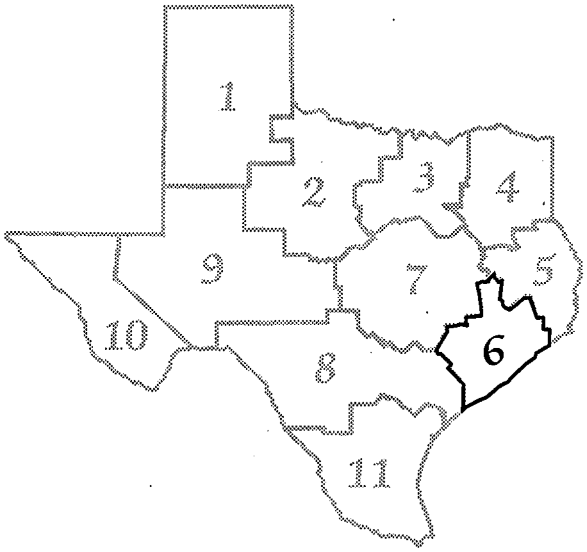
PUBLIC HEALTH REGION 5 - 1996

		AMEBIASIS		CAMPYLOBACTER		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
ANGELINA	73.018	0	0.0	0	0.0	2	2.7	0	0.0
HARDIN	42,292	0	0.0	7	16.6	8	18.9	0	0.0
HOUSTON	21,592	0	0.0	0	0.0	0	0.0	1	4.6
JASPER	32,009	1	3.1	1	3.1	2	6.2	0	0.0
JEFFERSON	238,890	1	0.4	9	3.8	36	15.1	15	6.3
NACOGDOCHES	56,398	0	0.0	19	33.7	11	19.5	2	3.5
NEWTON	14,195	0	0.0	0	0.0	1	7.0	0	0.0
ORANGE	81,771	0	0.0	0	0.0	6	7.3	5	6.1
POLK	35,637	0	0.0	0	0.0	0	0.0	0	0.0
SABINE	10.024	0	0.0	0	0.0	0	0.0	0	0.0
SAN AUGUSTINE	7,970	0	0.0	0	0.0	1	12.5	0	0.0
SAN JACINTO	19,228	0	0.0	0	0.0	0	0.0	0	0.0
SHELBY	21,891	0	0.0	0	0.0	1	4.6	1	4.6
TRINITY	12,325	0	0.0	0	0.0	0	0.0	0	0.0
TYLER	18.075	0	0.0	0	0.0	1	5.5	1	5.5
REGIONAL TOTALS	685.315	2	0.3	36	5.3	69	10.1	25	3.6
STATEWIDE TOTALS	18,967,764	130	0.7	897	4.7	2.800	14.8	2,757	14.5

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 5 - 1996

COUNTY	1996 POP.	ASEPTIC MENINGITIS CASES	ASEPTIC MENINGITIS RATE	CHICKENPOX CASES	CHICKENPOX RATES	ENCEPHALITIS CASES	ENCEPHALITIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
ANGELINA	73,018	1	1.4	23	31.5	0	0.0	8	11.0
HARDIN	42,292	0	0.0	13	30.7	0	0.0	2	4.7
HOUSTON	21,592	0	0.0	0	0.0	0	0.0	4	18.5
JASPER	32,009	0	0.0	23	71.9	0	0.0	0	0.0
JEFFERSON	238,890	0	0.0	770	322.3	0	0.0	29	12.1
NACOGDOCHES	56,398	1	1.8	80	141.8	0	0.0	2	3.5
NEWTON	14,195	0	0.0	0	0.0	0	0.0	1	7.0
ORANGE	81,771	1	1.2	154	188.3	0	0.0	3	3.7
POLK	35,637	0	0.0	0	0.0	0	0.0	2	5.6
SABINE	10,024	0	0.0	0	0.0	0	0.0	1	10.0
SAN AUGUSTINE	7,970	0	0.0	0	0.0	0	0.0	2	25.1
SAN JACINTO	19,228	0	0.0	0	0.0	0	0.0	2	10.4
SHELBY	21,891	0	0.0	20	91.4	0	0.0	1	4.6
TRINITY	12,325	0	0.0	0	0.0	0	0.0	4	32.5
TYLER	18.075	0	0.0	0	0.0	0	0.0	2	11.1
REGIONAL TOTALS	685,315	3	0.4	1,083	158.0	0	0.0	63	9.2
STATEWIDE TOTALS	18,967,764	927	4.9	20,332	107.2	31	0.2	2.103	11.1



Public Health Region 6

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 6 - 1996

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS USPECIFIED	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
AUSTIN	20,433	0	0.0	0	0.0	0	0.0	0	0.0
BRAZORIA	211,398	12	5.7	6	2.8	0	0.0	0	0.0
CHAMBERS	20,625	0	0.0	1	4.8	0	0.0	0	0.0
COLORADO	18,214	0	0.0	0	0.0	0	0.0	0	0.0
FORT BEND	295,409	13	4.4	4	1.4	0	0.0	0	0.0
GALVESTON	228,130	34	14.9	21	9.2	2	0.9	0	0.0
HARRIS	3,103,870	546	17.6	201	6.5	27	0.9	16	0.5
LIBERTY	56,549	0	0.0	3	5.3	0	0.0	0	0.0
MATAGORDA	37,940	2	5.3	1	2.6	1	2.6	0	0.0
MONTGOMERY	216,674	6	2.8	4	1.8	0	0.0	0	0.0
WALKER	55,787	0	0.0	24	43.0	0	0.0	0	0.0
WALLER	25,535	7	27.4	0	0.0	0	0.0	0	0.0
WHARTON	40,561	4	9.9	1	2.5	0	0.0	0	0.0
REGIONAL TOTALS	4,331,125	624	14.4	266	6.1	30	0.7	16	0.4
STATEWIDE TOTALS	18,967,764	3.460	18.2	1,258	6.6	205	1.1	40	0.2

REPORTED CASES OF SELECTED GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 6 - 1996

		AMEBIASIS		CAMPYLOBACTER		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
AUSTIN	20,433	0	0.0	0	0.0	2	9.8	0	0.0
BRAZORIA	211,398	0	0.0	4	1.9	36	17.0	14	6.6
CHAMBERS	20,625	1	4.8	0	0.0	1	4.8	0	0.0
COLORADO	18,214	0	0.0	0	0.0	2	11.0	1	5.5
FORT BEND	295,409	0	0.0	8	2.7	33	11.2	31	10.5
GALVESTON	228,130	0	0.0	17	7.5	47	20.6	27	11.8
HARRIS	3,103,870	18	0.6	91	2.9	537	17.3	485	15.6
LIBERTY	56,549	0	0.0	0	0.0	0	0.0	0	0.0
MATAGORDA	37,940	0	0.0	0	0.0	2	5.3	2	5.3
MONTGOMERY	216,674	0	0.0	2	0.9	3	1.4	0	0.0
WALKER	55,787	2	3.6	1	1.8	9	16.1	1	1.8
WALLER	25,535	0	0.0	0	0.0	1	3.9	0	0.0
WHARTON	40.561	0	0.0	0	0.0	1	2.5	0	0.0
REGIONAL TOTALS	4,331,125	21	0.5	123	2.8	674	15.6	561	13.0
STATEWIDE TOTALS	18,967,764	130	0.7	897	4.7	2,800	14.8	2,575	13.6

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 6 - 1996

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASE	RATE
AUSTIN	20,433	0	0.0	0	0.0	0	0.0	I	4.9
BRAZORIA	211,398	3	1.4	121	57.2	1	0.5	10	4.7
CHAMBERS	20,625	0	0.0	34	164.8	0	0.0	1	4.8
COLORADO	18,214	0	0.0	1	5.5	0	0.0	0	0.0
FORT BEND	295,409	2	0.7	178	60.3	2	0.7	24	8.1
GALVESTON	228,130	10	4.4	313	137.2	4	1.8	37	16.2
HARRIS	3103,870	148	4.8	3,100	99.9	9	0.3	607	19.6
LIBERTY	56,549	0	0.0	0	0.0	0	0.0	9	15.9
MATAGORDA	37,940	0	0.0	66	174.0	0	0.0	6	15.8
MONTGOMERY	216,674	1	0.5	96	44.3	0	0.0	13	6.0
WALKER	55,787	0	0.0	85	152.4	0	0.0	2	3.6
WALLER	25,535	0	0.0	85	332.9	0	0.0	I	3.9
WHARTON	40,561	0	0.0	3	7.4	0	0.0	1	0.0
REGIONAL TOTALS	4,331,125	164	3.8	4.082	94.2	16	0.4	712	16.4
STATEWIDE TOTALS	18,967,764	927	4.9	20,332	107.2	31	0.2	2,103	11.1

TB totals from Region 6 do not include cases from the Texas Department of Criminal Justice (cases = 51, rate 38.5 cases per 100,000). These cases are included in statewide totals.

REPORTED CASES OF SELECTED VACCINE PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION

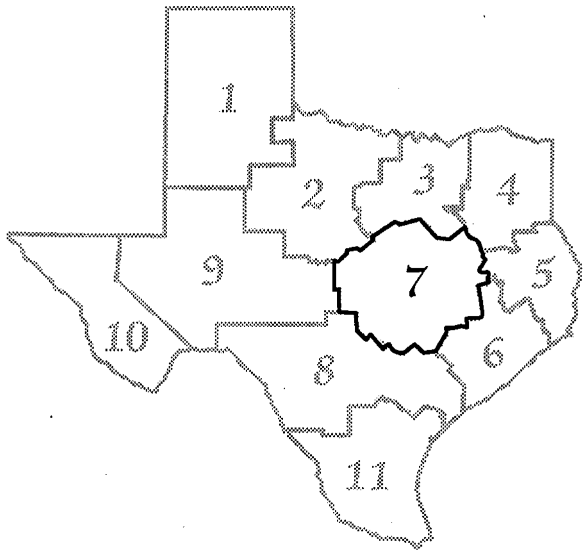
PUBIC HEATLH REGION 6 - 1996

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
AUSTIN	20,433	0	0.0	0	0.0	0	0.0	0	0.0
BRAZORIA	211,398	0	0.0	I	0.5	1	0.5	0	0.0
CHAMBERS	20,625	0	0.0	0	0.0	0	0.0	0	0.0
COLORADO	18,214	0	0.0	0	0.0	0	0.0	0	0.0
FORT BEND	295,409	1	0.3	1	0.3	2	0.7	0	0.0
GALVESTON	228.130	3	1.3	3	1.3	5	2.2	2	0.9
HARRIS	3,103,870	34	1.1	1	0.0	32	1.0	4	0.1
LIBERTY	56,549	3	5.3	1	1.8	0	0.0	0	0.0
MATAGORDA	37,940	0	0.0	0	0.0	0	0.0	0	0.0
MONTGOMERY	216,674	5	2.3	0	0.0	1	0.5	0	0.0
WALKER	55,787	0	0.0	0	0.0	0	0.0	0	0.0
WALLER	25,535	0	0.0	0	0.0	0	0.0	0	0.0
WHARTON	40,561	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	4,331,125	46	1.1	7	0.2	41	0.9	6	0.1
STATEWIDE	18,967,764	49	0.3	44	0.2	151	0.8	8	0.0

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 6 - 1996

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
AUSTIN	20,433	1	4.9	35	171.3	24	117.5	0	0.0
BRAZORIA	211,398	25	11.8	261	123.5	105	49.7	1	0.5
CHAMBERS	20,625	1	4.8	7	33.9	1	4.8	0	0.0
COLORADO	18,214	0	0.0	30	164.7	12	65.9	0	0.0
FORT BEND	295,409	39	13.2	371	125.6	163	55.2	3	1.0
GALVESTON	228,130	72	31.6	622	272.7	291	127.6	11	4.8
HARRIS	3,103,870	1,752	56.4	8,429	271.6	5,938	191.3	149	4.8
LIBERTY	56,549	8	14.1	19	33.6	14	24.8	3	5.3
MATAGORDA	37,940	0	0.0	58	152.9	71	187.1	0	0.0
MONTGOMERY	216,674	19	8.8	30	13.8	14	6.5	21	9.7
WALKER	55,787	7	12.5	53	95.0	35	62.7	2	3.6
WALLER	25,535	4	15.7	82	321.1	25	97.9	1	3.9
WHARTON	40,561	4	9.9	144	355.0	47	115.9	4	9.9
REGIONAL TOTALS	4,331,125	1.932	44.6	10.141	234.1	6.740	155.6	195	4.5
STATEWIDE	18,967,764	4,932	26.0	43.003	226.7	23,124	121.9	890	4.7



