Erik Svenkerud

EPIDEMIOLOGY

IN TEXAS

ANNUAL REPORT 1990

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EPIDEMIOLOGY IN TEXAS

1990 ANNUAL REPORT

Infectious Diseases Program
Environmental Epidemiology Program
Injury Control Program

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Foreword

Many people erroneously believe that medicine has all but conquered the infectious diseases as significant causes of human illness and death. Those who work in public health know better. The experience in 1990 provides continuing testimony to the folly of that belief. In 1990, we saw changes in the dynamics of disease transmission, sometimes in favor of the human population leading to reduced disease incidence, and sometimes in favor of the pathogen leading to increases in disease transmission.

This report, the thirteenth in the series, also describes environmental and occupational diseases and injuries which significantly contribute to the morbidity and mortality in Texas. For the first time, the Epidemiology Division has examined deaths due to firearms and cocaine overdose, two exposures deeply rooted in the complexity of today's society. Potentially serious environmental exposures, such as lead paint from sandblasted municipal water towers were investigated to reduce the likelihood of human illness associated with those exposures.

Outbreaks of measles continued throughout Texas in 1990, and there was an 17% increase in the reported cases of a long-time foe, tuberculosis. The control of sexually transmitted diseases remains difficult with the widespread emergence of antibiotic resistant strains. A brief summary of epidemiologic aspects of infection with human immunodeficiency virus is included in this, report for the first time in many years.

Understanding the causes of human illness and injury and developing aggressive and appropriate methods to control them are difficult tasks. With the support of private and public health providers, local, state, and federal governments, and, of course, the citizens of this state, the Texas Department of Health will continue to study and work toward better control of infectious diseases, harmful exposures in the workplace and environment, and injuries which threaten the health of the citizens of Texas.

Robert A. MacLean, M.D.
Acting Commissioner of Health

INTRODUCTION

BACKGROUND

The practice of reporting communicable diseases to health officials began as a way to determine the prevalence of diseases which could threaten the public's health. In 1910, the Sanitary Code was enacted requiring the reporting of diseases that were epidemic in Texas at that time, diseases such as anthrax, Asiatic cholera, bubonic plague, diphtheria, epidemic dysentery, epidemic typhus, smallpox, trachoma, typhoid, and yellow fever. By May 1920, the procedures for reporting communicable diseases were in place. Since that time, disease surveillance in Texas has relied on a reporting system whereby physicians notify their local health authorities of infectious and other reportable diseases and conditions. These reports are then forwarded to the Texas Department of Health. The collection of these data allow health officials and agencies to plan more effective programs and activities to prevent and control disease throughout the state.

Many of Texas' original public health laws were enacted long ago under conditions that are no longer relevant today, therefore, the laws have had to be revised. The Texas Board of Health has the authority to adopt specific rules and regulations relating to the prevention, reporting, and control of communicable diseases and to designate which diseases are "reportable." Acquired immune deficiency syndrome (AIDS) and Reye syndrome were added to the list of reportable diseases in Texas in March of 1983. In July 1984, rheumatic fever and smallpox were removed from the list and bacterial meningitis, campylobacteriosis, coccidioidomycosis, dengue, histoplasmosis, legionellosis, toxic shock syndrome, and viral hemorrhagic fevers were added. Following passage of the Occupational Disease Reporting Act, the Board of Health in September 1985 required that acute occupational pesticide poisoning, asbestosis, elevated blood lead levels in adults (blood lead level $\geq$ 40 mcg/dl in persons $\geq$ 15 years of age), and silicosis be reported. In September 1986, *Haemophilus influenzae* infections, hepatitis type D (delta agent), *Listeria* infections, Lyme disease, and *Vibrio* infections were added to the list of reportable diseases in Texas, and the scope of meningitis reporting was expanded to include all etiologic agents. Streptococcal sore throat and scarlet fever were also removed from the list of reportable diseases at that time. Most recently, human immunodeficiency virus (HIV) and *Chlamydia trachomatis* infections were added to the list of reportable diseases in September 1987.

SURVEILLANCE

Surveillance is a mechanism used by public health agencies to monitor the health of their communities. Its purpose is to provide a factual basis from which agencies can set priorities, plan programs, and take appropriate action to promote and protect the public's health. Surveillance is the ongoing systematic collection, analysis, interpretation, and dissemination of a variety of health data--demographic, environmental, laboratory, morbidity, and mortality data. Surveillance also includes obtaining and evaluating information on animal reservoirs and vectors, investigating epidemics and individual cases of diseases and/or conditions, and conducting special studies and surveys.

The objective of surveillance is to determine the extent of disease and the risk of transmission so that control measures can be applied effectively and efficiently. Surveillance data must be current and complete to reveal the actual occurrence and distribution of disease. The Epidemiology Division, Texas Department of Health, is responsible for coordinating infectious and occupational disease surveillance in Texas, as well as surveillance of environmentally related conditions throughout the state.

THE REPORTING SYSTEM IN TEXAS

The Communicable Disease Prevention and Control Act (Chapter 81, Health and Safety Code) requires physicians, dentists, and veterinarians to report, after their first professional encounter, each patient examined who is suspected of having a reportable disease or condition. Also required to report are certain individuals employed in hospitals, laboratories, and schools. The Texas Board of Health establishes which specific diseases and conditions are "reportable" in the state based on recommendations of public health officials. Detailed rules on disease reporting and the duties of local health authorities are in Article 97, Title 25, Texas Administrative Code.

The Rules and Regulations for reporting require that all disease reports include the patient's name, age, sex, race, city of residence, physician's name, date of onset, and method of diagnosis. There are, however, three exceptions: influenza and flu-like illnesses are reported by number of cases only, chickenpox is reported by number of cases by age group, and HIV infections are reported by month and year of birth, sex, race, county of residence, and date tested. For specific diseases, additional epidemiologic data may be requested, and in outbreak situations, it maybe necessary to identify susceptible individuals and to recommend specific control measures.

Designated reporting agents in Texas include city and county health departments and health districts, state schools, state hospitals, veterans' hospitals, and military installations. Numerous public and private hospitals, physicians in private practice, and other health professionals also regularly report to the Epidemiology Division.

The Epidemiology Division has a toll-free telephone number (1-800-252-8239) to facilitate regular morbidity and outbreak reporting in Texas. This system assures the rapid transfer of data from physicians, nurses, hospitals, and laboratories to local and regional health departments who in turn forward these data to the Texas Department of Health. This telephone is located in the Infectious Diseases Program in Austin and is answered in person during regular working hours. An answering machine will record calls received after hours and on weekends. A professional staff of epidemiologists and other medical personnel is also available to answer questions concerning infectious, environmental, and occupationally acquired diseases and conditions. Suspected cases of measles, rubella, pertussis, diphtheria, and polio, are reported directly to the Immunization Division by calling 1-800-252-9152.

For those desiring to make written reports, the Epidemiology Division supplies reporting forms to local and regional health departments and other designated reporting agents. The forms are to be completed and returned to the Epidemiology Division each week, or reports can be made directly by telephone. Morbidity data are also obtained through other means such as laboratory reports, completed case investigation forms, and death certificates that have been filed with the Bureau of Vital Statistics, Texas Department of Health.

After morbidity reports are received in the Austin office, they are reviewed and processed by the Surveillance Coordinator. The data are also examined by epidemiologists to determine disease trends, fluctuations in morbidity, seasonal variations, and changes in disease distribution. Statistical summaries of these data are published monthly in Texas Preventable Disease News, a bi-weekly publication of the Bureau of Disease Control and Epidemiology, and distributed throughout the state to local and regional health departments and hospital infection control practitioners, nationally to other state epidemiologists, and upon request to other interested persons. Statistical summaries are also provided monthly to each of the Texas Department of Health regional offices.

Since 1984, the Epidemiology Division has used a microcomputer surveillance system which allows epidemiologists within the Division immediate and direct access to Texas morbidity data. This system was modified in 1989 and the Centers for Disease Control's (CDC) epidemiologic software package Epi Info was installed so that data can be analyzed and disseminated to reporting agents in a more timely and meaningful fashion. The Division also provides assistance to local and regional health departments interested in setting up their own computerized surveillance systems utilizing Epi Info.

Texas participates in CDC's National Electronic Telecommunication Surveillance System (NETSS). This system allows CDC to collect specific data on individual cases of reportable diseases throughout the United States. Using the NETSS system, morbidity data collected by the Epidemiology Division are transmitted electronically each week to the CDC and updated periodically. These data are further summarized and are published by CDC weekly in Morbidity and *Mortality* Weekly Report.

OTHER SOURCES OF DATA

Data submitted to the Epidemiology Division through the statewide morbidity reporting system are supplemented by other data collection procedures and surveillance activities of the Texas Department of Health. The Statistical Services Division, Bureau of Vital Statistics, provides mortality data on reportable diseases and conditions to the Epidemiology Division. The Bureau of Laboratories provides results of serologic and bacteriologic testing, virus isolation, and other special laboratory studies. The Bureau of Veterinary Public Health's Zoonosis Control Division reports animal rabies and other zoonotic diseases affecting man, e.g., equine arboviral infections and plague. As necessary, the Epidemiology Division also works closely with the Bureau of HIV and STD Control, the Immunization Division, the Tuberculosis Control Division, and the Occupational Safety and Health Division on matters directly related to or associated with reportable diseases and/or special investigations.

EXPLANATORY NOTES

The reporting period for the data contained in this report was calendar year 1990, January 1, 1990-December 31,1990. Frequency counts include only cases whose dates of onset occurred in 1990.

The distribution of cases among Texas counties was determined by the patient's reported county of residence. Cases were allocated to their county of residence regardless of where they became ill or were hospitalized, diagnosed, or exposed. Individuals whose official residence was outside the state of Texas but who became ill and were hospitalized or diagnosed in Texas were not included in Texas morbidity. These cases were referred through an interstate reciprocal notification system to the appropriate State Epidemiologist in the state where the patient resided. During 1990, the Epidemiology Division referred over 1,100 reportable diseases to State Epidemiologists in 28 different states.

Incidence rates measure the frequency of the occurrence of new cases of a disease within a defined population during a specified period of time. All incidence rates in this report are expressed as the number of reported cases of a disease per 100,000 population unless otherwise specified. When comparing rates for different population groups or time periods, there are limitations inherent in population projections, and there are probable variations in the degree of underreporting. Rates based on small frequencies should be interpreted with caution since sampling errors may be large.

State and county population data used in computing incidence rates were provided by the Bureau of State Health Data and Policy Analysis, Texas Department of Health. The 1990 population data are apportionment counts derived from the U.S. Bureau of Census, but the 1981-1989 data were population estimates derived from the TDH Population Data System.

The population of Texas in 1990 was estimated to be 16,986,510, the majority (54%) of whom lived in only ten counties--Bexar, Cameron, Dallas, El Paso, Harris, Hidalgo, Jefferson, Nueces, Tarrant, and Travis. The racial/ethnic distribution of the Texas population in 1990 was estimated to be 60.6% white, 25.6% Hispanic, 11.6% black, 1.8% Asian or Pacific Islander, .3% American Indian, and .1% reported as "other."

Case-fatality rates in this report are expressed as percentages. These rates measure the number of persons who died from a specific disease or cause to the total number of reported cases of that particular disease or condition, i.e., mortality/morbidity.

The Epidemiology Division has adopted the following definitions for race/ethnicity. These definitions were provided by the U.S. Department of Commerce and published in the Centers for Disease Control's *Manual of Procedures for National Morbidity & Public Health Activities.* The category which most closely reflects an individual's recognition in his community is used for purposes of reporting persons who are of mixed racial and/or ethnic origins.

White: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

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

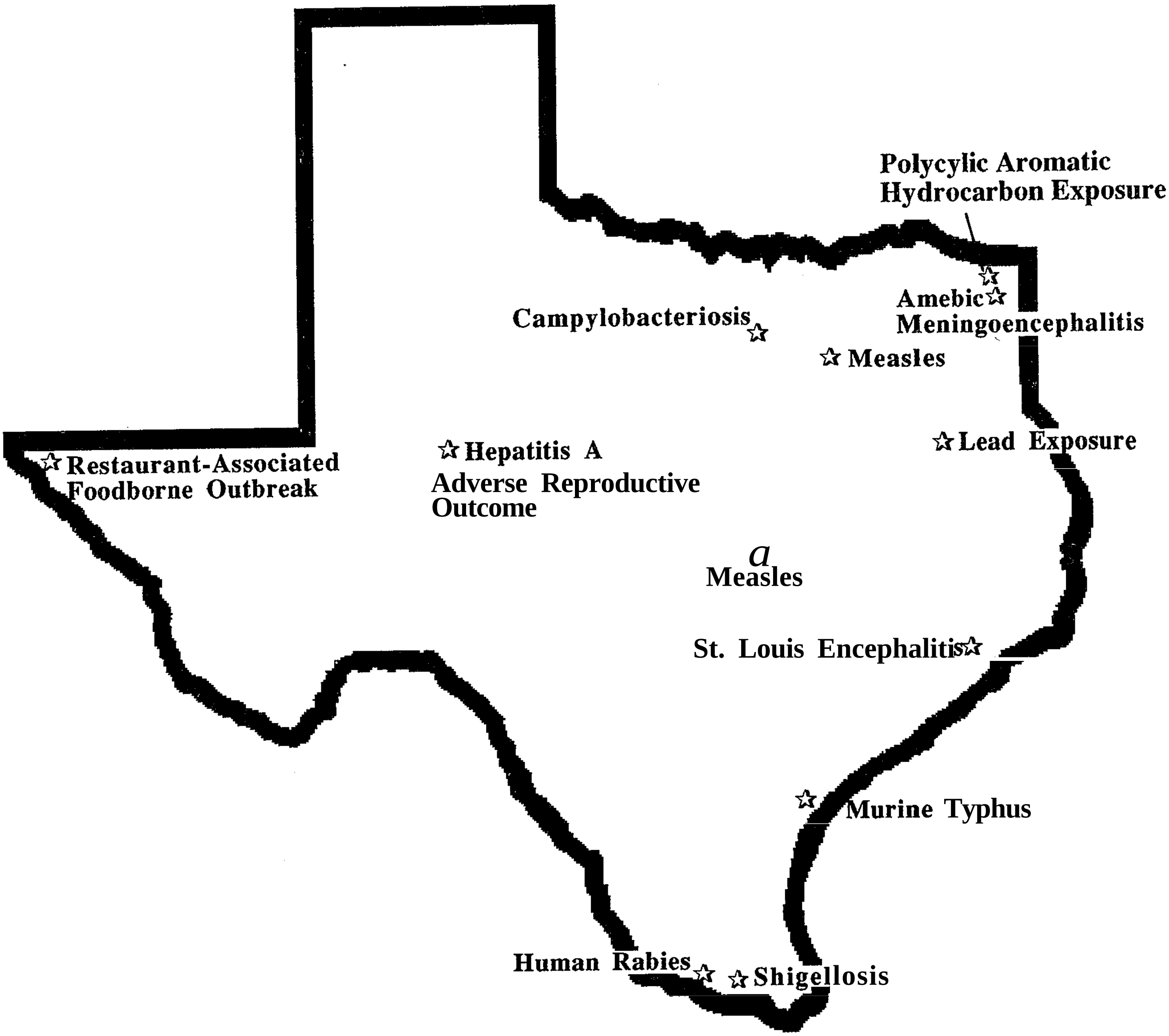
Black: A person having origins in any of the black racial groups of Africa.

Asian or Pacific Islander: A person having origins in any of the original peoples of Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, Japan, India, Korea, the Philippine Islands, and Samoa.

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

Figure 1

Selected Investigations, Outbreaks, and Surveillance Activities in Texas, 1990



SELECTED 1990 SUMMARIES

AMEBIC MENINGOENCEPHALITIS

Amebic rneningoencephalitis is caused by free-living amebae belonging to the genera *Acanthamoeba* and *Naegleria*. These amebae are found in water, soil, and decaying vegetation. Arnebae belonging to the order *Leptomyxida* may also be a cause of meningoencephalitis in humans. *Naegleria fowleri* causes an acute and fulminating infection which almost always leads to death. *Naegleria* infections occur primarily in children and young adults with a history of diving into or swimming in fresh water, especially stagnant ponds or lakes in warm climates. Naegleria organisms usually invade-the brain and meninges via the nasal mucosa and olfactory tissues.

Acanthamoeba species cause infections of the human cornea and the central nervous system. Infections of the central nervous system caused by *Acanthamoeba* species are called granulomatous amebic encephalitis and can occur in immunosuppressed and debilitated persons with no history of contact with water.

In 1990, one case of amebic rneningoencephalitis was reported in Texas. The case was a 9-year-old boy from Bowie County. On July 10,1990, the boy had onset of a fever and headache. The next day he was somnolent and experienced a grand mal seizure. *Naegleria* fowleri was identified in a cerebrospinal fluid specimen collected on July 12,1990. He died on July 16,1990. The boy's exposure history included swimming at a lake in Arkansas on July 4 and July 6,1990.

BRUCELLOSIS

The number of reported cases of brucellosis in Texas declined to only 18 in 1990, 22% fewer than were reported in 1989, and the lowest number reported statewide since 1986. During the 1980s, Texas reported an average of 37 cases each year, twice the number reported in 1990. The 371 cases reported in Texas 1980-89 represented 26% of the 1,451 cases reported nationally.

In recent years, brucellosis in Texas has occurred primarily among Hispanics, both sexes, and all age groups. Most cases were exposed to the disease through the consumption of unpasteurized dairy products, almost exclusively cheese made in Mexico from the milk of infected goats. The cases reported in 1990 continued that trend. Seventeen of the cases (94%) were Hispanic, ranging in age from 4-79 years; median age for Hispanic cases was 29 years. Nine (53%) of these cases reported that they had eaten Mexican cheese prior to becoming ill; five (29%) had no specific exposure reported yet were confirmed as having B. *melitensis* infections, the *Brucella* species associated with unpasteurized Mexican goat cheese. The remaining three Hispanic cases were female. These included a 20-year-old frorn Webb County who denied any animal contact or that she had consumed any unpasteurized dairy product; a 79-year-old Hidalgo County resident who died prior to lab confirmation of brucellosis; and a 27-year-old Hidalgo County resident who may have been exposed to brucellosis in a hospital laboratory.

The possible lab-associated case was a microbiologist who worked with clinical specimens and cultures. She had worked at two different Hidalgo County hospitals in 1990, and both hospitals had culture-confirmed cases of brucellosis that year; one case was *confirmed* as B. melitensis in February and one case (also B. melitensis) in June. The possible laboratory-acquired case became ill in August, but the blood culture from which B. *melitensis* was identified was not collected until mid-December. She strongly denied having eaten goat cheese and had no contact with goats.

The role brucellosis may have had in the fatal case is unknown. The patient was a 79 year old resident of Hidalgo County who had been confined to bed for an unspecified period of time. The cause of death was listed as cardiac arrest due to pulmonary embolism. She died in a local hospital six days after the specimen was collected and five days before the positive serology result (1:320) was reported. No exposure history was available.

Ten cases (56%) were female, ranging in age from 13-79 years; median age was 27 years. One woman was pregnant when she was diagnosed with brucellosis. She was a 25-year-old, Hispanic, resident of Travis County, who was identified as a case following a spontaneous abortion at approximately 16 weeks gestation. B. *melitensis* was identified in a blood culture from this patient. She reported that she had eaten goat cheese purchased by her mother prior to the spontaneous abortion.

The one non-Hispanic case was a 64-year-old white male, a cattle rancher from Wheeler County. Some of the animals in his herd were infected with brucellosis, and he assisted aborting cows. His diagnosis was confirmed when B. abortus was identified in a blood culture.

CAMPYLOBACTERIOSIS

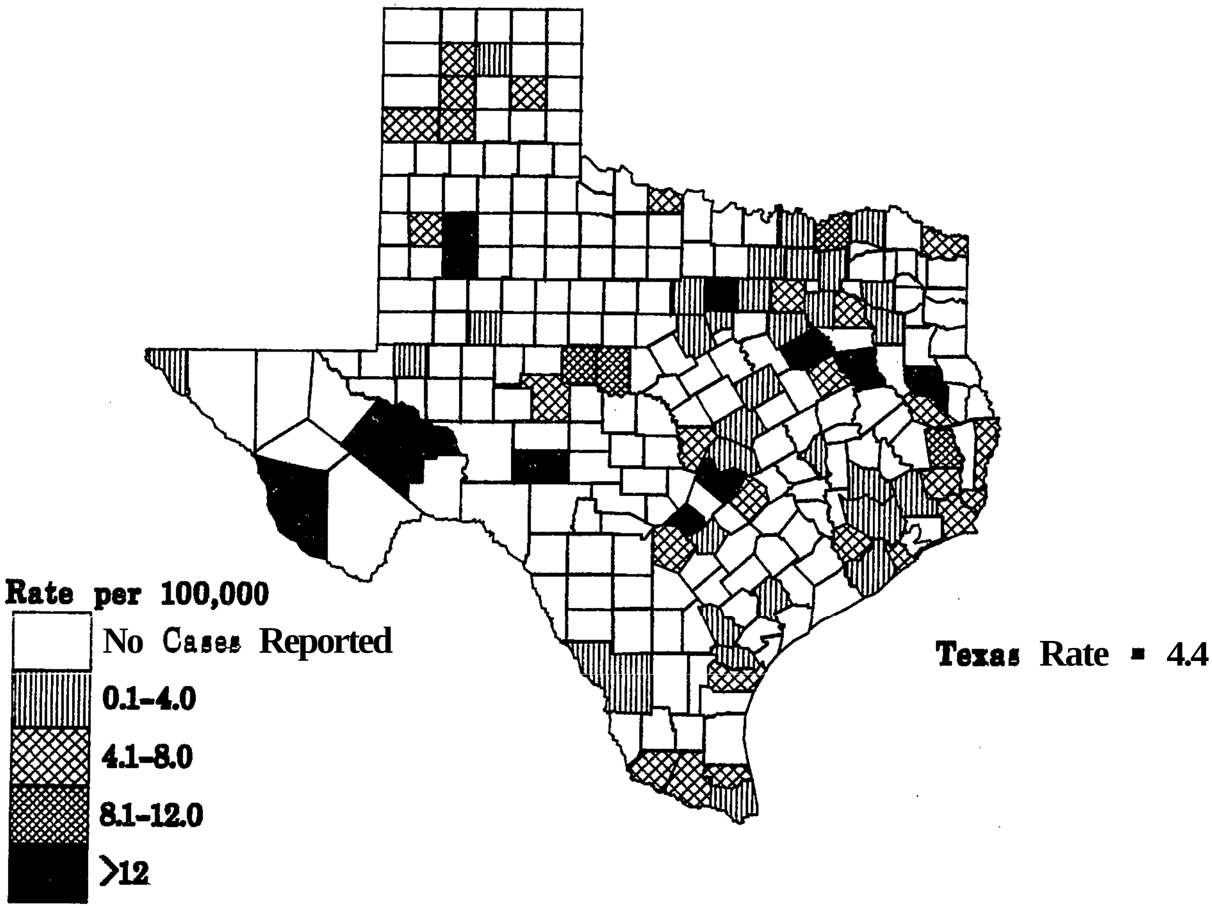
There were 739 cases of campylobacteriosis reported throughout Texas in 1990 resulting in a statewide incidence rate of 4.2 cases per 100,000 population. The incidence rates in individuals counties throughout Texas are illustrated in Figure 2. Several age groups, especially children, had rates that exceeded the state rate. Infants under one year of age experienced campylobacteriosis at a rate of 20.4 cases per 100,000 population; the rate for children 1-4 years of age was 9.6, and for children 5-9 years of age, the rate was 6.4. The numbers of cases and corresponding incidence rates by age group are presented in Tables 4 and 5 in the Appendix.

Only one outbreak of campylobacteriosis was reported to the Infectious Diseases Program during 1990. A total of 94 kindergarten and pre-kindergarten students from Parker County visited a dairy where they toured the facilities and drank raw milk from the storage tanks. Forty-four students became ill with symptoms that included nausea, vomiting, diarrhea, fever, stomach cramping, and headaches. **A** sample of the raw milk was obtained and was culture positive for *Campylobacter* species. One child was hospitalized and had a stool culture positive for Campylobacterjejuni.

Reported onsets of symptoms of campylobacteriosis peaked May through September when 62% of all the cases were reported. In contrast, only 10% of cases reported had onset in January, February, or December. There were no reported deaths due to campylobacteriosis in Texas during 1990.

Figure 2

Reported Cases of Campylobacteriosis per 100,000 Population by County of Residence, Texas, 1990



HAEMOPHILUS INFLUENZAE INFECTIONS

Haemophilus influenzae type b is the leading cause of invasive bacterial disease among children in the United States. Although meningitis accounts for an estimated 60% of the infections, the organism can also cause bacteremia, cellulitis, epiglottitis, septic arthritis, osteomyelitis, and pneumonia. Cases are usually confirmed by isolating the organism from cerebrospinal fluid (CSF) or blood; pneumonia should be confirmed by isolating the organism from pleural fluid or lung tissue.

In 1985, the first vaccine to prevent invasive disease caused by H. *influenzae* type b (Hib) was licensed for use in the United States, and the Advisory Committee on Immunization Practices (ACIP) recommended that children at high risk of acquiring an invasive H. *influenzae* infection be vaccinated at 18 months of age. Subsequently, the rules and regulations for the control of communicable diseases were amended, and in September 1986, invasive *H. influenzae* infections became reportable in Texas. Prior to this action, only meningitis caused by H. *influenzae* was required to be reported (as bacterial meningitis) to the Texas Department of Health. By 1990, there were three Hib vaccines licensed for use in the United States; two of these vaccines are approved for routine use in infants as young as two months of age.

Texas experienced a 22% decrease in the number of reported H. *influenzae* infections in Texas in 1990; 797 cases were reported in 1989 compared to only 625 in 1990. Only 3% of the cases died in 1990. Thirty-eight percent (8/21) of those who died were infants and young children under two years of age, 33% (7) were adults 60 years of age or older. The clinical presentation of illness of those who died were meningitis (8), pneumonia (8), septicemia (1), and pericarditis (1).

The reporting of *H. influenzae* infections has changed significantly in Texas in the past five years. In 1986, children under five years of age accounted for 81% of the total cases reported, yet in 1990 they represented only 52% of the total cases. Adults 60 years of age and older represented only 9% of the cases in 1986, but this age group accounted for 25% of the cases in 1990. Furthermore, pneumonia accounted for only 13% of the reported cases in 1986, but in 1490, the percentage of *H.* influenzae pneumonia reports climbed to 46% in 1990. The reasons for the change in reporting trends are not completely clear. It is hoped, that the decrease in cases among children reflects the effectiveness and widespread use of the Hib vaccines.

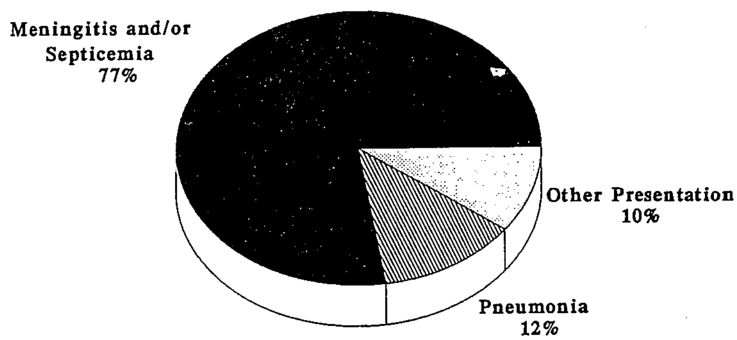
In addition to the cases of pneumonia, the distribution of 1990 *H. influenzae* infections also included meningitis, 35%; septicemia, 13%; cellulitis, 3%; epiglottitis, 1.6%; septic arthritis, 0.8%; and pericarditis, 0.5%. The three pericarditis cases were children, five months, two, and three years of age; two of these children died. The death of the five-month-old child was officially ruled as sudden infant death syndrome; the autopsy report, however, revealed that H. influenzae was identified in the child's pericardial fluid. The cause of death for the two-year-old child was listed as acute suppurative pericarditis due to H. *influenzae* type b, and the organism was isolated in the child's blood.

The clinical presentation of H. *influenzae* infections in adults is quite different than in children. Adults are usually infected with non-typeable strains of the organism and develop pneumonia, whereas infants and children experience meningitis caused specifically by H. *influenzae* type b (Hib). **As** proof of this, 77% of the cases who were five years of age or younger had meningitis and/or septicemia, 12% had pneumonia, and 11% had some other presentation (see Figure **3).** Of the adults 20 years of age and older, 89% had pneumonia, and 11% had meningitis and/or septicemia.

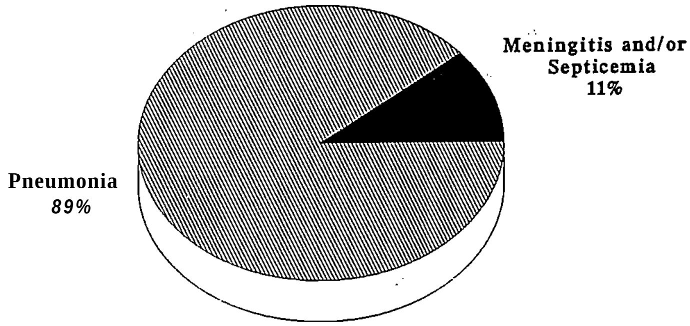
Late in 1990, the Infectious Diseases Program (IDP) evaluated the procedures and criteria for reporting *H. influenzae* infections. It was discovered that a very high percentage of *H. influenzae* pneumonia cases were being reported based on the isolation of *H. influenzae* from sputum, but this is a common finding among adults with chronic bronchitis or other lung disease and should not be used to confirm the diagnosis of *H. influenzae* pneumonia. Therefore, beginning in 1991, the IDP will ask that all cases of *H. influenzae* pneumonia be confirmed by isolating the organism in blood, pleural fluid, or lung tissue.

Figure 3

Clinical Presentations of H. *influenzae* Infections in Texas
Comparisons by Age Groups, 1990



Children < 6 Years of Age

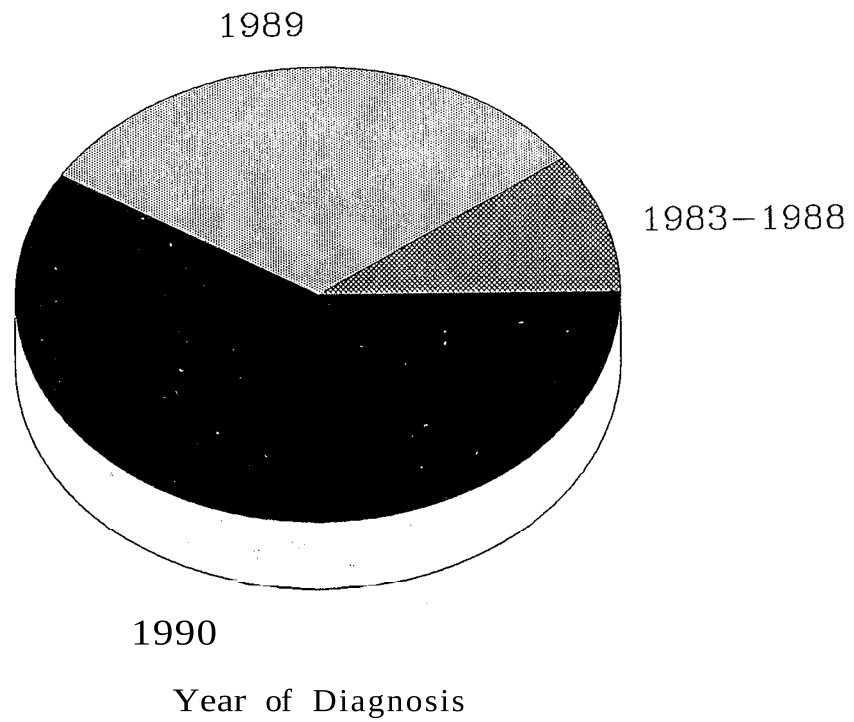


Adults > 19 Years of Age

Acquired immunodeficiency syndrome (AIDS) is a specific group of diseases or conditions indicative of severe immunosuppression related to infection with the human immunodeficiency virus (HIV). Unlike many of the other reportable diseases discussed in this report, the clinical manifestations of HIV do not usually develop until years after infection. The average time between infection with HIV and a diagnosis of AIDS is approximately ten years. This lengthy period limits the use of statistics based on reported AIDS cases. Such cases do not reflect new HIV infections that are, as yet, clinically silent. Furthermore, there is usually some delay between the time the diagnosis of AIDS is made and when that case is reported to public health officials; this occurs more frequently with AIDS than with other diseases. Basing AIDS statistics on the year of report can lead to mistaken conclusions about disease prevalence and incidence. In 1990, for example, the Texas Department of Health received 3,269 case reports of AIDS on Texas residents, making AIDS a condition as common as shigellosis and more common than hepatitis **A.** This resulted in an incidence rate of 19.2 cases per 100,000 population. **As** illustrated in Figure 4, only 59% of the cases were diagnosed in 1990; 31% were diagnosed in 1989, and the remaining 10% were diagnosed in 1983-1988. Reporting delays often result from a combination of factors including inherent delays in making the diagnosis, reliance on passive reporting, and, perhaps, the fear that patients will be discriminated against or may lose their insurance benefits if the case is reported. Reporting delays may also be increased by a lack of awareness that timely reporting of AIDS cases is both important and required by law.

Figure 4

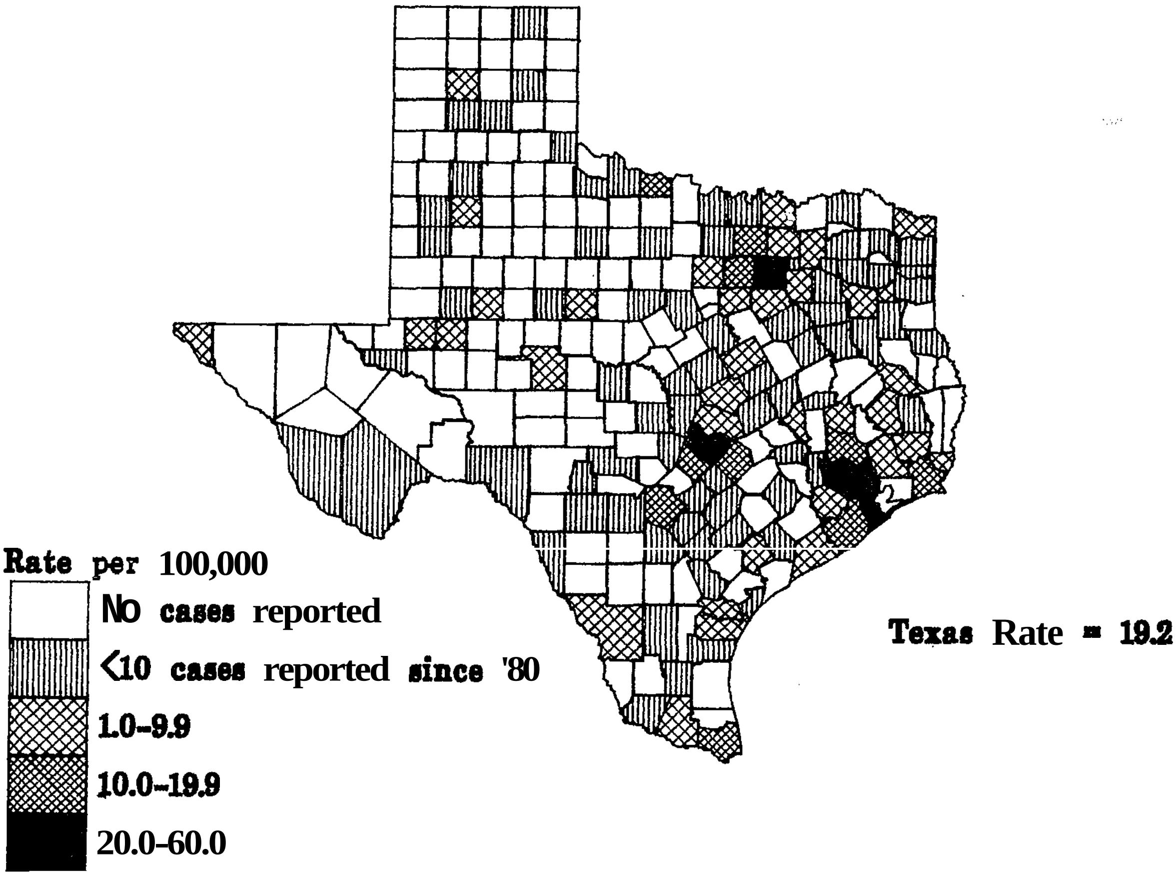
AIDS Cases Reported in Texas in **1990**
by Year of Diagnosis



The number of **AIDS** case reports has steadily increased since the early 1980s. In 1990, there was a 25% increase in reported cases over that reported in 1989. **A** total of 126 Texas counties reported cases in 1990. Dallas and Harris counties combined accounted for 61% of the cases, reporting 679 and 1,310 cases, respectively. Bexar, Tarrant, and Travis counties each reported more than 200 cases and together accounted for an additional 19% of the cases. It is also interesting to note that 62% of the counties reporting cases in 1990 were classified as rural counties according to the **U.S.** Census Bureau. Texas ranks fourth in the United States in the number of reported cases and would rank eighth in the nation even if the Dallas and Harris county cases were excluded. Figure 5 illustrates the incidence of **AIDS** by county in Texas.