Public Health Region 7

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 7 - 1996

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
BASTROP	47,797	5	10.5	4	8.4	1	2.1	0	0.0
BELL	203,847	12	5.9	13	6.4	0	0.0	0	0.0
BLANCO	6,813	0	0.0	0	0.0	0	0.0	0	0.0
BOSQUE	15,776	3	19.0	1	6.3	0	0.0	0	0.0
BRAZOS	123,166	2	1.6	3	2.4	0	0.0	0	0.0
BURLESON	14,735	2	13.6	2	13.6	1	6.8	0	0.0
BURNET	26,344	1	3.8	2	7.6	5	19.0	0	0.0
CALDWELL	30,400	0	0.0	1	3.3	1	3.3	0	0.0
CORYELL	70,798	1	1.4	0	0.0	0	0.0	0	0.0
FALLS	18,659	0	0.0	0	0.0	0	0.0	0	0.0
FAYETTE	20,251	0	0.0	0	0.0	0	0.0	0	0.0
FREESTONE	16,683	3	18.0	0	0.0	0	0.0	0	0.0
GRIMES	21,369	0	0.0	2	9.4	0	0.0	0	0.0
HAMILTON	7,457	10	134.1	0	0.0	0	0.0	0	0.0
HAYS	81,029	18	22.2	0	0.0	2	2.5	0	0.0
HILL	28,091	4	14.2	0	0.0	1	3.6	0	0.0
LAMPASAS	14,206	7	49.3	0	0.0	0	0.0	0	0.0
LEE	14,047	1	7.1	1	7.1	0	0.0	0	0.0
LEON	14,534	0	0.0	0	0.0	0	0.0	0	0.0
LIMESTONE	21,385	0	0.0	1	4.7	0	0.0	0	0.0
LLANO	12,196	0	0.0	0	0.0	0	0.0	0	0.0
MCLENNAN	191,337	14	7.3	7	3.7	0	0.0	0	0.0
MADISON	11,636	0	0.0	0	0.0	0	0.0	0	0.0
MILAM	23,122	2	8.6	1	4.3	1	4.3	0	0.0
MILLS	4,459	0	0.0	0	0.0	0	0.0	0	0.0
ROBERTSON	16,477	0	0.0	0	0.0	0	0.0	0	0.0
SAN SABA	5,864	0	0.0	0	0.0	0	0.0	0	0.0
TRAVIS	619,582	143	23.1	48	7.7	0	0.0	1	0.2
WASHINGTON	28,022	0	0.0	0	0.0	0	0.0	0	0.0
WILLIAMSON	186,904	9	4.8	8	4.3	2	1.1	0	0.0

REGIONAL TOTALS	1,896,986	237	12.5	94	5.0	14	0.7	1	0.1
STATEWIDE	18,967,764	3,460	18.2	1,258	6.6	205	1.1	40	0.2

REPORTED CASES OF SELECTED GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 7 - 1996

COUNTY	1996 POP.	AMEBIASIS CASES	AMEBIASIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	SALMONELLOSIS CASES	SALMONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE
BASTROP	47,797	0	0.0	6	12.6	10	20.9	14	29.3
BELL	203,847	4	2.0	7	3.4	42	20.6	5	2.5
BLANCO	6.813	0	0.0	0	0.0	2	29.4	4	58.7
BOSQUE	15,776	0	0.0	0	0.0	2	12.7	0	0.0
BRAZOS	123,166	1	0.8	10	8.1	15	12.2	22	17.9
BURLESON	14,735	0	0.0	3	20.4	7	47.5	0	0.0
BURNET	26,344	1	3.8	1	3.8	6	22.8	2	7.6
CALDWELL	30,400	0	0.0	1	3.3	2	6.6	2	6.6
CORYELL	70,798	0	0.0	1	1.4	3	4.2	0	0.0
FALLS	18,659	0	0.0	0	0.0	2	10.7	0	0.0
FAYETTE	20,251	0	0.0	0	0.0	0	0.0	5	24.7
FREESTONE	16,683	0	0.0	0	0.0	2	12.0	0	0.0
GRIMES	21,369	0	0.0	0	0.0	2	9.4	3	14.0
HAMILTON	7,457	0	0.0	0	0.0	1	13.4	0	0.0
HAYS	81,029	1	1.2	7	8.6	17	21.0	81	100.0
HILL	28,091	0	0.0	0	0.0	3	10.7	1	3.6
LAMPASAS	14,206	0	0.0	3	21.1	3	21.1	0	0.0
LEE	14,047	0	0.0	0	0.0	2	14.2	2	14.2
LEON	14,534	0	0.0	0	0.0	3	20.6	2	13.8
LIMESTONE	21,385	1	4.7	0	0.0	0	0.0	4	18.7
LLANO	12,196	0	0.0	0	0.0	0	0.0	1	8.2
MCLENNAN	191,337	0	0.0	8	4.2	20	10.5	29	15.2
MADISON	11,636	0	0.0	0	0.0	4	34.4	1	8.6
MILAM	23,122	0	0.0	I	4.3	1	4.3	0	0.0
MILLS	4,459	0	0.0	0	0.0	0	0.0	0	0.0
ROBERTSON	16,477	0	0.0	0	0.0	1	6.1	I	6.1
SAN SABA	5,864	0	0.0	0	0.0	1	17.1	0	0.0
TRAVIS	619,582	10	1.6	119	19.2	146	23.6	206	33.2
WASHINGTON	28,022	1	3.6	1	3.6	11	39.3	4	14.3
WILLIAMSON	186,904	0	0.0	13	7.0	39	20.9	15	8.0
REGIONAL TOTALS	1,896,986	19	1.0	181	9.5	347	18.3	404	21.3
STATEWIDE	18,967,764	130	0.7	897	4.7	2,800	14.8	2,757	14.5

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 7 - 1996

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
BASTROP	47,797	3	6.3	118	246.9	0	0.0	4	8.4
BELL	203,847	18	8.8	225	110.4	0	0.0	10	4.9
BLANCO	6,813	0	0.0	77	1130.	0	0.0	1	14.7
BOSQUE	15,776	0	0.0	15	95.1	0	0.0	1	6.3
BRAZOS	123,166	16	12.9	66	53.6	0	0.0	10	8.1
BURLESON	14,735	2	13.6	28	190.0	0	0.0	1	6.8
BURNET	26,344	0	0.0	2	7.6	0	0.0	1	3.8
CALDWELL	30,400	1	3.3	21	69.1	0	0.0	1	3.3
CORYELL	70,798	3	4.2	89	125.7	0	0.0	2	2.8
FALLS	18,659	0	0.0	0	0.0	0	0.0	0	0.0
FAYETTE	20,251	0	0.0	17	83.9	0	0.0	0	0.0
FREESTONE	16,683	1	5.9	92	551.5	0	0.0	1	6.0
GRIMES	21,369	0	0.0	19	88.9	0	0.0	4	18.7
HAMILTON	7,457	0	0.0	0	0.0	0	0.0	1	13.4
HAYS	81,029	4	4.9	116	143.2	0	0.0	2	2.5
HILL	28,091	0	0.0	8	28.5	0	0.0	1	3.6
LAMPASAS	14,206	1	6.9	1	7.0	0	0.0	1	7.0
LEE	14,047	2	14.2	39	277.6	0	0.0	1	7.1
LEON	14,534	0	0.0	21	144.5	0	0.0	0	0.0
LIMESTONE	21,385	0	0.0	18	84.2	0	0.0	1	4.7
LLANO	12,196	1	8.2	7	57.4	0	0.0	0	0.0
MCLENNAN	191,337	1	0.5	114	59.6	0	0.0	11	5.7
MADISON	11,636	0	0.0	1	8.6	0	0.0	0	0.0
MILAM	23,122	0	0.0	6	25.9	0	0.0	1	4.3
MILLS	4,459	0	0.0	5	112.1	0	0.0	0	0.0
ROBERTSON	16,477	1	6.1	0	0.0	0	0.0	3	18.2
SAN SABA	5,864	0	0.0	10	170.5	0	0.0	1	17.1
TRAVIS	619,582	71	11.5	1,187	191.6	0	0.0	89	14.4
WASHINGTON	28,022	0	0.0	64	228.4	0	0.0	5	17.8
WILLIAMSON	186,904	5	2.7	393	210.3	0	0.0	6	3.2

REGIONAL TOTALS	1,896,986	130	6.9	2,759	145.4	0	0.0	159	8.4
STATEWIDE	18,967,764	927	4.9	20,332	107.2	31	0.2	2,103	11.1

REPORTED CASES OF SELECTED VACCINE PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 7 - 1996

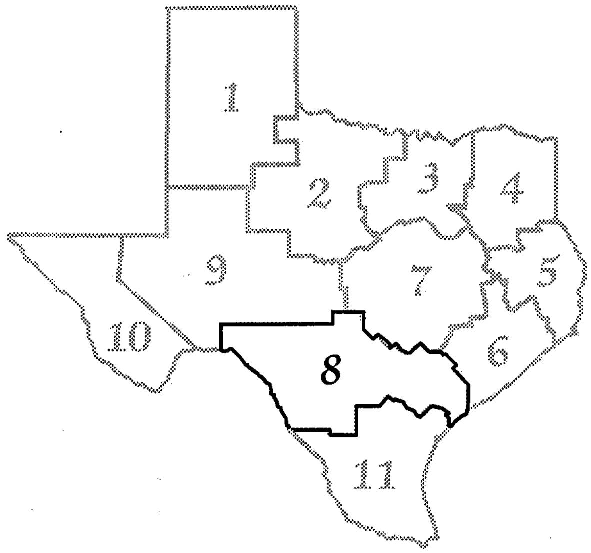
		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
BASTROP	47,797	0	0.0	0	0.0	0	0.0	0	0.0
BELL	203,847	0	0.0	0	0.0	1	0.5	0	0.0
BLANCO	6,813	0	0.0	0	0.0	0	0.0	0	0.0
BOSQUE	15,776	0	0.0	0	0.0	0	0.0	0	0.0
BRAZOS	123,166	0	0.0	0	0.0	5	4.1	0	0.0
BURLESON	14,735	0	0.0	0	0.0	0	0.0	0	0.0
BURNET	26,344	0	0.0	0	0.0	0	0.0	0	0.0
CALDWELL	30,400	0	0.0	0	0.0	0	0.0	0	0.0
CORYELL	70,798	0	0.0	0	0.0	1	1.4	0	0.0
FALLS	18,659	0	0.0	0	0.0	0	0.0	0	0.0
FAYETTE	20,251	0	0.0	0	0.0	0	0.0	0	0.0
FREESTONE	16,683	0	0.0	0	0.0	0	0.0	0	0.0
GRIMES	21,369	0	0.0	0	0.0	0	0.0	0	0.0
HAMILTON	7,457	0	0.0	0	0.0	0	0.0	0	0.0
HAYS	81,029	0	0.0	0	0.0	0	0.0	0	0.0
HILL	28,091	0	0.0	0	0.0	3	10.7	0	0.0
LAMPASAS	14,206	0	0.0	0	0.0	0	0.0	0	0.0
LEE	14,047	0	0.0	0	0.0	0	0.0	0	0.0
LEON	14,534	0	0.0	0	0.0	0	0.0	0	0.0
LIMESTONE	21,385	0	0.0	0	0.0	0	0.0	0	0.0
LLANO	12,196	0	0.0	0	0.0	0	0.0	0	0.0
MCLENNAN	191,337	0	0.0	0	0.0	0	0.0	0	0.0
MADISON	11,636	0	0.0	0	0.0	0	0.0	0	0.0
MILAM	23,122	0	0.0	0	0.0	0	0.0	0	0.0
MILLS	4,459	0	0.0	0	0.0	0	0.0	0	0.0
ROBERTSON	16,477	0	0.0	0	0.0	0	0.0	0	0.0
SAN SABA	5,864	0	0.0	0	0.0	0	0.0	0	0.0
TRAVIS	619,582	0	0.0	7	1.1	2	0.3	0	0.0
WASHINGTON	28,022	0	0.0	0	0.0	0	0.0	0	0.0
WILLIAMSON	186,904	0	0.0	1	0.5	0	0.0	0	0.0

REGIONAL TOTALS	1,896,986	0	0.0	8	0.4	12	0.6	0	0.0
STATEWIDE	18,967,764	49	0.3	44	0.2	151	0.8	8	0.0

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 7 - 1996

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
BASTROP	47,797	6	12.6	48	100.4	15	31.4	1	2.1
BELL	203,847	25	12.3	1,231	603.9	378	185.4	13	6.4
BLANCO	6,813	0	0.0	1	14.7	0	0.0	0	0.0
BOSQUE	15,776	1	6.3	2	12.7	1	6.3	0	0.0
BRAZOS	123.166	13	10.6	295	239.5	127	103.1	22	17.9
BURLESON	14,735	2	13.6	13	88.2	10	67.9	6	40.7
BURNET	26,344	2	7.6	38	144.2	8	30.4	0	0.0
CALDWELL	30,400	3	9.9	14	46.1	4	13.2	1	3.3
CORYELL	70,798	5	7.1	71	100.3	12	16.9	0	0.0
FALLS	18,659	1	5.4	42	225.1	37	198.3	2	10.7
FAYETTE	20,251	3	14.8	36	177.8	13	64.2	1	4.9
FREESTONE	16,683	1	6.0	14	83.9	7	42.0	1	6.0
GRIMES	21,369	2	9.4	19	88.9	18	84.2	4	18.7
HAMILTON	7,457	2	26.8	1	13.4	2	26.8	1	13.4
HAYS	81,029	7	8.6	209	257.9	34	42.0	2	2.5
HILL	28,091	6	21.4	1 1	39.2	2	7.1	0	0.0
LAMPASAS	14,206	0	0.0	20	140.8	2	14.1	1	7.0
LEE	14,047	0	0.0	7	49.8	3	21.4	0	0.0
LEON	14,534	1	6.9	3	20.6	6	41.3	1	6.9
LIMESTONE	21,385	1	4.7	62	289.9	62	289.9	3	14.0
LLANO	12,196	0	0.0	7	57.4	0	0.0	0	0.0
MCLENNAN	191,337	42	21.9	865	452.1	558	291.63	14	7.3
MADISON	11,636	1	8.6	14	120.3	10	85.9	4	34.4
MILAM	23,122	5	21.6	47	203.3	42	181.6	0	0.0
MILLS	4,459	0	0.0	1	22.4	0	0.0	0	0.0
ROBERTSON	16,477	6	36.4	29	176.0	27	163.9	3	18.2
SAN SABA	5,864	0	0.0	4	68.2	1	17.1	0	0.0
TRAVIS	619,582	254	41.0	2,699	435.6	1,363	220.0	9	1.5
WASHINGTON	28,022	1	3.6	16	57.1	10	35.7	2	7.1
WILLIAMSON	186,904	7	3.7	148	79.2	46	24.6	2	1.1
REGIONAL TOTALS	1,896,986	397	20.9	5,967	314.6	2,798	147.5	93	4.9
STATEWIDE	18,967,764	4,932	26.0	43.003	226.7	24.123	127.2	890	4.7



Public Health Region 8

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 8 - 1996

COUNTY	1996 POP.	HEPATITIS A CASES	HEPATITIS A RATES	HEPATITIS B CASES	HEPATITIS B RATES	HEPATITIS C CASES	HEPATITIS C RATES	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATES
ATASCOSA	34,684	16	46.1	0	0.0	0	0.0	0	0.0
BANDERA	12,743	1	7.8	0	0.0	0	0.0	0	0.0
BEXAR	1,301,162	308	23.7	113	0.0	14	0.0	0	0.0
CALHOUN	19,774	5	25.3	0	0.0	0	0.0	0	0.0
COMAL	65,730	22	33.5	9	13.7	5	7.6	0	0.0
DEWITT	19,945	0	0.0	0	0.0	0	0.0	0	0.0
DIMMIT	10,974	1	9.1	0	0.0	1	9.1	0	0.0
EDWARDS	2,431	0	0.0	0	0.0	0	0.0	0	0.0
FRIO	15,566	0	0.0	0	0.0	0	0.0	0	0.0
GILLESPIE	18,938	2	10.6	0	0.0	0	0.0	0	0.0
GOLIAD	6,334	1	15.8	0	0.0	0	0.0	0	0.0
GONZALES	17,858	0	0.0	2	11.2	0	0.0	0	0.0
GUADALUPE	77,252	7	9.1	2	2.6	1	1.3	0	0.0
JACKSON	13,160	4	30.4	1	7.6	I	7.6	0	0.0
KARNES	15,034	13	86.5	0	0.0	0	0.0	0	0.0
KENDALL	17,417	0	0.0	0	0.0	0	0.0	0	0.0
KERR	40,118	4	10.0	3	7.5	0	0.0	0	0.0
KINNEY	3,293	0	0.0	0	0.0	0	0.0	0	0.0
LA SALLE	6,249	2	32.0	0	0.0	0	0.0	0	0.0
LAVACA	18,279	1	5.5	0	0.0	0	0.0	0	0.0
MAVERICK	41,551	26	62.6	0	0.0	0	0.0	0	0.0
MEDINA	32,175	4	12.4	0	0.0	0	0.0	0	0.0
REAL	2,498	0	0.0	0	0.0	0	0.0	0	0.0
UVALDE	24,943	12	48.1	0	0.0	0	0.0	0	0.0
VAL VERDE	42,472	46	108.3	2	0.0	0	0.0	0	0.0
VICTORIA	78,217	14	17.9	1	1.3	2	2.6	0	0.0
WILSON	27,252	2	7.3	0	0.0	0	0.0	0	0.0
ZAVALA	13.211	1	7.6	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	1,979,260	492	24.9	133	6.7	24	1.2	0	0.0
STATEWIDE	18,967,764	3,460	18.2	1,258	6.6	205	1.1	40	0.2

REPORTED CASES OF SELECTED GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 8 - 1996

		AMEBIASIS		CAMPYLOBACTER		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1996 POP.	CASES	RATES	CASES	RATES	CASES	RATES	CASES	RATES
ATASCOSA	34,684	0	0.0	1	2.9	4	11.5	1	2.9
BANDERA	12,743	0	0.0	0	0.0	I	7.8	0	0.0
BEXAR	1,301,162	2	0.2	99	7.6	203	15.6	371	28.5
CALHOUN	19,774	0	0.0	4	20.2	6	30.3	5	25.3
COMAL	65,730	1	1.5	I	1.5	13	19.8	37	56.3
DEWITT	19,945	0	0.0	0	0.0	1	5.0	0	0.0
DIMMIT	10,974	0	0.0	0	0.0	2	18.2	16	145.8
EDWARDS	2,431	0	0.0	0	0.0	0	0.0	1	41.1
FRIO	15,566	0	0.0	1	6.4	1	6.4	2	12.8
GILLESPIE	18,938	0	0.0	0	0.0	1	5.3	0	0.0
GOLIAD	6,334	0	0.0	0	0.0	0	0.0	0	0.0
GONZALES	17,858	0	0.0	0	0.0	I	5.6	1	5.6
GUADALUPE	77,252	0	0.0	3	3.9	16	20.7	25	32.4
JACKSON	13,160	0	0.0	0	0.0	I	7.6	0	0.0
KARNES	15,034	0	0.0	0	0.0	2	13.3	0	0.0
KENDALL	17,417	0	0.0	I	5.7	5	28.7	8	45.9
KERR	40.1 18	0	0.0	1	2.5	6	15.0	3	7.5
KINNEY	3,293	0	0.0	2	60.7	1	30.4	1	30.4
LA SALLE	6,249	0	0.0	0	0.0	0	0.0	1	16.0
LAVACA	18,279	0	0.0	0	0.0	2	10.9	0	0.0
MAVERICK	41,551	3	7.2	0	0.0	5	12.0	12	28.9
MEDINA	32,175	0	0.0	4	12.4	0	0.0	4	12.4
REAL	2,498	0	0.0	0	0.0	1	40.0	0	0.0
UVALDE	24,943	2	8.0	0	0.0	5	20.0	5	20.0
VAL VERDE	42,472	0	0.0	9	21.2	14	0.0	13	30.6
VICTORIA	78,217	0	0.0	4	5.1	72	0.0	9	11.5
WILSON	27,252	0	0.0	0	0.0	1	3.7	2	7.3
ZAVALA	13.211	0	0.0	0	0.0	3	22.7	3	22.7

REGIONAL TOTALS	1.979,260	8	0.4	130	6.6	367	18.5	520	26.3
STATEWIDE TOTALS	18,967,764	130	0.7	897	4.7	2.800	14.8	2,757	14.5

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 8 - 1996

COUNTY	1996 POP.	ASEPTIC MENINGITIS CASES	ASEPTIC MENINGITIS RATES	CHICKENPOX CASES	CHICKENPOX RATES	ENCEPHALITIS CASES	ENCEPHALITIS RATES	TUBERCULOSIS CASES	TUBERCULOSIS RATES
ATASCOSA	34,684	1	2.9	10	28.8	0	0.0	3	8.6
BANDERA	12,743	0	0.0	1	7.8	0	0.0	0	0.0
BEXAR	1,301,162	127	9.8	22	1.7	0	0.0	123	9.5
CALHOUN	19,774	0	0.0	I	5.1	I	5.1	1	5.1
COMAL	65,730	1	1.5	57	86.7	0	0.0	3	4.6
DEWITT	19,945	0	0.0	49	245.7	0	0.0	0	0.0
DIMMIT	10,974	0	0.0	12	109.3	0	0.0	5	45.6
EDWARDS	2,431	0	0.0	0	0.0	0	0.0	0	0.0
FRIO	15,566	0	0.0	69	443.3	0	0.0	3	19.3
GILLESPIE	18,938	3	15.8	12	63.4	0	0.0	I	5.3
GOLIAD	6,334	0	0.0	3	47.4	0	0.0	0	0.0
GONZALES	17,858	0	0.0	0	0.0	0	0.0	1	5.6
GUADALUPE	77,252	0	0.0	138	178.6	0	0.0	6	7.8
JACKSON	13,160	0	0.0	3	22.8	0	0.0	2	15.2
KARNES	15,034	0	0.0	3	20.0	0	0.0	0	0.0
KENDALL	17,417	0	0.0	0	0.0	0	0.0	0	0.0
KERR	40,118	4	10.0	67	167.0	0	0.0	3	7.5
KINNEY	3,293	0	0.0	0	0.0	0	0.0	0	0.0
LA SALLE	6,249	0	0.0	34	544.1	0	0.0	0	0.0
LAVACA	18,279	0	0.0	2	10.9	0	0.0	0	0.0
MAVERICK	41,551	1	2.4	203	488.6	0	0.0	12	28.9
MEDINA	32,175	2	6.2	0	0.0	0	0.0	2	6.2
REAL	2,498	0	0.0	0	0.0	0	0.0	0	0.0
UVALDE	24,943	0	0.0	93	372.9	0	0.0	2	8.0
VAL VERDE	42,472	0	0.0	35	82.4	0	0.0	7	16.5
VICTORIA	78,217	0	0.0	367	469.2	0	0.0	4	5.1
WILSON	27,252	I	3.7	9	33.0	0	0.0	0	0.0
ZAVALA	13,211	0	0.0	4	30.3	0	0.0	2	15.1

REGIONAL TOTALS	1,979,260	140	7.1	1.194	60.3	1	0.1	180	9.1
STATEWIDE	18,967,764	927	4.9	20,332	107.2	31	0.2	2,103	11.1

REPORTED CASES OF SELECTED VACCINE PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 8 - 1996

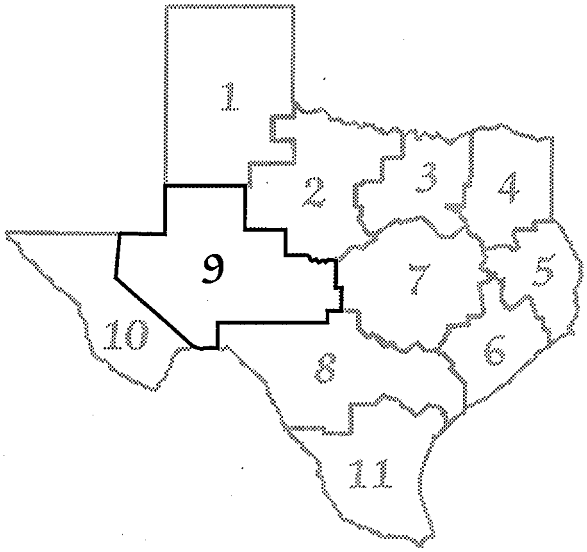
		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1996 POP.	CASES	RATES	CASES	RATES	CASES	RATES	CASES	RATES
ATASCOSA	34,684	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
BANDERA	12,743	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
BEXAR	1,301,162	0 :	0.0	2 :	0.2	24 :	1.8	0 :	0.0
CALHOUN	19,774	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
COMAL	65,730	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
DEWITT	19,945	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
DIMMIT	10,974	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
EDWARDS	2,431	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
FRIO	15,566	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
GILLESPIE	18,938	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
GOLIAD	6,334	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
GONZALES	17,858	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
GUADALUPE	77,252	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
JACKSON	13,160	0 :	0.0	1 :	7.6	2 :	15.2	0 :	0.0
KARNES	15,034	0 :	0.0	0 :	0.0	2 :	13.3	0 :	0.0
KENDALL	17,417	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
KERR	40.1 18	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
KINNEY	3,293	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
LA SALLE	6,249	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
LAVACA	18,279	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
MAVERICK	41,551	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
MEDINA	32,175	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
REAL	2,498	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
UVALDE	24,943	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
VAL VERDE	42,472	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
VICTORIA	78.21 7	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
WILSON	27,252	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
ZAVALA	13.21 1	0 :	0.0	0 :	0.0	0 :	0.0	0 :	0.0
REGIONAL TOTALS	1,979,260	0 :	0.0	3 :	0.2	28 :	1.4	0 :	0.0
STATEWIDE	18,967,764	49 :	0.3	44 :	0.2	151 :	0.8	8 :	0.0

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 8 - 1996

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1996 POP.	CASES	RATES	CASES	RATES	CASES	RATES	CASES	RATES
ATASCOSA	34,684	0	0.0	40	115.3	6	17.3	0	0.0
BANDERA	12,743	1	7.8	6	47.1	0	0.0	0	0.0
BEXAR	1,301,162	403	31.0	4,338	333.4	1,348	103.6	25	1.9
CALHOUN	19,774	5	25.3	10	50.6	4	20.2	1	5.1
COMAL	65,730	5	7.6	111	168.9	20	30.4	0	0.0
DEWITT	19,945	1	5.0	17	85.2	9	45.1	0	0.0
DIMMIT	10,974	0	0.0	33	300.7	2	18.2	0	0.0
EDWARDS	2,431	0	0.0	0	0.0	0	0.0	0	0.0
FRIO	15,566	0	0.0	26	167.0	1	6.4	0	0.0
GILLESPIE	18,938	0	0.0	24	126.7	2	10.6	0	0.0
GOLIAD	6,334	0	0.0	4	63.2	1	15.8	0	0.0
GONZALES	17,858	3	16.8	54	302.4	17	95.2	1	5.6
GUADALUPE	77,252	1	1.3	85	110.0	17	22.0	0	0.0
JACKSON	13,160	1	7.6	19	144.4	9	68.4	1	7.6
KARNES	15,034	0	0.0	59	392.4	4	26.6	0	0.0
KENDALL	17,417	2	11.5	5	28.7	1	5.7	0	0.0
KERR	40,118	6	15.0	60	149.6	16	39.9	0	0.0
KINNEY	3,293	0	0.0	1	30.4	0	0.0	0	0.0
LA SALLE	6,249	0	0.0	1	16.0	0	0.0	0	0.0
LAVACA	18,279	2	10.9	21	114.9	9	49.2	0	0.0
MAVERICK	41,551	5	12.0	56	134.8	3	7.2	0	0.0
MEDINA	32,175	3	9.3	41	127.4	6	18.6	0	0.0
REAL	2,498	0	0.0	0	0.0	0	0.0	0	0.0
UVALDE	24,943	0	0.0	150	601.4	4	16.0	0	0.0
VAL VERDE	42,472	1	2.4	106	249.6	8	18.8	0	0.0
VICTORIA	78,217	8	10.2	348	444.9	204	260.8	5	6.4
WILSON	27,252	0	0.0	25	91.7	1	3.7	0	0.0
ZAVALA	13,211	0	0.0	18	136.3	3	22.7	0	0.0