Figure 5

Reported AIDS Cases per 100,000 Population by County of Residence, Texas, 1990

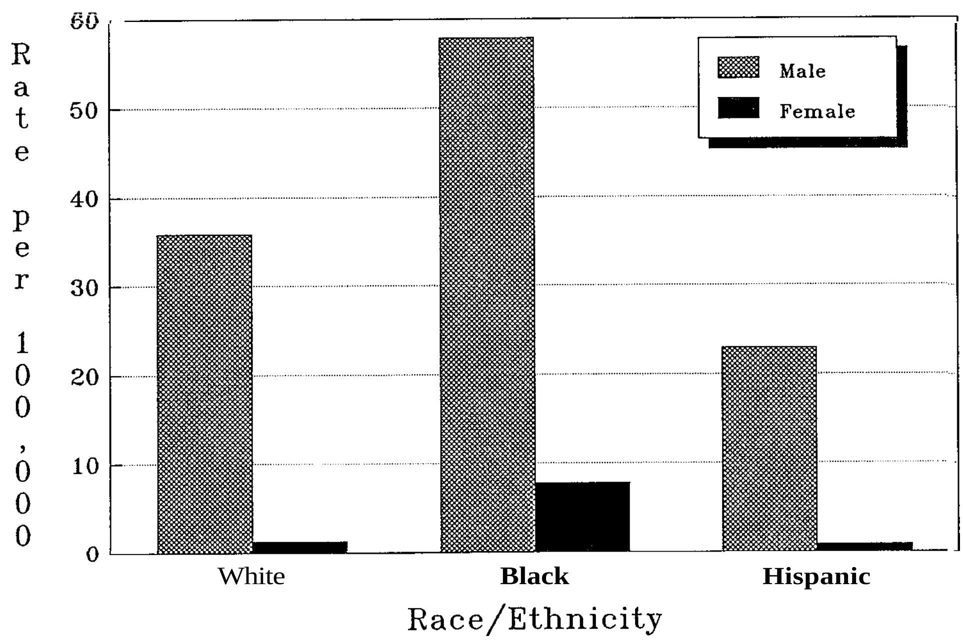


AIDS is still reported primarily among men 20-50years of age. Ninety-four percent of the AIDS cases reported in 1990 were men; 5% of the cases were women, and 1% were children. Considering that the average interval between infection and diagnosis is ten years, it is likely that 50% of the cases reported in 1990 were infected prior to 1980. Current AIDS cases do not necessarily reflect the population more recently infected with HIV who are at high risk of developing AIDS in the next 10-15 years.

AIDS is undoubtedly still regarded by many as a condition primarily affecting whites. Although most (65%) of the cases reported in 1990 were white, this demographic aspect is changing rapidly. Between 1988 and 1990, morbidity among whites increased 47%, whereas blacks experienced a 111% increase and Hispanics a 72% increase. This follows a nationwide trend that began before 1990. Twenty percent of the Texas cases in 1990 were black, and 15% were Hispanic. The incidence rate of AIDS among blacks was dramatically higher in 1990 than among whites or Hispanics; this was true both for males and females as illustrated in Figure 6. The increased incidence rate of AIDS among blacks in 1990 clearly reinforced the impression that AIDS/HIV is a significant problem among blacks in Texas.

Figure 6

Incidence of AIDS by Race/Ethnicity and Sex per 100,000 Population, Texas, 1990

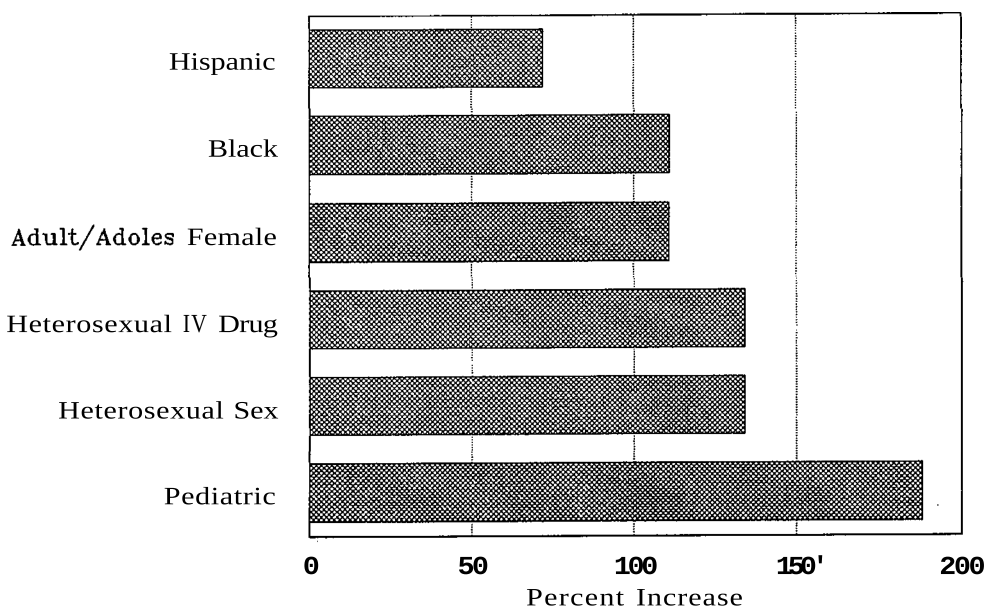


Between 1988 and 1990, there were also changes in the distribution of AIDS cases by risk factor. Although the number of adolescents and adults exposed to HIV through male-to-male sex has decreased, accounting for 76% of the cases in 1988 and 70% of the cases in 1990, transmission of infection through IV drug use and through heterosexual sex has increased during this same period. Exposure to HIV from transfusions of blood and blood products used to control hemophilia also decreased slightly. Since many children who were under 13 years of age in 1990 were born after routine testing of the blood supply began in 1985, pediatric AIDS cases resulting from transfusions are also expected to decline. Among pediatric AIDS cases, exposure from transfusions decreased 29% between 1988 and 1990, but this decline is based on small numbers, seven cases in 1988 and five cases in 1990.

It is important to note that although these changes are important to the overall composition of reported AIDS cases they do not indicate where the greatest change in the profile is occurring. As illustrated in Figure 7, the number of AIDS cases attributed to heterosexual exposure more than doubled between 1988 and 1990, as did the number of cases exposed through IV drug use and among adult and adolescent women. During the same period, pediatric AIDS cases almost tripled; 16 cases were reported in 1988 compared to 46 cases in 1990. Overall, the number of AIDS cases in Texas increased from 2,039 cases reported in 1988 to 3,269 reported in 1990. This represented a 60% increase in two years and suggests that AIDS will continue to exact a rising toll throughout the 1990s.

Figure 7

Increase in AIDS Cases in Texas from 1988 to 1990
by Reporting Category



HUMAN RABIES

The first case of human rabies reported in Texas since 1985 occurred in Hidalgo County in June 1990. The victim was a 22-year-old Hispanic male who was bitten on the finger by a bat on April 13 while removing the bat from a storage closet in a local tavern. The man was employed as a phlebotomist for a blood bank, and even though his family and friends urged him to seek medical care, he did not.

On May 30, the man began to experience weakness in his right hand. The following day, he complained of numbness and dysesthesias involving his entire right arm. On June 2, he left work early after he began exhibiting several 10- to 15-second episodes of staring and unresponsiveness. He visited a physician in Mexico and was prescribed an unknown medication. Later that evening, he reported to a local hospital emergency room (ER) complaining of pain in his hand. Because he gave a history of having injured his hand on a catfish scale a week earlier, he was treated with ceftriaxone and tetanus toxoid and released.

On the afternoon of June 3, he returned to the ER complaining of "convulsions" and was observed to be hyperventilating. He was released when he began to feel better. Later that afternoon, however, he began to experience hallucinations of spiders on his abdomen and had intermittent episodes of rigidity and breath holding. He became sensitive to air currents and insisted that his family close the windows and turn off the fans. He began having trouble swallowing and refused liquids, declining even water to wash down pills. That evening, he was taken to another hospital where he was admitted with a diagnosis of encephalitis vs. tetanus and placed in intensive care. On admission, he was hyperventilating and had a temperature of 100.1°F. He was lucid, but had repetitive facial spasms that caused a stuttering speech pattern. By his second hospital day, he was unable to control his copious oral secretions and was intubated. His temperature rose to 107°F, and he became profusely diaphoretic. He became comatose and died the following day.

On the second day of hospitalization, after the history of the bat bite was revealed to hospital personnel, rabies was suspected. CSF and serum samples submitted to the the Centers for Disease Control were negative for rabies antibody, and a skin biopsy taken from the nape of this neck was also negative. Postmortem, however, the brain was found to be strongly positive for rabies. Monoclonal antibody typing proved the rabies to be the Mexican free-tailed bat strain.

Investigation of this case revealed that the patient's work habits and activities posed no risk to donors in the blood bank in which he was employed. The victim had, however, donated blood eight days before his symptoms began. Although most of his blood products were retrieved and destroyed, the platelets had been transfused before he became ill. Even though rabies virus has not been isolated from blood, and the patient probably was not infectious when he donated the blood, the platelet recipient was given rabies immunoprophylaxis. In all, 67 persons received rabies prophylaxis.

INFANT BOTULISM

Infant botulism is an illness caused by the production of botulinal toxin in an infant's intestinal tract. It differs from the classic foodborne botulism; foodborne botulism results from ingestion of preformed toxin produced by *Clostridium botulinum.* The first symptom of infant botulism is usually constipation. Infants generally appear lethargic and listless and exhibit poor feeding because of diminished suck reflexes. Their cries also become weak and feeble. When muscle weakness becomes generalized, babies appear "floppy" with loss of head and extremities control.

Clostridium botulinum produces one of seven serologically distinct toxins designated by the letters **A** - G. Type **A** and type B organisms are responsible for over **90%** of the infant botulism cases reported in the United States. Spores of *C. botulinum* are widespread in soil and dust throughout the world. In the United States, type A is generally found in areas west of the Rocky Mountains, whereas type B organisms are more generally distributed throughout the United States.

Seven cases of infant botulism were reported in Texas in **1990.** The infants ranged in age from **1-9** weeks. Four of the infants were girls. Three were white, three were Hispanic, and one was black. Two infants resided in El Paso County, and one infant each resided in Bowie, Ector, Harrison, Medina, and Smith counties. Six of the infants were delivered vaginally. The infants' birth weights ranged from **5** pounds, 8 ounces to 8 pounds, **13** ounces. All seven infants had been fed infant formula, although three were primarily breast fed prior to onset of their illnesses.

Two infants became ill in January; the other cases occurred in February, April, May, September, and October. All of the infants were described as floppy having poor control of their heads and extremities. Four infants had ptosis. Six infants experienced respiratory difficulty and were placed on ventilators. All recovered from their illnesses following hospital stays which ranged from **29-52** days.

Four infants had illness caused by *C. botulinum* type B. The other infants had illness caused by *C. botulinum* type *A*. The diagnosis for each infant was confirmed by identification of *C. botulinum* in stool specimens.

Food histories indicated that none of the infants had consumed honey before onset of illness. One infant had consumed corn syrup before onset of illness, and another infant had consumed tea prepared from dried prunes.

Although several suspect cases were investigated, no cases of foodborne botulism were confirmed in Texas in **1990.**

INFLUENZA AND FLU-LIKE ILLNESS

The reporting category of "influenza and flu-like illness" was established for purposes of recording cases of influenza, as well as upper respiratory illnesses with clinical syndromes that resemble "flu." Infections actually caused by influenza virus most likely account for the majority of morbidity in this category, but the category probably includes infections caused by parainfluenza viruses, respiratory syncytial virus, rhinoviruses, Mycoplasma, and several species of bacteria. Cases are recorded by numerical totals only.

Although there are three types of influenza virus--A, B, and C--widespread seasonal morbidity is attributed to infections caused by types A and B. Because influenza C infections are usually subclinical, they are difficult to monitor. Influenza viruses are noted for their antigenic variations over time, and it is this phenomenon that permits the viruses to respond to the selective pressure exerted by rising levels of immunity in a given population. It is the basis for continued circulation of influenza virus resulting in regional and local outbreaks of flu every winter and early spring.

There were 314,372 cases of influenza and flu-like illness reported in Texas in 1990. This total represents a 134% increase over 1989 flu-like morbidity. Several factors, including a change in reporting procedures, contributed to this enormous increase. Since medical epidemiologists at the Influenza Research Center in Houston estimate that for each influenza virus isolated 500 people in the community actually have influenza, and the Centers for Disease Control estimate that up to 10% of the population develop influenza every flu season, influenza reporting from the Houston area was based on the number of influenza virus isolates each week. Consequently, Houston accounted for 71% of the influenza cases reported in Texas in 1990. Influenza is vastly underreported; therefore, this mechanism for reporting cases was presumed to more closely approximate actual influenza morbidity in Houston. Figure 8 shows the geographic distribution of influenza incidence in individual counties throughout Texas; it is important to note that counties left blank probably reflect the lack of reporting rather than the true absence of influenza activity.

Influenza season in Texas usually begins late in the fall and continues on into early spring, extending from November through April. Since one flu season encompasses two calendar years, beginning in one and ending in another, Figure 9 illustrates the number of reported cases by month for 1989 and 1990. The 1990-91 flu season began relatively early, in October.

The elderly and individuals with underlying, chronic medical conditions such as cardiopulmonary disorders are at greatest risk of dying from complications of influenza. The latter half of the 1989-90 flu season was noted for its high levels of influenza-related mortality nationwide. During January 1990, the percentage of deaths attributed to influenza nationwide exceeded the epidemic threshold level of 7%. Influenza mortality peaked early in February and remained at high levels throughout during the month. Mortality was highest among the elderly during the 1989-90 flu season; this was consistent with mortality trends during previous influenza A (H3N2) seasons.

Figure 8

Reported Cases of Flu and Flu-like Illness per 100,000 Population, by County of Residence, Texas, 1990

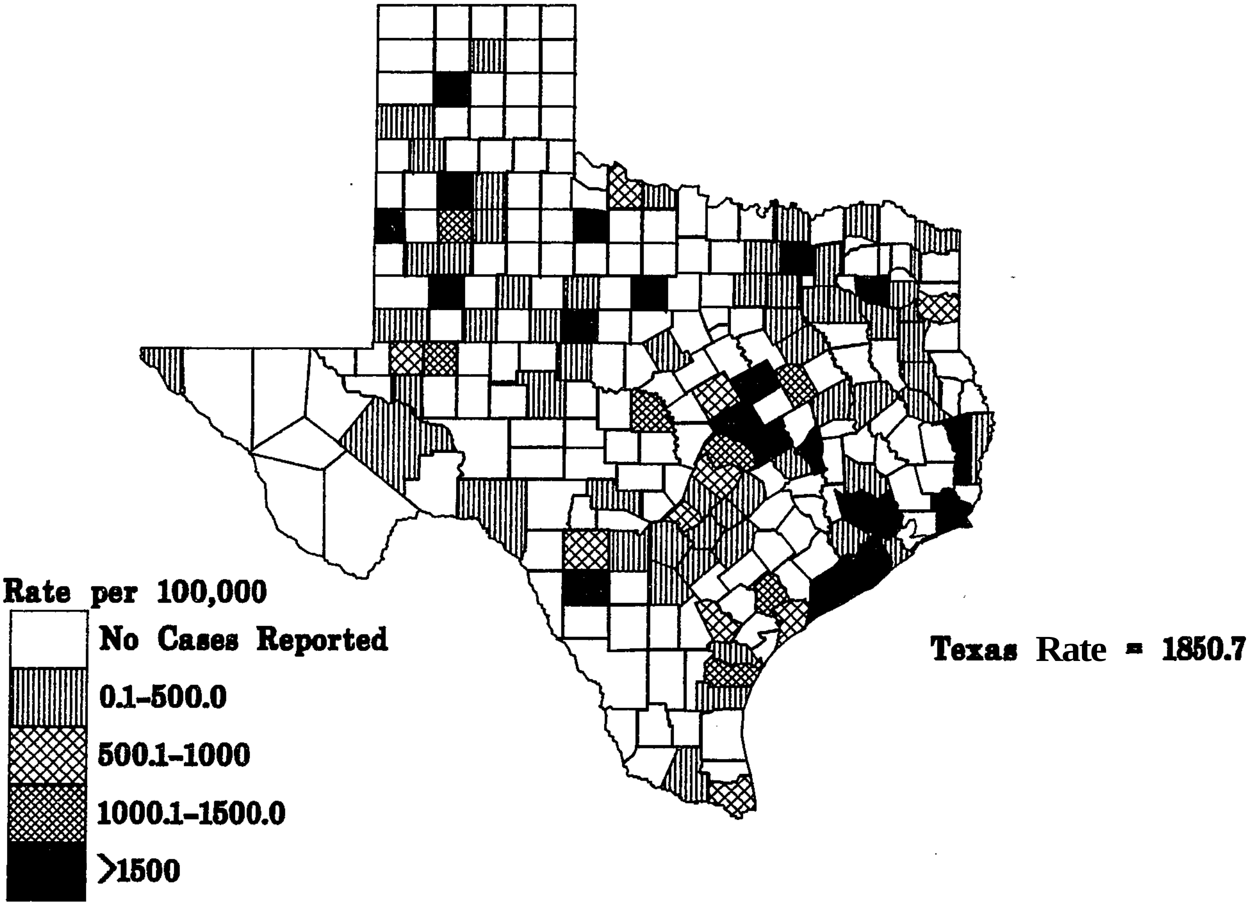
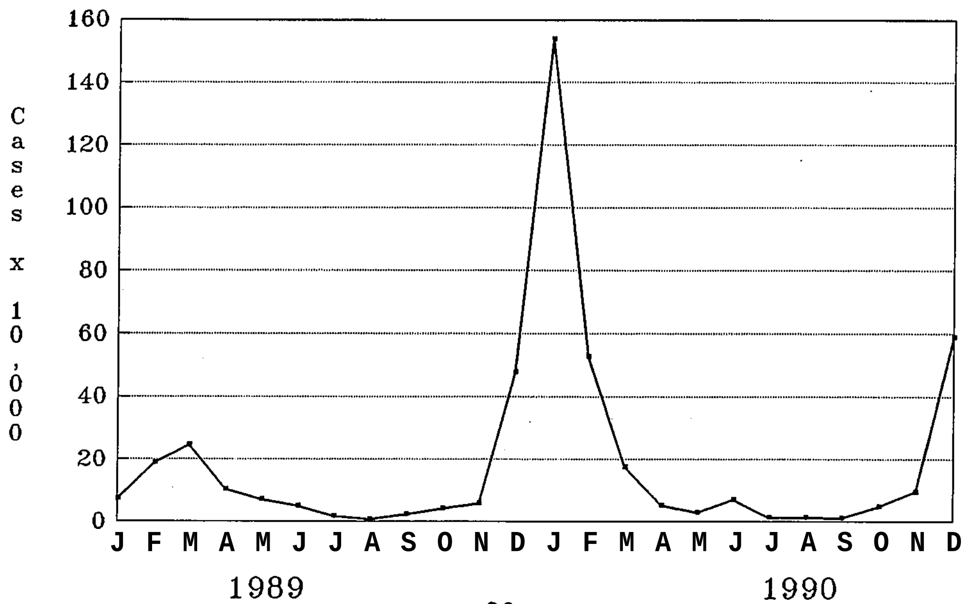


Figure 9

Reported Cases of Flu and Flu-like Illness by Month of Report, 1989-1990



Influenza Virus Surveillance

During the six-month period extending from November through April, the Texas Department of Health (TDH) conducts an influenza virus surveillance program. Laboratory materials and support are provided to local health departments upon request in an effort to provide regional information for local physicians during periods of intense "flu-like" activity. In the Austin area, influenza activity is monitored on a weekly basis from start of the "flu season" to finish.

Surveillance sites for the 1990-91 flu season included Austin, Dallas, Corpus Christi, El Paso, Sherman, Lubbock, Tyler, Odessa, and Laredo. It is important to collect laboratory data from different areas of the state in order to detect regional differences in influenza activity. Throat swabs were collected from patients who had upper respiratory illnesses of suspect viral etiology characterized by fever, cough, coryza, fatigue, myalgia, malaise, chills, and sore throat. Virus isolation on specimens submitted to the TDH was performed by the Medical Virology Section, Bureau of Laboratories. Data from Houston were provided by the Influenza Research Center at the Baylor College of Medicine.

As previously mentioned, flu seasons begin in one year and end in another, therefore, this summary must mention the latter part of the 1989-90 flu season, as well as the beginning of the 1990-91 season. During the surveillance period, 268 specimens were received from the surveillance sites and independent sources. Of these, 40% were positive for influenza virus. Although evidence of flu-like illness continued through March, the recovery of isolates ended abruptly in mid-February. Figure 10 shows the weekly distribution of specimens received by the TDH and the positive virus isolates recovered from these specimens. The predominant virus in Texas during the first quarter of 1990 was influenza A/Shanghai/11/87 (H3N2). Sporadic isolates of influenza A/Taiwan/1/86 (H1N1) and influenza B were also recovered in this period.

Figure 10

Weekly Distribution of Specimens
Submitted to TDH, Austin, for Influenza

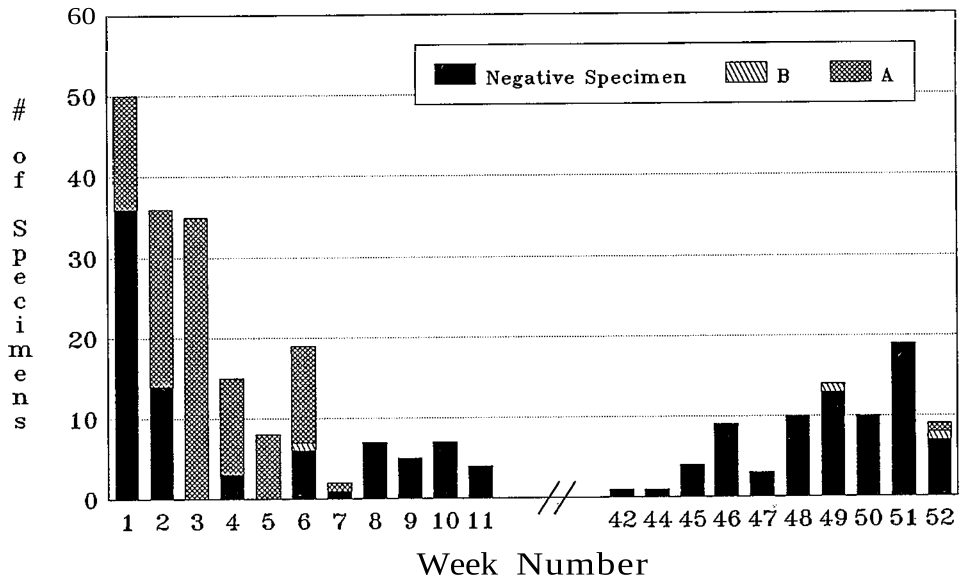
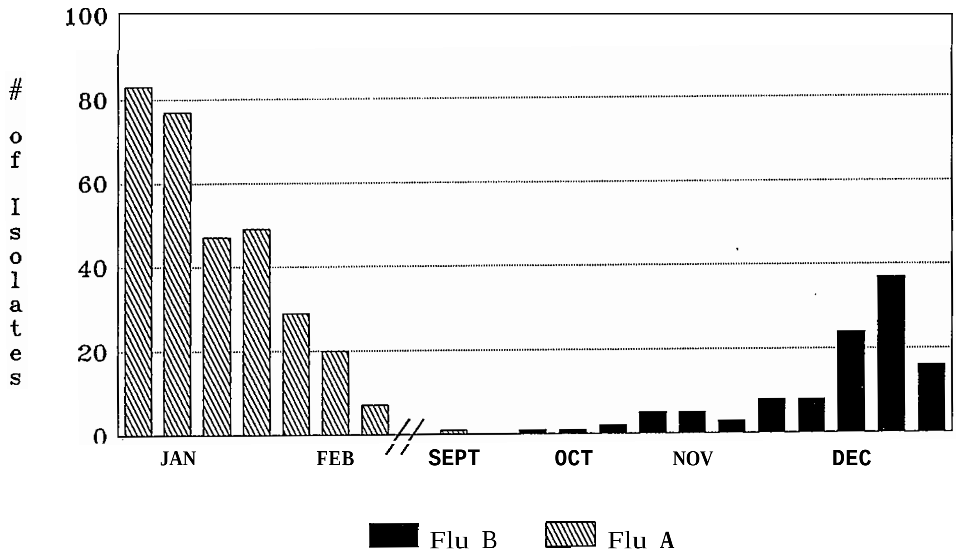


Figure 11 illustrates the number of influenza isolates by week from the Houston area only. In the first quarter of 1990, all the isolates from Houston were identified as influenza A (H3N2). The 1989-90 flu season in Houston ended as abruptly as it did elsewhere in the state.

Figure 11

Weekly Distribution of Specimens Submitted from Houston for Influenza Testing, 1990

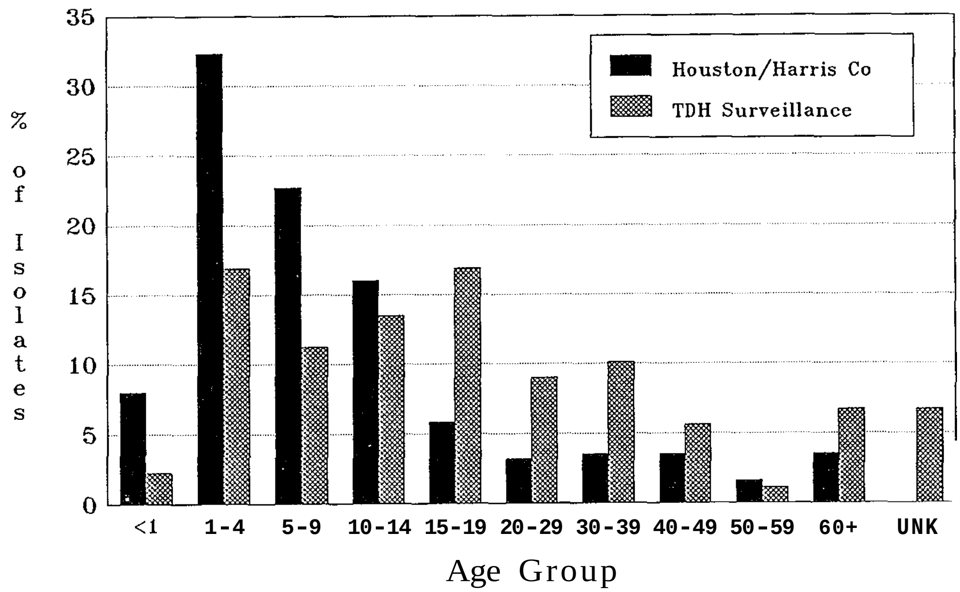


Differences in influenza activity around the state were noted early in the 1990-91 flu season. Even though influenza viruses were isolated in Houston as early as mid-October, all but three specimens from the Austin area were negative despite evidence of upper respiratory illness in the community. The predominant virus circulating in Houston was influenza B/Yamagata/16/88, a strain that was included in last year's influenza vaccine. Influenza A viruses were isolated sporadically; two of three A isolates were typed as H1N1, Taiwan-like.

Figure 12 illustrates the age distribution of patients from whom influenza A (H3N2) was isolated. In the Houston area, the majority (79%) were recovered from children under 15 years of age. The isolates from Austin, however, were more evenly distributed among age groups. Figure 13 illustrates the age distribution of patients in the Houston area from whom influenza B was isolated during the first half of the 1990-91 season. All but one of the patients from whom influenza B was isolated were under 20 years of age. Because children are in frequent contact with large groups of people in settings outside the home, they are important in the community-wide transmission of influenza. The age distribution of influenza B, however, strongly suggests that an antigenically similar, if not identical, strain of influenza B was in circulation 15-20 years ago. The population at that time, especially adults, was most likely exposed to influenza B and developed some level of immunity. This phenomenon is due to the ability of influenza virus to change the antigenic nature of key surface proteins (the hemagglutinin and neuraminidase

Figure **12**

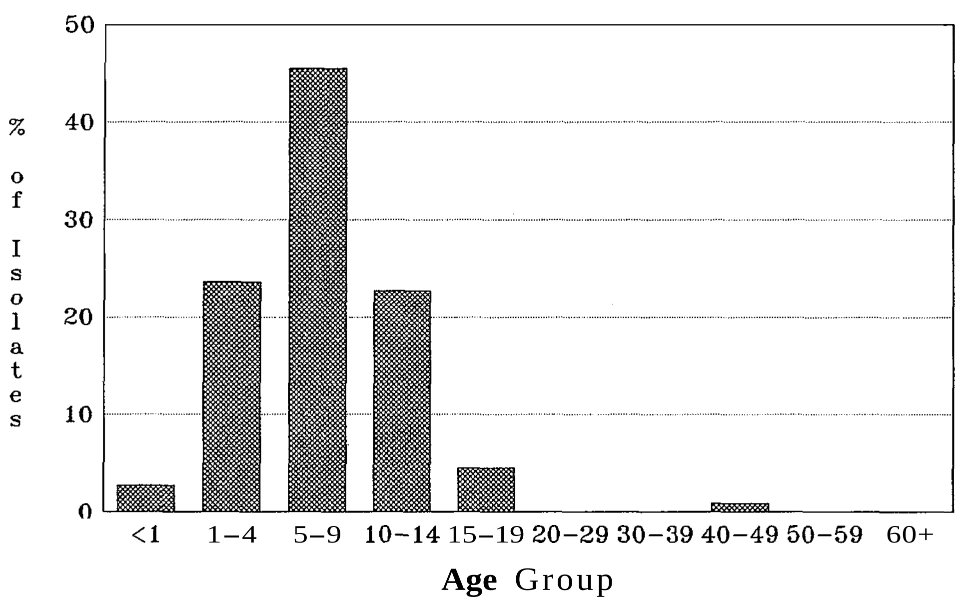
Age Distribution of Patients with Influenza A
Texas, **1990**



proteins) in response to rising immunity levels within a population. This relatively rapid response to selective pressure is facilitated by the segmented RNA genome of the virus, with new strains arising from a reassortment of the RNA segments when multiple viruses infect a host. Small changes (antigenic drifts) may occur during a flu season or between seasons. Major changes in the proteins' amino acid sequences (antigenic shifts) arise periodically and are important for the successful spread of influenza viruses worldwide.

Figure **13**

Age Distribution of Influenza B
Houston Only, **1990**



LEGIONELLOSIS

Twenty-five cases of legionellosis were reported in Texas in 1990, one half the number reported in 1989. Serotypes of the organisms were reported for eight cases; 9 were *L.* pneumophila, 1 was L. *gormanii,* and 1 was L. bozemanii. All but one case was reported as Legionnaires' disease; one was reported as Pontiac fever.

The cases ranged in age from 9-91 years; median age was 53 years. Fifty-two percent of the cases were male. The distribution of cases by race/ethnicity was 72% white, 12% black, and 12% Hispanic. Fifteen of the 25 cases (60%) reported an underlying medical condition, were smokers, or both. Four patients, ranging in age from 61-91 years, died from legionellosis in Texas in 1990.

Thirteen additional suspect cases of legionellosis were investigated. Nine of the patients had a clinical history of pneumonia diagnosed by X-ray but had only single serologic titers $\geq$ 256. One of the 13 patients had a positive sputum culture for L. pneumophila, but no compatible clinical history was available. The remaining three cases were consistent with Pontiac fever but only had a single serologic titer $\geq$256.

LISTERIOSIS

Listeriosis is a bacterial disease that occurs more commonly among neonates, pregnant women, the elderly, and the immunocompromised. Infections can range from a mild, febrile illness with flu-like symptoms to acute meningoencephalitis and/or septicemia. An asymptomatic pregnant women can transfer infection to the fetus, and the infant can be stillborn, born with septicemia, or develop meningitis during the neonatal period.

During 1990, 32 cases of listeriosis were reported in Texas, a 20% decrease from the 40 cases reported in 1989. The patients resided in the following counties: Harris (8 cases), Dallas (4), Bexar (3), Travis (3), Tarrant (2), and El Paso (2); Brazos, Burnet, Comal, Gregg, Nueces, Lubbock, Sterling, Tom Green, Van Zandt, and Williamson Counties reported one case each.

The cases ranged in age from infants under one month to 90 years with a median age of 53. Three (9%) of the cases were infants less than one month of age, and 15 (47%) were 60 years of age or older. The majority (56%) of cases were female. Race was known for 30 of the reported cases. Eighteen cases (60%) were white, 7 (23%) were Hispanic, and 5 (17%) were black. Eight of the cases died resulting in a case-fatality rate of 25%. The deaths ranged from 47-86 years of age. Six of the eight patients who died were female.

LYME BORRELIOSIS

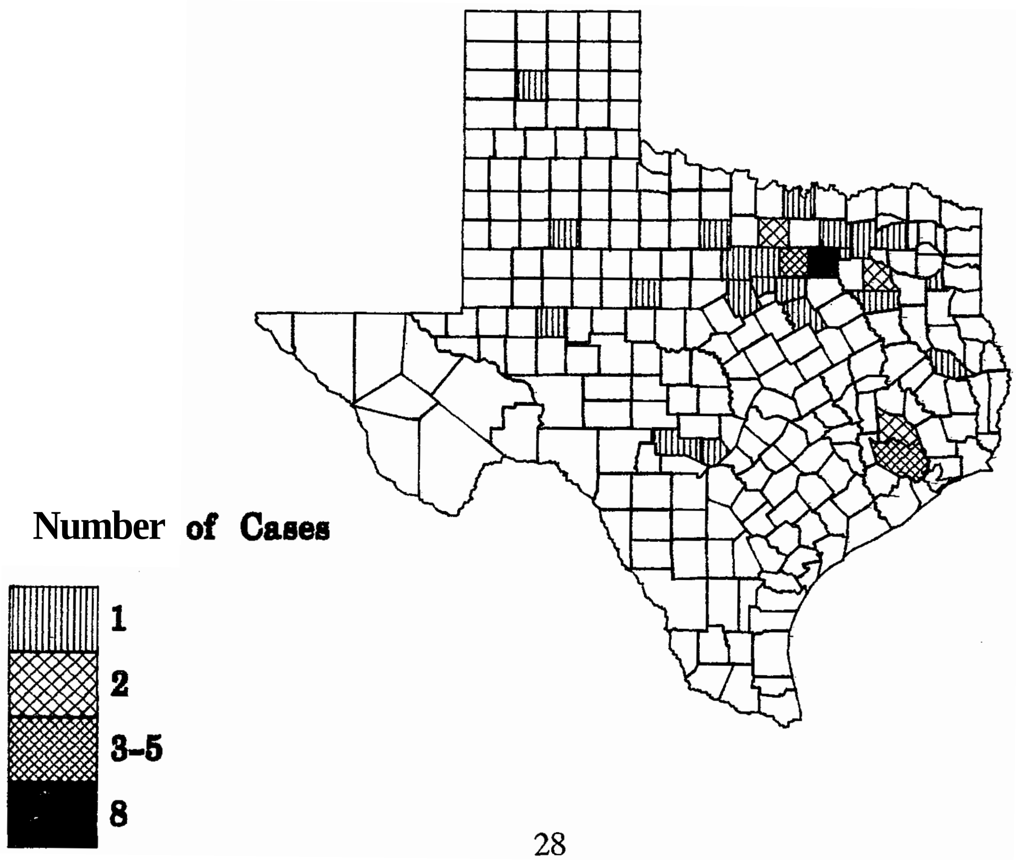
Lyme borreliosis is a spirochetal infection caused by *Borrelia burgdorferi*. It is the most common tick-borne disease in Texas and in the United States. In Texas, *B. burgdorferi* has been isolated from Lone Star ticks, black-legged deer ticks, brown dog ticks, and cat fleas.

The best clinical marker for the disease is erythema migrans, an annular skin lesion which expands over a period of days to weeks and develops central clearing. Erythema migrans may be accompanied by a flu-like illness; neurologic, cardiac, or arthritic abnormalities may emerge several weeks or months later.

In 1990, 243 patients were reported to the Texas Department of Health with a possible diagnosis of Lyme borreliosis. Only 44 patients, however, met the case definition and were included as Texas morbidity. A confirmed case was defined as a patient who had erythema migrans or who experienced cardiac, neurologic, and/or arthritic abnormalities with a positive serologic test or identification of the spirochete in tissue or body fluid. Of the patients on whom complete clinical informationation was available, 30 (68%) experienced at least one lesion described as erhthema migrans; six had multiple lesions. Twelve patients (27%) experienced arthritic abnormalities and five patients (11%) developed Bell's palsy, a facial paralysis.

Figure **14**

Reported Cases **of** Lyme Borreliosis
by County of Residence, Texas, **1990**



Cases of Lyme borreliosis resided in 28 counties throughout Texas. As illustrated in Figure 14, the majority of cases lived in the north-central part of the state. Cases ranged in age from 2-72 years; median age was 38.5 years. All of the cases were white, and over half of the cases were males.

Twenty patients (45%) recalled an attached tick during the month prior to onset of their symptoms. Five patients (11%) recalled a flea bite.

MALARIA

The 80 cases of malaria reported in Texas in 1990 reflected the highest morbidity since 1986 when 84 cases were reported. During the 1980s, Texas reported a total of 773 cases of malaria, with annual case counts ranging from 54 in 1983 to 115 in 1980.

With one exception, cases reported in 1990 were similar to the 79 cases reported in 1989. All but one were classified as imported cases, that is, the cases were individuals who had previously traveled in or from malaria-endemic areas of Africa, Asia, or Latin America (see Figure 15). Cases ranged in age from 2-62 years of age; median age was 27 years. The majority (71%) of cases were male. The racial distribution of cases included 29 blacks (36%), the majority of whom were Africans; 23 Asian/Pacific Islanders (29%), predominately Indians; 19 whites (24%); and 9 Hispanics (11%).

The majority of the imported cases (42/79) had been in Africa prior to onset of malaria, and 21 (50%) of these had been in Nigeria. Twenty-six cases had been in Asia or the South Pacific; these two areas were combined because several cases occurred in Vietnamese who had been in refugee camps in the Philippines, and the specific location of malaria exposure was not identified. India was the country of exposure for 17 (65%) of the cases infected in Asia. Ten cases were infected in Central America, with Mexico and El Salvador each contributing three cases. No cases were reported in persons who had been in South America.

The infecting Plasmodium species was reported in 76 cases (95%). The majority (54%) were P. falciparum, 39% were P. vivax, and 7% were P. *malariae* infections. No cases of P. ovale malaria were reported in 1990. The majority of P.falciparum cases (34 cases or 83%) were infected in Africa, and with the exception of one case infected in Honduras, all P.falcipamm cases were acquired in areas of the world reporting chloroquine-resistant P. falcipamm malaria. The majority of P. vivax cases (57%) were infected in Asia. Eight of 10 cases exposed in Central America had P. vivax infections.

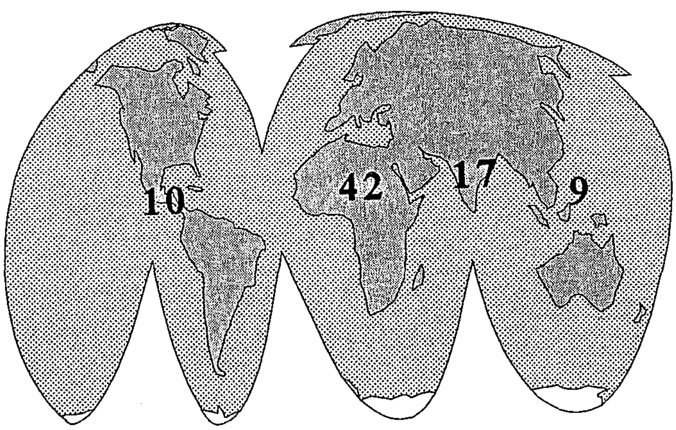
One patient died as a result of her malaria infection. This was a 34-year-old black woman diagnosed with P. *falciparum* malaria. She was from Nigeria but was residing in Harris County when she died. While pregnant, she had returned to Nigeria where she was treated for malaria. She returned to Houston about one month prior to her death and was hospitalized. Her infant deliveredby C-section at 36 weeks, and she died one week later. The death certificate indicated "Adult Respiratory Distress Syndrome due to severe falciparum malaria." The infant was treated prophylactically and was not reported as a congenitally-acquired case of malaria.

A second malaria death was reported in an 18-year-old, black woman with *P. falciparum* malaria. This case was not, however, included in Texas morbidity. This individual was from Sierra Leone and was in the United States less than one week before being hospitalized in Dallas. She had experienced multiple previous attacks of malaria in Sierra Leone, including the fatal bout which began prior to her arrival in the United States. Her cause of death was listed as "cerebral edema due to cerebral malaria."

The one case that was not imported was probably one of the most unusual cases of malaria reported in Texas to date. This deliberately self-induced infection resulted when the patient injected himself with blood containing *P. vivax* parasites. This was intended as a treatment for Lyme borreliosis (see *Morbidity &Mortality Weekly Report,* December 7,1990, Vol. 39, No. 48, "Malariotherapy of Lyme Borreliosis"). The patient was an extremely secretive, 27-year-old white male who contacted the Texas Department of Health after he injected the blood which he had received from an unnamed source. The case denied travel to any malaria-endemic area; the blood, however, was evidently from someone who had because examination of a sample remaining after the injection revealed *P. vivax* parasites. The patient did not seek medical attention, but underwent over 100 hours of "fever therapy" in order to treat/cure his neurologic symptoms of Lyme borreliosis. Upon completion of his fever therapy, he treated himself with chloroquine which he had evidently acquired from the same source of the infected blood. Within weeks, he proclaimed his recovery both from malaria and Lyme borreliosis.

Figure **15**

Reported Travel Histories for Imported Cases
of Malaria, Texas, **1990**



MEASLES

The ongoing presence and severity of measles in Texas was once again demonstrated by measles morbidity and mortality in 1990. The 4,409 cases-of measles reported statewide represented a 33% increase over 1989 morbidity and was the greatest number of cases reported in the state since 1971 when there were 9,585 cases. Almost 28,000 cases were reported nationwide in 1990, and cases occurred in all but one state. Texas accounted for 16% of the nation's measles morbidity and was second only to California (12,479 cases) in total cases. Five states, New York (1,687), Illinois (1,346), Wisconsin (732), California, and Texas, accounted for 75% of the measles cases reported throughout the United States in 1990.

The 12 measles deaths reported in Texas in 1990 attested to the severity of measles, as did reported hospitalizations and complications caused by measles. The patients who died ranged in age from 15 months to 30 years; the majority (58%) were 15 years of age and older. Nine of the patients who died resided in Dallas County. On the average, death occurred 31 days after rash onset (range was 2-126 days) and most of those who died had been previously healthy individuals. Pneumonia, dehydration, and encephalopathy were among the most frequently reported causes of measles-associated deaths and the 1,065 hospitalizations attributed to measles in 1990. Twenty-four percent of Texas' measles cases required hospitalization, and 653 cases were reported to have developed complications.

Measles was reported in 104 Texas counties in 1990. Seven counties accounted for 74% of the states measles morbidity: Dallas (1,896), Travis (326), El Paso (295), Tarrant (275), Denton (155), and Harris (130). Dallas County alone reported 43% of the cases. Figure 16 illustrates the incidence of measles in individual counties in Texas. Morbidity totals and incidence rates for all Texas counties are provided in the Regional Statistical Summaries Section beginning on page 87.

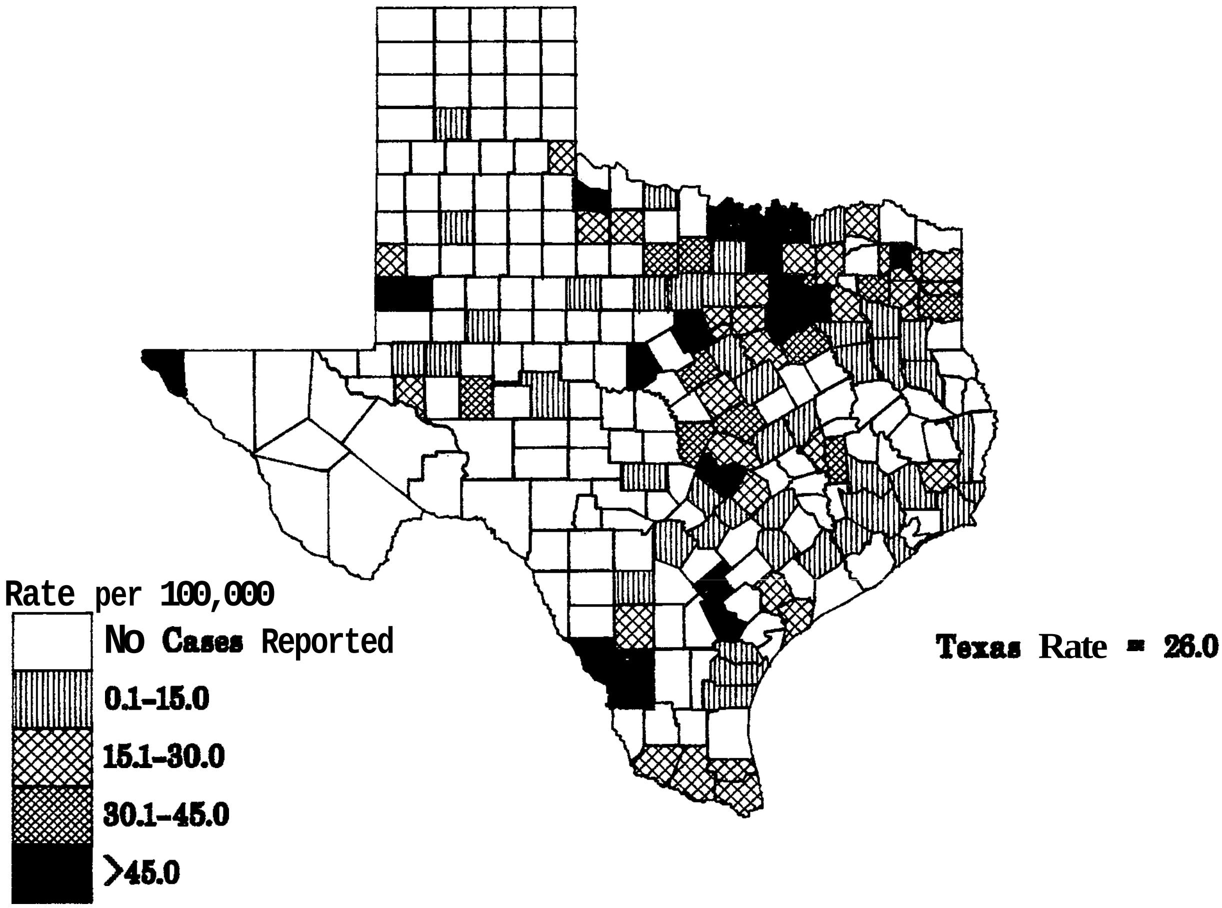
As is historically typical of measles, the majority of cases experienced onset during the first five months of the year; 93% of all cases occurred January through May. Figure 17 illustrates reported cases of measles by month of rash onset.

The numbers of cases and incidence rates by age group are provided in Tables IV and V of the Appendix. Children under five years of age accounted for 47% of all Texas cases; likewise, 48% of the cases nationwide were children under five. This trend illustrates the continuing inability in the United States to vaccinate preschool age populations appropriately thereby preventing disease. Among children 1-4 years of age, blacks experienced measles at a rate of 243 cases per 100,000 population, whereas the rate was 131 for Hispanics and 69 for whites. These rates clearly illustrate the importance of immunizing preschoolers, especially minorities. Furthermore, measles vaccine is not usually indicated for infants under one year of age, however, this age group experienced alarmingly high incidence rates of measles. Blacks experienced the highest rate for this age group, 506 cases per 100,000 population, followed by Hispanics (356) and whites (120).

Teenagers and young adults 15-24 years of age also accounted for a large percentage (25%) of Texas' measles morbidity in Texas in 1990. Four deaths also occurred in this age group.

Figure 16

Reported Cases of Measles per 100,000 Population by County of Residence, Texas, 1990



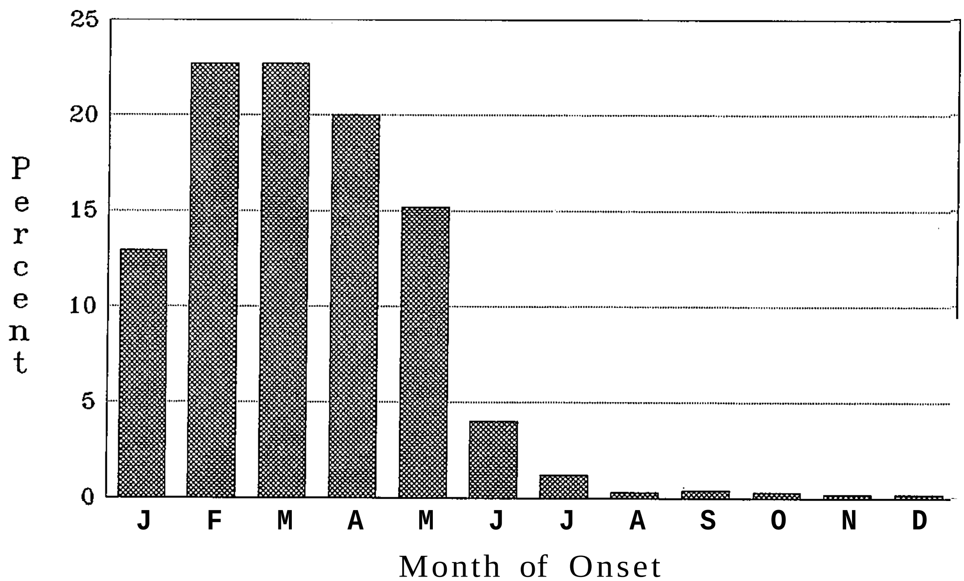
Measles outbreaks in 1989 and 1990, both in Texas and throughout the United States, have focused attention on all vaccine-preventable diseases, as well as the failure of both public and private health care institutions and providers to immunize children in accordance with current age appropriate recommendations. These outbreaks not only point out the problems of current vaccine delivery systems, but they may also be precursors of future outbreaks of other vaccine-preventable diseases.

Revised measles recommendations were issued in 1989 by the Immunization Practices Advisory Committee (ACIP) and by the American Academy of Pediatrics (AAP). The most significant change in the recommendations was the administration of a second dose of measles vaccine age 12. Each group recommended a two-dose measles vaccine schedule to serve as an "insurance" dose to combat both primary vaccine failure and to compensate for the theory of waning immunity.

Modifications were also made to Texas' school immunization requirements in 1990. Effective January 1991, all students whose 12th birthday falls on or after September 1, 1990 must provide proof of measles immunity. Measles immunity is defined as serologic evidence of immunity, doctor verified history of disease, or proof of two doses of measles vaccine administered at least 30 days apart on or after the first birthday. It is hoped that renewed and innovative efforts to reach unvaccinated populations, aggressive outbreak control measures, and the implementation of the two-dose measles vaccine schedule will lessen the severity and scope of measles outbreaks both in Texas and in the United States.

Figure **17**

Distribution of Measles Cases in Texas
by Month of Rash Onset, **1990**



MENINGOCOCCAL INFECTIONS

Ninety-three meningococcal infections were reported to the Epidemiology Division during 1990. This was exactly the same number as was reported the previous year; consequently, the incidence rate also remained at .5 cases per 100,000 population. Thirteen individuals died from meningococcal infections in 1990 resulting in a case-fatality rate of 14%.

In spite of the fact that 97% of the cases were reported to have been confirmed by bacteriologic culture of *Neisseria* meningitidis, only 21 of the organisms (23% of the total) were submitted for serogrouping. Serogroups identified in 1990 included group B (10 cases), group C (10 cases), and group Y (1 case).

Meningococcal infections may be asymptomatic, be restricted to the nasopharynx, may cause upper respiratory tract symptoms, or may be invasive causing an acute meningitis with or without septicemia. Only invasive meningococcal infections are reportable in Texas. These include meningitis, septicemia, septic arthritis, pericarditis, and osteomyelitis. The diagnosis is confirmed by isolating the organism from the blood or cerebrospinal fluid (CSF). Specimens from which N. meningitidis was identified included blood (26), CSF (21), and blood and CSF (7). The majority (78%) of meningococcal infections reported in 1990 were reported as meningitis, the remaining were reported as meningococcemia or septicemia. Four patients were reported as having Waterhouse-Friderichsen syndrome caused by N. meningitidis.

Nationally, the incidence of meningococcal infections is highest during the winter and spring, and this patten has also been observed in Texas. In Texas, 28 cases (30%) occurred during the two-month-period January through February; cases then began to level off through September and increased again in October. Twenty-six cases (28%) occurred October through December.

Meningococcal infections occur primarily among infants and very small children, although all age groups can be affected. One-half of the cases reported in Texas in 1990 were children under ten years of age; 24% were infants under one year of age. Infants under one year of age experienced the highest age-specific incidence rate, 9.2 cases per 100,000 population.

The 13 patients who died from meningococcal infections in 1990 ranged in age from one week to 79 years; the one-week-old infant had a blood culture positive for *N. meningitidis*. In cases of fulminating meningococcemia, mortality can be quite high in spite of prompt medical attention and antibiotic treatment. Thirty-eight percent of the deaths also occurred in January and February 1990.

No outbreaks or family clusters of cases were reported to the Texas Department of Health in 1990.

MURINE TYPHUS

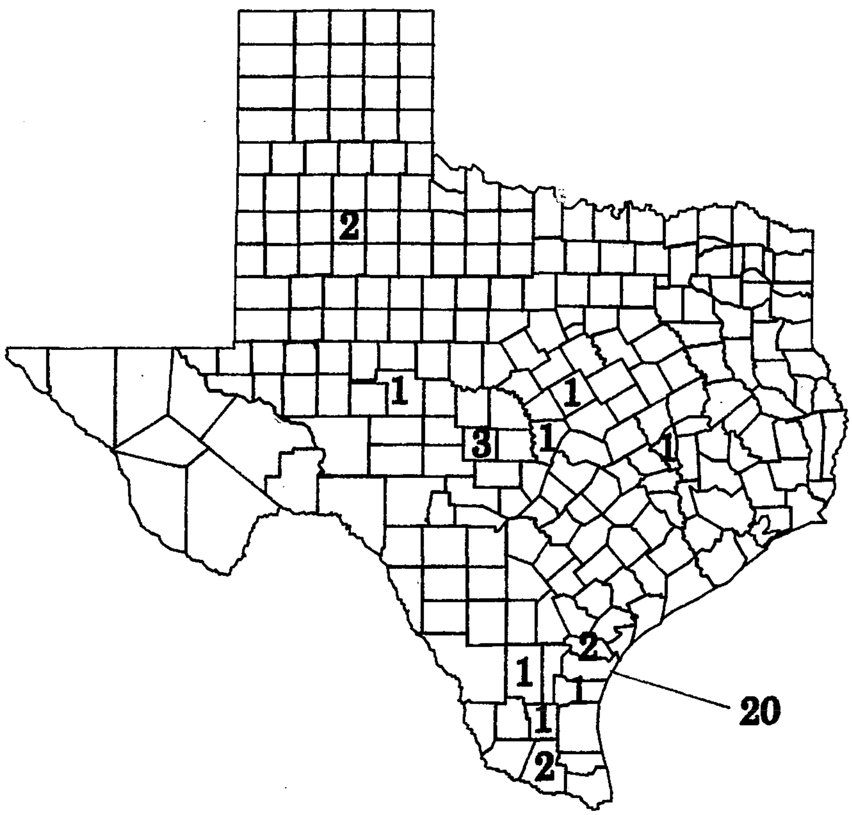
Murine typhus is caused by the bacterium Rickettsia typhi. The organism is transmitted to man by the rat flea (*Xenopsylla cheopis*) and the cat flea (Ctenocephalides *felis*), as well as other flea species. The flea defecates on the human host during the feeding process, and the scratching associated with the bite facilitates the inoculation of the bacterium from infected feces into the bite site.

Thirty-six (36) cases of murine typhus were reported in Texas in 1990. All were confirmed serologically by indirect fluorescent antibody testing. The cases ranged from 2-80 years of age. The median age was 30 years, and 70% of the cases were over 20 years of age. The majority (53%) of cases were Hispanic, and 50% were male.

Cases resided in 12 counties throughout Texas as illustrated in Figure 18. There are two endemic foci known to exist in Texas including counties in South Texas, particularly Cameron, Hidalgo, and Nueces. A second endemic focus includes the counties along a line from Fort Worth (Tarrant County) to San Angelo (Tom Green County).

Figure 18

Reported Cases of Murine Typhus in Texas by County of Residence, 1990



Patients had onset of illness in all months except January. Over half the cases had onset of illness in April, May, or June. The seasonal peak of murine typhus in Texas has traditionally occurred in April through June.

Each of the patients experienced a fever. The majority experienced headache (86%) and a rash (58%). Thirty patients were hospitalized. None of the patients died. Only 10 patients reported a flea bite or flea problem at home before onset of illness.

Clinical Review of Murine Typhus in Texas

In 1990, the Infectious Diseases Program completed a comprehensive description of the clinical and laboratory features of murine typhus. The report details 80 patients who were diagnosed with murine typhus and were hospitalized at one of four hospitals in south Texas. The diagnosis of murine typhus in all patients was confirmed by indirect fluorescent antibody testing.

The most common manifestations of murine typhus were fever (98%), headache (75%), chills (66%), and a rash (54%). Other frequently reported symptoms included myalgias (46%), nausea (48%), vomiting (40%), and coughing (35%). Of those patients who developed a rash, the rash was described as macular (49%), maculopapular (29%), or papular (14%). The rash most frequently involved the trunk and appeared at various intervals after the onset of fever (0-18 days); median onset of rash was six days following onset of fever.

Leukocytosis and leukopenia occurred equally (28% each) among the cases. Anemia was reported in approximately 75% of all patients tested for hemoglobin or hematocrit. Thrombocytopenia occurred in 46% of the patients having platelet counts performed. Hyponatremia was documented in 60% of patients. Hepatic abnormalities were present in 90% of patients tested by one or more parameters of liver injury and function. Hypoalbuminemia was also present in a high percentage of patients (88%). Chest roentgenograms were performed on 69 patients and were reported as normal in 53 (77%). Abnormalities reported for 16 patients included pneumonitis, pulmonary edema, pleural effusion, and atelectasis.

Three of the 80 patients in this review died. The cause of death in two cases was related to shock and renal and multisystem organ failure.

OCCUPATIONAL DISEASES

Adult Elevated Blood Lead Levels

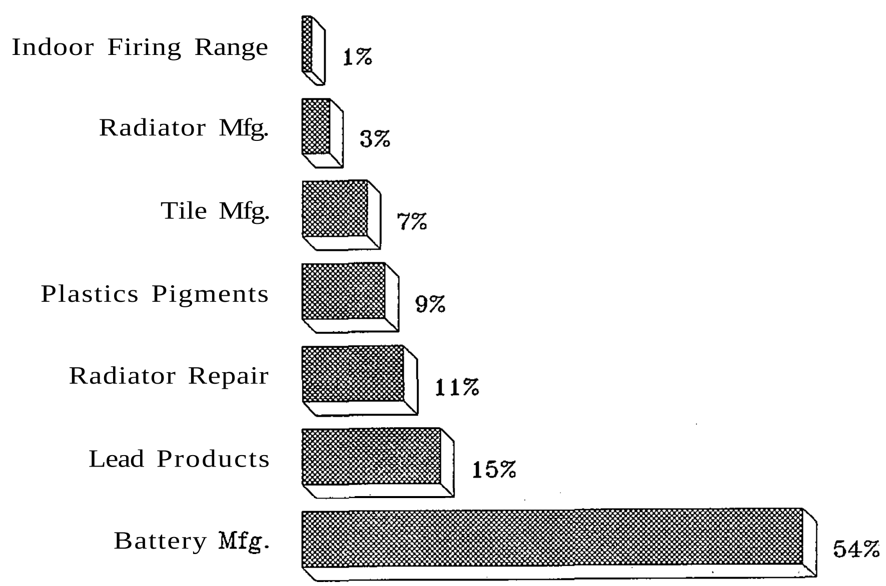
Surveillance of adult blood lead levels resulting from occupational exposures was established by the Texas Department of Health (TDH) in 1985 in accordance with the Texas Occupational Disease Reporting Act. This Act requires that physicians, laboratories, and other responsible parties report to the TDH all blood lead levels $\geq$40 micrograms per deciliter of blood (μg/dl) in persons 15 years of age or older. Funding for the blood lead surveillance system has been provided by the National Institute for Occupational Safety and Health since 1987.

During calendar year 1990, the Environmental Epidemiology Program received 1,230 reports of elevated blood lead levels; this represented 404 total cases and 89 newly diagnosed cases of elevated blood lead. Because the Occupational Safety and Health Administration (OSHA) requires that employees be tested at two-month intervals if their blood lead levels exceed 40 μg/dl, multiple reports were received on many individuals. Of the 89 new cases reported in 1990, the overwhelming majority (92%) were male. Hispanics represented 34% (31) of the cases reported, 43% (38) were non-Hispanic whites, and 22% (20) were black.

Fifty-four percent (48) of the cases reported were employed in the battery manufacturing industry, 15% (13) in facilities which process lead or manufacture lead products, 11% (10) in radiator repair shops, 9% (8) in the plastic pigments manufacturing industry, and 7% (6) in brick tile manufacturing. Figure 19 represents the number of new cases by industry.

Figure 19

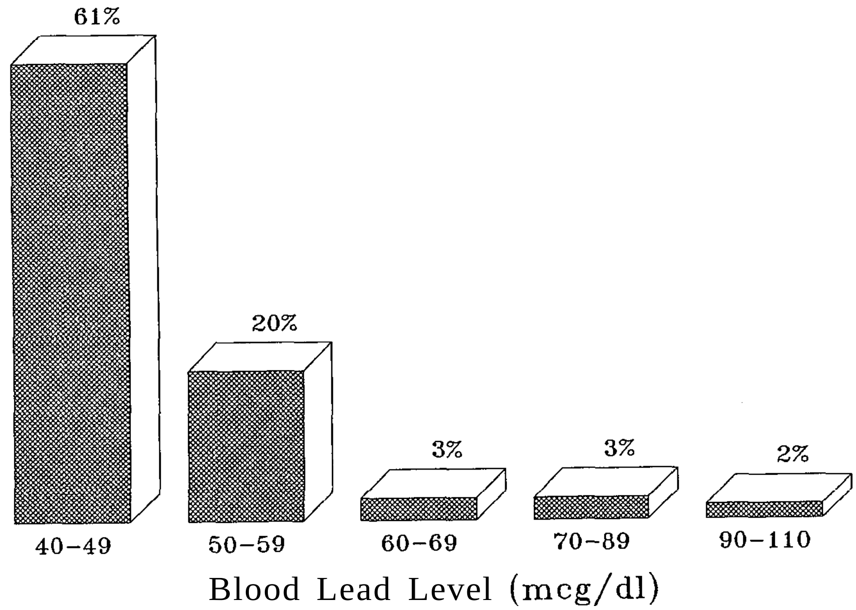
Newly Diagnosed Adult Elevated Blood Lead Levels in Texas, by Type of Industry, 1990



Reports of elevated blood lead levels are prioritized on the basis of the blood lead level and the presence of symptoms. If an employee's blood lead level is greater than 60 μg/dl, averages 50 μg/dl over a six-month period, or symptoms of lead poisoning are reported, their worksites are considered high priority and are inspected by local or state health department staff to identify the source of lead exposures on the job. Industrial hygiene inspections measure lead exposures. Figure 20 illustrates the distribution of lead reports by blood lead levels.

Figure 20

Distribution of Lead Reports by Blood Lead Level, Texas, 1990



Workers in the plastic pigment industry were first identified as being at risk for lead exposure through the TDH surveillance system during the summer of 1990. In June 1990, a physician reported to a local health department an elevated blood lead level of 52 μg/dl in an employee of a company which formulates color concentrate for the plastics industry. Seven additional employees were also identified with elevated blood lead levels ranging from 43-107 μg/dl (mean 62 μg/dl). The two employees with blood levels of 78 and 107 μg/dl were hospitalized.

An industrial hygiene inspection was conducted by the TDH in August 1990 to determine the sources of overexposure to lead and other chemicals. Ventilation and other control measures in the plant were found to be inadequate to control the dusts generated, and in several cases, respirators worn by the workers were inadequate to protect them from high concentrations of contaminants. Personal exposure samples revealed that employees had significant exposures to lead, chromium, and cadmium. Based on the industrial hygiene survey, recommendations were made to correct violations of the OSHA standards. After medical treatment and worksite cleanup had taken place, the mean blood level for the eight workers originally identified with elevated blood lead levels dropped to 36 μg/dl (range 23-46 μg/dl), even though follow-up air monitoring showed airborne lead exposures continued to be extremely high.

Acute Occupational Pesticide Poisoning

The Environmental Epidemiology Program conducts active surveillance of acute occupational pesticide poisonings throughout the state; funding is provided by the National Institute for Occupational Safety and Health. This surveillance effort concentrates on three geographic regions of Texas in which labor-intensive crops are grown: the Winter Garden area in south central Texas, the Rio Grande Valley in far south Texas, and the Southern High Plains in north Texas and in the Panhandle, but reports are also received from other areas. At present, 13 physicians, **36** migrant health clinics, and 27 emergency rooms participate in the surveillance system.

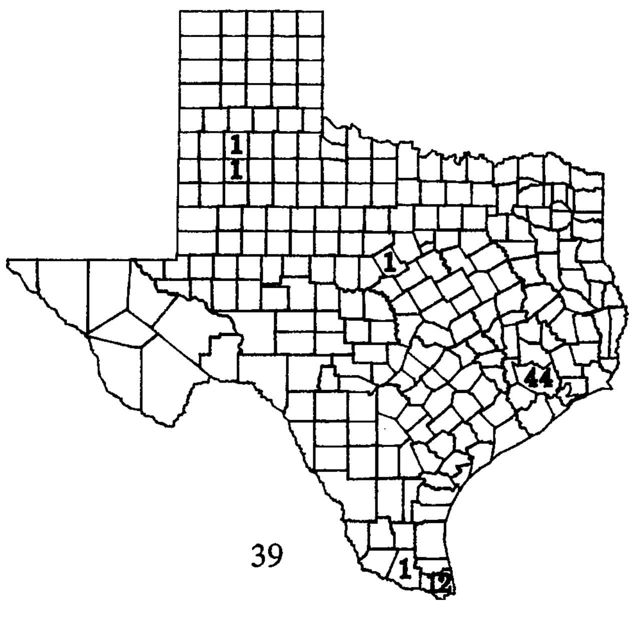
In 1990, five incidents involving 61 cases of acute pesticide poisonings were reported to TDH. Cases ranged in age from 16 years (migrant farmworker) to 64 years (office worker). The majority of the cases were black. Female cases outnumbered male cases 4:1 and accounted for 80% of the cases. In comparison, **11** incidents involving 16 cases of acute pesticide poisoning were reported in 1989. The majority of these were Hispanic, and males outnumbered females 4:1, accounting for 81% of the cases. The number of pesticide poisonings by county is illustrated in Figure 21.

The pattern of occupational pesticide poisonings in 1990 was significantly different from that of previous years. This was the result of a single incident where 44 office workers were exposed to malathion; this incident occurred in the Public Works Customer Service office of the City of Houston (Harris County). The workers became ill the day after their offices were treated with malathion. The building apparently was not properly ventilated after the spray was applied to the baseboards. Twenty-seven workers were seen in a hospital emergency room. One woman was kept overnight for observation. The other workers presented to their private physicians' offices. The 44 workers were predominantly black (68%), and 40 (91%) were female.

A second major incident of pesticide poisonings occurred among migrant farmworkers in Cameron County in south Texas. Twelve workers were exposed to an organophosphate insecticide and were treated in a local emergency room. All 12 workers were Hispanic. Sixty-seven percent were female.