REGIONAL TOTALS	1,979,260	447	22.6	5,658	285.9	1.695	85.6	33	1.7
STATEWIDE	18,967,764	4.932	26.0	43,003	226.7	24,123	127.2	890	4.7



Public Health Region 9

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 9 - 1996

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATES
ANDREWS	15,101	3	19.9	0	0.0	0	0.0	0	0.0
BORDEN	813	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,414	1	29.3	0	0.0	0	0.0	0	0.0
CONCHO	3,206	0	0.0	0	0.0	0	0.0	0	0.0
CRANE	4,965	0	0.0	0	0.0	0	0.0	0	0.0
CROCKETT	4,247	0	0.0	0	0.0	0	0.0	0	0.0
DAWSON	15,461	0	0.0	0	0.0	0	0.0	0	0.0
ECTOR	124,733	10	8.0	8	6.4	0	0.0	I	0.8
GAINES	14,697	1	6.8	0	0.0	0	0.0	I	6.8
GLASSCOCK	1,556	0	0.0	0	0.0	0	0.0	0	0.0
HOWARD	32,000	0	0.0	5	15.6	0	0.0	0	0.0
IRION	1,709	0	0.0	0	0.0	0	0.0	0	0.0
KIMBLE	4,110	0	0.0	0	0.0	0	0.0	0	0.0
LOVING	113	0	0.0	0	0.0	0	0.0	0	0.0
MCCULLOCH	8,812	0	0.0	0	0.0	0	0.0	0	0.0
MARTIN	5,267	0	0.0	0	0.0	0	0.0	0	0.0
MASON	3,326	0	0.0	0	0.0	0	0.0	0	0.0
MENARD	2,283	0	0.0	0	0.0	0	0.0	0	0.0
MIDLAND	120.419	33	27.4	12	10.0	0	0.0	0	0.0
PECOS	16,969	9	53.0	7	41.3	0	0.0	0	0.0
REAGAN	4,909	0	0.0	0	0.0	0	0.0	0	0.0
REEVES	16,658	3	18.0	0	0.0	0	0.0	0	0.0
SCHLEICHER	3,152	1	31.7	0	0.0	0	0.0	0	0.0
STERLING	1,503	0	0.0	0	0.0	0	0.0	0	0.0
SUTTON	4,393	0	0.0	0	0.0	0	0.0	0	0.0
TERRELL	1,477	0	0.0	0	0.0	0	0.0	0	0.0
TOM GREEN	106,509	21	19.7	5	4.7	0	0.0	0	0.0
UPTON	4,695	0	0.0	0	0.0	0	0.0	0	0.0
WARD	13,364	0	0.0	1	7.5	0	0.0	0	0.0
WINKLER	8,872	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	548.733	82	14.9	38	6.9	0	0.0	2	0.4
STATEWIDE	18,967,764	3,460	18.2	1,258	6.6	205	1.1	40	0.2

REPORTED CASES OF SELECTED GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 9 - 1996

		AMEBIASIS		CAMPYLOBACTER		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATES
ANDREWS	15,101	0	0.0	0	0.0	0	0.0	0	0.0
BORDEN	813	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,414	0	0.0	0	0.0	2	58.6	0	0.0
CONCHO	3,206	0	0.0	1	31.2	0	0.0	0	0.0
CRANE	4,965	0	0.0	0	0.0	0	0.0	0	0.0
CROCKETT	4,247	0	0.0	0	0.0	0	0.0	2	47.1
DAWSON	15,461	0	0.0	1	6.5	3 1	19.4	0	0.0
ECTOR	124,733	0	0.0	4	3.2	33	26.5	28	22.4
GAINES	14,697	0	0.0	0	0.0	0	0.0	1	6.8
GLASSCOCK	1,556	0	0.0	0	0.0	1	64.3	0	0.0
HOWARD	32,000	0	0.0	0	0.0	5	15.6	0	0.0
IRION	1,709	0	0.0	1	58.5	0	0.0	0	0.0
KIMBLE	4,110	0	0.0	0	0.0	0	0.0	0	0.0
LOVING	113	0	0.0	0	0.0	0	0.0	0	0.0
MCCULLOCH	8,812	0	0.0	0	0.0	0	0.0	0	0.0
MARTIN	5,267	0	0.0	0	0.0	0	0.0	0	0.0
MASON	3,326	0	0.0	0	0.0	0	0.0	0	0.0
MENARD	2,283	0	0.0	0	0.0	0	0.0	0	0.0
MIDLAND	120,419	0	0.0	1	0.8	14	11.6	10	8.3
PECOS	16,969	0	0.0	0	0.0	5	29.5	1	5.9
REAGAN	4,909	0	0.0	0	0.0	2	40.7	0	0.0
REEVES	16,658	0	0.0	0	0.0	1	6.0	1	6.0
SCHLEICHER	3,152	0	0.0	0	0.0	1	31.7	0	0.0
STERLING	1,503	0	0.0	0	0.0	1	66.5	1	66.5
SUTTON	4,393	0	0.0	0	0.0	0	0.0	0	0.0
TERRELL	1,477	0	0.0	0	0.0	0	0.0	0	0.0
TOM GREEN	106,509	0	0.0	4	3.8	23	21.6	19	17.8
UPTON	4,695	0	0.0	0	0.0	0	0.0	0	0.0
WARD	13,364	0	0.0	0	0.0	2	15.0	1	7.5
WINKLER	8.872	0	0.0	0	0.0	1	11.3	1	11.3
REGIONAL TOTALS	548.733	0	0.0	12	2.2	94	17.1	651	11.8
STATEWIDE TOTALS	18.967.764	130	0.7	897	4.7	2.800	14.8	2,757	14.5

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 9 - 1996

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATES
ANDREWS	15,101	0	0.0	0	0.0	0	0.0	I	6.6
BORDEN	813	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,414	0	0.0	0	0.0	0	0.0	0	0.0
CONCHO	3,206	0	0.0	0	0.0	0	0.0	0	0.0
CRANE	4,965	0	0.0	0	0.0	0	0.0	0	0.0
CROCKETT	4,247	0	0.0	0	0.0	0	0.0	0	0.0
DAWSON	15,461	I	6.5	0	0.0	0	0.0	0	0.0
ECTOR	124,733	2	1.6	27	21.6	0	0.0	5	4.0
GAINES	14,697	1	6.8	11	74.8	1	6.8	0	0.0
GLASSCOCK	1,556	0	0.0	0	0.0	0	0.0	0	0.0
HOWARD	32,000	3	9.4	3	9.4	0	0.0	1	3.1
IRION	1,709	1	58.5	0	0.0	0	0.0	0	0.0
KIMBLE	4,110	0	0.0	0	0.0	0	0.0	0	0.0
LOVING	113	0	0.0	0	0.0	0	0.0	0	0.0
MCCULLOCH	8,812	0	0.0	0	0.0	0	0.0	0	0.0
MARTIN	5,267	0	0.0	0	0.0	0	0.0	0	0.0
MASON	3,326	0	0.0	0	0.0	0	0.0	0	0.0
MENARD	2,283	0	0.0	0	0.0	0	0.0	0	0.0
MIDLAND	120,419	15	12.5	95	78.9	0	0.0	6	5.0
PECOS	16,969	0	0.0	4	23.6	0	0.0	2	11.8
REAGAN	4,909	0	0.0	0	0.0	0	0.0	0	0.0
REEVES	16,658	1	6.0	0	0.0	0	0.0	1	6.0
SCHLEICHER	3,152	0	0.0	0	0.0	0	0.0	0	0.0
STERLING	1,503	0	0.0	0	0.0	0	0.0	1	66.5
SUTTON	4,393	0	0.0	0	0.0	0	0.0	0	0.0
TERRELL	1,477	0	0.0	0	0.0	0	0.0	0	0.0
TOM GREEN	106,509	11	10.3	186	174.6	0	0.0	7	6.6
UPTON	4,695	0	0.0	0	0.0	0	0.0	0	0.0
WARD	13,364	1	7.5	181	1354.4	0	0.0	2	
WINKLER	8,872	0	0.0	0	0.0	0	0.0	1	11.3
REGIONAL TOTALS	548,733	36	6.6	507	92.4	I	0.2	27	4.9
STATEWIDE	18,967,764	927	4.9	20,332	107.2	31	0.2	2,103	11.1

REPORTED CASES OF SELECTED VACCINE PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION

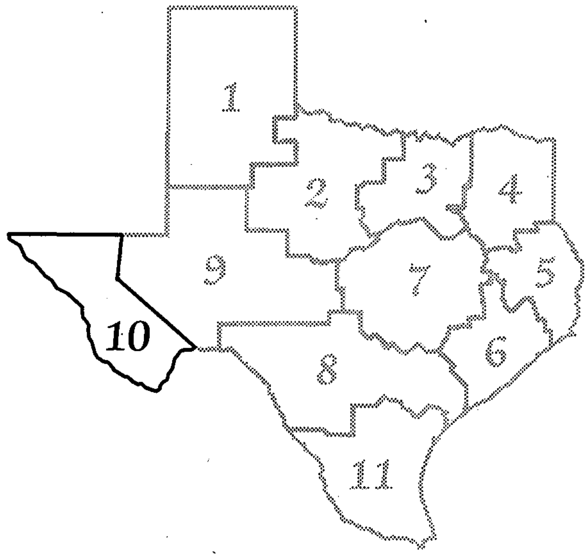
PUBLIC HEALTH REGION 9 - 1996

COUNTY	1996 POP.	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATES
ANDREWS	15,101	0	0.0	0	0.0	0	0.0	0	0.0
BORDEN	813	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,414	0	0.0	0	0.0	0	0.0	0	0.0
CONCHO	3,206	0	0.0	0	0.0	0	0.0	0	0.0
CRANE	4,965	0	0.0	0	0.0	0	0.0	0	0.0
CROCKETT	4,247	0	0.0	0	0.0	0	0.0	0	0.0
DAWSON	15,461	0	0.0	0	0.0	0	0.0	0	0.0
ECTOR	124,733	0	0.0	2	1.6	1	0.8	0	0.0
GAINES	14,697	0	0.0	0	0.0	0	0.0	0	0.0
GLASSCOCK	1,556	0	0.0	1	64.3	0	0.0	0	0.0
HOWARD	32,000	0	0.0	0	0.0	1	3.1	0	0.0
IRION	1,709	0	0.0	0	0.0	0	0.0	0	0.0
KIMBLE	4,110	0	0.0	0	0.0	0	0.0	0	0.0
LOVING	113	0	0.0	0	0.0	0	0.0	0	0.0
MCCULLOCH	8,812	0	0.0	0	0.0	0	0.0	0	0.0
MARTIN	5,267	0	0.0	0	0.0	0	0.0	0	0.0
MASON	3,326	0	0.0	0	0.0	0	0.0	0	0.0
MENARD	2,283	0	0.0	0	0.0	0	0.0	0	0.0
MIDLAND	120,419	0	0.0	1	0.8	3	2.5	0	0.0
PECOS	16,969	0	0.0	0	0.0	0	0.0	0	0.0
REAGAN	4,909	0	0.0	0	0.0	0	0.0	0	0.0
REEVES	16,658	0	0.0	0	0.0	0	0.0	0	0.0
SCHLEICHER	3,152	0	0.0	0	0.0	0	0.0	0	0.0
STERLING	1,503	0	0.0	0	0.0	0	0.0	0	0.0
SUTTON	4,393	0	0.0	0	0.0	0	0.0	0	0.0
TERRELL	1,477	0	0.0	0	0.0	0	0.0	0	0.0
TOM GREEN	106,509	0	0.0	0	0.0	2	1.9	0	0.0
UPTON	4,695	0	0.0	0	0.0	0	0.0	0	0.0
WARD	13,364	0	0.0	0	0.0	0	0.0	0	0.0
WINKLER	8,872	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	548,733	0	0.0	4	0.7	7	1.3	0	0.0
STATEWIDE	18,967,764	49	0.3	44	0.2	151	0.8	8	0.0