Figure 21

Occupational Pesticide Poisonings by County of Occurrence, Texas, 1990



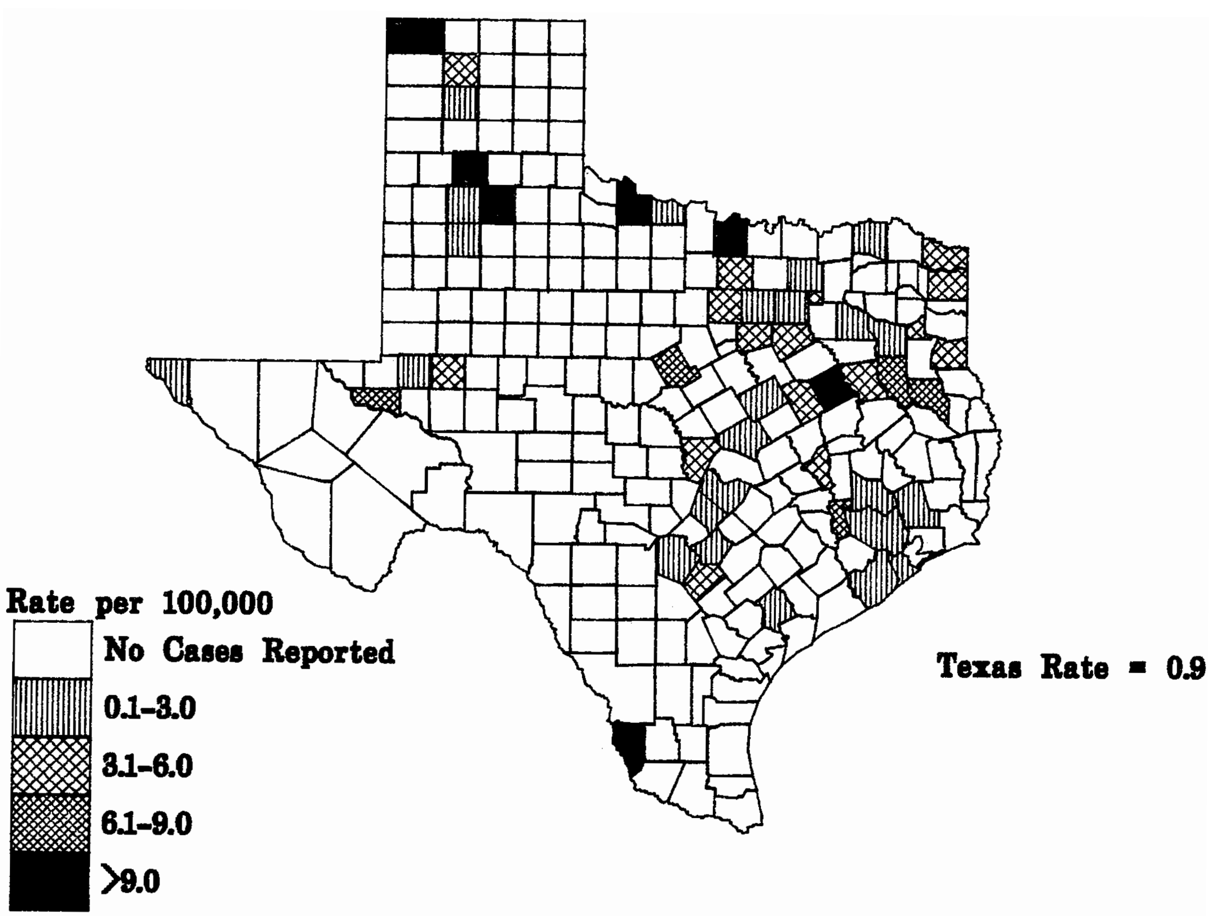
PERTUSSIS

Pertussis is a bacterial infection characterized by a cough that usually lasts at least two weeks along with one of the following symptoms: paroxysms of coughing, inspiratory "whoop," or post-tussive vomiting.

In 1990, 158 cases of pertussis were reported in Texas, reflecting a 57% decrease from the 366 cases reported in 1989 and a statewide incidence rate of .9 cases per 100,000 population. Mortality, however, increased from one pertussis-related death in 1989 to three in 1990 for a case-fatality rate of 2%. Fifty-two counties reported at least one case of pertussis in 1990, and four counties, Dallas, Harris, Tarrant, and Travis, reported ten or more cases. The county-specific incidence rates of pertussis in 1990 are presented in Figure 22.

Figure 22

Reported Cases of Pertussis per 100,000 Population by County of Residence, Texas, 1990



Although pertussis affects all age groups, it is particularly severe and more commonly recognized and diagnosed in infants and young children. Cases ranged in age from less than one month to 39 years. Fifty-four percent of the cases were infants less than one year of age; the incidence rate for this age group was 35.9 cases per 100,000 population. Children 1-4 years of age experienced pertussis at a rate of 3.7 cases per 100,000 population and accounted for 27% of total pertussis morbidity. The highest incidence rate (35 cases per 100,000) occurred among blacks; the rate among black infants was alarmingly high (52.6 per 100,000). Non-hispanic whites 'experienced pertussis at a rate of .8 per 100,000, and the lowest rate (.78 per 100,000) occurred among Hispanics.

Fifty-six percent (89/158) of the pertussis cases required hospitalization, and length of hospital stays ranged from 1-25 days; average length of hospitalization was six days. As in previous years, age at onset of pertussis correlated with frequency of hospitalization. Sixty-eight infants less than one year of age were hospitalized and accounted for 76% of all pertussis-related hospitalizations.

Complications associated with pertussis include pneumonia, seizures, apnea, encephalitis, and death. Three children died from pertussis pneumonia in 1990; two of the patients who died were infants under one year of age. One was a one-month-old from Harris County and was too young to have been immunized. The other infant was a six-month-old female from Anderson County; her immunization history was unknown. The third death was an unimmunized four-year-old male from Burnet County.

Currently diphtheria-tetanus toxoid-pertussis vaccine (DTP) is indicated for use at two, four, six, and fifteen months of age followed by a booster dose administered between the ages of four and six years. Studies indicate that antibody protection levels after receipt of three or more doses of DTP are 80-85%. Thirty of the cases reported in Texas in 1990 were two months of age or younger at disease onset and, therefore, were too young to have received the vaccine. Of the remaining 128 cases, 70% had a history of fewer than two doses, and 56% had never received DTP vaccine.

Increasing publicity in the past decade regarding adverse events associated with the pertussis component of DTP vaccine has resulted not only in reduced vaccination levels but increased pertussis morbidity throughout the United States. In 1990, there were 4,188 cases of pertussis reported nationwide, more than doubling the number of cases reported in 1980 when only 1,730 cases were reported. Recent data, however, indicate that health problems often associated with the receipt of DTP vaccine are often only temporally related coincidences.

Recognition of pertussis in all age groups, appropriate treatment and prophylaxis of contacts, as well as timely reporting of cases, all play an important role in reducing the incidence of pertussis and the sometimes severe complications that can result.

RUBELLA

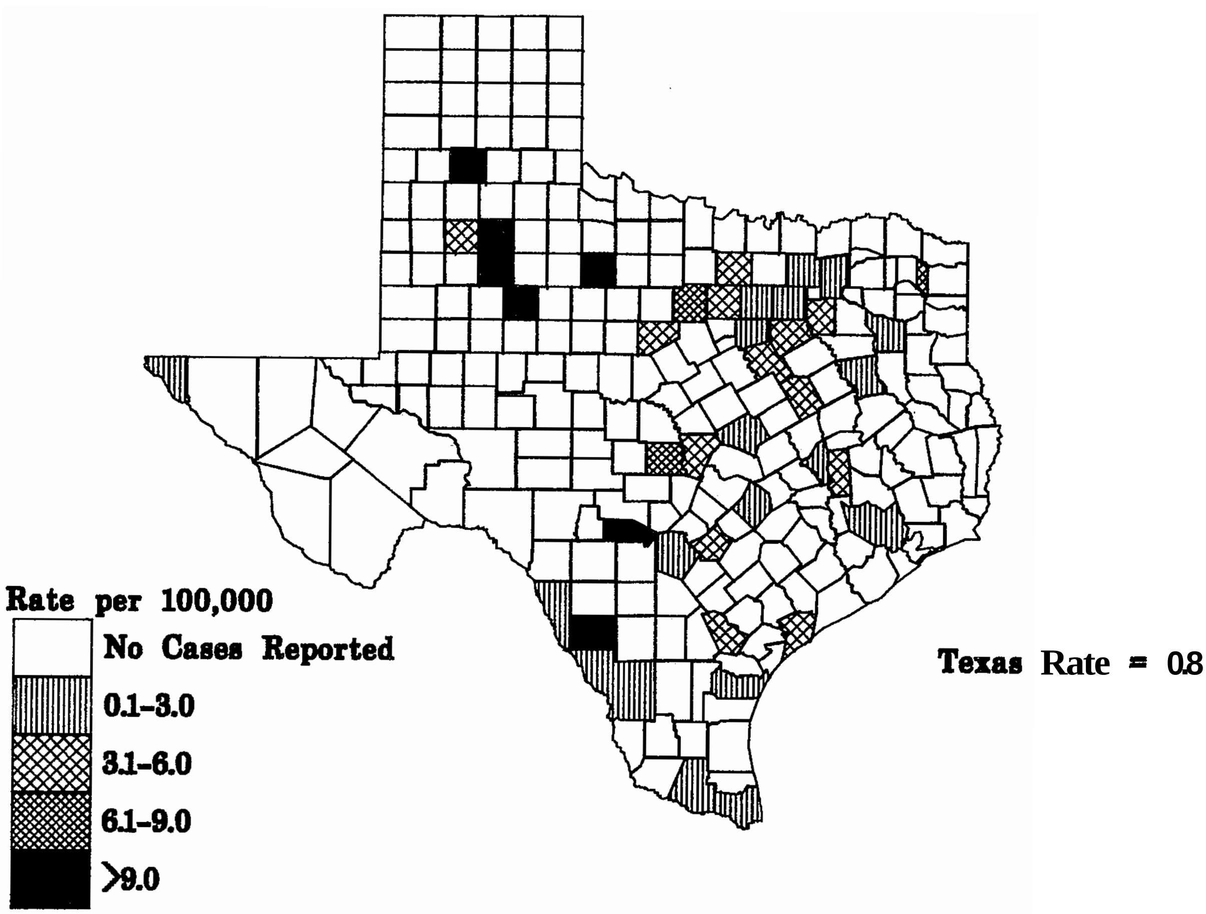
Rubella is characterized by a generalized maculopapular rash, fever of 99 degrees or greater, and arthralgia or arthritis, lymphadenopathy, or conjunctivitis. Because clinical diagnosis is difficult and often unreliable, medical experts recommend that all suspected cases be laboratory confirmed.

Rubella is often a mild illness and manifests without apparent symptoms in 30-50% of all cases. The major concern of rubella infection is the potential effects on the developing fetus when a pregnant woman contracts the infection during her first trimester. Rubella infection during the first trimester of pregnancy can result in fetal death, premature delivery, or one or more congenital defects in affected infants.

Ninety-nine (99) cases of rubella were reported in 1990, the greatest number of cases reported in a single year in Texas since 1983 when there were 117 cases. Forty-one counties reported at least one case of rubella as illustrated in Figure 23.

Figure 23

Reported Cases of Rubella per 100,000 Population by County of Residence, Texas, 1990



Forty-three percent of the cases were children under five years of age, and adults 20 years of age and older accounted for 26% of the total morbidity. Cases ranged in age from one month to 53 years. The numbers of cases reported by age group and their corresponding incidence rates per 100,000 population are presented in Tables IV and V (Appendix), respectively. The majority of cases (64%) occurred January through May.

Two cases of congenital rubella syndrome were reported in 1990; both were considered imported because both mothers had histories of either living in or visiting Mexico during their entire disease exposure periods. The first case was a male infant born to a 25-year-old resident of San Antonio (Bexar County). Case investigation revealed that the mother had experienced a rash illness, along with arthralgia/arthritis, during the first month of her pregnancy. This was the woman's first pregnancy, and although she claimed a history of vaccine as **a** child, this could not be documented. The infant, whose syndrome was serologically confirmed during the first few days of life, suffered congenital abnormalities including intrauterine growth retardation, congenital heart disease, thrombocytopenia, and anemia.

The second case of congenital rubella syndrome was a female infant born in a Dallas County hospital to a 24-year-old woman who had recently immigrated to Texas from Mexico. The mother had a history of one previous pregnancy, and her rubella vaccination status was unknown. Similar to the first case, the mother experienced a rash-type illness, along with lymphadenopathy, during her second month of pregnancy. The infant, whose illness was serologically confirmed approximately one month after birth, suffered profound deafness, neutropenia, anemia, thrombocytopenia, and also was born with a two-vessel umbilical cord.

Reports of rubella continue to increase throughout the United States. Provisional figures released by the Centers for Disease Control, indicated 1,093 cases reported nationwide in 1990. Rash-type illnesses consistent with the rubella case definition should continue to be monitored, laboratory confirmed, and promptly reported to local health officials. Few vaccine-preventable diseases have potential implications as severe as rubella and congenital rubella syndrome.

ST. LOUIS ENCEPHALITIS

St. Louis encephalitis (SLE) is an arboviral infection caused by a flavivirus. The natural cycle of the disease involves wild birds and mosquitoes. The birds serve as amplifiers of the virus by infecting the mosquitoes. The virus is then transmitted to humans by the bite of infective mosquitoes. Mosquitoes in the genus *Culex* are the vectors for SLE in the United States.

Clinical infection in humans ranges from a mild febrile illness to aseptic meningitis and severe encephalitis, but many human infections, however, are inapparent or asymptomatic. Fever and headache are frequently the first and most persistent symptoms. The elderly are at greatest risk of developing encephalitis associated with a St. Louis encephalitis virus infection.

In 1990, 23 cases of SLE were reported in Texas. Figure 24 illustrates the number of SLE cases that have occurred in Texas over the last ten years. All but one of the cases resided in Harris County; the other case lived in Robertson County, in central Texas. This latter case had no recent travel history to Harris County prior to onset of his symptoms.

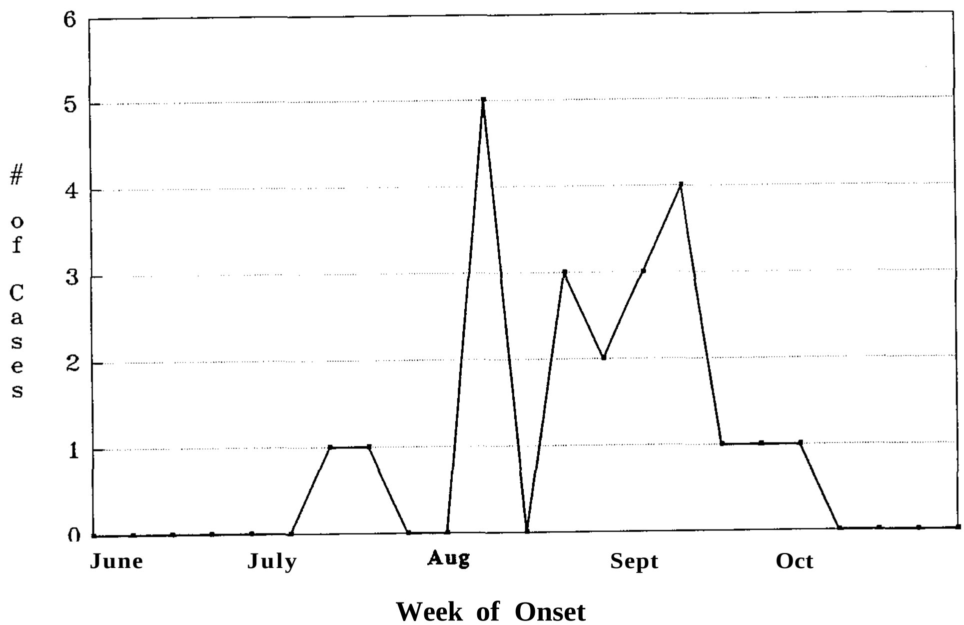
The cases ranged in age from 6-86 years; median age was 48 years. The majority (52%) of cases were female. The distribution of cases by race/ethnicity was 57% white, 26% Hispanic, and 17% black.

The first case in Harris County had onset of illness on July 20,1990. Eleven cases had onset of illness in September, and the last case occurred on October 12. The majority of cases experienced fever (100%), headache (83%), and disorientation (61%).

Seven cases died resulting in a case-fatality rate of 30%. The cases who died were more likely to be male (71%) and older; median age of those who died was 64 years. Sixteen patients recovered from their SLE infections, but two were reported to have long-term neurologic sequelae.

Figure 24

St. Louis Encephalitis in Texas
by Year of Report, 1981-1990



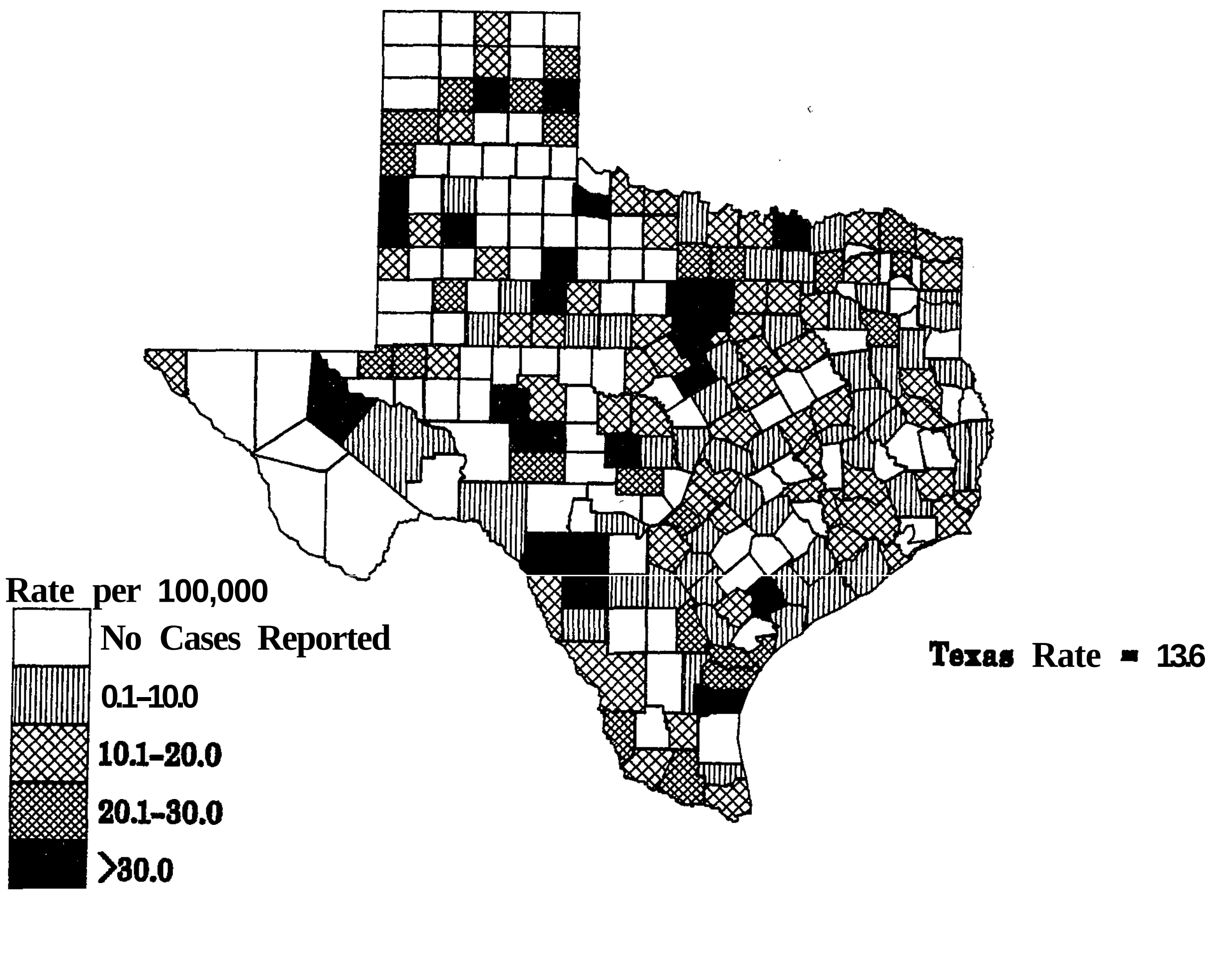
SALMONELLOSIS

During 1990, 2315 case of salmonellosis were reported throughout Texas, reflecting only a slight increase from the number of cases reported in 1989. The statewide incidence rate was 13.6 cases per 100,000 population, exactly the same as in 1989. The geographic distribution of incidence rates in individual Texas counties is presented in Figure 25; the actual number of cases and their corresponding rates are provided in the Regional Statistical Summaries section of this report.

Forty percent of the Texas cases were children under 5 years of age, and 22% were infants under one year of age. The age-specific incidence rates were 66.1 cases per 100,000 and 210.6 cases per 100,000, respectively. Hispanics experienced salmonellosis at a rate of 17.7 cases per 100,000, followed by 8.2 for whites, and 7.1 for blacks.

Figure 25

Reported Cases of Salmonellosis per 100,000 Population by County of Residence, Texas, 1990



The serotype was reported for 63% of the salmonellosis cases reported, and 89 different serotypes were identified. The ten most frequently isolated serotypes are listed in Table 1. Since 1980, *S. typhimurium* and *S. newport* have been the first and second most commonly reported serotypes in Texas, respectively. During 1990, five *Salmonella* serotypes were identified that had not been previously reported in Texas. These included: *S. avignon, S. leopoldville, S. wangata, S. kiambu,* and *S. raus.* These serotypes were reported from five individuals residing in five different counties in Texas. All of the serotypes were isolated from the stool except for *S. raus* which was isolated in a blood culture from a one-month-old female.

Table 1

Reported *Salmonella* Serotypes in Texas
Bureau of Laboratories, Texas Department of Health, 1990

Serotype	# Isolates	% of Total
Typhimurium	251	17.2%
Newport	158	10.8
Heidelburg	99	6.8
Group C	83	5.7
Group B	81	5.5
Javiana	70	4.8
Hadar	68	4.7
Enteritidis	56	3.8
Oranienburg	44	3.0
Group D	42	2.9

Two outbreaks were reported to the Infectious Diseases Program in 1990. One of the outbreaks occurred in a church kindergarten in Dallas County. Homemade ice cream was implicated as the vehicle of transmission in this outbreak. Twenty-four individuals experienced a diarrheal illness within 24 hours after eating the ice cream. Three individuals were hospitalized. *S. typhimurium* was identified in the stool of one hospitalized adult and was also cultured from the homemade ice cream. The other outbreak involved a family of five who resided in Ellis County. They all became ill, and three were hospitalized. Barbequed chicken and bologna purchased at a local deli were both culture positive for *S. infantis* and *Staphylococcus aureus.* Sanitarians visited the deli and found that foods were being stored at improper temperatures.

Two deaths associated with salmonellosis were reported in Texas in 1990. One was a 77-year-old, white male from Denison, Texas (Grayson County) who died in August. *Salmonella javiana* was identified in a blood specimen collected four days before he died. The other death was a 53-year-old, Hispanic male from Lubbock. The patient died in November approximately three weeks after *Salmonella newport* was identified in a blood culture.

Twenty-eight cases of typhoid fever (caused by *Salmonella typhi)* were reported in 1990. These cases are described on page 57.

SEXUALLY TRANSMITTED DISEASES

Chancroid

Because chancroid is not a reportable disease in Texas, cases were rarely reported until a large outbreak began in Dallas in 1986. There is no reliable test available, so chancroid is a difficult disease to diagnose, and clinicians are required to use differential diagnostic skills to rule out other genital infections. In spite of the fact that the number of reported cases of chancroid remains relatively small throughout the United States, it has become an important sexually transmitted disease in this country. Chancroid has been shown to be a co-factor in the heterosexual transmission of HIV in Africa.

In 1990, the majority of Texas' 1,303 voluntarily reported cases resided in Houston and Dallas. Houston led the state with 845 cases (65%), whereas Dallas reported 228 cases (17%).

Chlamydia trachomatis

Chlamydia *trachomatis*, considered to be the most common cause of sexually transmitted diseases in the United States, was added to the list of reportable diseases in Texas in September 1987. Numbers of reported cases have continued to increase each year as more and better testing becomes available. In 1990, there were 20,575 cases of Chlamydia *trachomatis* reported in Texas, an increase of 23% over the 16,792 cases reported in 1989.

Because morbidity is high among women and neonates who bear an inordinate share of the sequelae of infection, a chlamydia screening project began in September 1988 to test women attending 230 prenatal and family planning clinics. This project will assist the STD Control Division in establishing screening criteria to target women at highest risk of chlamydia infection.

Gonorrhea

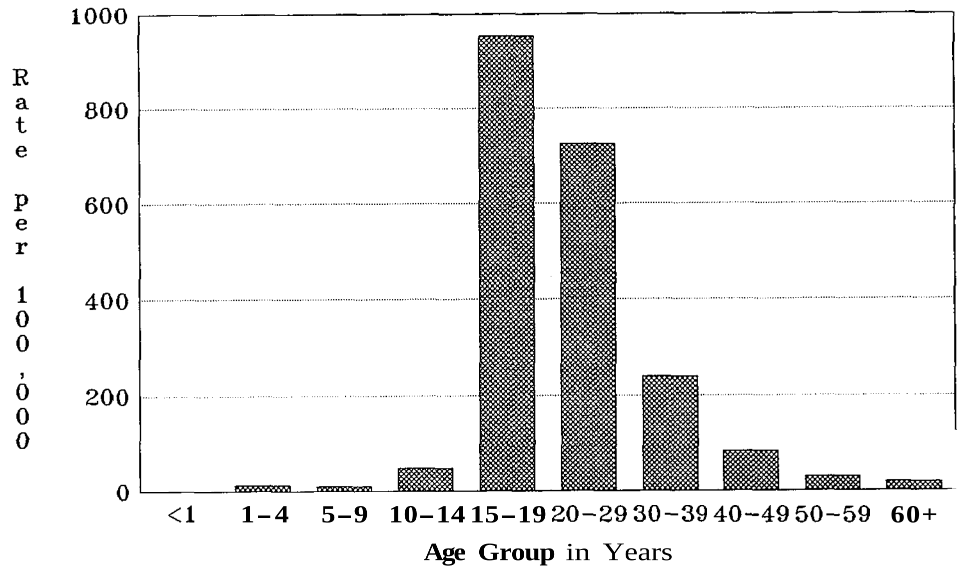
Gonorrhea morbidity decreased in Texas in 1990; the 43,231 cases reported was the lowest reported statewide since 1969. Likewise, the incidence rate of gonorrhea continued to decline to 254.5 cases per 100,000 population, a trend which began in 1979.

Teenagers and young adults 15-24 years of age accounted for 58% (25,417) of the reported gonorrhea cases statewide and experienced the highest age-specific incidence rates as illustrated in Figure 26. The percentage of cases among blacks remained unchanged at 76% (32,629). The ratio of males to females also did not change significantly in 1990 as 61% of cases were male.

Almost half of the state's population resides in seven Texas counties (Bexar, Dallas, El Paso, Harris, Nueces, Tarrant, and Travis). These counties reported 71% of the gonorrhea cases in 1990. The distribution of incidence rates in individual counties is illustrated in Figure 27.

Figure 26

Reported Cases of Gonorrhea per 100,000 Population by Age Group, Texas, 1990



Resistant Gonorrhea

During 1990, 2725 cases of penicillinase-producing *Nekseria gonorrhea* (PPNG) were reported in Texas, more than doubling the number reported in 1989. Morbidity reported in Harris County increased 222% from 618 cases in 1989 to 1,990 in 1990, and Harris County reported 73% of the Texas total. Dallas reported 248 cases of PPNG, an increase of 47% over the 169 cases reported in 1989.

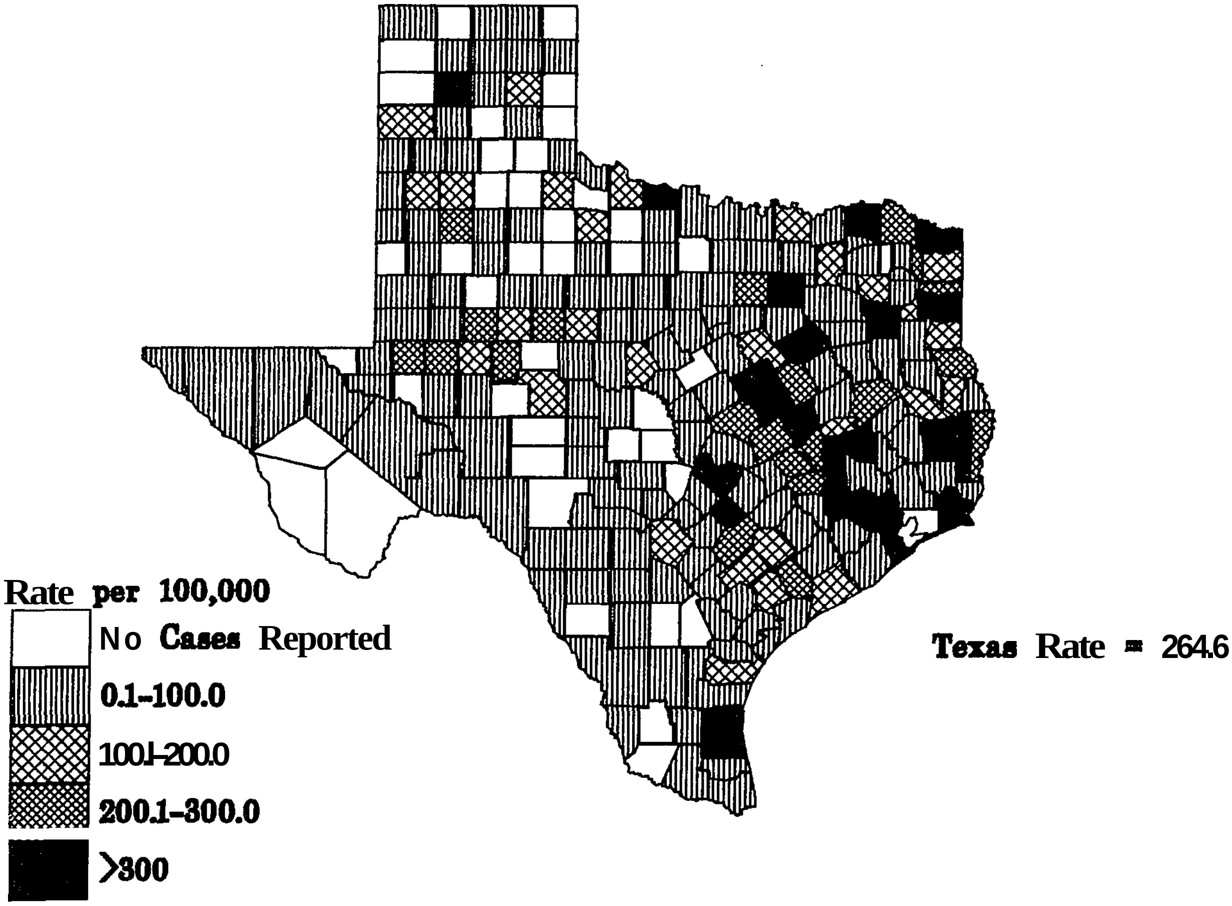
Chromosomally mediated-resistant *Neisseria gonorrhea* (CMRNG) is the result of naturally occurring genetic mutations coupled with antibiotic exposure which eliminates sensitive organisms. CMRNG was first reported in Texas in August 1985 in San Antonio and Dallas, and periodic surveillance for CMRNG continues throughout the state. Reports of CMRNG decreased from 142 cases in 1989 to only 64 cases in 1990. The 1989 STD Treatment Guidelines, published by the Centers for Disease Control, dropped penicillin as a recommended therapy for gonorrhea because of the large number of antibiotic resistant cases reported nationwide.

Pelvic Inflammatory Disease

Pelvic inflammatory disease (PID) is the most common complication of untreated gonorrhea and chlamydia in women. Because PID can cause women to experience ectopic pregnancy,

Figure 27

Reported Cases of Gonorrhea per 600,000 Population by County of Residence, Texas, 1990



sterility, and additional recurrent infections, an aggressive intervention and follow-up program has been established between local health departments, STD Control Programs, and hospitals likely to diagnose and treat PID. In 1990, 1604 cases of PID were reported in Texas; 361 cases were caused by chlamydia and 1,243 by gonorrhea. This represented a 4% decrease from PID reported in 1989.

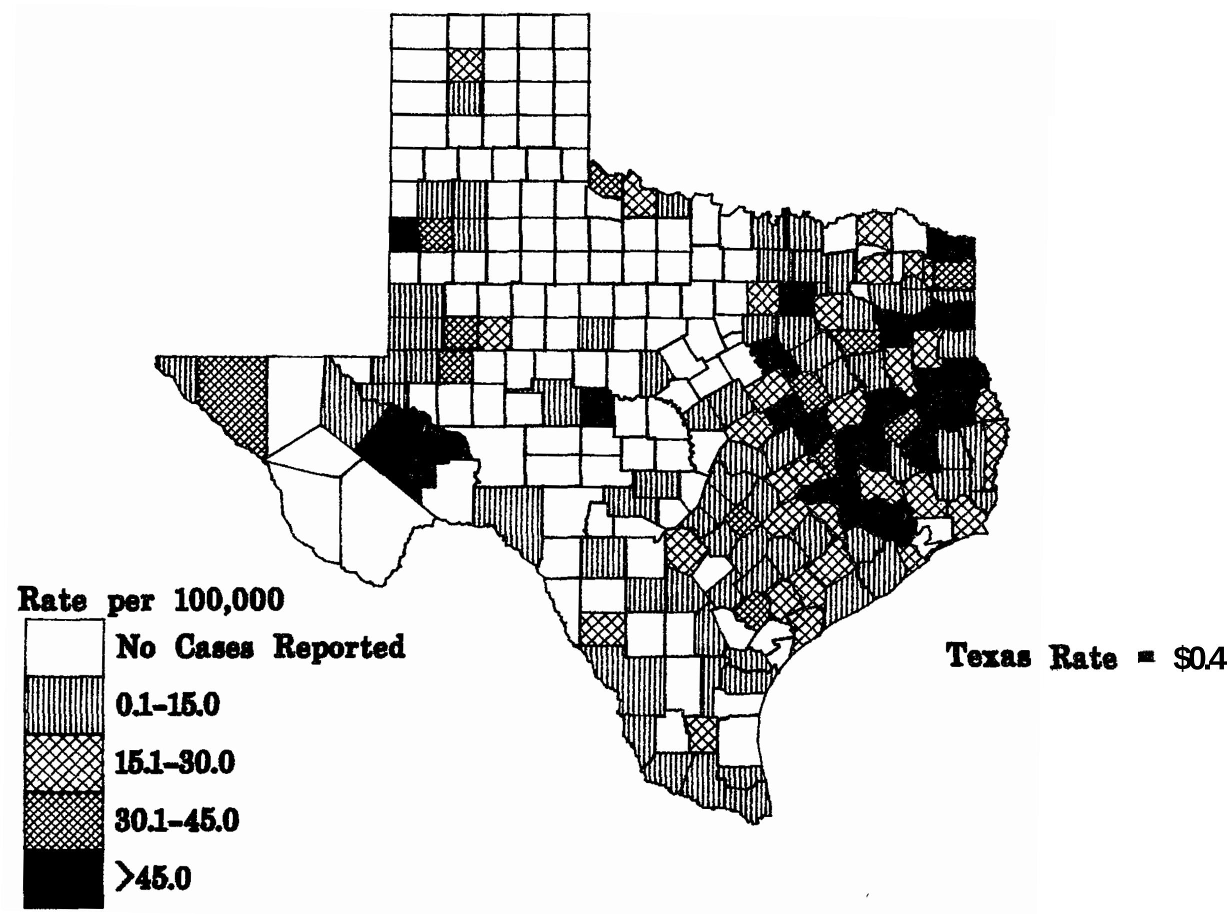
Syphilis

Primary and secondary (P&S) syphilis morbidity in Texas increased significantly for the second consecutive year in 1990. The 5,165 cases of P&S syphilis reported in Texas in 1990 represented a 21% increase over the 4,267 cases reported in 1989, and the incidence rate of 30.4 cases per 100,000 population was the highest reported in Texas since 1984.

As was true for gonorrhea, **69%** of the **P&S** cases in the state were reported from the seven largest metropolitan counties, and Harris County reported **35%** (1,806) of the state total. Except for the increases which occurred in Harris and Travis counties, **46%** and 21%, respectively, all other major urban counties reported decreases of P&S syphilis in 1990. The distribution of incidence rates in individual counties in Texas is illustrated in Figure 28

Figure 28

Reported Cases of Primary & Secondary Syphilis per 100,000 Population by County of Residence, Texas, 1990

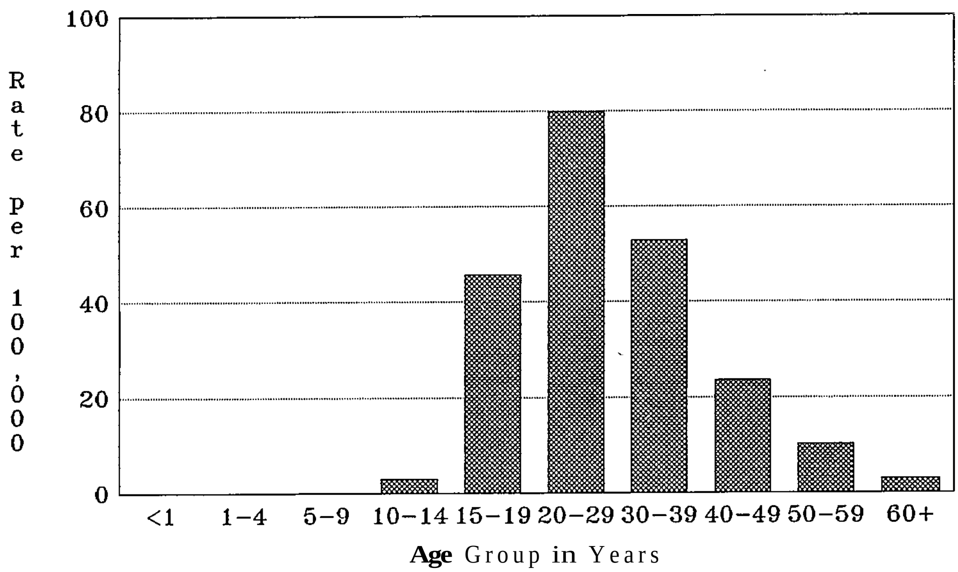


Gonorrhea occurs more frequently in those under 24 years of age, but patients with P&S syphilis tend to be older. Sixty-seven percent of the Texas cases in 1990 were 25 years of age or older, and the highest age-specific rate (79.8) was reported among those 20-29 years of age (Figure 29). Like gonorrhea, minority populations are disproportionately represented. Blacks accounted for 79% of the P&S syphilis in 1990, compared with 73% of the cases in 1989.

Morbidity from early latent syphilis increased from 3,384 cases in 1989 to 5,075 cases in 1990. The geographic distribution of cases was similar to that of P&S syphilis.

Figure 29

Reported Cases of Primary & Secondary Syphilis per 100,000 Population by Age Group, Texas, 1990



Congenital Syphilis

Before 1988, the reporting of congenital syphilis was inconsistent throughout the United States. In July 1988, however, in an effort to standardize national reporting, the Centers for Disease Control implemented new guidelines for congenital syphilis surveillance.

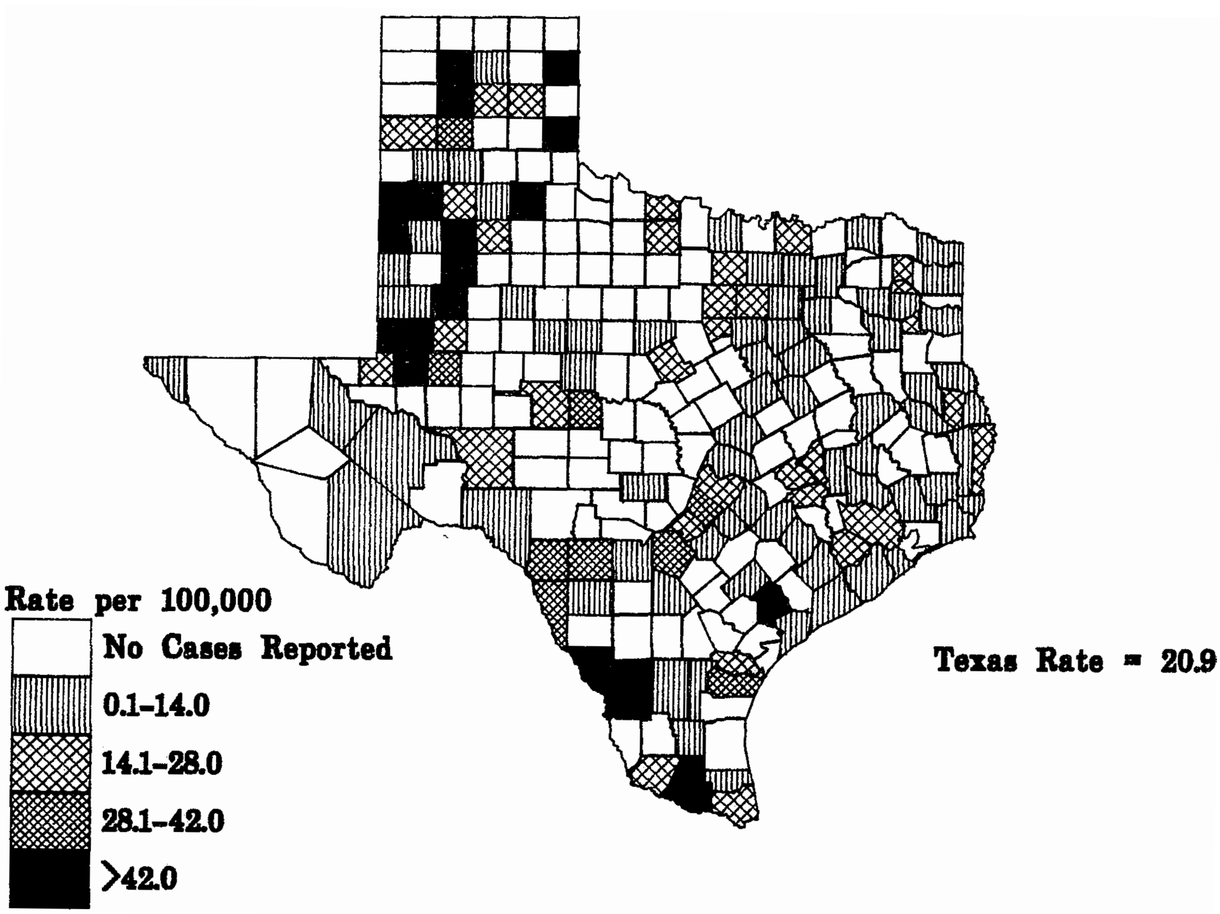
Congenital syphilis morbidity more than doubled in 1990 as 211 cases were reported; only 95 cases were reported in 1989. There is evidence that the increased emphasis on surveillance resulted in the identification and reporting of congenital cases in rural areas of the state. In 1989, the seven largest metropolitan counties (Bexar, Dallas, El Paso, Harris, Nueces, Tarrant, and Travis) reported 90% of the congenital syphilis in Texas; in 1990, however, those same seven counties reported only 77% of the cases. At least one case occurred in every public health region in Texas. Public Health Region 7 reported eight cases in 1990 after reporting none in 1989. Harris County continued to report the majority (106 cases) of Texas' congenital syphilis.

SHIGELLOSIS

A total of 3,550 cases of shigellosis were reported in Texas, more than doubling the number reported in 1989. This was the greatest number of cases ever reported in a single year, and resulted in an annual statewide incidence rate of 20.9 cases per 100,000 population. The geographic distribution of shigellosis by county is illustrated in Figure 30. The actual numbers of cases in individual counties and their corresponding incidence rates are provided in the Regional Statistical Summaries section.

Figure 30

Reported Cases of Shigellosis per 100,000 **Population**
by County of Residence, Texas, 1990



Thirty-four percent of the cases reported were children under four years of age. Children 1-4 years of age experienced the highest age-specific incidence rate, 96.6 cases per 100,000 population. The incidence of shigellosis was significantly higher in Hispanics 44.6 cases per 100,000 population than in whites (8.3) or blacks (16.7). The serotype was identified and reported for 60% of the cases. Of the 2,122 cases for whom this information was known, 71% were S. sonnei, 25% S. *flexneri*, 2% S. boydii, and 2% S. *dysenteriae*.

Nine outbreaks of shigellosis were reported to the Infectious Diseases Program in 1990. Together these outbreaks accounted for 14% of the cases of shigellosis reported in Texas. The outbreaks ranged in size from 5-417 cases. The largest outbreak of shigellosis in 1990 occurred in Hidalgo County. The cases were associated with eating at a local restaurant. *Shigella* sonnei was identified in the stool of two persons who ate at the restaurant and one restaurant employee. The other eight outbreaks involved 4 day-care centers, 1 nursing home, 2 elementary schools, and 1 hotel restaurant. These outbreaks occurred in five cities. Houston reported four outbreaks, and Weatherford, Austin, Arlington, and Victoria reported one outbreak each. These outbreaks involved from 5-18 individuals. *Shigella* sonnei was identified in all but one outbreak where S. *flexneri* was identified.

Two deaths related to shigellosis were reported in 1990. One of the deaths occurred in a 47-year-old Hispanic male with a history of chronic renal failure and diabetes mellitus. The other death occurred in a four-year-old Hispanic male with cerebral edema and brainstem herniation. **S.** *flexneri* and **S.** sonnei were the species involved in the deaths. Neither of the deaths were associated with an outbreak.

TETANUS

Seven cases of tetanus were reported in Texas during 1990. The patients ranged in age from 52-90 years; median age was 76 years. The majority (71%) of patients were female.

As is usual with tetanus, the majority (57%) of patients had never been vaccinated against the disease. The vaccination status for two patients could not be established. One individual thought she had received a tetanus shot "about ten years ago" but wasn't sure.

The types of injuries which resulted in tetanus infections included abrasions on the leg sustained while gardening; a puncture to the foot caused by a rusty wire; a second-degree burn on the leg; a laceration of the arm; a severe dog scratch on the arm; and a wood splinter in the arm. A 73-year-old man diagnosed with tetanus in 1990 had no evidence of a injury or wound. He had, however, a habit of cleaning dirt fromunder his toenails with a rusty pocket knife and could have sustained an inapparent injury through this activity.

Two elderly women who were diagnosed with tetanus in 1990 died resulting in a case-fatality rate of 29%. A 78-year-old woman with a history of at least one dose of vaccine had a wood splinter in her forearm for seven days when she developed symptoms of tetanus. She died 12 days after being hospitalized. An 89-year-old woman, who had never been vaccinated, fell in her yard and lacerated to her arm. She sought no medical attention for her initial injury, but was hospitalized 12 days later when she experienced onset of symptoms. She died 11 days later.

Two additional cases of tetanus were diagnosed and reported to the Texas Department of Health during 1990. These cases were, however, not included in Texas morbiditybecause both patients resided outside the state. One case was referred to the Florida Department of Health and Rehabilitative Services, whereas the other was a migrant worker who returned to Mexico upon his release from the hospital.

TUBERCULOSIS

There was a 17% increase in Texas' tuberculosis morbidity in 1990 over 1989; 2242 cases were reported in 1990 compared to 1,915 cases in 1989. Likewise, the incidence rate rose in 1990 to 13.2 cases per 100,000 population and was the highest reported in Texas since 1982. As in previous years, incidence rates were highest in the public health regions (PHRs) with counties bordering Mexico and in the metropolitan areas of the state. Sixty-five percent of the cases resided in PHRs 3, 4, 6, and 8, and 59% of the cases resided in the seven major metropolitan areas (Austin, Corpus Christi, Dallas, El Paso, Fort Worth, Houston, and San Antonio). Houston accounted for 26% of the states morbidity.

Tuberculosis is a systemic disease with diverse manifestations. Although the site of disease involvement is usually the lungs, extrapulmonary tuberculosis represents about 15% of cases reported annually. Thirteen percent of the Texas cases in 1990 were extrapulmonary; of these, 158 affected both the lungs and other sites. Definitive diagnosis of tuberculosis usuallyrequires the demonstration of *Mycobacterium tuberculosis* by microscopy and culture in tissues or secretions. During 1990, 71% of the cases were confirmed through positive bacteriologic examinations of smears and cultures. The remaining diagnoses were based on chest x-rays and other clinical evidence.

Persons who are infected with the human immunodeficiency virus (HIV) are one of the most important risk groups for tuberculosis. The nationwide excess in observed tuberculosis cases over expected cases has been attributed largely to AIDS patients who are also infected with tuberculosis. Although these dual infections contribute to the excess of tuberculosis in Texas, the number of individuals with both infections has not been enough to account for the entire excess. Through 1990,549 cases of tuberculosis have been confirmed in HIV-infected persons in Texas.

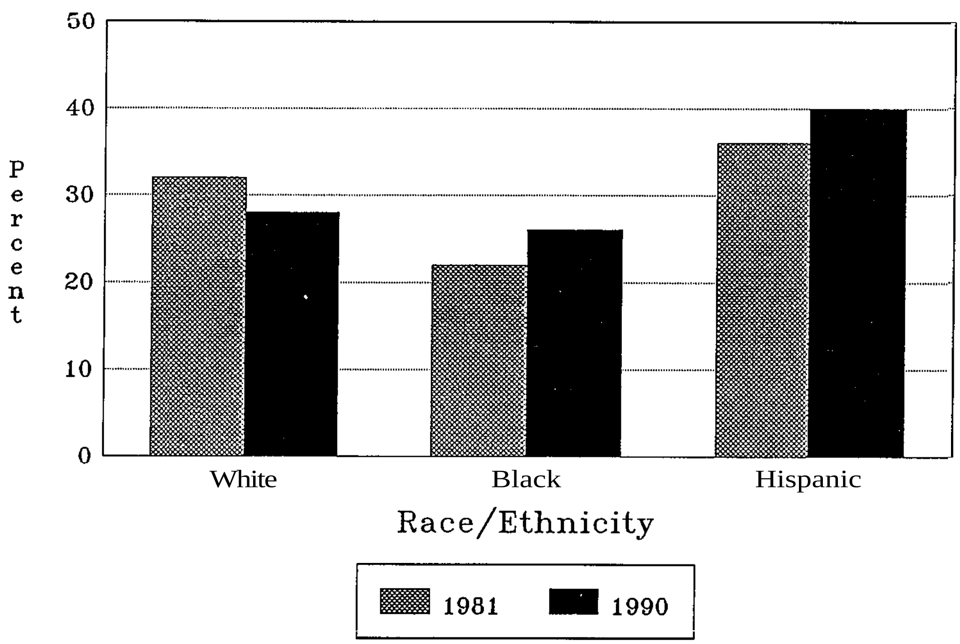
Foreign-born persons are another important population group at risk of developing tuberculosis. There were 118 cases of tuberculosis reported in individuals designated as refugees in 1990, an increase of 27% over 1989. In some areas of the United States, tuberculosis infection levels in refugee populations have been reported as high as 65%. In Texas, refugee health screening has revealed infection rates of 30-40% in this population. Twenty-four percent (531) of the tuberculosis cases in Texas in 1990 were born outside the United States; the majority (68%) of these were from Mexico.

The importation of tuberculosis into the state is only a part of Texas'border health problem. A number of tuberculosis cases live part-time both in Mexico and in Texas. This lifestyle contributes to interruptions in therapy, the inability to trace contacts, and continued transmission of disease on both sides of the border.

Another trend of tuberculosis morbidity in Texas has been the increasing proportion of cases in minorities as illustrated in Figure 31. Blacks and Hispanics represent 12% and 26% of the Texas population, respectively, yet 26% of the Texas cases in 1990 were black, and 40% were Hispanic. Blacks and Hispanics accounted for 22% and 36% of the cases in 1981, respectively; likewise the incidence of tuberculosis among blacks increased from 26 cases per 100,000 population in 1981 to 29 cases in 1990. In contrast, 32% of the tuberculosis cases in Texas in 1981 were white, but whites accounted for only 28% of the cases in 1990.

Figure **31**

Distribution of Tuberculosis in Texas
by **Race/Ethnicity, 1981** and **1990** Compared

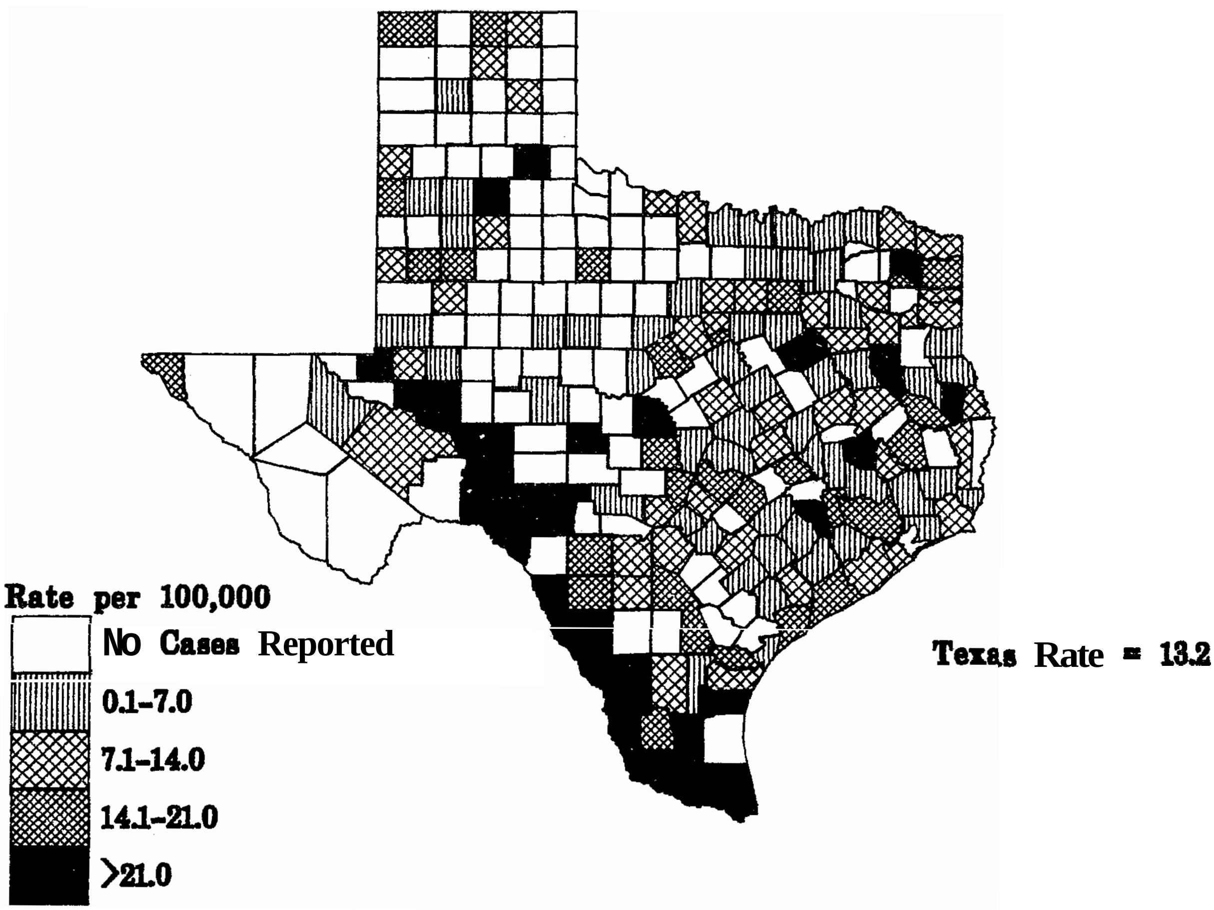


In addition to certain groups with rates of tuberculosis higher than expected, there are also areas of the state which have higher incidence rates of disease. Again, 59% of Texas' cases resided in the seven most populous metropolitan areas of the state. Inmates incarcerated in Texas Department of Criminal Justice facilities experienced tuberculosis at a rate of 144.9 cases per 100,000 of that population. Other counties with high incidence rates were Dallas (15.3), Travis (17.7), El Paso (17.9), Harris (20.4), and a four-county area of the lower Rio Grande Valley including Cameron (32.7), Hidalgo (32.6), Starr (24.7), and Willacy (45.2) counties (Figure 32).

Screening of the general population for tuberculosis is an inefficient method of detecting infection and disease, however, the screening of selected sub-populations such as refugees, the homeless, HIV-infected persons, and intravenous drug users is appropriate. Tuberculosis screening is also recommended in institutions where transmission is likely to occur., i.e., correctional facilities, nursing homes, and hospitals.

Figure 32

Reported Cases of Tuberculosis per 100,000 Population by County of Residence, Texas, 1990



TYPHOID FEVER

Twenty-eight cases of typhoid fever were reported to the Texas Department of Health during 1990. *Salmonella typhi* was cultured from blood specimens in 22 of the cases. Five of the other six cases had *S. typhi* cultured from a stool specimen, and one had *S. typhi* cultured from the peritoneal fluid. The cases resided in 16 different counties in Texas. Both Dallas and Harris counties reported five cases each.

The cases ranged in age from 1-70 years; the median age was 23. The majority (54%) of cases were male. Fourteen of the cases were Hispanics; 9 were Asian/Pacific Islanders; one was black; and two were white. A 27-year-old, black male from Tarrant County died in June 1990 from typhoid fever. The majority of the cases (54%) occurred between June and September.

Fifteen of the cases traveled outside the United States during the month preceding onset of symptoms and were considered imported cases. Travel to India was the source of exposure for eight cases. Mexico accounted for six additional cases, and one case reported travel to Pakistan. Eight cases had exposure to *S. typhi* within Texas, but the specific source of exposure for these cases was unknown. Travel history was not available for five of the cases.

VIBRIO INFECTIONS

There were 25 culture confirmed *Vibrio* infections reported in Texas during 1990. The patients ranged in age from 2-98 years; median age was 41 years. The majority (68%) of the cases were male. Whites accounted for 12 (48%) of the cases; 2 (28%) were black; 8 (12.0%) were Hispanic; and 3 were Asian/Pacific Islander. The 25 cases resided in 14 counties throughout Texas; Harris County reported eight (32%) cases.

Five species of *Vibrio* were identified. They included *V. cholerae* non 01 (6), *V. vulnificus* (8), *V. parahaemolyticus* (5), *V. fluvialis* (3), and *V. mimicus* (2). Both *V. vulnificus* and *V. parahaemolyticus* were identified in specimens submitted from one patient. No cases of *V. cholerae* 01 were reported. The organisms were cultured from wounds (9), stool (7), blood (6), blood and another body fluid (2), and the ear (1). Table 2 indicates the type of exposure by pathogen.

Exposure history was known for 19 of the 25 cases. The consumption of raw or undercooked seafood accounted for 10 cases. Five cases sustained wounds while fishing, swimming, or windsurfing. Two exposed preexisting wounds to seawater, one while fishing, the other while hydroblasting. One case was bitten by a dog and the wound subsequently became infected. A child developed an ear infection after swimming in the Gulf of Mexico.

There were five deaths in 1990 caused by *Vibrio* infections. Four of the five infections were associated with the consumption of raw or undercooked seafood. The source of infection for one death was unknown. The individuals who died ranged in age from 36-98 years; all were male. *Vibrio vulnificus* was associated with three of the deaths, and *V. cholerae* non 01 was associatedwith two. *Vibrio vulnificus* was identified in blood cultures from three of the patients who died. *Vibrio cholerae* non 01 was identified in blood cultures of the other two and was also cultured from a wound of one the patients. Three of the individuals who died had histories of preexisting medical conditions; these included liver disease, IV drug use, malignancy, steroid use, and alcoholism.

Table 2

Reported Vibrio Infections in Texas
by Type of Exposure and Species of Organism, 1990

Species	Seafood Exposure	Water Exposure	Other/Unk Exposure	Total
Cholerae non-01	3	1	2	6
Vulnificus	5	4	0	9
Parahaemolyticus	0	4	1	5
Fluvialis	0	0	3	3
Mimicus	2	0	0	2
Total Cases	**10**	**9**	**6**	**25**

VIRAL HEPATITIS

Viral hepatitis is a collective term used to described inflammation of the liver which is the primary outcome of a viral infection. Viral hepatitis continues to be a major public health problem throughout the United States, and presently, there are at least four distinct types of viral hepatitis in this country: A, B, C, and D. Hepatitis C is the newly described causative agent for the majority of hepatitis reported as non-A, non-B. Even though the epidemiologic characteristics of the different forms of hepatitis are unique, the symptoms of the resulting diseases are similar. The clinical syndrome consists of fatigue, malaise, anorexia, right upper quadrant discomfort, jaundice, dark urine, nausea, and diarrhea.

In addition to the four types of viral hepatitis, there is another reporting category used for recording cases reported as "hepatitis unspecified." This category is used primarily for reporting cases that have not been laboratory confirmed.

In 1990,4929 cases of viral hepatitis were reported in Texas, representing a 15% decrease in cases from the 5,830 reported in 1989. The numbers of cases and corresponding incidence rates for individual counties are provided in the Regional Statistical Summary section of this report beginning on page 87.

Hepatitis A

Case Total	2,722
Counties Reporting	149
Statewide Annual Incidence Rate	16.0 cases per 100,000 population
By Race/ethnicity	
Whites	7.4 cases per 100,000 population
Hispanics	38.1 cases per 100,000 population
Blacks	4.9 cases per 100,000 population
Male:Female Ratio	1:1
Deaths	6
Case-fatality Rate	0.2%

Of all the forms of viral hepatitis present in this country today, hepatitis A is the only one that is transmitted primarily via a fecal-oral route. Stools are infectious prior to the prodromal phase of symptoms through onset; infectivity declines usually when jaundice occurs. Hepatitis A is an acute, self-limiting disease of relatively short duration. The incubation period is approximately four weeks following exposure, and recovery is generally uneventful.

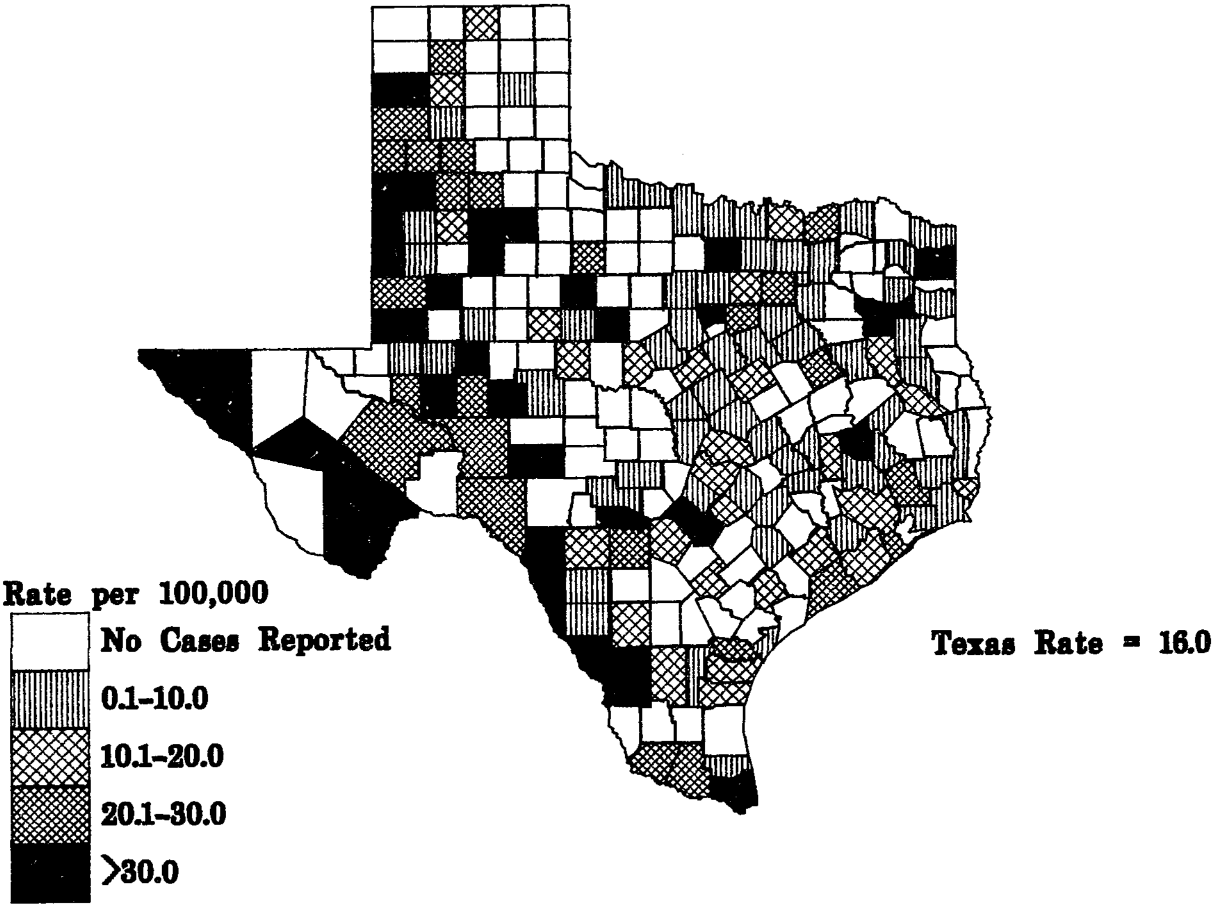
In 1990, there were 2,722 cases of hepatitis A, a 15% decrease from the 1989 case total of 3,211. The geographic distribution of incidence rates by county is presented in Figure 33. Ninety-eight percent of cases were diagnosed serologically.

Figure 34 shows the incidence of hepatitis A among by age group. Hepatitis A is a disease seen primarily among children of all ages and young adults. Forty-one percent of the cases occurred in children 5-14 years of age, and 86% of cases were reported among persons less than 40 years of age. Children 5-9 years of age had the highest annual incidence rate, 53.9 cases per 100,000 population. This trend in age distribution comes as no surprise, as the population as a whole tends to acquire hepatitis A in childhood, and adults benefit from long-term immunity. The spread of hepatitis A is facilitated in settings characterized by close contacts, poor personal hygiene, and inadequate environmental hygiene. Child-care centers and schools provide opportunities for children to come in contact with persons infected with hepatitis A, and subsequent transmission takes place among family members and friends. The illness frequently goes unrecognized in very young children because hepatitis A can be asymptomatic. Consequently, hepatitis A in children under five may never be diagnosed or reported. By the age of five, children will show more of the classic symptoms of hepatitis, such as jaundice. Asymptomatic cases are important in maintaining disease in the community.

As in previous years, cases were distributed equally between males and females. The incidence in Hispanics was approximately eight times that for blacks and five times that for whites. Among Hispanics, children are at highest risk for acquiring hepatitis A; 79% of the cases in this ethnic group were under 20 years of age. In contrast, white and black children 5-9 years of age, as well as young adults 20-34 years, had the highest incidence rates. The factors that place Hispanics at

Figure 33

Reported Cases of Hepatitis A per 100,000 Population
by County of Residence, Texas, 1990



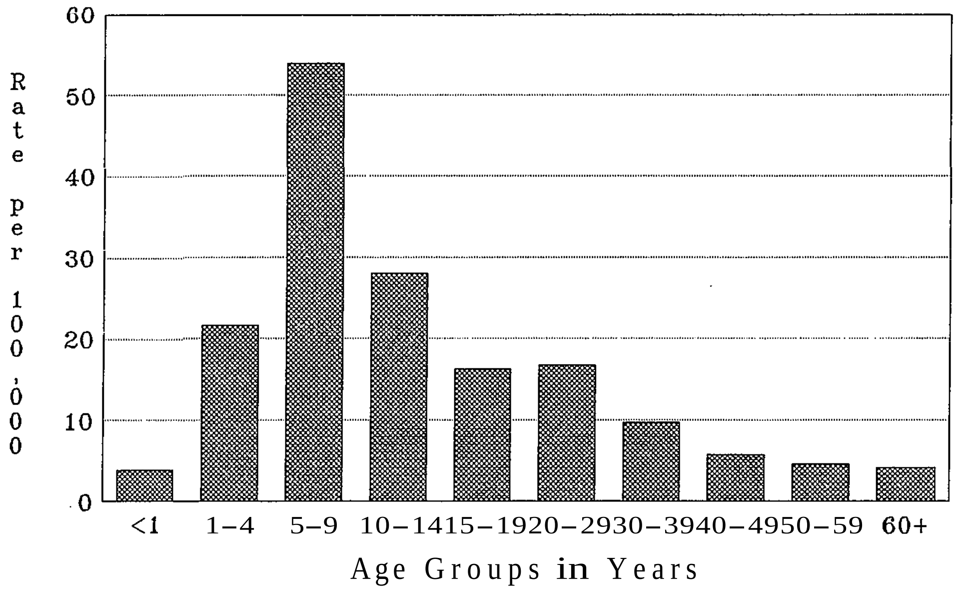
highest risk for hepatitis A are not known specifically, but lower socioeconomic conditions characterized by crowded living quarters and inadequate potable water and sewage treatment are ideal for the transmission of hepatitis A. In counties which have rapidly-growing subdivisions known as colonias, the incidence of hepatitis A ranges 2-5 times higher than the state rate.

Six individuals reported with hepatitis A in 1990 died as a result of their illness. The deaths were typical of acute, fulminant hepatitis, i.e., patients ranged in age from 4-90 years (mean age was 60); 67% were female; and 67% were white.

Three outbreaks of foodborne hepatitis A were reported to Texas Department of Health in 1990. The first took place in Orange (Orange County) during March and involved 12 patrons of a local restaurant who were diagnosed with hepatitis A. None of the restaurants foodhandlers, however, were ill, and none tested positive for IgM anti-HAV. No additional cases occurred after immune globulin was administered. The second outbreak involving 14 cases occurred in Garden City (Glasscock County), east of Midland, and began in late September

Figure 34

Reported Cases of Hepatitis A per 100,000 Population by Age Group, Texas, 1990



ending in late November. This outbreak resulted in an annual incidence rate of 967.5 cases per 100,000 for the county. The third cluster was located in Longview (Gregg County), east of Tyler. Twenty-one adults developed hepatitis A in this outbreak, and a foodhandler was found to be positive for IgM anti-HAV. Interestingly, all of the cases in the three outbreaks were white.