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 9 - 1996

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATES
ANDREWS	15,101	2	13.2	18	119.2	0	0.0	0	0.0
BORDEN	813	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,414	0	0.0	2	58.6	0	0.0	0	0.0
CONCHO	3,206	1	31.2	2	62.4	1	31.2	0	0.0
CRANE	4,965	0	0.0	8	161.1	1	20.1	0	0.0
CROCKETT	4,247	0	0.0	7	164.8	0	0.0	0	0.0
DAWSON	15,461	0	0.0	30	194.0	4	25.9	0	0.0
ECTOR	124,733	13	10.4	289	231.7	86	68.9	0	0.0
GAINES	14,697	0	0.0	11	74.8	1	6.8	1	6.8
GLASSCOCK	1,556	0	0.0	0	0.0	0	0.0	0	0.0
HOWARD	32,000	2	6.3	35	109.4	19	59.4	0	0.0
IRION	1,709	0	0.0	0	0.0	0	0.0	0	0.0
KIMBLE	4,110	0	0.0	1	24.3	0	0.0	0	0.0
LOVING	113	0	0.0	2	1,769.	0	0.0	0	0.0
MCCULLOCH	8,812	2	22.7	12	136.18	1	11.3	0	0.0
MARTIN	5,267	0	0.0	2	38.0	1	19.0	0	0.0
MASON	3,326	0	0.0	1	30.1	0	0.0	0	0.0
MENARD	2,283	0	0.0	1	43.8	0	0.0	0	0.0
MIDLAND	120,419	13	10.8	254	210.9	96	79.7	1	0.8
PECOS	16,969	1	5.9	35	206.3	0	0.0	0	0.0
REAGAN	4,909	0	0.0	3	61.1	0	0.0	0	0.0
REEVES	16,658	2	12.0	24	144.1	4	24.0	1	6.0
SCHLEICHER	3,152	0	0.0	0	0.0	1	31.7	1	31.7
STERLING	1,503	0	0.0	2	133.1	0	0.0	0	0.0
SUTTON	4,393	0	0.0	10	227.6	1	22.8	0	0.0
TERRELL	1,477	0	0.0	0	0.0	0	0.0	0	0.0
TOM GREEN	106,509	11	10.3	228	214.1	94	88.3	0	0.0
UPTON	4,695	0	0.0	6	127.8	0	0.0	0	0.0
WARD	13,364	0	0.0	24	179.6	3	22.4	0	0.0
WINKLER	8.872	0	0.0	17	191.6	1	11.3	0	0.0
REGIONAL TOTALS	548,733	47	8.6	1.024	186.6	314	57.2	4	0.7
STATEWIDE	18,967,764	4.932	26.0	43,003	226.7	24,123	127.2	890	4.7



Public Health Region 10

PUBLIC HEALTH REGION 10 - 1996

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

COUNTY	1996 POP.	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS C CASES	HEPATITIS C RATE	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATE
BREWSTER	10,128	0	0.0	1	9.9	0	0.0	0	0.0
CULBERSON	3,862	0	0.0	2	51.8	0	0.0	0	0.0
EL PASO	698,945	228	32.6	42	6.0	23	3.3	0	0.0
HUDSPETH	3,210	0	0.0	0	0.0	0	0.0	0	0.0
JEFF DAVIS	2,100	0	0.0	0	0.0	0	0.0	0	0.0
PRESIDIO	7,857	6	76.4	0	0.0	0	0.0	1	12.7
REGIONAL TOTALS	726,102	234	32.2	45	6.2	23	3.2	1	0.1
STATEWIDE	18,967,764	3,460	18.2	1,258	6.6	205	1.1	40	0.2

REPORTED CASES OF SELECTED GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION

COUNTY	1996 POP.	AMEBIASIS CASES	AMEBIASIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	SALMONELLOSIS CASES	SALMONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE
BREWSTER	10,128	0	0.0	0	0.0	0	0.0	0	0.0
CULBERSON	3,862	0	0.0	0	0.0	0	0.0	0	0.0
EL PASO	698,945	7	1.0	44	6.3	199	28.5	59	8.4
HUDSPETH	3,210	0	0.0	0	0.0	0	0.0	0	0.0
JEFF DAVIS	2,100	0	0.0	0	0.0	0	0.0	0	0.0
PRESIDIO	7,857	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	726,102	7	1.0	44	6.1	199	27.4	59	8.1
STATEWIDE	18,967,764	130	0.7	897	4.7	2,800	14.8	2,757	14.5

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

COUNTY	1996 POP.	ASEPTIC MENINGITIS CASES	ASEPTIC MENINGITIS RATE	CHICKENPOX CASES	CHICKENPOX RATE	ENCEPHALITIS CASES	ENCEPHALITIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
BREWSTER	10,128	0	0.0	0	0.0	0	0.0	1	9.9
CULBERSON	3,862	0	0.0	1	25.9	0	0.0	0	0.0
EL PASO	698,945	6	0.9	930	133.1	1	0.1	90	12.9
HUDSPETH	3,210	0	0.0	0	0.0	0	0.0	0	0.0
JEFF DAVIS	2,100	0	0.0	14	666.7	0	0.0	0	0.0
PRESIDIO	7,857	0	0.0	6	76.4	0	0.0	0	0.0
REGIONAL TOTALS	726,102	6	0.8	951	131.0	1	0.1	91	12.5
STATEWIDE	18,967,764	927	4.9	20,332	107.2	31	0.2	2,103	11.1

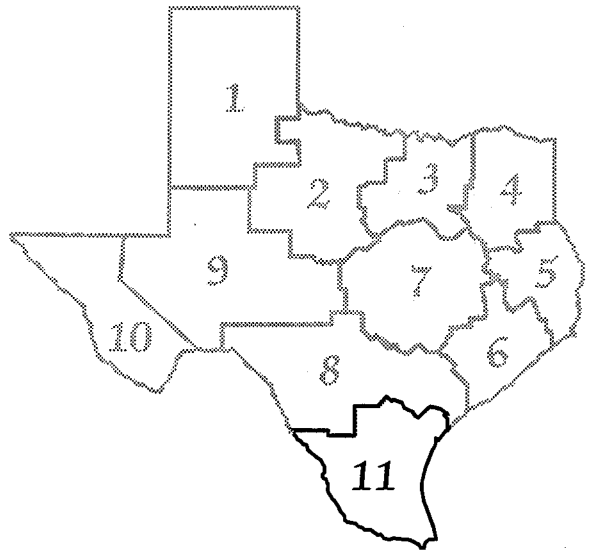
PUBLIC HEALTH REGION 10 - 1996

REPORTED CASES OF SELECTED VACCINE PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
BREWSTER	10,128	0	0.0	0	0.0	0	0.0	0	0.0
CULBERSON	3,862	0	0.0	0	0.0	0	0.0	0	0.0
EL PASO	698.945	0	0.0	0	0.0	2	0.3	0	0.0
HUDSPETH	3,210	0	0.0	0	0.0	0	0.0	0	0.0
JEFF DAVIS	2,100	0	0.0	0	0.0	0	0.0	0	0.0
PRESIDIO	7,857	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	726.102	0	0.0	0	0.0	2	0.3	0	0.0
STATEWIDE	18,967,764	49	0.3	44	0.2	151	0.8	8	0.0

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
BREWSTER	10,128	0	0.0	29	286.3	0	0.0	0	0.0
CULBERSON	3,862	0	0.0	9	233.0	1	25.9	0	0.0
EL PASO	698.945	122	17.5	2,457	351.5	157	22.5	10	1.4
HUDSPETH	3,210	0	0.0	5	155.8	0	0.0	0	0.0
JEFF DAVIS	2,100	1	47.6	3	142.9	0	0.0	0	0.0
PRESIDIO	7.857	0	0.0	9	114.5	2	25.5	0	0.0
REGIONAL TOTALS	726,102	123	16.9	2.512	346.0	160	22.0	10	1.4
STATEWIDE	18,967,764	4.932	26.0	43,003	226.7	24,123	127.2	890	4.7



Public Health Region 11

REPORTED CASES OF HEPATITIS AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 11 - 1996

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
ARANSAS	19,082	0	0.0	3	15.7	0	0.0	0	0.0
BEE	32,074	85	265.0	2	6.2	0	0.0	0	0.0
BROOKS	8,727	0	0.0	0	0.0	0	0.0	0	0.0
CAMERON	304,345	215	70.6	10	3.3	0	0.0	3	1.0
DUVAL	13,760	2	14.5	2	14.5	0	0.0	0	0.0
HIDALGO	476,151	354	74.3	9	1.9	0	0.0	7	1.5
JIM HOGG	5,885	1	17.0	0	0.0	0	0.0	1	17.0
JIM WELLS	39,115	6	15.3	12	30.7	0	0.0	1	2.6
KENEDY	501	0	0.0	0	0.0	0	0.0	0	0.0
KLEBERG	32,813	5	15.2	0	0.0	0	0.0	1	3.0
LIVE OAK	9,878	2	20.2	0	0.0	0	0.0	0	0.0
MCMULLEN	859	0	0.0	0	0.0	0	0.0	0	0.0
NUECES	311,074	68	21.9	36	11.6	9	2.9	1	0.3
REFUGIO	8,076	2	24.8	0	0.0	0	0.0	0	0.0
SAN PATRICIO	64,851	21	32.4	4	6.2	2	3.1	0	0.0
STARR	53,704	18	33.5	0	0.0	0	0.0	0	0.0
WEBB	164,336	58	35.3	6	3.7	0	0.0	0	0.0
WILLACY	19,160	15	78.3	0	0.0	0	0.0	1	5.2
ZAPATA	11,508	0	0.0	0	0.0	0	0.0	0	0.0

REGIONAL TOTALS	1,575,899	852	54.1	84	5.3	11	0.7	15	1.0
STATEWIDE	18,967,764	3,460	18.2	2,258	11.9	205	1.1	40	0.2

REPORTED CASES OF GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 11 - 1996

COUNTY	1996 POP.	AMEBIASIS CASES	AMEBIASIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	SALMONELLOSIS CASES	SALMONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE
ARANSAS	19,082	0	0.0	1	5.2	3	15.7	3	15.7
BEE	32,074	0	0.0	0	0.0	6	18.7	2	6.2
BROOKS	8,727	0	0.0	1	11.5	2	22.9	1	11.5
CAMERON	304,345	24	7.9	16	5.3	32	10.5	89	29.2
DUVAL	13,760	0	0.0	1	7.3	3	21.8	1	7.3
HIDALGO	476,151	2	0.4	25	5.3	96	20.2	144	30.2
JIM HOGG	5,885	0	0.0	0	0.0	3	51.0	0	0.0
JIM WELLS	39,115	0	0.0	0	0.0	5	12.8	2	5.1
KENEDY	501	0	0.0	0	0.0	0	0.0	0	0.0
KLEBERG	32,813	0	0.0	2	6.1	8	24.4	12	36.6
LIVE OAK	9,878	0	0.0	0	0.0	0	0.0	0	0.0
MCMULLEN	859	0	0.0	0	0.0	0	0.0	0	0.0
NUECES	311,074	2	0.6	20	6.4	62	19.9	333	107.0
REFUGIO	8,076	0	0.0	0	0.0	0	0.0	0	0.0
SAN PATRICIO	64,851	0	0.0	0	0.0	9	13.9	17	26.2
STARR	53,704	0	0.0	0	0.0	9	16.8	2	3.7
WEBB	164,336	2	1.2	10	6.1	36	21.9	28	17.0
WILLACY	19,160	0	0.0	0	0.0	0	0.0	4	20.9
ZAPATA	11.508	0	0.0	I	8.7	2	17.4	2	17.4
REGIONAL TOTALS	1,575,899	30	1.9	77	4.9	276	17.5	640	40.6
STATEWIDE	18,967,764	130	0.7	897	4.7	2.800	14.8	2,757	14.5

REPORTED CASES OF OTHER SELECTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 11 - 1996

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
ARANSAS	19,082	0	0.0	0	0.0	0	0.0	1	5.2
BEE	32,074	0	0.0	27	84.2	0	0.0	0	0.0
BROOKS	8,727	0	0.0	0	0.0	0	0.0	1	11.5
CAMERON	304,345	7	2.3	1,460	479.7	1	0.3	68	22.3
DUVAL	13,760	0	0.0	11	79.9	0	0.0	2	14.5
HIDALGO	476,151	5	1.1	304	63.8	0	0.0	94	19.7
JIM HOGG	5,885	0	0.0	8	135.9	0	0.0	0	0.0
JIM WELLS	39,115	0	0.0	18	46.0	0	0.0	1	2.6
KENEDY	501	0	0.0	0	0.0	0	0.0	0	0.0
KLEBERG	32,813	0	0.0	0	0.0	0	0.0	0	0.0
LIVE OAK	9,878	0	0.0	0	0.0	0	0.0	1	10.1
MCMULLEN	859	0	0.0	0	0.0	0	0.0	0	0.0
NUECES	311,074	B	2.6	862	277.1	0	0.0	47	15.1
REFUGIO	8,076	0	0.0	0	0.0	0	0.0	0	0.0
SAN PATRICIO	64,851	1	1.5	42	64.8	0	0.0	7	10.8
STARR	53,704	0	0.0	80	149.0	0	0.0	11	20.5
WEBB	164,336	0	0.0	10	6.1	0	0.0	37	22.5
WILLACY	19,160	0	0.0	63	328.8	0	0.0	1	5.2
ZAPATA	11,508	0	0.0	0	0.0	0	0.0	4	34.8
REGIONAL TOTALS	1,575,899	21	1.3	2,885	183.1	1	0.1	275	17.5
STATEWIDE	18,967,764	927	4.9	20,332	107.2	31	0.2	2,103	11.1