Hepatitis B

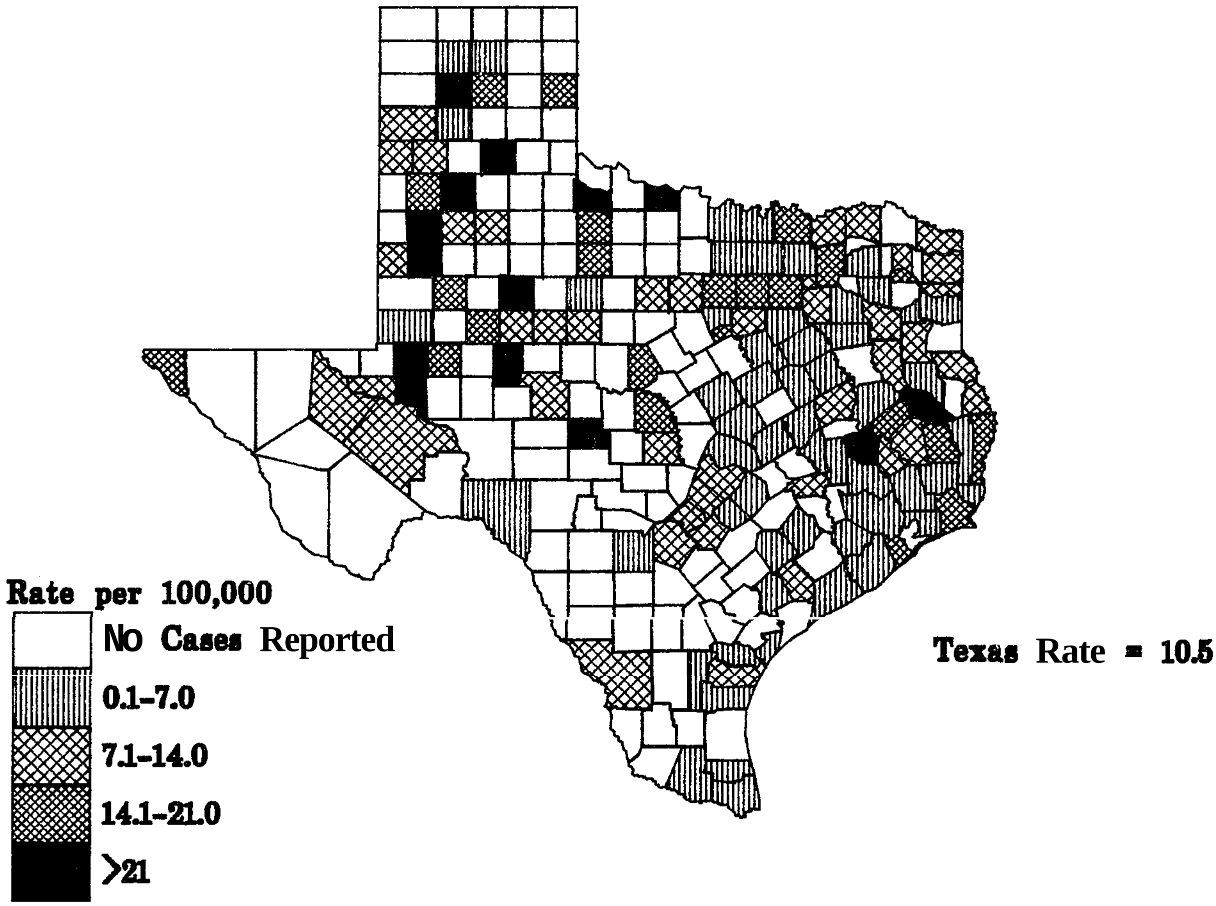
Case Total	1,789
Counties Reporting	134
Statewide Annual Incidence Rate	10.5 cases per 100,000 population
By Race/ethnicity	
Whites	6.1 cases per 100,000 population
Hispanics	10.4 cases per 100,000 population
Blacks	14.1 cases per 100,000 population
Male:Female Ratio	1.5:1
Deaths	22
Case-fatality Rate	1.2%

Hepatitis B is the most common and best understood form of bloodborne hepatitis. The hepatitis B virus (HBV) is transmitted via direct contact with infectious blood and body fluids (semen, vaginal secretions, saliva) through sexual contact, IV drug use, occupational exposure in health-care settings, and perinatal contact. The incidence of hepatitis B is increasing throughout the United States despite the availability of an effective and safe vaccine.

There were 1,789 cases of hepatitis B reported in Texas in 1990, a slight decrease from 1989 morbidity. The statewide annual incidence rate exceeded ten cases per 100,000 population for the second year in a row. Figure 35 illustrates the geographic distribution of cases by county for 1990. Ninety-nine percent of the reported cases were diagnosed by serology.

Figure 35

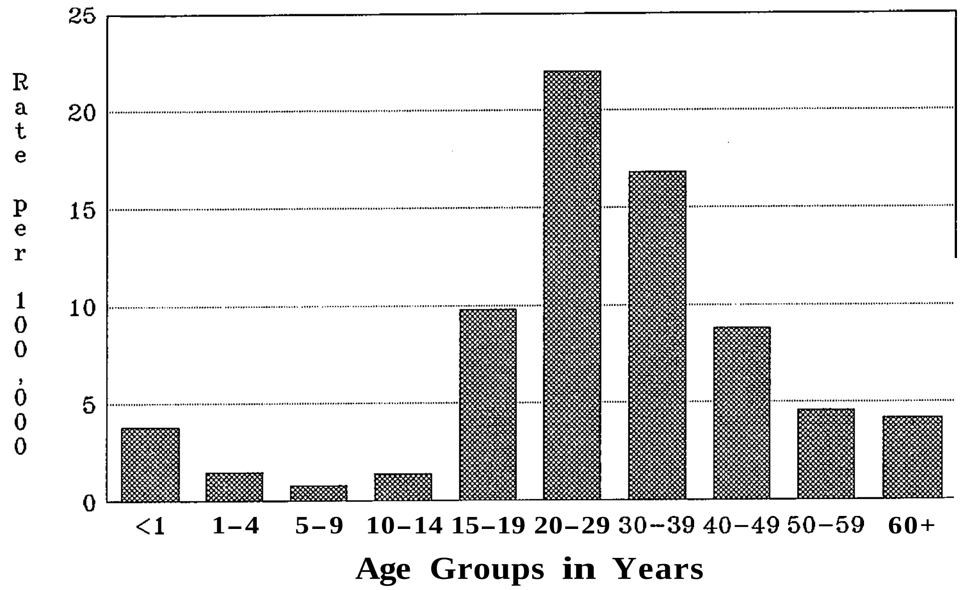
Reported Cases of Hepatitis B per **100,000** Population
by County of Residence, Texas, **1990**



The distribution of cases by age group (Figure **36)** differs significantly from that for hepatitis **A.** Hepatitis B occurs primarily among teenagers and young adults, a population with several potential risk factors such as sexual activity, especially with multiple partners, and IV drug use. Three out of every four cases were 15-49 years of age. Nine cases were infants less than one year old, and five of these were newborns. These neonatal cases presumably were identified through the efforts of hepatitis B screening and intervention programs for mothers and their infants.

Figure 36

Reported Cases of Hepatitis B per 100,000 Population by Age Group, Texas, 1990



Hepatitis B is reported more frequently among males than females, the male:female ratio ranging from 1.5:1 to 2:1 on a yearly basis. The distribution of cases by race/ethnicity and sex differs from hepatitis A; the incidence of hepatitis B in blacks is three times higher than that for A, and the incidence of B among Hispanics is one-fourth the incidence of **A.**

Twenty-two patients reported with hepatitis B died in 1990, and death certificates on 20 were reviewed. Ninety percent of the certificates indicated fulminant hepatitis or hepatic failure as the immediate cause of death. The deaths ranged in age from 20-77 years; mean age was 49 years. All but three of those who died were male. The distribution by race/ethnicity was 15 whites (68%), 5 Hispanics (23%), 1 black (5%), and 1 Asian (5%).

Hepatitis D

Hepatitis D is a blood- and body fluid-borne disease of the liver caused by hepatitis D virus (HDV). HDV is unique among the hepatitis viruses in that it is a defective virus which cannot replicate totally on its own. It requires "helper functions" drawn from active hepatitis B virus (HBV) infections. Therefore, hepatitis D infections can occur only in persons who have either acute hepatitis B or are chronic carriers of HBsAg. When a person has both acute hepatitis D and B, the term describing this situation is coinfection, and when a HBV carrier contracts hepatitis D, it is referred to as a superinfection. Because the two infections go hand in hand, the epidemiology of hepatitis D is much like hepatitis B. Persons at highest risk for hepatitis D are

IV drug users, homosexual males, sexually active persons with multiple partners, and persons with frequent exposures to blood, blood products, and body fluids.

A diagnosis of hepatitis D should be considered whenever an HBsAg-positive patient experiences severe symptoms of hepatitis. A serologic test for anti-HDV is available through numerous commercial laboratories.

One case of hepatitis D was reported in Texas in 1990. The patient was a 36-year-old, black male and was an inmate at the state correctional facility in Huntsville. His medical history showed that he contracted hepatitis B in August 1989 and became positive for hepatitis D in June 1990. Based on this information, it appears that this represents a superinfection in a hepatitis B carrier. The patient's condition deteriorated rapidly beginning in October 1990, and he died on November 11.

Hepatitis C & Non-A, Non-B Hepatitis

Case Total	130 (15 reported as hepatitis C)
Counties Reporting	46
Statewide Annual Incidence Rate	0.8 cases per 100,000 population
By Race/ethnicity	
Whites	0.6 cases per 100,000 population
Hispanics	0.8 cases per 100,000 population
Blacks	1.0 cases per 100,000 population
Male:Female Ratio	1.5:1
Deaths	6
Case-fatality Rate	4.6%

Hepatitis C is responsible for 90% of all post-transfusion viral hepatitis and is presumed to be the etiologic agent in sporadic, community-acquired NANB. The disease is most definitely a major contributor to morbidity due to contact with infectious blood and body fluids. The virus resembles those classified as Flaviviruses of the family Togaviridae and are characterized as enveloped, RNA viruses. Hepatitis C infection has an incubation period of approximately seven weeks. In spite of the fact that symptoms of hepatitis C are less severe than those of A or B, the disease is more serious. Half of hepatitis C infections in adults progress to the chronic carrier state and ultimately more serious liver diseases such as cirrhosis.

Travis County reported 47 cases, or 36% of all the NANB in Texas for 1990. Cases occurred throughout the year with no evidence of clustering. The majority of cases (71%) occurred in adults ranging in age from 20-49 years, and 91% of the cases were 20 years of age and older. NANB morbidity in the older adults is often associated with transfusions and receipt of blood products. It is hoped that this trend will decline as blood banks continue to implement hepatitis C antibody screening. In general, three males were diagnosed with NANB for every two females, and overall incidence was almost equal among the three main race/ethnicity groups.

Prior to May 1990 when the test for anti-HCV became available, the diagnosis of **NANB** was one of exclusion. Hepatitis **A** and **B** were ruled out, usually through serology. The majority (71%) of cases reported in 1990 were, however, diagnosed clinically. The remaining 29% were diagnosed serologically.

There were six deaths attributed to **NANB** in 1990, equally divided between males and females. The deceased ranged in age from 15-82 years; mean age was 54. All but one of those who died were white. Fulminant hepatitis and renal and hepatic failure were listed as immediate causes of death.

Fifteen of the 130 **NANB** cases (12%) were identified as acute hepatitis C infections. Ten of the hepatitis C cases were male and five were female. The patients ranged in age from 23-76 years; mean age was 39. Sixty-seven percent (10/15) of the cases were white. All had distinct dates of onset, and symptoms included jaundice, nausea, vomiting, and fatigue; liver function tests were elevated and reported in nine cases.

In contrast, the picture was very different for the 80 individuals who were positive for anti-HCV but who were not considered acute hepatitis C cases. Information was available for 72 patients. Of these, 33 (46%) had cirrhosis or some form of chronic hepatitis; 17 (24%) were screened either at blood banks or for a medical reason unrelated to a diagnosis of hepatitis; 12 (17%) had a history of transfusion, receipt of blood products, or had undergone dialysis; 9 (13%) had a history of drug, alcohol, or substance abuse; and the others were screen for assorted reasons or symptoms. *As* a group, the anti-HCV positive patients were slightly older than the acute cases; mean age was 48 years (range, 17-81). The distribution of patients by race was 42% white, 41% Hispanics, and 14% black, and the majority (54%) of the patients were male. These data support the observation that the serologic test for anti-HCV is positive more frequently in patients with advanced liver disease, compared with the rates of anti-HCV seroconversion early after onset in cases of suspected acute hepatitis C. Studies have shown a delay in seroconversion in acute hepatitis C infections, sometimes as long as six months to a year after onset. Consequently, the serologic diagnosis of hepatitis C requires additional clinical information in order to arrive at the right conclusion.

Hepatitis Type Unspecified

Case Total	287
Counties Reporting	47
Statewide Annual Incidence Rate	1.7 cases per 100,000 population
By Race/ethnicity	
Whites	0.8 cases per 100,000 population
Hispanics	3.6 cases per 100,000 population
Blacks	1.6 cases per 100,000 population
Male:Female Ratio	1:1
Deaths	5
Case-fatality Rate	1.7%

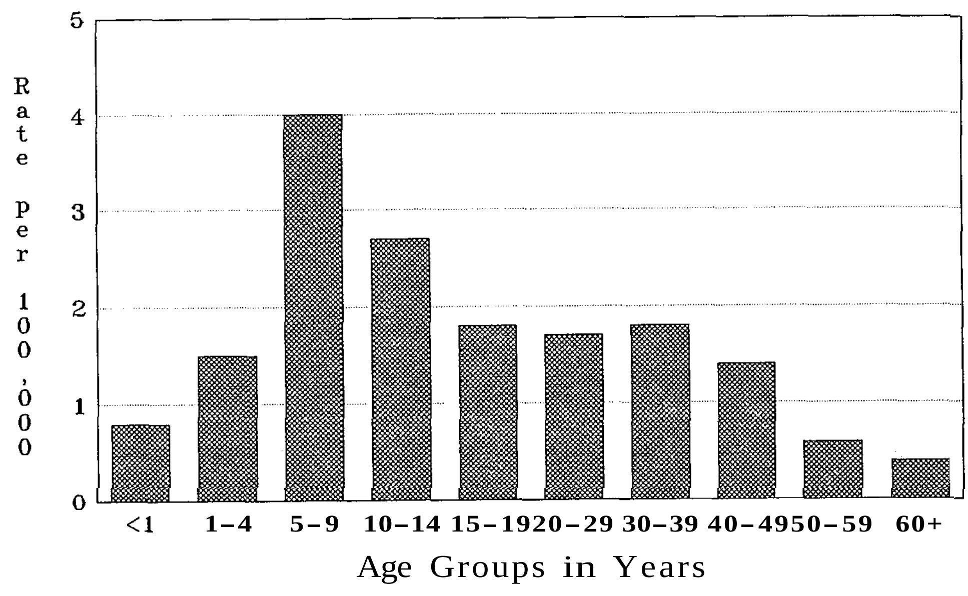
There has been a steady decline in the number of reported cases of hepatitis unspecified since 1983 when the statewide total reached an all-time high of 2,387 cases. This was most likely the result of the increasing use of specific serology tests to diagnose hepatitis A, B, and C. Hepatitis unspecified is a category used only for reporting cases of hepatitis that have not been laboratory confirmed. In 1990, 269 cases (94%) were reported based on clinical diagnosis.

Figure 37 illustrates the incidence of cases by age group; the striking similarity to that of hepatitis A is the assumption that most hepatitis unspecified cases are in reality hepatitis A. Cases were distributed equally between males and females, and incidence was highest among Hispanics. Whites accounted for 34% of the cases, Hispanics 52%, and blacks 12%. The majority of cases were children and young adults. Hispanics under the age of 20 years accounted for 66% of the cases. In whites, the predominant age group affected was young adults age 20-39 years, representing 56%.

There were five deaths reported in this category; all certificates indicated fulminant hepatitis and liver failure as the immediate cause of death. The deceased ranged in age from 6-63 years; mean age was 35 years, and included 3 males and 2 females, 2 whites, 2 Hispanics, and 1 black.

Figure 37

Reported Cases of Unspecified Hepatitis per 100,000 Population by Age Group, Texas, 1990



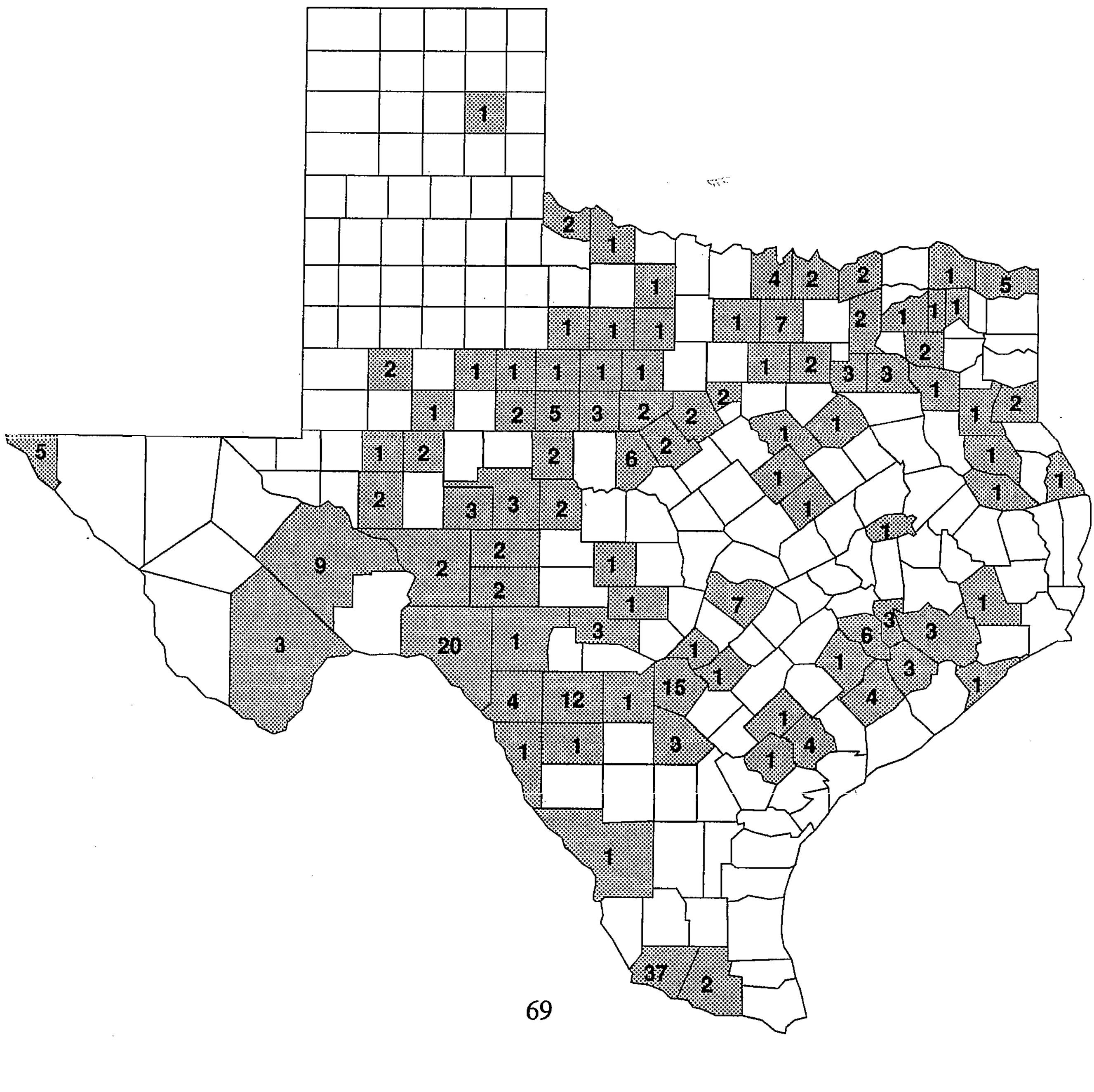
OTHER EPIDEMIOLOGIC/SURVEILLANCE ACTIVITIES

ANIMAL RABIES

Texas reported the lowest number of rabies cases in 17 years in 1990. Of the 9,222 specimens submitted for fluorescent antibody testing for rabies, less than 3% (268) were positive. This number resulted in a 34% decrease in cases from the 406 reported in 1989. Despite the fact that the overall number of animal rabies cases decreased in 1990, one case of human rabies occurred in June 1990 (see Human Rabies, page 20). This was the first case of human rabies documented in Texas since 1985. Animal rabies was reported in 91 counties throughout the state as illustrated in Figure 38.

Figure 38

Confirmed Animal Rabies in Texas by County of Submission, 1990



Dogs accounted for 15% of all laboratory-confirmed cases of animal rabies in 1990 (Table 3). This was the highest percentage since 1974 when dogs represented 23% of the total cases. The canine rabies epizootic which began in Starr and Hidalgo counties in 1988 continued in 1990. Thirty-one dogs and three coyotes in Starr County were positive for rabies. Rabies among coyotes is of special interest because the occurrence of coyote rabies has previously been sporadic and isolated. Monoclonal antibody studies showed that all of the coyote cases in 1990 were infected with the Mexican dog strain that concomitantly infected domestic dogs. Three rabid cats submitted from Starr County during 1990 were also infected with the same strain.

Table 3

Laboratory Confirmed Animal Rabies in Texas, 1990

DOMESTIC ANIMALS

Animal	Cases	% Domestic	% of Total
Dogs	40	60%	15%
Cats	13	19	5
Cows	6	9	2
Horses	5	7	2
Goats	3	4	1
Total	**67**	**99%**	**25%**

WILD ANIMALS

Animal	Cases	% Wild	% of Total
Skunks	117	59%	44%
Bats	50	25	19
Foxes	24	12	9
Other	9	5	3
Total	**200**	**101%**	**75%**

Late in 1989, an epidemiologically distinct epizootic of fox rabies began in Val Verde County, and this outbreak spread to surrounding counties (Crockett, Edwards, Kinney, and Uvalde) in 1990. These four counties collectively reported 19 rabid foxes and the subsequent spread or "spillover" to other species: goats (3), bobcats (2), dogs (2), horses (2), raccoons (2), and 1 cow. This region of the state experienced two distinct wildlife rabies outbreaks at the same time. One was an epizootic in foxes and the other involved skunks infected with the strain common in striped skunks.

Rabies in wild animals continued to outnumber rabies in domestic animals in 1990, accounting for 72% of the total cases--skunks (44%), bats (19%), and foxes (9%). The overall decrease in rabies cases during 1990 was largely due to the 49% decrease in skunk rabies from 231 cases in 1989 to 117 cases in 1990. Even so, skunks continued to be the reservoir of rabies in most areas of the state. During 1990 only one terrestrial animal, a cat from Guadalupe County, was found to be infected with a bat rabies strain.

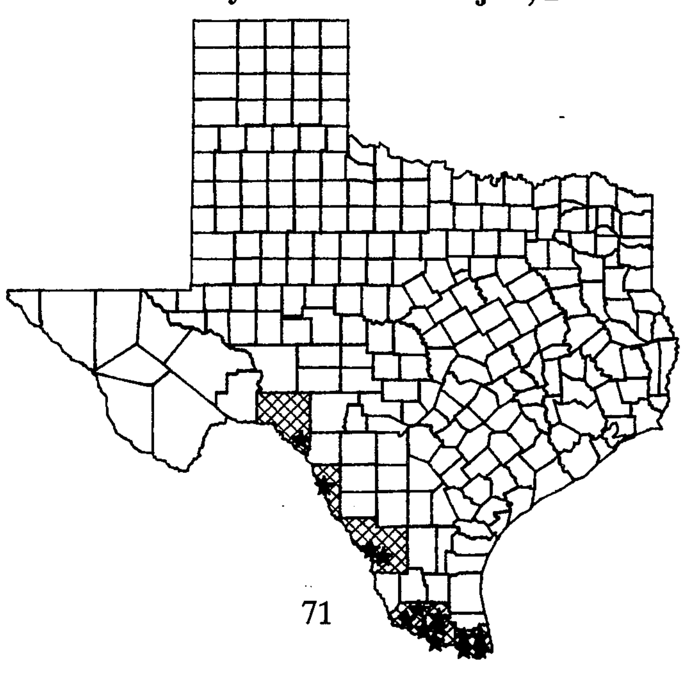
BORDER COUNTY SURVEILLANCE PROJECT
An Evaluation of Disease Reporting in South Texas

Because of numerous requests received by the Infectious Diseases Program in 1989 regarding the incidence of infectious disease along the Texas-Mexico border, the program initiated a study to estimate the effectiveness of passive surveillance for disease reporting. The morbidity data and incidence rates for selected border counties did not support the assumption that infectious disease rates were higher in border counties than in non-border counties.

The period selected for review was 1988, and the study area included six counties along the Texas-Mexico border: Cameron, Hidalgo, Maverick, Starr, Val Verde, and Webb counties (Figure 39). According to 1988 population estimates, counties ranged in size from 36,251 residents in Starr County to 373,705 in Hidalgo County. There were 14 acute care hospitals in these six counties ranging from 44-419 beds. The reportable conditions reviewed included bacterial meningitis, brucellosis, coccidioidomycosis, hepatitis type A, *Haemophilus influenzae* infections, listeriosis, murine typhus, occupational pesticide poisoning, salmonellosis, and shigellosis. The directors of medical records at each hospital in the study area were asked to pull the charts of each patient admitted and/or discharged in 1988 with these diagnoses; the charts were then reviewed by IDP staff.

Figure 39

Location of Surveyed Hospitals
Border County Surveillance Project, 1990



Hospital laboratory records for 1988 were also reviewed. This review included bacteriologic culture results for *Brucella* species, *Coccidioides immitis, Haemophilus influenzae, Listeria monocytogenes*, Salmonella species, Shigella species, and all bacterial cultures from cerebrospinal fluid, as well as elevated agglutination titers ($\geq$1:320) to *Brucella* abortus, elevated Proteus OX19 titers ($\geq$1:320), and positive IgM assays to hepatitis A virus. These serologic test results were considered diagnostic for brucellosis, murine typhus, and hepatitis A, respectively.

Patient demographic data, date of admission and/or date of specimen collection, and city of residence were abstracted from patients' hospital records. Names were cross-referenced with morbidity data reported to the Infectious Diseases Program in 1988 to determine the report status of each case.

Table 4 presents the numbers of cases of each disease reported in 1988 in the six counties surveyed, as well as the number of unreported cases which were identified. The percentage of cases reported for each disease ranged from 0-67%. No cases of listeriosis had been reported from any of the surveyed hospitals in 1988, however, two cases were identified during this review. Only 11% and 14% of the cases of bacterial meningitis and hepatitis A, respectively, had been reported by the hospitals. The percentage of reported cases was highest for salmonellosis (67%) and shigellosis (53%).

Table 4

Diseases/Health Conditions Identified during
Border County Surveillance Project, **1990**
Reported vs. Not Reported

Reportable **Disease/Condition**	Reported	Not Reported
Brucellosis	6	5
Coccidioidomycosis	5	3
Hepatitis A	283	101
H. influenzae infections	17	26
Listeriosis	0	2
Meningitis, bacterial	5	42
Murine typhus	6	34
Salmonellosis	134	41
Shigellosis	167	93
Occupational Pesticide Poisoning	4	5

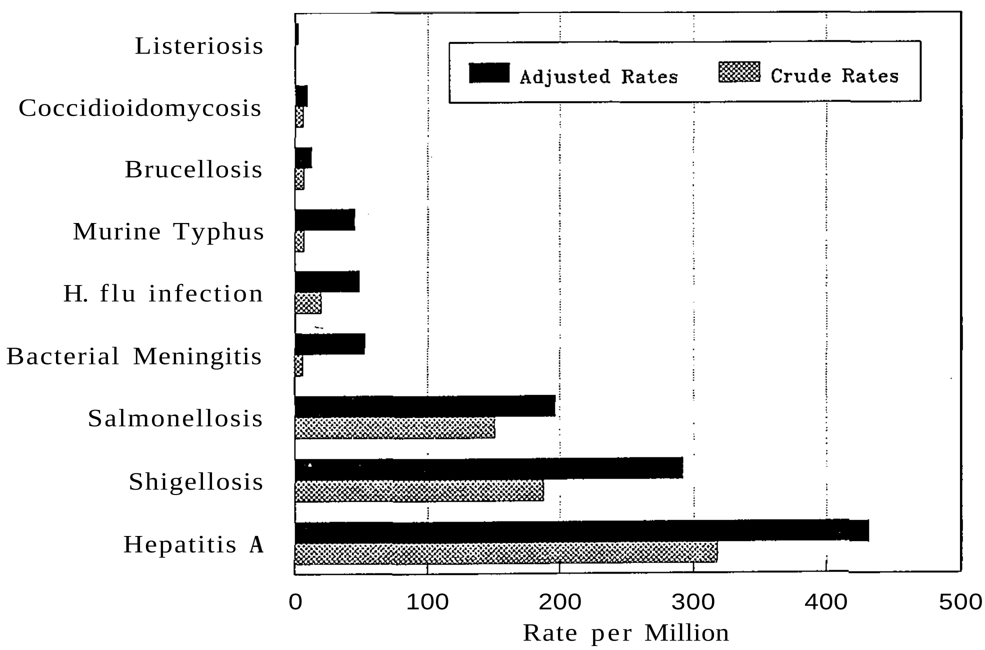
In 1988, only five cases of bacterial meningitis, excluding those caused by H. *influenzae,* were reported from the hospitals in the six counties, but 42 unreported cases were identified. The five reported cases included 2 meningococcal meningitis, 2 streptococcal meningitis, and 1 reported as unspecified Staphylococcus species were the etiologies for 36% of these unreported cases. Eight different genera were identified for the unreported cases compared with two genuses for the reported. [Meningitis caused by H. *influenzae* was counted as an H. *influenzae* infection.]

According to national surveillance data, H. *influenzae* is the most frequent cause of bacterial meningitis (48%), followed by *Neisseria meningitidis* (20%), and *Streptococcus pneumoniae* (13%). In this survey, these same bacteria were the etiology for 44%, 22%, and 11% of the reported cases. Analysis of data after including unreported cases to the total, however, showed that these three bacteria accounted for only 41% of the identified etiologic agents, not the 77-81% seen in national data.

The annual incidence rates for each of the infectious diseases surveyed, comparing reported cases with all cases, are illustrated in Figure 40. The adjusted annual incidence rate of bacterial meningitis was 9.4 times higher than originally reported after the unreported cases were added to the total. The adjusted rates of murine typhus and H. *influenzae* infections were 6.7 and 2.5 times higher, respectively, than when calculated using only reported cases.

Figure 40

Incidence Rates for Selected Diseases along the Texas-Mexico Border
Crude Rates and Adjusted Rates Compared, 1990%



This study identified several deficiencies in hospital reporting. In most hospitals, the Infection Control Practitioner (ICP) is usually the person who is responsible for coordinating disease reports and forwarding this information to local health departments, regional offices, or the state health department. Not all hospitals in Texas, however, have a full-time ICP. With the exception of the Starr County hospital, all of the surveyed hospitals had a full-time ICP, and all (including Starr County) appeared to have a genuine interest in disease reporting. None of the hospitals surveyed used emergency room (ER) logs or any other ER source to obtain information on reportable diseases and/or conditions. Hospital laboratories also had a vast amount of data that was not being reported, in spite of the fact that most labs were fully automated and the data could easily be retrieved by pushing only a few buttons. Furthermore, the directors of medical records in four hospitals indicated that no one had ever contacted them about disease reporting. These individuals were targeted as excellent sources of data because they were able to retrieve the information quite easily from their computer systems.

It is hoped that the results of this survey will eventually improve the surveillance systems currently in place in local areas. The IDP recommended that one person in each local health department be designated as responsible for coordinating disease reports within their jurisdiction to include making routine personal contact with private physicians, clinics, hospitals, laboratories, and schools on a regular basis to solicit disease reports and to provide information and feedback on the incidence of reportable diseases in these areas.

CLUSTER OF POSTSURGICAL INFECTIONS ASSOCIATED WITH USE OF EXTRINSICALLY CONTAMINATED ANESTHETIC

A cluster of bacteremia and surgical wound infections caused by *Staphylococcus aureus* was identified by the infection control practitioner of an urban Texas hospital. All 16 individuals were surgery patients at this facility between April 17, 1990 and June 20, 1990. During her investigation of this excess, the infection control practitioner received information regarding similar outbreaks of post-surgical infections investigated by the Centers for Disease Control (CDC) which were related to the use of a specific intravenous anesthetic agent. As a result, the local health department, the Epidemiology Division of the Texas Department of Health, and the Hospital Infections Branch, CDC, were invited to assist the hospital in determining the cause and extent of the cluster.

Medical records, microbiology files, surgery and anesthesiology logs, and infection control records were reviewed to determine the scope of the cluster and the characteristics of the case patients. A standardized data collection form was used to collect demographic, medical, and surgical information from the 16 identified cases and 32 matched controls. Isolates from the 16 case patients had identical antibiotic sensitivity patterns and were the same phage type. Only one attending medical provider, an anesthesiologist, had *Staphylococcus aureus* isolated; it was identical to the strain from case patients.

This case-control study identified delivery of an intravenous anesthetic, propofol (Diprivan), delivery of the anesthetic by infusion pump, and attendance by one anesthesiologist as key risk factors for the development of these infections. This investigation suggests that severe surgical complication may occur as a consequence of breaks in health care workers' aseptic technique and compliance with infection control practices in combination with the use of a drug capable of supporting the rapid growth of microorganisms.

As a result of the preliminary findings of the infection control practitioner, the hospital temporarily removed the anesthetic from the formulary. Additional control recommendations included renewed emphasis and commitment to accepted standards of aseptic technique in all areas of surgery and anesthesiology.

No additional cases were reported after the control measures were instituted by the hospital.

COCAINE OVERDOSE DEATHS IN TEXAS, 1983-1989

Cocaine is an alkaloid derived from the leaves of the South American *Erythroxylon coca* evergreen. It acts as a local anesthetic by blocking the initiation and conduction of electrical impulses within nerve cells. Systemic effects include vasoconstriction, an acute rise in blood pressure, increased heart rate, dilated pupils, hyperglycemia, a predisposition to disturbances in cardiac rhythm and seizures, and hyperthermia. The drug is a central nervous system stimulant. Most deaths from cocaine use are attributed to generalized convulsions, respiratory failure, or cardiac arrhythmias. In the past ten years, there have been several studies which have documented the rapidly rising number of deaths from cocaine overdose.

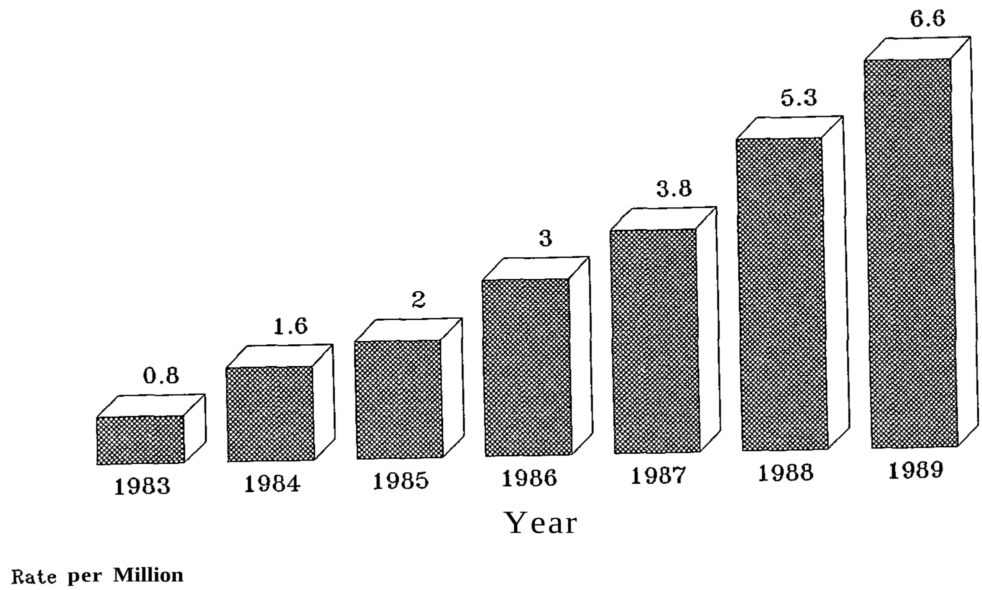
During 1990, the Environmental Epidemiology Program (EEP) studied deaths following cocaine overdose in Texas. Death certificates for the years 1983-1989 were manually reviewed for mention of cocaine overdose, and age-, sex-, and race/ethnicity-specific mortality rates for cocaine overdose were calculated using population estimates provided by the Bureau of State Health Data and Policy Analysis.

From 1983 through 1989, the EEP identified 391 deaths in Texas caused by cocaine overdose. Figure 41 illustrates the annual mortality rates among Texas residents from cocaine overdose during this period; rates increased from 0.8 per million population in 1983 to 6.6 per million population in 1989. During this period, mortality rates from cocaine overdose were higher among males than females (Figure 42). The mean annual mortality rate for males was 5.4 deaths per million population compared to 1.3 per million for females.

Two age groups, 20-29 and 30-39 years of age, had the highest mortality rates from cocaine overdose for the years examined. Mean annual mortality rates ranged from 0.34 per million for persons less than 20 to 9.2 per million for persons 30-39 years of age.

Figure 41

Annual Cocaine Mortality Rates in Texas, 1983-1989



In 1983 and 1984, whites had the highest cocaine overdose mortality rates (Figure 43), but during the period 1985-1989, mortality rates were highest among blacks. From 1983 through 1989, whites and Hispanics had similar mean annual rates (2.9 and 2.3 deaths per million, respectively), wheras blacks had a higher rate (7.8 deaths per million population).

The rapid rise of adverse health consequences and overdose deaths from cocaine use has been attributed to increased availability and purity of the drug, as well as its reduced cost on the streets. Recent data from the National Institute on Drug Abuse-supported Drug Abuse Warning Network (DAWN) suggests that serious medical consequences associated with cocaine use may be starting to decline. Cocaine-related medical emergencies reported to DAWN increased from 16,033 in the first half of 1987 to 25,607 in the first half of 1989. These reports decreased to 22,796 in the second half of 1989. Nevertheless, the adverse health consequences of cocaine use continues to be a major public health problem among persons 20 through 40 years of age.

Figure 42

Annual Cocaine Mortality Rates by Sex, Texas, 1983-1989

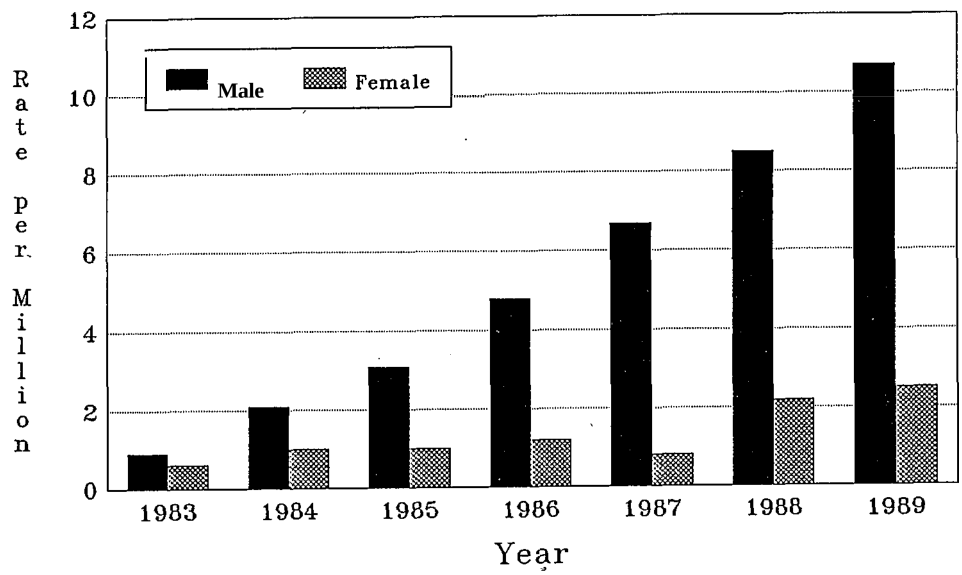
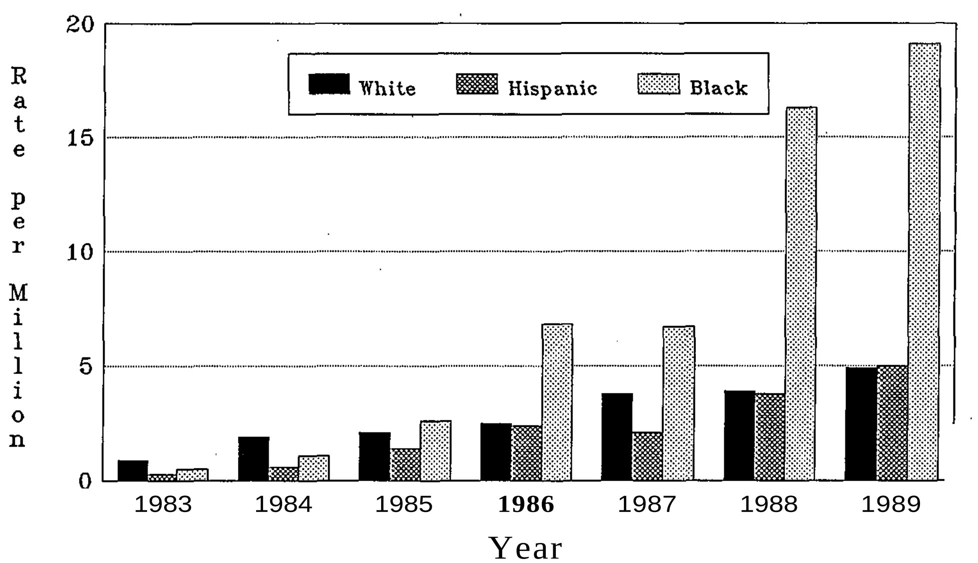


Figure 43

Annual Cocaine Mortality Rates by Race/ethnicity, Texas



DEATHS DUE TO BROKEN GLASS, 1985-1989

In 1990, the Texas Glass Association asked the Texas Department of Health's Injury Control Program to review deaths in Texas caused by broken glass. In response to this request, the five-year period extending from 1985 through 1989 was selected for review, and mortality data for this period were obtained from the Bureau of Vital Statistics. Death certificates coded E920.8 (International Classification of Disease, Ninth Revision) indicating the cause of death as accidents caused by cutting and piercing instruments or objects were examined, and those on which broken glass was specifically mentioned were selected for further review.

From 1985 through 1989, 14 Texas residents died as the result of broken glass. All but one (93%) of the victims were male. The individuals who died ranged in age from 20-61 years; the majority were under 25 years of age. The distribution of deaths by race/ethnicity included whites (43%), Hispanics (29%), and blacks (29%). Nearly three-quarters (71%) of the deaths were related to broken glass in windows.

Specific information regarding the time and place of the injuries was available for 13 deaths. Sixty-two percent (8/13) of the individuals were injured in their own homes, whereas 23% (3/13) occurred in other residences; only one injury/death occurred at work. One injury occurred on the grounds of a school and was associated with a break-in. The majority (57%) of injuries occurred on weekends, Saturday or Sunday, and 62% of the injuries occurred in the afternoon or evening.

Contributing factors were listed on four certificates. Two deaths involved alcohol abuse/ intoxication, one involved a seizure disorder, and one was related to chronic paranoid schizophrenia.

The deaths were scattered geographically around the state, but the greatest percentage (36%, or 5/14) of those killed had lived in Bexar County.

FIREARM-RELATED MORTALITY IN TEXAS ,1985-1989

Deaths caused by firearms are a major public health problem in the United States. The Center for Environmental Health and Injury Control, Centers for Disease Control, reported that in 1988, 33,989 Americans were killed by guns.

To determine the magnitude of firearm deaths in Texas, the Texas Department of Health examined firearm-related mortality among Texas residents for the period 1985-1989. Mortality data were provided by the Bureau of Vital Statistics, and death certificates coded E992.0-922.9, E955.0-955.4, E965.0-965.4, E970, or E985.0-985.4 (International Classification of Disease, Ninth Revision) were reviewed. These codes include accidental deaths caused by firearms, from suicides, homicides, deaths related to legal intervention, and those of undetermined nature.

From 1985 through 1989, 15,741 Texans--an average of over 3,100 per year--were killed by firearms. The highest crude death rate, 20.0 per 100,000 population, occurred in 1986 as illustrated in Figure 44. The annual firearm death rate, however, averaged 18.5 per 100,000 population. Figure 45 shows that almost half of all firearm deaths were attributed to suicide, whereas 44% were attributed to assaults. Only 5% of the firearm deaths during the study period were ruled as accidental.

Figure 44

Firearm-related Mortality Rates
Texas, 1985-1989

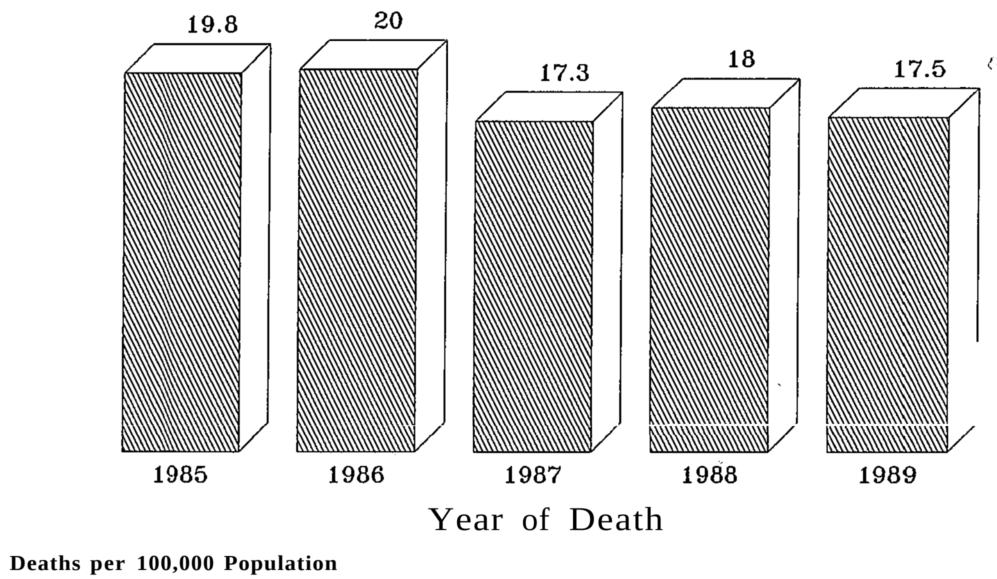


Figure 46 illustrates firearm mortality rates by age group. Individuals 25-34 years of age experienced the highest mortality rate (29.1) from firearms. The majority (55%) of firearm deaths in this age group were attributed to assaults. Although this age group also experienced the greatest number of firearm suicides (1,744), the 1,530 suicides reported among elderly individuals 65 years of age and older resulted in the highest firearm mortality rate by that cause (18.3 per 100,000 population). During the five-year study period, 326 children under 15 years of age were killed by firearms; 42% of the deaths in this age group were attributed to assaults, whereas 40% were accidental deaths. Deaths following assaults with firearms were the leading cause of firearm deaths in all age groups up until age 44. The majority of older individuals who died as a result of firearms died by suicide.

The study also showed that males were **4.9** times more likely to be **killed** by firearms than were females and that blacks were **1.8** times more likely to be **killed** than were whites or Hispanics. Black males had the highest firearm death rate (53.3 per 100,000 population). Overall, **431,039** years of productive life were lost due to premature deaths from firearms. Only motor vehicles are responsible for more injury deaths in Texas each year.

Figure 45

Firearm-related Mortality in Texas
by Cause, 1985-1989

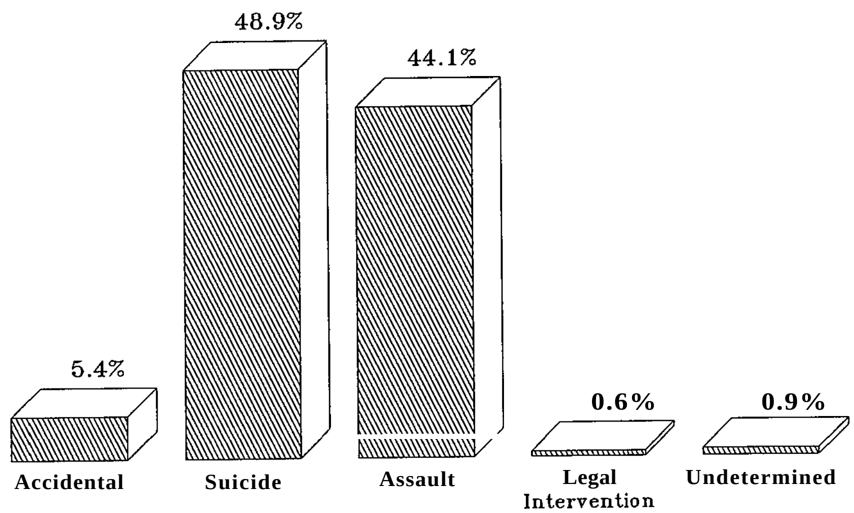
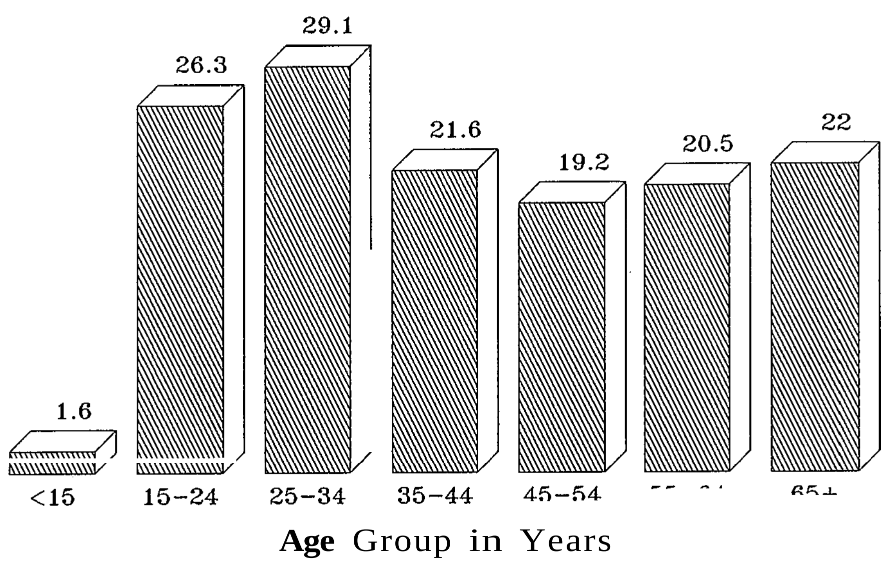


Figure 46

Firearm-related Mortality in Texas
by Age Group of Victim, 1985-1989



Deaths per 100,000 Population

LEAD PAINT CONTAMINATION CAUSED BY SANDBLASTING

On June 15, 1990, the Texas Department of Health's Environmental Epidemiology Program (EEP) was notified about an air emission which contaminated a new subdivision in Williamson County. The contamination resulted when a water tower located in the subdivision was sandblasted to prepare it for painting.

Initial soil sampling conducted by the Texas Air Control Board (TACB) revealed concentrations of lead ranging from 6,000-11,000 parts per million (ppm), measured in mg/kg. Extensive soil sampling was conducted in successive radii around the water tower both to establish the area of contamination and to determine background lead levels. Based on these results, it was evident that the prevailing winds had carried the lead in a north and northeast direction over the subdivision.

Vacuum samples were taken from homes where there were high outdoor lead levels, and results indicated levels as high as 3,300 ppm in some homes. Evidence indicates that lead levels below 500 pprn should not adversely impact health.

Since elevated blood lead levels are associated with adverse health effects and there was a potential for human lead exposure, the EEP and the Williamson County Health Department conducted a free, two-day clinic to test the blood lead levels of residents in the affected area and to assess the possible health impact of this incident. Primary emphasis was placed on screening children under six years of age and pregnant women, the two groups at highest risk from lead absorption. Questionnaires were administered to all participants, and venous blood specimens were collected for analysis. Blood lead analyses were performed at the National Health Laboratories in San Antonio using atomic absorption spectrophotometry.

A total of 169 residents participated in this clinic. Participants ranged in age from <1 year to 60 years; mean age was 18.8 years. Half (84) of those screened were children, and approximately one-third of all participants were under six years of age. The majority of participants (84%) were white; 16% were Hispanic. Sixty-five percent (109) of participants were women.

Venous blood specimens were obtained from 140 of the 169 participants in the survey. All blood lead levels fell within normal ranges (<15 mcg/dl in chidlren and 0-40 mcg/dl in adults). Approximately 86% (121) of the participants sampled had blood lead levels <5 mcg/dl; 12% (17) had levels between 5-10 mcg/dl. Two adult participants had levels >10 mcg/dl, 16 and 19 mcg/dl. Four women who were pregnant had blood lead levels <5 mcg/dl.

Blood lead levels of children were categorized into two groups: <5 mcg/dl and >5 mcg/dl. These levels were then compared to various opportunities for exposure. No statistically significant association was noted between the childrens' blood levels and opportunities for exposure. The association between blood lead levels >5 mcg/dl and taking food or a bottle outdoors was of borderline statistical significance ($p=.05$).

MOTORCYCLE HELMET USAGE

An evaluation of the Texas mandatory motorcycle helmet law has shown that helmet usage has risen sharply since the law went into effect on September 1, 1989. A survey of motorcycle operators conducted in August 1989 in 18 Texas cities revealed that an average of 44% were wearing helmets. By September 1989, the proportion of helmeted operators increased to 91%. Ten months later, in June 1990, 98% of all motorcycle operators were helmeted. For motorcycle passengers, helmet use increased from an average of 32% in August 1989 to 76% the following month. Ten months later more than 90% of motorcycle passengers were helmeted.

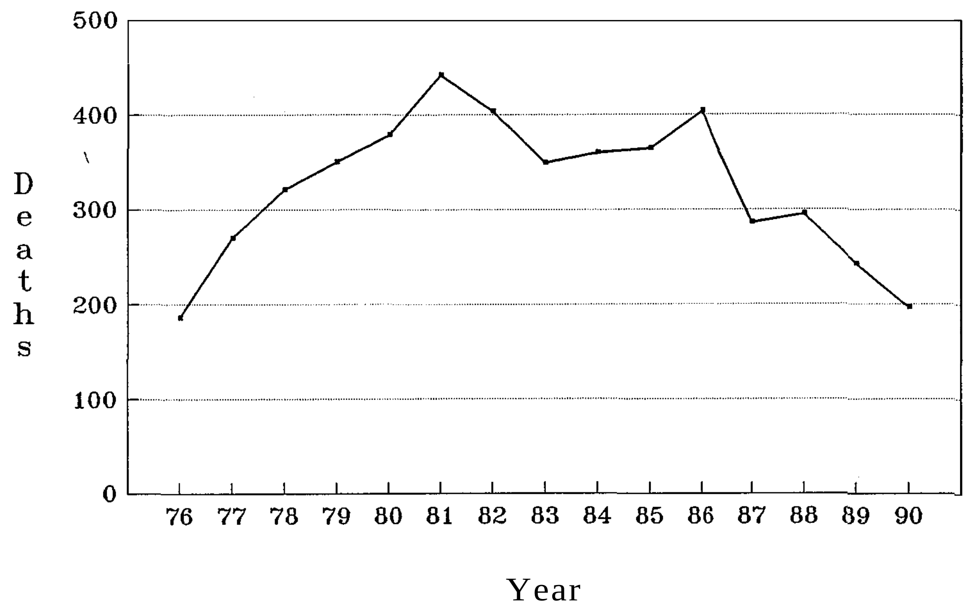
Injury data on over 200 motorcyclists who crashed during the first nine months of the post-law period (September 1989-May 1990) were compared with data on almost 400 motorcyclists who crashed during the comparable pre-law period. The proportion of riders who suffered a head injury was more than twice as high in the pre-law period (29%) as in the post-law period (14%).

A telephone survey of 1,000 randomly-selected Texas households revealed that public sentiment regarding mandatory helmet use for motorcyclists of all ages was extremely positive. Less than 10% of those surveyed were opposed to the legislation, and most expressed overwhelmingly positive views regarding the potential effectiveness of helmets in reducing injury severity.

The Texas Department of Public Safety reported that 197 motorcycle riders in Texas were killed in crashes in 1990. This was a 19% decrease from the 243 motorcyclists killed in 1989 and the lowest motorcycle fatality count in Texas since 1977 (see Figure 47). [Note: Texas' first mandatory helmet law went into effect in 1968 but was amended in 1977 requiring only riders under 18 years of age to wear helmets.]

Figure 48

Motorcycle Fatalites in Texas
1976-1990



1. *FEVER"*

On April 13,1990, the Texas Department of Health (TDH) was contacted by a rheumatologist from Scott & White Hospital in Temple regarding a cluster of six pediatric arthritis cases who had also experienced fever and a pruriticrash. All of the cases resided in nearby counties in east and central Texas. In most cases, the illness was incapacitating and the laboratory work-up did not suggest other causes of childhood arthritis. Because of the severity of the illness and apparent temporal and geographic clustering an investigation was begun.

A description of the investigation was circulated to pediatricians around the state, and additional cases were solicited from the medical community through passive surveillance. The general public also participated in the surveillance system after some rather sensational press coverage. Because three of the original cases resided in the same city, the press dubbed the illness "Palestine Fever."

From April through December, 39 persons from 23 counties who fit the following case definition were reported from throughout Texas:

a fever $\geq$100.4° F
arthrlagias/arthritis in three or more peripheral joints
a pruritic/urticarial rash
illness of one week or greater
a negative laboratory work-up for streptococcal disease and
an ESR $\geq$30 or mild anemia

Seventy-four percent of the patients were under 14 years of age, and the remainder were 20-48 years. The majority (15/29) of children were male. Nine of the ten adults were female.

In addition to fever, rash, and arthralgias or frank arthritis, 79% of the patients complained of sore throat. Although 14 of the 39 were hospitalized and the average length of illness was 45 days, almost none of the patients had evidence of organ involvement or lymphadenopathy.

Seven patients were IgM positive for rubella, 3 were IgM positive for parvovirus, and 1 patient was IgM positive for rubeola. Two patients had serologic results suggestive of multiple infections. One was IgM positive for rubella, rubeola, and parvovirus, A second, the only patient with significant elevations in liver enzymes and a clinical diagnosis of hepatitis B, was IgM positive for rubella and core antibody positive for hepatitis B. Fourteen patients were serologically negative for rubell-a, parvovirus, and rubeola. These patients were clustered in the north central part of Texas.

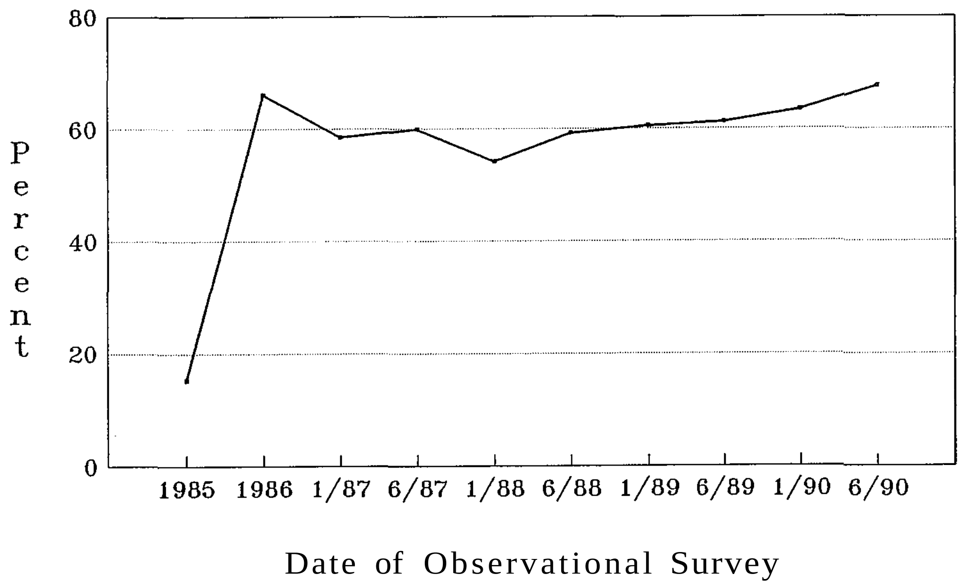
Although the positive serologic results suggested etiologies for some cases, it should be noted that, except for the hepatitis B case (which also appeared to have rubella) these were markedly atypical presentations. The etiologies of the other 14 cases were probably also viral.

SEAT BELT USAGE

Seat belt usage reached a record high in Texas in 1990. In June 1990, the Texas Transportation Institute conducted a survey in 18 Texas cities which revealed that on the average 68% of Texas drivers were observed wearing their seat belts. This finding was a significant improvement over the average 15% observed when 12 Texas cities were surveyed in September 1985, before the mandatory seat belt law went into effect. Seat belt usage rates by survey date are illustrated in Figure 48

Figure 48

Observed Seat Belt Usage Rates in Texas
by Survey Date, 1985-1989

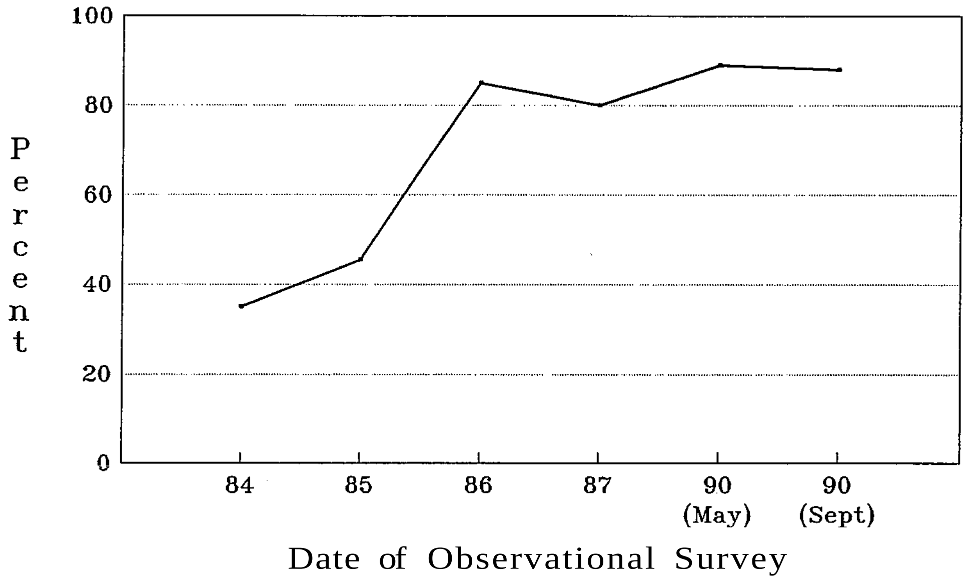


Two observational surveys of Texas Department of Health employees in Austin were also conducted in 1990. These surveys were coordinated by the Injury Control Program and revealed observed usage rates of 89% in May 1990 and 88% in September 1990. These observed seat belt usage rates are presented in Figure 49.

Because of the results of the departmental surveys, the Texas Department of Health received the 70% Plus Honor Roll Award from the State Department of Highways and Public Transportation. This award program is sponsored by the National Highway Traffic Safety Administration and supports the President's national goal of 70% seat belt use in 1992. Awards are presented to states, cities, schools, worksites, and organizations that have driver seat belt usage rates of 70% or higher.

Figure 49

Observed Seat Belt Usage Rates sf
Texas Department of Health Employees, 1984-1990



The Texas Department of Health will continue to promote educational programs, conduct observational surveys, and recognize its employees for their outstanding seat belt usage rates.

REGIONAL STATISTICAL SUMMARIES

Public Health Region 1

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

PUBLIC HEALTH REGION 1 - 1990

COUNTY	1990 POPULATION	ASEPTIC MENINGITIS CASES	RATE	ENCEPHALITIS CASES	RATE	INFLUENZA & FLU-LIKE ILLNESS CASES	RATE	CHICKENPOX CASES	RATE
BASTROP	38,263	1	2.6	0	.0	1	2.6	16	41.8
BELL	191,088	6	3.1	1	.5	4,596	2405.2	650	340.2
BLANCO	5,972	0	.0	0	.0	0	.0	0	.0
BOSQUE	15,125	0	.0	0	.0	0	.0	0	.0
BRAZOS	121,862	3	2.5	2	1.6	13,962	11457.2	496	407.0
BURLESON	13,625	0	.0	0	.0	13	95.4	1	7.3
BURNET	22,677	1	4.4	0	.0	0	.0	2	8.8
CALDWELL	26,392	0	.0	0	.0	16	60.6	8	30.3
CORYELL	64,213	1	1.6	0	.0	527	820.7	0	.0
FALLS	17,712	0	.0	0	.0	0	.0	0	.0
FAYETTE	20,095	0	.0	0	.0	0	.0	9	44.8
FREESTONE	15,818	0	.0	0	.0	0	.0	0	.0
GRIMES	18,828	1	5.3	0	.0	0	.0	0	.0
HAMILTON	7,733	0	.0	0	.0	0	.0	0	.0
HAYS	65,614	1	1.5	0	.0	270	411.5	112	170.7
HILL	27,146	0	.0	0	.0	0	.0	0	.0
LAMPASAS	13,521	0	.0	0	.0	0	.0	0	.0
LEE	12,854	0	.0	0	.0	0	.0	14	108.9
LEON	12,665	0	.0	0	.0	1	7.9	0	.0
LIMESTONE	20,946	0	.0	0	.0	284	1355.9	2	9.5
LLANO	11,631	0	.0	0	.0	0	.0	0	.0
MADISON	10,931	0	.0	0	.0	0	.0	0	.0
MCLENNAN	189,123	2	1.1	0	.0	5,793	3063.1	301	159.2
MILAM	22,946	0	.0	0	.0	776	3381.9	14	61.0
MILLS	4,531	0	.0	0	.0	0	.0	0	.0
ROBERTSON	15,511	2	12.9	1	6.4	0	.0	0	.0
SAN SABA	5,401	0	.0	0	.0	70	1296.1	25	462.9
TRAVIS	576,407	32	5.6	3	.5	3,378	586.0	378	65.6
WASHINGTON	26,154	1	3.8	0	.0	0	.0	0	.0
WILLIAMSON	139,551	3	2.1	1	.7	1,445	1035.5	48	34.4
REGIONAL TOTAL	1,734,335	54	3.1	8	.5	31,132	1795.0	2,076	119.7
TEXAS	16,986,510	811	4.8	74	.4	314,372	1850.7	26,636	156.8

REPORTED CASES AND RATES OF HEPATITIS PER 100,000 POPULATION

PUBLIC HEALTH REGION 1 - 1990

COUNTY	1990 POPULATION	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS NANB CASES	HEPATITIS NANB RATE	HEPATITIS UNSPECFIED CASES	HEPATITIS UNSPECFIED RATE
BASTROP	38,263	3	7.8	2	5.2	0	.0	0	.0
BELL	191,088	6	3.1	13	6.8	1	.5	1	.5
BLANCO	5,972	0	.0	0	.0	0	.0	0	.0
BOSPUE	15,125	1	6.6	0	.0	0	.0	0	.0
BRAZOS	121,862	2	1.6	1	.8	0	.0	0	.0
BURLESON	13,625	1	7.3	0	.0	1	7.3	0	.0
BURNET	22,677	2	8.8	0	.0	0	.0	0	.0
CALDWELL	26,392	3	11.4	1	3.8	0	.0	0	.0
CORYELL	64,213	1	1.6	1	1.6	0	.0	0	.0
FALLS	17,712	0	.0	0	.0	0	.0	0	.0
FAYETTE	20,095	1	5.0	0	.0	0	.0	0	.0
FREESTONE	15,818	4	25.3	1	6.3	0	.0	0	.0
GRIMES	18,828	3	15.9	1	5.3	0	.0	0	.0
HAMILTON	7,733	1	12.9	0	.0	0	.0	0	.0
HAYS	65,614	2	3.0	5	7.6	0	.0	1	1.5
HILL	27,146	2	7.4	1	3.7	1	3.7	0	.0
LAMPASAS	13,521	1	7.4	0	.0	0	.0	0	.0
LEE	12,854	0	.0	0	.0	0	.0	0	.0
LEON	12,665	0	.0	1	7.9	0	.0	0	.0
LIMESTONE	20,946	0	.0	1	4.8	0	.0	0	.0
LLANO	11,631	0	.0	1	8.6	0	.0	0	.0
MADISON	10,931	0	.0	0	.0	0	.0	0	.0
MCLENNAN	189,123	24	12.7	7	3.7	4	2.1	0	.0
MILAM	22,946	1	4.4	1	4.4	0	.0	0	.0
MILLS	4,531	0	.0	0	.0	0	.0	0	.0
ROBERTSON	15,511	0	.0	1	6.4	0	.0	1	6.4
SAN SABA	5,401	0	.0	1	18.5	0	.0	0	.0
TRAVIS	576,407	110	19.1	76	13.2	47	8.2	1	.2
WASHINGTON	26,154	1	3.8	2	7.6	0	.0	0	.0
WILLIAMSON	139,551	21	15.0	2	1.4	1	.7	0	.0
REGIONAL TOTAL	1,734,335	190	11.0	119	6.9	55	3.2	4	.2
TEXAS	16,986,510	2,722	16.0	1,789	10.5	130	.8	287	1.7

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

PUBLIC HEALTH REGION 1 - 1990

COUNTY	1990 POPULATION	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
BASTROP	38,263	8	20.9	2	5.2	0	.0	1	2.6
BELL	191,088	62	32.4	8	4.2	2	1.0	3	1.6
BLANCO	5,972	0	.0	0	.0	0	.0	0	.0
BOSQUE	15,125	1	6.6	1	6.6	0	.0	0	.0
BRAZOS	121,862	22	18.1	3	2.5	4	3.3	2	1.6
BURLESON	13,625	0	.0	0	.0	0	.0	0	.0
BURNET	22,677	8	35.3	0	.0	1	4.4	1	4.4
CALDWELL	26,392	1	3.8	2	7.6	0	.0	0	.0
CORYELL	64,213	13	20.2	1	1.6	0	.0	0	.0
FALLS	17,712	0	.0	0	.0	0	.0	0	.0
FAYETTE	20,095	1	5.0	0	.0	0	.0	0	.0
FREESTONE	15,818	0	.0	0	.0	2	12.6	0	.0
GRIMES	18,828	6	31.9	2	10.6	0	.0	1	5.3
HAMILTON	7,733	3	38.8	0	.0	0	.0	0	.0
HAYS	65,614	5	7.6	6	9.1	1	1.5	0	.0
HILL	27,146	7	25.8	0	.0	0	.0	1	3.7
LAMPASAS	13,521	0	.0	1	7.4	0	.0	0	.0
LEE	12,854	0	.0	0	.0	0	.0	0	.0
LEON	12,665	0	.0	0	.0	0	.0	0	.0
LIMESTONE	20,946	0	.0	1	4.8	1	4.8	1	4.8
LLANO	11,631	0	.0	0	.0	0	.0	1	8.6
MADISON	10,931	0	.0	1	9.1	0	.0	0	.0
MCLENNAN	189,123	21	11.1	4	2.1	1	.5	0	.0
MILAM	22,946	3	13.1	1	4.4	0	.0	0	.0
MILLS	4,531	0	.0	0	.0	0	.0	0	.0
ROBERTSON	15,511	1	6.4	10	64.5	0	.0	0	.0
SAN SABA	5,401	0	.0	0	.0	0	.0	0	.0
TRAVIS	576,407	326	56.6	9	1.6	12	2.1	0	.0
WASHINGTON	26,154	0	.0	0	.0	0	.0	0	.0
WILLIAMSON	139,551	24	17.2	2	1.4	0	.0	0	.0
REGIONAL TOTAL	1,734,335	512	29.5	54	3.1	24	1.4	11	.6
TEXAS	16,986,510	4,409	26.0	470	2.8	158	.9	99	.6