REPORTED CASES OF SELECTED VACCINE PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 11 - 1996

COUNTY	1996 POP.	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
ARANSAS	19,082	0	0.0	0	0.0	0	0.0	0	0.0
BEE	32,074	0	0.0	0	0.0	0	0.0	0	0.0
BROOKS	8.727	0	0.0	0	0.0	0	0.0	0	0.0
CAMERON	304,345	1	0.3	3	1.0	2	0.7	0	0.0
DUVAL	13,760	0	0.0	0	0.0	0	0.0	0	0.0
HIDALGO	476,151	0	0.0	4	0.8	2	0.4	0	0.0
JIM HOGG	5,885	0	0.0	0	0.0	1	17.0	0	0.0
JIM WELLS	39,115	0	0.0	1	2.6	0	0.0	0	0.0
KENEDY	501	0	0.0	0	0.0	0	0.0	0	0.0
KLEBERG	32,813	0	0.0	0	0.0	0	0.0	0	0.0
LIVE OAK	9,878	0	0.0	0	0.0	1	10.1	0	0.0
MCMULLEN	859	0	0.0	0	0.0	0	0.0	0	0.0
NUECES	311,074	0	0.0	I	0.3	20	6.4	0	0.0
REFUGIO	8,076	0	0.0	0	0.0	0	0.0	0	0.0
SAN PATRICIO	64,851	0	0.0	1	1.5	0	0.0	0	0.0
STARR	53,704	0	0.0	0	0.0	0	0.0	0	0.0
WEBB	164,336	0	0.0	0	0.0	0	0.0	0	0.0
WILLACY	19,160	0	0.0	0	0.0	0	0.0	0	0.0
ZAPATA	11,508	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	1,575,899	I	0.1	10	0.6	26	1.6	0	0.0
STATEWIDE	18,967,764	49	0.3	44	0.2	151	0.8	8	0.0

REPORTED CASES OF SELECTED SEXUALLY TRANSMITTED DISEASES AND RATES PER 100,000 POPULATION

PUBLIC HEALTH REGION 11 -1996

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1996 POP.	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
ARANSAS	19,082	6	31.4	30	157.2	9	47.2	0	0.0
BEE	32,074	1	3.1	96	299.3	5	15.6	1	3.1
BROOKS	8,727	0	0.0	30	343.8	2	22.9	0	0.0
CAMERON	304,345	25	8.2	818	268.8	55	18.1	11	3.6
DUVAL	13,760	3	21.8	30	218.0	2	14.5	0	0.0
HIDALGO	476.151	43	9.0	1,034	217.2	78	16.4	3	0.6
JIM HOGG	5,885	0	0.0	16	271.9	6	102.0	0	0.0
JIM WELLS	39,115	0	0.0	74	189.2	6	15.3	I	2.6
KENEDY	501	0	0.0	1	199.6	0	0.0	0	0.0
KLEBERG	32,813	3	9.1	123	374.9	24	73.1	0	0.0
LIVE OAK	9,878	0	0.0	15	151.9	1	10.1	0	0.0
MCMULLEN	859	0	0.0	0	0.0	0	0.0	0	0.0
NUECES	311,074	66	21.2	1,070	344.0	367	118.0	0	0.0
REFUGIO	8,076	0	0.0	19	235.3	11	136.2	1	12.4
SAN PATRICIO	64,851	6	9.3	116	178.9	23	35.5	0	0.0
STARR	53,704	2	3.7	81	150.8	6	11.2	0	0.0
WEB8	164,336	30	18.3	237	144.2	10	6.1	0	0.0
WILLACY	19,160	0	0.0	56	292.3	4	20.9	0	0.0
ZAPATA	11,508	0	0.0	22	191.2	1	8.7	0	0.0

REGIONAL TOTALS	1,575,899	185	11.7	3,868	245.4	610	38.7	17	1.1
STATEWIDE	18,967,764	4.932	26.0	43,003	226.7	24,123	127.2	890	4.7

Reported Cases of Selected Diseases

TABLE I

REPORTED CASES OF SELECTED DISEASES

1987 - 1996

DISEASE	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
AIDS	4,932	4,598	5,513	7,555	3,249	3,035	3,182	2,597	2,026	1,791
AMEBIASIS	130	118	110	86	108	86	139	159	252	290
BOTULISM	9	0	27	2	1	4	7	4	4	4
BRUCELLOSIS	23	19	29	34	27	36	18	23	22	51
CAMPYLOBACTERIOSIS	897	993	997	849	996	810	739	625	745	780
CHICKENPOX	20,332	22,568	16,159	14,291	20,554	19,409	26,636	23,722	20,085	23,228
CHLAMYDIA	43,003	44,738	46,046	43.874	39.725	31.199	20.575			
CHOLERA	0	2	4	2	5	3	0	0	1	0
DENGUE	5	29	1	2	0	2	0	2	0	0
ENCEPHALITIS	31	71	54	61	89	121	74	60	74	118
ESCHERICHIA COLI O157:H7	53	38	72							
GONORRHEA	23,124	30,893	29,757	30,122	35,517	43,282	43,231	45,786	45,639	51,688
HAEMOPHILUS INFLUENZAE INF.**	6	40	20	51	42	152	625	797	843	747
HANSEN'S DISEASE	29	36	31	31	52	38	37	25	35	31
HANTAVIRUS INFECTIONS	3	2	1							
HEMOLYTIC UREMIC SYNDROME	7	8	11							
HEPATITIS A	3,460	3,001	2,877	2,798	1,828	2,663	2,722	3,211	2,739	1,886
HEPATITIS B	1,258	1,211	1,422	1,354	1,528	1,958	1,789	1,853	1,654	1,487
HEPATITIS C*	205	340	305	384	255					
HEPATITIS D*	3	2	4	1	5					
HEPATITIS NANB	3	7	9	28	26	144	130	236	149	161
HEPATITIS UNSPECIFIED	40	67	86	157	191	260	287	530	576	599
LEGIONELLOSIS	32	13	15	22	24	23	25	50	20	38
LISTERIOSIS	47	41	64	28	26	52	32	40	45	42
LYME DISEASE	97	77	56	48	113	57	44	82	25	33
MALARIA	141	89	93	48	45	75	80	79	73	56
MEASLES	49	14	17	10	1,097	294	4,409	3,313	286	452
MENINGITIS, ASEPTIC	927	1,566	970	1,329	1,242	1,275	811	836	675	758
MENINGITIS, BACTERIAL/OTHER	510	409	360	262	380	337	345	371	385	354
MENINGOCOCCAL INFECTIONS	218	253	237	157	111	100	93	93	98	126
MUMPS	44	43	234	231	388	363	470	551	327	338
PERTUSSIS	151	217	160	121	161	143	158	366	158	111
RABIES, HUMAN	0	0	1	1	0	1	1	0	0	0
RELAPSING FEVER	1	1	3	0	0	0	0	0	0	0
RMSF	5	6	7	7	1	2	6	19	22	22
RUBELLA	8	8	9	22	10	16	99	64	30	5
SALMONELLOSIS	2.800	2.363	1,983	1,924	1.933	2,317	2.315	2,277	2,334	2,803
SHIGELLOSIS	2,757	3,017	2,410	4,581	3,568	2,178	3,550	1.654	2,826	2,087
STREPTOCOCCAL DISEASE, GP A	65	95	82							
SYPHILIS, PRIMARY & SECONDARY	890	1,557	1,913	2,530	3,316	4,970	5,165	4,267	3,124	3,071
TETANUS	3	3	12	7	5	10	7	5	6	5
TUBERCULOSIS	2,103	2,369	2,542	2,393	2,510	2,525	2,242	1,915	1,901	1,757
TYPHOID FEVER	17	21	10	15	23	31	28	20	3	36
TYPHUS, MURINE	41	53	9	12	18	22	36	30	30	34
VIBRIO INFECTIONS	24	24	31	17	15	25	25	17	27	20

*Prior to 1992, hepatitis C and D cases were counted as hepatitis non A-non B.
**Beginning in 1996, only *Haemophilus influenzae* type b infections in persons < 6 years old were counted.

TABLE II

RATES OF SELECTED DISEASES PER 100,000 POPULATION

1987 - 1996

DISEASE	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
AIDS	26.0	24.6	30.0	41.9	18.4	17.5	18.7	15.5	12.2	10.8
AMEBIASIS	0.7	0.6	0.6	0.5	0.6	0.5	0.8	0.9	1.5	1.7
BOTULISM	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BRUCELLOSIS	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.3
CAMPYLOBACTERIOSIS	4.7	5.3	5.5	4.8	5.7	4.7	4.4	3.6	4.3	4.6
CHICKENPOX	107.2	121.2	88.4	81.3	116.7	112.5	156.8	135.8	116.3	162.3
CHLAMYDIA	226.7	240.3	251.8	244.0	225.3	180.3	121.1			
CHOLERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DENGUE	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENCEPHALITIS	0.2	0.4	0.3	0.3	0.5	0.7	0.4	0.3	0.4	0.7
ESCHERICHIA COLI 0157:H7	0.3	0.2	0.4							
GONORRHEA	127.2	165.9	162.7	171.3	201.6	250.8	254.5	262.1	264.3	303.6
HAEMOPHILUS INFLUENZAE INF.**	0.0	0.2	0.1	0.3	0.2	0.9	3.7	4.6	4.9	4.4
HANSEN'S DISEASE	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2
HANTAVIRUS INFECTIONS	0.0	0.0	0.0						-	-
HEMOLYTIC UREMIC SYNDROME	0.0	0.0	0.1						-	-
HEPATITIS A	18.2	16.1	15.7	15.9	10.4	15.4	16.0	18.4	15.9	11.1
HEPATITIS B	6.6	6.5	7.8	7.7	8.7	11.3	10.5	10.6	9.6	8.7
HEPATITIS C*	1.1	1.8	1.7	2.2	1.5	-	-	-	-	-
HEPATITIS D*	0.0	0.0	0.0	0.0	0.0	-	-	-	-	-
HEPATITIS NANB	0.0	0.0	0.0	0.1	0.1	0.8	0.8	1.4	0.9	1.0
HEPATITIS UNSPECIFIED	0.2	0.4	0.5	0.9	1.1	1.5	1.7	3.0	3.3	3.5
LEGIONELLOSIS	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.2
LISTERIOSIS	0.2	0.2	0.4	0.2	0.1	0.3	0.2	0.2	0.3	0.3
LYME DISEASE	0.5	0.4	0.3	0.3	0.6	0.3	0.3	0.5	0.1	0.2
MALARIA	0.7	0.5	0.5	0.3	0.3	0.4	-	-	-	-
MEASLES	0.3	0.1	0.1	0.1	6.2	1.7	26.0	19.0	1.7	2.7
MENINGITIS, ASEPTIC	4.9	8.4	5.3	7.6	7.1	7.4	4.8	4.8	3.9	4.5
MENINGITIS, BACTERIAL/OTHER	2.7	2.2	2.0	1.5	2.2	2.0	2.0	2.1	2.2	2.1
MENINGOCOCCAL INFECTIONS	1.1	1.4	1.3	0.9	0.6	0.6	0.5	0.5	0.6	0.7
MUMPS	0.2	0.2	1.3	1.3	2.2	2.1	2.8	3.2	1.9	2.0
PERTUSSIS	0.8	1.2	0.9	0.7	0.9	0.8	0.9	2.1	0.9	0.7
RABIES, HUMAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RELAPSING FEVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RMSF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
RUBELLA	0.0	0.0	0.0	0.1	0.1	0.1	0.6	0.4	0.2	0.0
SALMONELLOSIS	14.8	12.7	10.8	10.9	11.0	13.4	13.6	13.0	13.5	16.5
SHIGELLOSIS	14.5	16.2	13.2	26.0	20.3	12.6	20.9	9.5	16.4	12.3
STREPTOCOCCAL DISEASE, GP A	0.3	0.5	0.5	-	-	-	-	-	-	-
SYPHILIS, PRIMARY & SECONDARY	4.7	8.4	10.5	14.1	18.8	28.8	30.4	24.4	18.1	18.0
TETANUS	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1
TUBERCULOSIS	11.1	12.7	13.9	13.3	14.2	14.6	13.2	11.0	11.0	10.3
TYPHOID FEVER	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2
TYPHUS, MURINE	0.2	0.3	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2
VIBRIO INFECTIONS	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1

*Prior to 1992, hepatitis C and D cases were counted as hepatitis non A-non B.

Beginning in 1996, only ***Haemophilus influenzae* type b infections in persons < 6 years old were counted.

Case rates are based on the 1996 population estimate (18,967,764) provided by State Health Data and Texas A&M University.

TABLE III

REPORTED CASES OF SELECTED DISEASES BY MONTH OF ONSET

1996

DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AIDS	318	323	360	440	459	483	428	473	493	439	363	353
AMEBIASIS	7	7	6	11	10	11	15	11	6	22	12	12
BOTULISM	2	0	0	0	0	0	2	0	0	2	2	1
BRUCELLOSIS	2	1	4	2	4	4	2	2	0	1	0	1
CAMPYLOBACTERIOSIS	55	54	57	73	88	75	95	1021	74	111	70	43
CHICKENPOX*	146	1,486	2.324	2,515	3,934	2,885	1,346	724	59	1,510	605	2,798
CHLAMYDIA*	2,433	2,834	3,422	3,333	4,990	3.102	3,531	2,885	3,109	2,979	6,737	3,648
CHOLERA	0	0	0	0	0	0	0	0	0	0	0	0
DENGUE	1	0	0	1	0	0	0	0	0	3	0	0
ENCEPHALITIS	3	I	2	2	1	0	2	3	10	4	I	2
ESCHERICHIA *COLI* O157:H7	4	2	1	3	2	5	12	2	4	8	6	4
GONORRHEA*	1,828	1,686	1.872	1.724	2.430	1,835	1,813	1,761	1,800	1,232	2,782	2,361
HAEMOPHILUS *INFLUENZAE* INF.**	0	1	0	0	1	1	1	0	1	0	1	0
HANSEN'S DISEASE	3	2	5	3	I	5	I	4	0	2	3	0
HANTAVIRUS INFECTIONS	0	0	0	1	0	0	0	2	0	0	0	0
HEMOLYTIC UREMIC SYNDROME	0	0	0	2	0	0	0	1	1	1	2	0
HEPATITIS A	255	250	273	246	277	209	267	359	315	349	352	308
HEPATITIS B	122	94	120	105	121	114	115	87	113	93	77	97
HEPATITIS C	15	20	14	21	25	17	20	13	15	14	21	10
HEPATITIS D	0	0	1	0	0	0	0	1	1	0	0	0
HEPATITIS NANB	0	0	1	0	1	0	0	0	0	0	0	1
HEPATITIS UNSPECIFIED	6	2	3	1	3	2	3	1	7	5	5	2
LEGIONELLOSIS	0	0	2	3	2	5	3	4	3	5	4	1
LISTERIOSIS	4	1	1	1	6	12	7	5	3	4	0	3
LYME DISEASE	4	4	9	8	10	10	22	9	2	4	7	8
MALARIA	14	6	5	5	4	21	21	29	10	12	6	8
MEASLES	0	0	1	1	3	7	20	14	3	0	0	0
MENINGITIS, ASEPTIC	53	45	28	35	108	95	98	110	103	105	74	73
MENINGITIS, BACTERIAL/OTHER	47	41	57	47	32	40	45	52	44	33	37	35
MENINGOCOCCAL INFECTIONS	49	22	21	22	23	10	8	7	14	10	15	17
MUMPS	5	2	1	6	3	1	2	6	3	5	7	3
PERTUSSIS	14	7	14	10	18	16	22	12	8	10	8	12
RABIES, HUMAN	0	0	0	0	0	0	0	0	0	0	0	0
RELAPSING FEVER	0	0	0	0	0	0	0	0	0	1	0	0
RMSF	0	0	0	0	1	1	1	0	1	1	0	0
RUBELLA	2	3	1	0	0	0	2	0	0	0	0	0
SALMONELLOSIS	154	115	125	144	207	332	420	311	347	297	210	138
SHIGELLOSIS	168	117	101	152	223	236	248	224	304	363	337	284
STREPTOCOCCAL DISEASE, GP A	9	8	5	3	4	4	4	2	5	4	6	11
SYPHILIS, PRIMARY & SECONDARY*	74	81	82	77	101	62	64	66	72	72	84	55
TETANUS	3	0	0	1	0	0	0	0	1	0	0	1
TUBERCULOSIS*	62	177	170	214	175	218	177	161	149	177	126	297
TYPHOID FEVER	2	3	2	1	3	4	1	0	0	0	1	0
TYPHUS, MURINE	5	0	1	1	9	6	3	2	5	7	2	0
VIBRIO INFECTIONS	0	0	0	0	2	3	2	7	4	5	1	0

*Totals are by month of report rather than month of onset.
**Beginning in 1996, only *Haemophilus influenzae* type b infections in persons < 6 years old were counted.

TABLE IV

REPORTED CASES OF SELECTED DISEASES BY AGE GROUP

1996

DISEASE	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+	UNK
AIDS	9	8	3	9	32	943	2,274	1,221	333	100	0
AMEBIASIS	4	15	12	7	6	22	27	14	10	9	4
BOTULISM	7	0	0	0	0	0	0	0	0	2	0
BRUCELLOSIS	0	3	0	1	2	5	5	2	1	4	0
CAMPYLOBACTERIOSIS	74	139	51	40	46	170	140	102	52	70	13
CHLAMYDIA	541	32	59	960	16,540	18,673	3,281	544	100	121	2,152
CHOLERA	0	0	0	0	0	0	0	0	0	0	0
DENGUE	0	1	0	0	0	1	1	2	0	0	0
ENCEPHALITIS	2	1	4	2	4	1	4	3	4	5	1
ESCHERICHIA COLI O157:H7	5	18	4	3	3	4	3	2	3	7	1
GONORRHEA	220	13	42	436	7,114	8,894	2,768	741	152	99	2,645
HAEMOPHILUS INFLUENZAE INF.*	4	1	1	0	0	0	0	0	0	0	0
HANSEN'S DISEASE	0	0	0	1	0	5	3	5	7	8	0
HANTAVIRUS INFECTIONS	0	0	0	0	0	2	0	0	1	0	0
HEMOLYTIC UREMIC SYNDROME	0	6	1	0	0	0	0	0	0	0	0
HEPATITIS A	23	310	838	453	255	590	427	225	127	162	50
HEPATITIS B	8	2	3	14	53	344	369	226	111	96	32
HEPATITIS C	6	0	0	1	4	20	83	57	19	15	0
HEPATITIS D	0	0	1	0	0	0	1	1	0	0	0
HEPATITIS NANB	0	0	0	0	0	1	1	1	0	0	0
HEPATITIS UNSPECIFIED	1	4	4	4	6	7	4	1	6	3	0
LEGIONELLOSIS	1	0	0	0	0	1	2	8	6	14	0
LISTERIOSIS	7	0	1	0	1	8	6	3	2	17	2
LYME DISEASE	7	2	4	4	0	2	20	25	19	6	8
MALARIA	1	5	13	6	13	31	35	20	7	4	6
MEASLES	11	20	12	3	0	2	1	0	0	0	0
MENINGITIS, ASEPTIC	294	54	90	52	46	138	131	53	29	28	12
MENINGITIS, BACTERIAL/OTHER	109	27	22	10	9	57	75	66	57	76	2
MENINGOCOCCAL INFECTIONS	36	40	16	21	27	22	12	7	5	32	0
MUMPS	0	6	13	7	5	6	4	2	1	0	0
PERTUSSIS	96	13	15	4	3	11	4	0	3	2	0
RABIES, HUMAN	0	0	0	0	0	0	0	0	0	0	0
RELAPSING FEVER	0	0	0	0	0	0	0	0	1	0	0
RMSF	0	1	1	0	0	0	0	3	0	0	0
RUBELLA	0	0	1	0	1	3	2	1	0	0	0
SALMONELLOSIS	594	517	224	100	101	248	260	156	114	281	205
SHIGELLOSIS	81	975	728	165	71	218	192	102	56	76	93
STREPTOCOCCAL DISEASE, GP A	2	7	3	2	0	9	4	16	7	14	1
SYPHILIS, PRIMARY & SECONDARY	0	0	0	5	130	353	241	106	42	11	2
TETANUS	0	0	0	0	0	0	1	0	0	2	0
TYPHOID FEVER	1	3	3	1	1	3	3	1	1	0	0
TYPHUS, MURINE	0	1	4	2	4	4	7	7	7	5	0
VIBRIO INFECTIONS	2	1	2	0	1	1	4	7	3	3	0
TUBERULOSIS AGE GROUPS →	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65+	UNK
TUBERCULOSIS	93	27	24	56	118	379	432	336	248	390	0

*Beginning in 1996, only *Haemophilus influenzae* type b infections in persons < 6 years old were counted.

TABLE V

RATES OF SELECTED DISEASES PER 100,000 POPULATION BY AGE GROUP

1996

DISEASE	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+
AIDS	2.8	0.6	0.2	0.6	2.3	32.9	70.1	45.2	20.0	3.9
AMEBIASIS	1.2	1.2	0.8	0.5	0.4	0.8	0.8	0.5	0.6	0.4
BOTULISM	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
BRUCELLOSIS	0.0	0.2	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.2
CAMPYLOBACTERIOSIS	22.8	10.9	3.5	2.7	3.2	5.9	4.3	3.8	3.1	2.7
CHLAMYDIA	166.6	2.5	4.0	65.9	1,163.2	651.9	101.3	20.1	6.0	4.7
CHOLERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DENGUE	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
ENCEPHALITIS	0.6	0.1	0.3	0.1	0.3	0.0	0.1	0.1	0.2	0.2
ESCHERICHIA COLI O157:H7	1.5	1.4	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.3
GONORRHEA	67.7	1.0	2.9	39.9	500.3	310.5	85.5	27.4	9.2	3.9
HAEMOPHILUS INFLUENZAE INF.	1.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HANSEN'S DISEASE	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.2	0.4	0.3
HANTAVIRUS INFECTIONS	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
HEMOLYTIC UREMIC SYNDROME	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEPATITIS A	7.1	24.2	57.3	31.1	17.9	20.6	13.2	8.3	7.6	6.3
HEPATITIS B	2.5	0.2	0.2	1.0	3.7	12.0	11.4	8.4	6.7	3.8
HEPATITIS C	1.8	0.0	0.0	0.1	0.3	0.7	2.6	2.1	1.1	0.6
HEPATITIS D	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEPATITIS NANB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEPATITIS UNSPECIFIED	0.3	0.3	0.3	0.3	0.4	0.2	0.1	0.0	0.4	0.1
LEGIONELLOSIS	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.5
LISTERIOSIS	2.2	0.0	0.1	0.0	0.1	0.3	0.2	0.1	0.1	0.7
LYME DISEASE	2.2	0.2	0.3	0.3	0.0	0.1	0.6	0.9	1.1	0.2
MALARIA	0.3	0.4	0.9	0.4	0.9	1.1	1.1	0.7	0.4	0.2
MEASLES	3.4	1.6	0.8	0.2	0.0	0.1	0.0	0.0	0.0	0.0
MENINGITIS, ASEPTIC	90.5	4.2	6.2	3.6	3.2	4.8	4.0	2.0	1.7	1.1
MENINGITIS, BACTERIAL/OTHER	33.5	2.1	1.5	0.7	0.6	2.0	2.3	2.4	3.4	3.0
MENINGOCOCCAL INFECTIONS	11.1	3.1	1.1	1.4	1.9	0.8	0.4	0.3	0.3	1.3
MUMPS	0.0	0.5	0.9	0.5	0.4	0.2	0.1	0.1	0.1	0.0
PERTUSSIS	29.6	1.0	1.0	0.3	0.2	0.4	0.1	0.0	0.2	0.1
RABIES, HUMAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RELAPSING FEVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
RMSF	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
RUBELLA	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0
SALMONELLOSIS	182.9	40.4	15.3	6.9	7.1	8.7	8.0	5.8	6.9	11.0
SHIGELLOSIS	24.9	76.2	49.8	11.3	5.0	7.6	5.9	3.8	3.4	3.0
STREPTOCOCCAL DISEASE, GP	0.6	0.5	0.2	0.1	0.0	0.3	0.1	0.6	0.5	0.5
SYPHILIS, PRIMARY &	0.0	0.0	0.0	0.3	9.1	12.3	7.4	3.9	2.5	0.4
TETANUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
TYPHOID FEVER	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0
TYPHUS, MURINE	0.0	0.1	0.3	0.1	0.3	0.1	0.2	0.3	0.4	0.2
VIBRIO INFECTIONS	0.6	0.1	0.1	0.0	0.1	0.0	0.1	0.3	0.2	0.1
TUBERCULOSIS AGE GROUPS →	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65+
TUBERCULOSIS	0.3	0.2	0.0	0.1	0.0	0.1	0.2	0.3	0.2	0.6

Case rates are based on the 1996 population estimate) from State Health Data 9 and Texas A&M Universitv.
*Beginning in 1996, only *Haemophilus influenzae* type b infections in persons < 6 years old were counted.

TABLE VI

REPORTED CASES OF SELECTED DISEASES BY PUBLIC HEALTH REGION

1996

DISEASE	1996 Total	PHR 1	PHR 2	PHR 3	PHR 4	PHR 5	PHR 6	PHR 7	PHR 8	PHR 9	PHR 10	PHR 11
AIDS	4,932	49	44	1,201	77	124	1,932	397	447	47	123	185
AMEBIASIS	130	0	0	39	4	2	21	19	8	0	7	30
BOTULISM	9	1	0	1	3	0	0	1	2	0	0	1
BRUCELLOSIS	23	0	0	6	0	0	2	4	2	0	3	6
CAMPYLOBACTERIOSIS	897	119	22	132	21	36	123	181	130	12	44	77
CHICKENPOX	20.332	661	442	4.841	927	1.083	4.082	2.759	1.194	507	951	2.885
CHLAMYDIA	43,003	2,144	696	8.790	1,079	1,121	10,141	5,967	5,658	1,024	2,512	3,868
CHOLERA	0	0	0	0	0	0	0	0	0	0	0	0
DENGUE	5	0	0	2	1	0	2	0	0	0	0	0
ENCEPHALITIS	31	1	1	7	2	0	16	0	1	1	1	1
ESCHERICHIA COLI O157:H7	53	10	4	17	3	I	8	7	1	0	0	2
GONORRHEA	23,124	1,057	338	7,851	721	834	6,740	2,798	1,695	314	160	610
HAEMOPHILUS INFLUENZAE INF.*	6	0	0	2	0	0	I	2	0	0	0	1
HANSEN'S DISEASE	29	0	1	3	0	0	9	2	4	0	0	10
HANTAVIRUS INFECTIONS	3	I	0	0	0	I	0	0	0	I	0	0
HEMOLYTIC UREMIC SYNDROME	7	0	0	3	2	0	1	1	0	0	0	0
HEPATITIS A	3,460	104	45	612	153	25	624	237	492	82	234	852
HEPATITIS B	1,258	62	41	382	53	60	266	94	133	38	45	84
HEPATITIS C	205	18	0	61	17	7	30	14	24	0	23	11
HEPATITIS D	3	0	0	I	0	0	2	0	0	0	0	0
HEPATITIS NANB	3	1	1	1	0	0	0	0	0	0	0	0
HEPATITIS UNSPECIFIED	40	0	0	4	0	I	16	I	0	2	I	15
LEGIONELLOSIS	32	0	0	4	0	0	7	3	17	0	0	1
LISTERIOSIS	47	2	0	13	0	0	14	4	6	1	1	6
LYME DISEASE	97	2	2	70	6	1	7	6	1	1	0	1
MALARIA	141	3	1	48	7	1	60	12	3	1	2	3
MEASLES	49	0	1	0	0	1	46	0	0	0	0	1
MENINGITIS, ASEPTIC	927	65	18	299	45	3	164	130	140	36	6	21
MENINGITIS, BACTERIAL/OTHER	510	18	8	253	24	13	101	45	18	5	7	18
MENINGOCOCCAL INFECTIONS	218	4	1	95	29	9	24	22	18	5	4	7
MUMPS	44	3	0	7	1	1	7	8	3	4	0	10
PERTUSSIS	151	2	0	19	9	5	41	12	28	7	2	26
RABIES, HUMAN	0	0	0	0	0	0	0	0	0	0	0	0
RELAPSING FEVER	1	0	0	0	0	0	0	0	1	0	0	0
RMSF	5	0	1	0	1	1	0	1	0	0	0	1
RUBELLA	8	0	0	1	1	0	6	0	0	0	0	0
SALMONELLOSIS	2,800	171	53	417	133	69	674	347	367	94	199	276
SHIGELLOSIS	2,757	29	27	378	49	25	561	404	520	65	59	640
STREPTOCOCCAL DISEASE, GP A	65	0	1	31	1	0	19	7	2	0	1	3
SYPHILIS, PRIMARY & SECONDARY	890	4	7	337	104	47	195	93	33	4	10	17
TETANUS	3	0	0	0	1	0	0	0	1	0	0	1
TUBERCULOSIS	2,103	39	34	413	59	63	712	159	180	27	91	275
TYPHOID FEVER	17	0	0	5	0	0	8	1	2	0	0	1
TYPHUS, MURINE	41	0	0	0	0	0	0	0	2	0	0	39
VIBRIO INFECTIONS	24	0	0	4	0	0	11	4	0	0	1	4

*Beginning in 1996, only *Haemophilus influenzae* type b infections in persons < 6 years old were counted.
Cases from the Texas Department of Corrections for tuberculosis (cases = 51, rate 38.5 cases per 100,000 population), chlamydia (cases = 3, rate 2.3), gonorrhea (cases = 6, rate 4.5), and primary and secondary syphilis (cases = 39, rate 29.5) were not included in the regional totals.
These cases are included in the statewide totals.

TABLE VII

RATES OF SELECTED DISEASES PER 100,000 POPULATION BY PUBLIC HEALTH REGION

1996

DISEASE	Total	P R	P R	P R	P R	P R	P R	P R	PHR 8	PHR 9	PHR 10	PHR 11
AIDS	26.0	5.8	8.2	24.1	8.1	163.6	44.6	20.9	22.6	8.6	16.9	11.7
AMEBIASIS	0.7	0.0	0.0	0.8	0.4	0.3	0.5	1.0	0.4	0.0	1.0	1.9
BOTULISM	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.1
BRUCELLOSIS	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.4	0.4
CAMPYLOBACTERIOSIS	4.7	15.6	4.1	2.7	2.2	5.3	2.8	9.5	6.6	2.2	6.1	4.9
CHICKENPOX	107.2	86.7	82.8	97.2	97.6	158.0	94.2	145.4	60.3	92.4	131.0	183.1
CHLAMYDIA	226.7	281.1	130.4	176.6	113.6	163.6	234.1	314.6	285.9	186.6	346.0	245.4
CHOLERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DENGUE	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENCEPHALITIS	0.2	0.1	0.2	0.1	0.2	0.0	0.4	0.0	0.1	0.2	0.1	0.1
ESCHERICHIA COLI 0157:H7	0.3	1.3	0.7	0.3	0.3	0.1	0.2	0.4	0.1	0.0	0.0	0.1
GONORRHEA	127.2	138.6	63.3	157.7	75.9	121.7	155.6	147.5	85.6	57.2	22.0	38.7
HAEMOPHILUS INFLUENZAE INF.*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
HANSEN'S DISEASE	0.2	0.0	0.2	0.1	0.0	0.0	0.2	0.1	0.2	0.0	0.0	0.6
HANTAVIRUS INFECTIONS	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
HEMOLYTIC UREMIC SYNDROME	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0
HEPATITIS A	18.2	13.6	8.4	12.3	16.1	3.6	14.4	12.5	24.9	14.9	32.2	54.1
HEPATITIS B	6.6	8.1	7.7	7.7	5.6	8.8	6.1	5.0	6.7	6.9	6.2	5.3
HEPATITIS C	1.1	2.4	0.0	1.2	1.8	1.0	0.7	0.7	1.2	0.0	3.2	0.7
HEPATITIS D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEPATITIS NANB	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEPATITIS UNSPECIFIED	0.2	0.0	0.0	0.1	0.0	0.1	0.4	0.1	0.0	0.4	0.1	1.0
LEGIONELLOSIS	0.2	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.9	0.0	0.0	0.1
LISTERIOSIS	0.2	0.3	0.0	0.3	0.0	0.0	0.3	0.2	0.3	0.2	0.1	0.4
LYME DISEASE	0.5	0.3	0.4	1.4	0.6	0.1	0.2	0.3	0.1	0.2	0.0	0.1
MALARIA	0.7	0.4	0.2	0.7	0.7	0.1	1.4	0.6	0.2	0.2	0.3	0.2
MEASLES	0.3	0.0	0.2	0.0	0.0	0.1	1.1	0.0	0.0	0.0	0.0	0.1
MENINGITIS, ASEPTIC	4.9	8.5	3.4	6.0	4.7	0.4	3.8	6.9	7.1	6.6	0.8	1.3
MENINGITIS, BACTERIAL/OTHER	2.7	2.4	1.5	5.1	2.5	1.9	2.3	2.4	0.9	0.9	1.0	1.1
MENINGOCOCCAL INFECTIONS	1.1	0.5	0.2	1.9	3.1	1.3	0.6	1.2	0.9	0.9	0.6	0.4
MUMPS	0.2	0.4	0.0	0.1	0.1	0.1	0.2	0.4	0.2	0.7	0.0	0.6
PERTUSSIS	0.8	0.3	0.0	0.4	0.9	0.7	0.9	0.6	1.4	1.3	0.3	1.6
RABIES, HUMAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RELAPSING FEVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
RMSF	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1
RUBELLA	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
SALMONELLOSIS	14.8	22.4	9.9	8.4	14.0	10.1	15.6	18.3	18.5	17.1	27.4	17.5
SHIGELLOSIS	14.5	3.8	5.1	7.6	5.2	3.6	13.0	21.3	26.3	11.8	8.1	40.6
STREPTOCOCCAL DISEASE, GP A	0.3	0.0	0.2	0.6	0.1	0.0	0.4	0.4	0.1	0.0	0.1	0.2
SYPHILIS, PRIMARY & SECONDARY	4.7	0.5	1.3	6.8	11.0	6.9	4.5	4.9	1.7	0.7	1.4	1.1
TETANUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
TUBERCULOSIS	11.1	5.1	6.4	8.3	6.2	9.2	16.4	8.4	9.1	4.9	12.5	17.5
TYPHOID FEVER	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.1
TYPHUS, MURINE	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	2.5
VIBRIO INFECTIONS	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.1	0.3

*Beginning in 1996, only ***Haemophilus influenzae*** type b infections in persons < 6 years old were counted.
Cases from the Texas Department of Corrections for tuberculosis (cases = 51, rate 38.5 cases per 100,000 population), chlamydia (cases = 3, rate 2.3), gonorrhea (cases = 6, rate 4.5), and primary and secondary syphilis (cases = 39, rate 29.5) were not included in the regional totals.
These cases are included in the statewide totals.

Appendix

Reportable Conditions in Texas

Several Texas laws require specific information regarding reportable conditions to be provided to the Texas Department of Health. The Communicable Disease Prevention and Control Act (Health & Safety Code, Chapter 81) requires physicians, dentists, veterinarians, and chiropractors to report, after the first professional encounter, each patient examined who is suspected of having a reportable disease. Also required to report are certain individuals from hospitals, laboratories, and schools. Detailed rules on the reporting of notifiable diseases and conditions and the duties of local health authorities may be found in Article 97, Title 25, Texas Administrative Code.

Diseases reportable immediately by telephone to local health departments or Texas Department of Health by name, age, sex, racelethnicity, DOB, address, telephone number, disease, date of onset, physician, and method of diagnosis.

TDH Infectious Disease Epidemiology & Surveillance Division
(CALL TOLL-FREE 1-800-252-8239)

Botulism, foodborne
Cholera
Meningococcal infections, invasive[1]
Plague
Rabies, human
Viral hemorrhagic fevers
Yellow Fever

TDH Immunization Division
(CALL TOLL-FREE 1-800-252-9152)

Diphtheria
Haemophilus influenzae type b infections, invasive[1]
Measles (rubeola)
Pertussis
Poliomyelitis, acute paralytic

Outbreaks, exotic diseases, and unusual group expressions of illness which may be of public health concern also should be reported immediately.

Diseases reportable to local health departments by name, age, sex, racelethnicity, DOB, address, telephone number, disease, date of onset/occurrence, physician, and method of diagnosis. Report these diseases on a weekly basis except for rubella and tuberculosis which should be reported within one working day.

Acquired immunodeficiency syndrome (AIDS)[3]
Amebiasis
Anthrax
Asbestosis[4]
Botulism (infant)
Brucellosis
Campylobacteriosis
Chancroid[5]
Chlamydia trachonzatis infection[5]
Cryptosporidiosis
Dengue
Ehrilichiosis
Encephalitis (specify etiology)
Eschericia coli 0157:H7 infection
Gonorrhea[5]
Hansen's disease (leprosy)
Hantavirus infection
Hemolytic uremic syndrome (HUS)
Hepatitis, acute viral (specify type)[6]
Injuries (specify type)[7]
  Spinal cord injury
  Near drowning
Lead, adult elevated blood[4]
Lead, childhood elevated blood[4]
Legionellosis
Listeriosis
Lyme disease
Malaria
Meningitis (specify type)'
Mumps
Pesticide poisoning, acute occupational[4]
Relapsing fever
Rocky Mountain spotted fever
Rubella
Salmonellosis, including typhoid
Shigellosis
Silicosis[4]
Streptococcal disease, invasive Group **A**
Syphilis[5]
Tetanus
Trichinosis
Tuberculosis[9]
Tuberculosis infection in persons less than 15 years of age[9]
Typhus
Vibrio infections

By *number* only: Chickenpox

By *last* **4** *digits of social* ***security number*****; sex; racelethnicity; DOB; city, county, and zip of patient's residence; and name, address, and telephone number of physician:** HIV infection in persons 13 years of age and older.

By *name*; sex; racelethnicity; DOB; city, county, and zip of patient's residence; and name, address, and telephone number of physician: HIV infection in persons less than 13 years of age.

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1 Includes meningitis, septicemia, cellulitis, epiglottitis, osteomyelitis, pericarditis, and septic arthritis.
2 The local or regional health department shall collect reports of diseases and transmit them at weekly intervals to TDH.
3 Reported by physician only once per case, following initial physician diagnosis.
4 The Occupational Disease Reporting Act (Health & Safety Code, Chapter 84) requires physicians and directors of laboratories to report these occupationally related diseases to the Texas Department of Health at 512/458-7269.
5 Syphilis, gonorrhea, chancroid, and laboratory-confirmed *Chlamydia trachomatis* infections are reportable in accordance with Sections 97.132, 97.134, and 97.135 of TAC. Form STD-27, "Confidential Report of Sexually Transmitted Disease," shall be used to report these sexually transmitted diseases. Questions may be directed to 512/490-2505.
6 Includes types: A; B; C; D (Delta); E; non-A, non-B; and unspecified.
7 The Injury Prevention and Control Act (Health & Safety Code, Chapter 87) requires physicians, medical examiners, and Justices of the Peace to report these injuries to local health departments or to the Texas Department of Health 512/458-7266.
8 Includes aseptic/viral, bacterial (specify etiology), fungal, and other.
9 Report tuberculosis on Form TB-400, "Report of Case and Patient Services." Questions may be directed to 512/458-7448.

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