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

PUBLIC HEALTH REGION 1 - 1990

COUNTY	1990 POPULATION	SALMONELLOSIS CASES	RATE	SHIGELLOSIS CASES	RATE	CAMPYLOBACTER CASES	RATE	AMEBIASIS CASES	RATE
BASTROP	38,263	1	2.6	4	10.5	2	5.2	0	.0
BELL	191,088	32	16.7	2	1.0	2	1.0	0	.0
BLANCO	5,972	0	.0	0	.0	0	.0	0	.0
BOSQUE	15,125	1	6.6	0	.0	0	.0	0	.0
BRAZOS	121,862	16	13.1	31	25.4	4	3.3	2	1.6
BURLESON	13,625	0	.0	2	14.7	0	.0	0	.0
BURNET	22,677	2	8.8	0	.0	1	4.4	0	.0
CALDUELL	26,392	3	11.4	1	3.8	0	.0	0	.0
CORYELL	64,213	6	9.3	0	.0	0	.0	0	.0
FALLS	17,712	0	.0	0	.0	0	.0	0	.0
FAYETTE	20,095	1	5.0	1	5.0	0	.0	0	.0
FREESTONE	15,818	0	.0	0	.0	1	6.3	1	6.3
GRIMES	18,828	0	.0	2	10.6	0	.0	0	.0
HAMILTON	7,733	3	38.8	0	.0	0	.0	0	.0
HAYS	65,614	11	16.8	24	36.6	0	.0	0	.0
HILL	27,146	3	11.1	2	7.4	0	.0	0	.0
LAMPASAS	13,521	0	.0	0	.0	0	.0	0	.0
LEE	12,854	0	.0	0	.0	0	.0	0	.0
LEON	12,665	2	15.8	0	.0	0	.0	0	.0
LIMESTONE	20,946	0	.0	2	9.5	0	.0	4	19.1
LLANO	11,631	1	8.6	0	.0	0	.0	0	.0
MADISON	10,931	1	9.1	0	.0	0	.0	0	.0
MCLENNAN	189,123	29	15.3	21	11.1	2	1.1	0	.0
MILAM	22,946	2	8.7	0	.0	0	.0	0	.0
MILLS	4,531	0	.0	0	.0	0	.0	0	.0
ROBERTSON	15,511	2	12.9	0	.0	0	.0	0	.0
SAN SABA	5,401	1	18.5	0	.0	0	.0	1	18.5
TRAVIS	576,407	109	18.9	113	19.6	70	12.1	12	2.1
WASHINGTON	26,154	4	15.3	4	15.3	0	.0	0	.0
WILLIAMSON	139,551	11	7.9	5	3.6	3	2.1	1	.7
REGIONAL TOTAL	1,734,335	241	13.9	214	12.3	85	4.9	21	1.2
TEXAS	16,986,510	2,315	13.6	3,550	20.9	739	4.4	139	.8

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

PUBLIC HEALTH REGION 1 - 1990

COUNTY	1990 POPULATION	CHLAMYDIA CASES	CHLAMYDIA RATE	GONORRHEA CASES	GONORRHEA RATE	P&S SYPHILIS CASES	P&S SYPHILIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
BASTROP	38,263	84	219.5	21	54.9	3	7.8	6	15.7
BELL	191,088	379	198.3	463	242.3	47	24.6	8	4.2
BLANCO	5,972	6	100.5	0	.0	0	.0	1	16.7
BOSQUE	15,125	7	46.3	1	6.6	0	.0	1	6.6
BRAZOS	121,862	437	358.6	325	266.7	54	44.3	8	6.6
BURLESON	13,625	10	73.4	38	278.9	4	29.4	2	14.7
BURNET	22,677	81	357.2	14	61.7	0	.0	1	4.4
CALDUELL	26,392	185	701.0	132	500.2	10	37.9	0	.0
CORYELL	64,213	51	79.4	32	49.8	4	6.2	5	7.8
FALLS	17,712	39	220.2	56	316.2	18	101.6	2	11.3
FAYETTE	20,095	41	204.0	14	69.7	5	24.9	1	5.0
FREESTONE	15,818	10	63.2	10	63.2	2	12.6	1	6.3
GRIMES	18,828	34	180.6	82	435.5	14	74.4	1	5.3
HAMILTON	7,733	0	.0	0	.0	0	.0	0	.0
HAYS	65,614	338	515.1	37	56.4	1	1.5	7	10.7
HILL	27,146	22	81.0	45	165.8	16	58.9	0	.0
LAMPASAS	13,521	17	125.7	10	74.0	1	7.4	0	.0
LEE	12,854	21	163.4	3	23.3	2	15.6	0	.0
LEON	12,665	9	71.1	9	71.1	2	15.8	1	7.9
LIMESTONE	20,946	23	109.8	50	238.7	7	33.4	0	.0
LLANO	11,631	7	60.2	0	.0	0	.0	2	17.2
MADISON	10,931	8	73.2	11	100.6	6	54.9	0	.0
MCLENNAN	189,123	523	276.5	983	519.8	47	24.9	12	6.3
MILAM	22,946	31	135.1	64	278.9	2	8.7	2	8.7
MILLS	4,531	3	66.2	1	22.1	0	.0	0	.0
ROBERTSON	15,511	22	141.8	78	502.9	16	103.2	1	6.4
SAN SABA	5,401	2	37.0	0	.0	0	.0	2	37.0
TRAVIS	576,407	1,818	315.4	1,904	330.3	57	9.9	102	17.7
WASHINGTON	26,154	7	26.8	54	206.5	12	45.9	0	.0
WILLIAMSON	139,551	233	167.0	54	38.7	1	.7	3	2.1
REGIONAL TOTAL	1,734,335	4,448	256.5	4,491	258.9	331	19.1	169	9.7
TEXAS	16,986,510	20,575	121.1	43,231	254.5	5,165	30.4	2,242	13.2

Public Health Region 2

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

PUBLIC HEALTH REGION 2 - *1990*

COUNTY	1990 POPULATION	ASEPTIC MENINGITIS CASES	ASEPTIC MENINGITIS RATE	ENCEPHALITIS CASES	ENCEPHALITIS RATE	INFLUENZA & FLU-LIKE ILLNESS CASES	INFLUENZA & FLU-LIKE ILLNESS RATE	CHICKENPOX CASES	CHICKENPOX RATE
ARMSTRONG	2,021	0	.0	0	.0	0	.0	0	.0
BAILEY	7,064	0	.0	0	.0	0	.0	1	14.2
BRISCOE	1,971	0	.0	0	.0	0	.0	61	3094.9
CARSON	6,576	0	.0	0	.0	0	.0	0	.0
CASTRO	9,070	0	.0	1	11.0	11	121.3	2	22.1
COCHRAN	4,377	0	.0	0	.0	200	4569.3	4	91.4
COLLINGSUORTH	3,573	0	.0	0	.0	0	.0	0	.0
CROSBY	7,304	0	.0	0	.0	20	273.8	0	.0
DALLAM	5,461	1	18.3	0	.0	0	.0	12	219.7
DEAF SMITH	19,153	1	5.2	0	.0	37	193.2	14	73.1
DICKENS	2,571	0	.0	0	.0	0	.0	0	.0
DONLEY	3,696	0	.0	0	.0	0	.0	0	.0
FLOYD	8,497	0	.0	2	23.5	5	58.8	9	105.9
GARZA	5,143	1	19.4	0	.0	0	.0	0	.0
GRAY	23,967	1	4.2	0	.0	0	.0	0	.0
HALE	34,671	1	2.9	1	2.9	2,203	6354.0	109	314.4
HALL	3,905	0	.0	0	.0	0	.0	0	.0
HANSFORD	5,848	0	.0	0	.0	0	.0	0	.0
HARTLEY	3,634	0	.0	0	.0	0	.0	0	.0
HEMPHILL	3,720	0	.0	0	.0	0	.0	5	134.4
HOCKLEY	24,199	0	.0	0	.0	0	.0	0	.0
HUTCHINSON	25,689	0	.0	0	.0	27	105.1	27	105.1
KING	354	0	.0	0	.0	0	.0	0	.0
LAMB	15,072	0	.0	0	.0	0	.0	3	19.9
LIPSCOMB	3,143	0	.0	0	.0	0	.0	0	.0
LUBBOCK	222,636	16	7.2	1	.4	2,396	1076.2	551	247.5
LYNN	6,758	0	.0	0	.0	5	74.0	6	88.8
MOORE	17,865	0	.0	0	.0	0	.0	0	.0
MOTLEY	1,532	1	65.3	0	.0	0	.0	0	.0
OCHILTREE	9,128	0	.0	0	.0	0	.0	0	.0
OLDHAM	2,278	0	.0	0	.0	0	.0	0	.0
PARMER	9,863	1	10.1	0	.0	0	.0	0	.0
POTTER	97,874	15	15.3	1	1.0	3,989	4075.6	503	513.9
RANDALL	89,673	6	6.7	0	.0	0	.0	21	23.4
ROBERTS	1,025	0	.0	0	.0	0	.0	0	.0
SHERMAN	2,858	0	.0	0	.0	0	.0	0	.0
SUISHER	8,133	0	.0	0	.0	0	.0	0	.0
TERRY	13,218	2	15.1	0	.0	49	370.7	28	211.8
WHEELER	5,879	0	.0	0	.0	0	.0	65	1105.6
YOAKUM	8,786	0	.0	0	.0	0	.0	0	.0
REGIONAL TOTAL	728,185	46	6.3	6	.8	8,942	1228.0	1,421	195.1
TEXAS	16,986,510	811	4.8	74	.4	314,372	1850.7	26,636	156.8

REPORTED CASES AND RATES OF HEPATITIS PER 100,000 POPULATION

PUBLIC HEALTH REGION 2 - 1990

COUNTY	1990 POPULATION	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS NANB CASES	HEPATITIS NANB RATE	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATE
ARMSTRONG	2,021	0	.0	0	.0	0	.0	0	.0
BAILEY	7,064	4	56.6	0	.0	0	.0	0	.0
BRISCOE	1,971	0	.0	1	50.7	0	.0	0	.0
CARSON	6,576	0	.0	1	15.2	0	.0	0	.0
CASTRO	9,070	2	22.1	1	11.0	0	.0	0	.0
COCHRAN	4,377	14	319.9	0	.0	0	.0	0	.0
COLLINGSWORTH	3,573	0	.0	0	.0	0	.0	0	.0
CROSBY	7,304	4	54.8	1	13.7	0	.0	0	.0
DALLAM	5,461	0	.0	0	.0	0	.0	0	.0
DEAF SMITH	19,153	5	26.1	2	10.4	0	.0	0	.0
DICKENS	2,571	4	155.6	0	.0	0	.0	0	.0
DONLEY	3,696	0	.0	0	.0	0	.0	0	.0
FLOYD	8,497	2	23.5	0	.0	0	.0	0	.0
GARZA	5,143	2	38.9	0	.0	0	.0	0	.0
GRAY	23,967	2	8.3	0	.0	0	.0	0	.0
HALE	34,671	10	28.8	8	23.1	0	.0	0	.0
HALL	3,905	0	.0	0	.0	0	.0	0	.0
HANSFORD	5,848	1	17.1	0	.0	0	.0	0	.0
HARTLEY	3,634	0	.0	0	.0	0	.0	0	.0
HEMPHILL	3,720	0	.0	0	.0	0	.0	0	.0
HOCKLEY	24,199	2	8.3	7	28.9	0	.0	0	.0
HUTCHINSON	25,689	0	.0	1	3.9	0	.0	0	.0
KING	354	0	.0	0	.0	0	.0	0	.0
LAMB	15,072	12	79.6	3	19.9	0	.0	0	.0
LIPSCOMB	3,143	0	.0	0	.0	0	.0	0	.0
LUBBOCK	222,636	31	13.9	30	13.5	1	.4	1	.4
LYNN	6,758	0	.0	0	.0	0	.0	0	.0
MOORE	17,865	5	28.0	1	5.6	1	5.6	0	.0
MOTLEY	1,532	0	.0	0	.0	0	.0	0	.0
OCHILTREE	9,128	0	.0	0	.0	0	.0	0	.0
OLDHAM	2,278	2	87.8	0	.0	0	.0	0	.0
PARMER	9,863	2	20.3	1	10.1	0	.0	0	.0
POTTER	97,874	16	16.3	25	25.5	0	.0	0	.0
RANDALL	89,673	3	3.3	3	3.3	0	.0	0	.0
ROBERTS	1,025	0	.0	0	.0	0	.0	0	.0
SHERMAN	2,858	0	.0	0	.0	0	.0	0	.0
SWISHER	8,133	2	24.6	0	.0	0	.0	0	.0
TERRY	13,218	1	7.6	10	75.7	0	.0	0	.0
WHEELER	5,879	0	.0	1	17.0	0	.0	0	.0
YOAKUM	8,786	5	56.9	1	11.4	0	.0	1	11.4
REGIONAL TOTAL	728,185	131	18.0	97	13.3	2	.3	2	.3
TEXAS	16,986,510	2,722	16.0	1,789	10.5	130	.8	287	1.7

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

PUBLIC HEALTH REGION 2 - 1990

COUNTY	1990 POPULATION	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
ARMSTRONG	2,021	0	.0	0	.0	0	.0	0	.0
BAILEY	7,064	0	.0	0	.0	0	.0	0	.0
BRISCOE	1,971	0	.0	0	.0	0	.0	0	.0
CARSON	6,576	0	.0	0	.0	0	.0	0	.0
CASTRO	9,070	0	.0	0	.0	0	.0	0	.0
COCHRAN	4,377	0	.0	0	.0	0	.0	0	.0
COLLINGSUORTH	3,573	0	.0	0	.0	0	.0	0	.0
CROSBY	7,304	0	.0	0	.0	0	.0	1	13.7
DALLAM	5,461	0	.0	0	.0	1	18.3	0	.0
DEAF SMITH	19,153	0	.0	0	.0	0	.0	0	.0
DICKENS	2,571	0	.0	0	.0	0	.0	0	.0
DONLEY	3,696	0	.0	0	.0	0	.0	0	.0
FLOYD	8,497	0	.0	64	753.2	1	11.8	0	.0
GARZA	5,143	0	.0	0	.0	0	.0	1	19.4
GRAY	23,967	0	.0	0	.0	0	.0	0	.0
HALE	34,671	0	.0	1	2.9	1	2.9	0	.0
HALL	3,905	0	.0	0	.0	0	.0	0	.0
HANSFORD	5,848	0	.0	1	17.1	0	.0	0	.0
HARTLEY	3,634	0	.0	0	.0	0	.0	0	.0
HEMPHILL	3,720	0	.0	0	.0	0	.0	0	.0
HOCKLEY	24,199	0	.0	1	4.1	0	.0	0	.0
HUTCHINSON	25,689	0	.0	0	.0	0	.0	0	.0
KING	354	0	.0	0	.0	0	.0	0	.0
LAMB	15,072	0	.0	2	13.3	0	.0	0	.0
LIPSCOMB	3,143	0	.0	0	.0	0	.0	0	.0
LUBBOCK	222,636	7	3.1	9	4.0	3	1.3	11	4.9
LYNN	6,758	0	.0	0	.0	0	.0	0	.0
MOORE	17,865	0	.0	0	.0	1	5.6	0	.0
MOTLEY	1,532	0	.0	0	.0	0	.0	0	.0
OCHILTREE	9,128	0	.0	1	11.0	0	.0	0	.0
OLDHAM	2,278	0	.0	0	.0	0	.0	0	.0
PARMER	9,863	0	.0	1	10.1	0	.0	0	.0
POTTER	97,874	0	.0	17	17.4	2	2.0	0	.0
RANDALL	89,673	2	2.2	2	2.2	0	.0	0	.0
ROBERTS	1,025	0	.0	0	.0	0	.0	0	.0
SHERMAN	2,858	0	.0	0	.0	0	.0	0	.0
SWISHER	8,133	0	.0	3	36.9	2	24.6	1	12.3
TERRY	13,218	0	.0	1	7.6	0	.0	0	.0
WHEELER	5,879	0	.0	0	.0	0	.0	0	.0
YOAKUM	8,786	2	22.8	0	.0	0	.0	0	.0
REGIONAL TOTAL	728,185	11	1.5	103	14.1	11	1.5	14	1.9
TEXAS	16,986,510	4,409	26.0	470	2.8	158	.9	99	.6

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

PUBLIC HEALTH REGION 2 - 1990

COUNTY	1990 POPULATION	SALMONELLOSIS CASES	SALMONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	AMEBIASIS CASES	AMEBIASIS RATE
ARMSTRONG	2,021	0	.0	0	.0	0	.0	0	.0
BAILEY	7,064	4	56.6	3	42.5	0	.0	0	.0
BRISCOE	1,971	0	.0	0	.0	0	.0	0	.0
CARSON	6,576	3	45.6	1	15.2	0	.0	0	.0
CASTRO	9,070	0	.0	1	11.0	0	.0	4	44.1
COCHRAN	4,377	2	45.7	7	159.9	0	.0	0	.0
COLLINGSUORTH	3,573	1	28.0	2	56.0	0	.0	0	.0
CROSBY	7,304	0	.0	2	27.4	0	.0	0	.0
OALLAM	5,461	0	.0	0	.0	0	.0	0	.0
DEAF SMITH	19,153	5	26.1	5	26.1	1	5.2	0	.0
DICKENS	2,571	0	.0	0	.0	0	.0	0	.0
OONLEY	3,696	0	.0	0	.0	0	.0	0	.0
FLOYD	8,497	0	.0	1	11.8	0	.0	0	.0
GARZA	5,143	1	19.4	0	.0	0	.0	0	.0
GRAY	23,967	6	25.0	4	16.7	1	4.2	0	.0
HALE	34,671	2	5.8	6	17.3	0	.0	1	2.9
HALL	3,905	0	.0	0	.0	0	.0	0	.0
HANSFORD	5,848	1	17.1	0	.0	0	.0	0	.0
HARTLEY	3,634	0	.0	0	.0	0	.0	0	.0
HEMPHILL	3,720	1	26.9	17	457.0	0	.0	0	.0
HOCKLEY	24,199	4	16.5	3	12.4	1	4.1	0	.0
HUTCHINSON	25,689	3	11.7	1	3.9	1	3.9	0	.0
KING	354	0	.0	0	.0	0	.0	0	.0
LAMB	15,072	0	.0	11	73.0	0	.0	0	.0
LIPSCOMB	3,143	0	.0	0	.0	0	.0	0	.0
LUBBOCK	222,636	69	31.0	336	150.9	30	13.5	2	.9
LYNN	6,758	0	.0	3	44.4	1	14.8	0	.0
MOORE	17,865	0	.0	9	50.4	1	5.6	0	.0
MOTLEY	1,532	0	.0	1	65.3	0	.0	0	.0
OCHILTREE	9,128	0	.0	0	.0	0	.0	0	.0
OLOHAM	2,278	0	.0	0	.0	0	.0	0	.0
PARMER	9,863	2	20.3	0	.0	0	.0	0	.0
POTTER	97,874	28	28.6	58	59.3	7	7.2	0	.0
RANDALL	89,673	15	16.7	30	33.5	5	5.6	0	.0
ROBERTS	1,025	0	.0	0	.0	0	.0	0	.0
SHERMAN	2,858	0	.0	0	.0	0	.0	0	.0
SWISHER	8,133	0	.0	1	12.3	0	.0	0	.0
TERRY	13,218	0	.0	0	.0	0	.0	0	.0
WHEELER	5,879	3	51.0	0	.0	0	.0	0	.0
YOAKUM	8,786	1	11.4	1	11.4	0	.0	0	.0
REGIONAL TOTAL	728,185	151	20.7	503	69.1	48	6.6	7	1.0
TEXAS	16,986,510	2,315	13.6	3,550	20.9	739	4.4	139	.8

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

PUBLIC HEALTH REGION 2 - 1990

COUNTY	1990 POPULATION	CHLAMYDIA CASES	CHLAMYDIA RATE	GONORRHEA CASES	GONORRHEA RATE	P&S SYPHILIS CASES	P&S SYPHILIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
ARMSTRONG	2,021	0	.0	0	.0	0	.0	0	.0
BAILEY	7,064	11	155.7	3	42.5	0	.0	1	14.2
BRISCOE	1,971	1	50.7	0	.0	0	.0	0	.0
CARSON	6,576	2	30.4	1	15.2	0	.0	0	.0
CASTRO	9,070	2	22.1	5	55.1	0	.0	0	.0
COCHRAN	4,377	6	137.1	4	91.4	2	45.7	0	.0
COLLINGSWORTH	3,573	2	56.0	0	.0	0	.0	0	.0
CROSBY	7,304	5	68.5	7	95.8	0	.0	1	13.7
DALLAM	5,461	0	.0	1	18.3	0	.0	1	18.3
DEAF SMITH	19,153	48	250.6	26	135.7	0	.0	0	.0
DICKENS	2,571	6	233.4	1	38.9	0	.0	0	.0
DONLEY	3,696	2	54.1	1	27.1	0	.0	0	.0
FLOYD	8,497	4	47.1	0	.0	0	.0	9	105.9
GARZA	5,143	7	136.1	2	38.9	0	.0	0	.0
GRAY	23,967	36	150.2	40	166.9	0	.0	2	8.3
HALE	34,671	16	46.1	46	132.7	2	5.8	2	5.8
HALL	3,905	0	.0	0	.0	0	.0	1	25.6
HANSFORD	5,848	2	34.2	1	17.1	0	.0	1	17.1
HARTLEY	3,634	0	.0	0	.0	0	.0	0	.0
HEMPHILL	3,720	0	.0	1	26.9	0	.0	0	.0
HOCKLEY	24,199	16	66.1	20	82.6	8	33.1	0	.0
HUTCHINSON	25,689	47	183.0	8	31.1	0	.0	2	7.8
KING	354	0	.0	0	.0	0	.0	0	.0
LAMB	15,072	21	139.3	21	139.3	1	6.6	1	6.6
LIPSCOMB	3,143	0	.0	0	.0	0	.0	0	.0
LUBBOCK	222,636	735	330.1	626	281.2	16	7.2	9	4.0
LYNN	6,758	6	88.8	0	.0	0	.0	1	14.8
MOORE	17,865	15	84.0	9	50.4	3	16.8	0	.0
MOTLEY	1,532	0	.0	0	.0	0	.0	0	.0
OCHILTREE	9,128	5	54.8	2	21.9	0	.0	1	11.0
OLDHAM	2,278	0	.0	0	.0	0	.0	0	.0
PARMER	9,863	7	71.0	2	20.3	0	.0	1	10.1
POTTER	97,874	373	381.1	683	697.8	10	10.2	6	6.1
RANDALL	89,673	7	7.8	26	29.0	0	.0	0	.0
ROBERTS	1,025	0	.0	1	97.6	0	.0	0	.0
SHERMAN	2,858	1	35.0	0	.0	0	.0	0	.0
SWISHER	8,133	6	73.8	3	36.9	0	.0	0	.0
TERRY	13,218	20	151.3	10	75.7	0	.0	2	15.1
WHEELER	5,879	0	.0	0	.0	0	.0	0	.0
YOAKUM	8,786	10	113.8	0	.0	0	.0	1	11.4
REGIONAL TOTAL	728,185	1,419	194.9	1,550	212.9	42	5.8	42	5.8
TEXAS	16,986,510	20,575	121.1	43,231	254.5	5,165	30.4	2,242	13.2

Public Health Region 3

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

PUBLIC HEALTH REGION 3 - 1990

COUNTY	1990 POPULATION	ASEPTIC MENINGITIS CASES	ASEPTIC MENINGITIS RATE	ENCEPHALITIS CASES	ENCEPHALITIS RATE	INFLUENZA & FLU-LIKE ILLNESS CASES	INFLUENZA & FLU-LIKE ILLNESS RATE	CHICKENPOX CASES	CHICKENPOX RATE
ANDREWS	14,338	0	.0	0	.0	35	244.1	21	146.5
BORDEN	799	0	.0	0	.0	0	.0	0	.0
BREWSTER	8,681	0	.0	0	.0	0	.0	0	.0
COKE	3,424	0	.0	0	.0	0	.0	0	.0
CONCHO	3,044	0	.0	0	.0	0	.0	0	.0
CRANE	4,652	0	.0	0	.0	16	343.9	0	.0
CROCKETT	4,078	1	24.5	0	.0	0	.0	0	.0
CULBERSON	3,407	0	.0	0	.0	0	.0	0	.0
DAWSON	14,349	0	.0	0	.0	430	2996.7	16	111.5
ECTOR	118,934	2	1.7	0	.0	696	585.2	738	620.5
EL PASO	591,610	9	1.5	0	.0	64	10.8	1,625	274.7
GAINES	14,123	0	.0	0	.0	0	.0	12	85.0
GLASSCOCK	1,447	0	.0	0	.0	0	.0	0	.0
HOWARD	32,343	0	.0	0	.0	56	173.1	1	3.1
HUDSPETH	2,915	0	.0	0	.0	0	.0	0	.0
IRION	1,629	0	.0	0	.0	0	.0	0	.0
JEFF DAVIS	1,946	0	.0	0	.0	0	.0	3	154.2
KIMBLE	4,122	0	.0	0	.0	0	.0	0	.0
LOVING	107	0	.0	0	.0	0	.0	0	.0
MARTIN	4,956	0	.0	0	.0	0	.0	0	.0
MASON	3,423	0	.0	0	.0	0	.0	0	.0
HCCULLOCH	8,778	0	.0	0	.0	0	.0	0	.0
MENARD	2,252	0	.0	0	.0	0	.0	0	.0
MIDLAND	106,611	13	12.2	0	.0	1,471	1379.8	219	205.4
PECOS	14,675	0	.0	0	.0	4	27.3	2	13.6
PRESIDIO	6,637	0	.0	0	.0	0	.0	0	.0
REAGAN	4,514	1	22.2	0	.0	0	.0	0	.0
REEVES	15,852	1	6.3	0	.0	0	.0	0	.0
SCHLEICHER	2,990	0	.0	0	.0	0	.0	0	.0
STERLING	1,438	0	.0	0	.0	0	.0	0	.0
SUTTON	4,135	0	.0	0	.0	0	.0	0	.0
TERRELL	1,410	0	.0	0	.0	0	.0	0	.0
TOM GREEN	98,458	7	7.1	0	.0	31	31.5	99	100.6
UPTON	4,447	0	.0	0	.0	0	.0	29	652.1
WARD	13,115	0	.0	0	.0	0	.0	0	.0
WINKLER	8,626	0	.0	0	.0	0	.0	0	.0
REGIONAL TOTAL	1,128,265	34	3.0	0	.0	2,803	248.4	2,765	245.1
TEXAS	16,986,510	811	4.8	74	.4	314,372	1850.7	26,636	156.8

REPORTED CASES AND RATES OF HEPATITIS PER 100,000 POPULATION

PUBLIC HEALTH REGION 3 - 1990

COUNTY	1990 POPULATION	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS NANB CASES	HEPATITIS NANB RATE	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATE
ANDREWS	14,338	7	48.8	1	7.0	0	.0	0	.0
BORDEN	799	0	.0	0	.0	0	.0	0	.0
BREWSTER	8,681	3	34.6	0	.0	1	11.5	0	.0
COKE	3,424	0	.0	0	.0	0	.0	0	.0
CONCHO	3,044	0	.0	0	.0	0	.0	0	.0
CRANE	4,652	1	21.5	2	43.0	0	.0	0	.0
CROCKETT	4,078	1	24.5	0	.0	0	.0	1	24.5
CULBERSON	3,407	0	.0	0	.0	0	.0	0	.0
DAWSON	14,349	5	34.8	3	20.9	0	.0	0	.0
ECTOR	118,934	4	3.4	27	22.7	1	.8	9	7.6
EL PASO	591,610	307	51.9	111	18.8	7	1.2	11	1.9
GAINES	14,123	4	28.3	0	.0	1	7.1	0	.0
GLASSCOCK	1,447	14	967.5	0	.0	0	.0	0	.0
HOWARD	32,343	2	6.2	5	15.5	0	.0	0	.0
HUDSPETH	2,915	1	34.3	0	.0	0	.0	0	.0
IRION	1,629	1	61.4	0	.0	0	.0	0	.0
JEFF DAVIS	1,946	1	51.4	0	.0	0	.0	0	.0
KIMBLE	4,122	0	.0	0	.0	0	.0	0	.0
LOVING	107	0	.0	0	.0	0	.0	0	.0
MARTIN	4,956	0	.0	0	.0	0	.0	0	.0
MASON	3,423	0	.0	0	.0	0	.0	0	.0
MCCULLOCH	8,778	0	.0	0	.0	0	.0	0	.0
MENARD	2,252	0	.0	1	44.4	0	.0	0	.0
MIDLAND	106,611	9	8.4	22	20.6	0	.0	0	.0
PECOS	14,675	4	27.3	2	13.6	0	.0	0	.0
PRESIDIO	6,637	0	.0	0	.0	0	.0	0	.0
REAGAN	4,514	1	22.2	0	.0	0	.0	1	22.2
REEVES	15,852	0	.0	2	12.6	0	.0	0	.0
SCHLEICHER	2,990	0	.0	0	.0	0	.0	0	.0
STERLING	1,438	0	.0	1	69.5	0	.0	0	.0
SUTTON	4,135	2	48.4	0	.0	0	.0	0	.0
TERRELL	1,410	0	.0	0	.0	0	.0	0	.0
TOM GREEN	98,458	6	6.1	9	9.1	0	.0	0	.0
UPTON	4,447	2	45.0	0	.0	0	.0	0	.0
WARD	13,115	0	.0	1	7.6	0	.0	1	7.6
WINKLER	8,626	0	.0	0	.0	0	.0	0	.0
REGIONAL TOTAL	1,128,265	375	33.2	187	16.6	10	.9	23	2.0
TEXAS	16,986,510	2,722	16.0	1,789	10.5	130	.8	287	1.7

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

PUBLIC HEALTH REGION 3 - 1990

COUNTY	1990 POPULATION	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
ANDREWS	14,338	0	.0	3	20.9	0	.0	0	.0
BORDEN	799	0	.0	0	.0	0	.0	0	.0
BREWSTER	8,681	0	.0	0	.0	0	.0	0	.0
COKE	3,424	0	.0	0	.0	0	.0	0	.0
CONCHO	3,044	0	.0	0	.0	0	.0	0	.0
CRANE	4,652	1	21.5	1	21.5	0	.0	0	.0
CROCKETT	4,078	0	.0	0	.0	0	.0	0	.0
CULBERSON	3,407	0	.0	0	.0	0	.0	0	.0
DAWSON	14,349	0	.0	1	7.0	0	.0	0	.0
ECTOR	118,934	2	1.7	1	.8	3	2.5	0	.0
EL PASO	591,610	295	49.9	26	4.4	2	.3	3	.5
GAINES	14,123	44	311.5	1	7.1	0	.0	0	.0
GLASSCOCK	1,447	0	.0	0	.0	0	.0	0	.0
HOWARD	32,343	1	3.1	0	.0	0	.0	0	.0
HUDSPETH	2,915	0	.0	0	.0	0	.0	0	.0
IRION	1,629	0	.0	0	.0	0	.0	0	.0
JEFF DAVIS	1,946	0	.0	0	.0	0	.0	0	.0
KIMBLE	4,122	0	.0	0	.0	0	.0	0	.0
LOVING	107	0	.0	0	.0	0	.0	0	.0
MARTIN	4,956	0	.0	0	.0	0	.0	0	.0
MASON	3,423	0	.0	0	.0	0	.0	0	.0
MCCULLOCH	8,778	0	.0	0	.0	0	.0	0	.0
MENARD	2,252	0	.0	0	.0	0	.0	0	.0
MIDLAND	106,611	4	3.8	4	3.8	4	3.8	0	.0
PECOS	14,675	0	.0	1	6.8	0	.0	0	.0
PRESIDIO	6,637	0	.0	0	.0	0	.0	0	.0
REAGAN	4,514	2	44.3	1	22.2	0	.0	0	.0
REEVES	15,852	0	.0	0	.0	0	.0	0	.0
SCHLEICHER	2,990	0	.0	0	.0	0	.0	0	.0
STERLING	1,438	0	.0	0	.0	0	.0	0	.0
SUTTON	4,135	0	.0	0	.0	0	.0	0	.0
TERRELL	1,410	0	.0	0	.0	0	.0	0	.0
TOM GREEN	98,458	9	9.1	6	6.1	0	.0	0	.0
UPTON	4,447	0	.0	0	.0	0	.0	0	.0
WARD	13,115	0	.0	0	.0	1	7.6	0	.0
WINKLER	8,626	0	.0	1	11.6	0	.0	0	.0
REGIONAL TOTAL	1,128,265	358	31.7	46	4.1	10	.9	3	.3
TEXAS	16,986,510	4,409	26.0	470	2.8	158	.9	99	.6

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

PUBLIC HEALTH REGION 3 - 1990

COUNTY	1990 POPULATION	SALMONELLOSIS CASES	RATE	SHIGELLOSIS CASES	RATE	CAMPYLOBACTER CASES	RATE	AMEBIASIS CASES	RATE
ANDREWS	14,338	0	.0	7	48.8	0	.0	1	7.0
BORDEN	799	0	.0	0	.0	0	.0	0	.0
BREWSTER	8,681	0	.0	1	11.5	0	.0	0	.0
COKE	3,424	0	.0	0	.0	0	.0	0	.0
CONCHO	3,044	0	.0	1	32.9	0	.0	0	.0
CRANE	4,652	0	.0	0	.0	0	.0	0	.0
CROCKETT	4,078	0	.0	1	24.5	0	.0	0	.0
CULBERSON	3,407	0	.0	0	.0	0	.0	0	.0
DAWSON	14,349	3	20.9	8	55.8	0	.0	0	.0
ECTOR	118,934	28	23.5	51	42.9	2	1.7	2	1.7
EL PASO	591,610	90	15.2	78	13.2	15	2.5	1	.2
GAINES	14,123	0	.0	1	7.1	0	.0	0	.0
GLASSCOCK	1,447	0	.0	0	.0	0	.0	0	.0
HOWARD	32,343	3	9.3	0	.0	1	3.1	0	.0
HUDSPETH	2,915	0	.0	0	.0	0	.0	0	.0
IRION	1,629	2	122.8	0	.0	0	.0	0	.0
JEFF DAVIS	1,946	0	.0	0	.0	0	.0	0	.0
KIMBLE	4,122	0	.0	0	.0	0	.0	0	.0
LOVING	107	0	.0	0	.0	0	.0	0	.0
MARTIN	4,956	0	.0	1	20.2	0	.0	0	.0
MASON	3,423	3	87.6	0	.0	0	.0	0	.0
MCCULLOCH	8,778	1	11.4	0	.0	0	.0	0	.0
MENARD	2,252	0	.0	0	.0	0	.0	0	.0
MIDLAND	106,611	12	11.3	31	29.1	0	.0	0	.0
PECOS	14,675	1	6.8	2	13.6	3	20.4	0	.0
PRESIDIO	6,637	0	.0	0	.0	1	15.1	0	.0
REAGAN	4,514	0	.0	0	.0	0	.0	0	.0
REEVES	15,852	8	50.5	2	12.6	0	.0	0	.0
SCHLEICHER	2,990	1	33.4	0	.0	0	.0	0	.0
STERLING	1,438	0	.0	0	.0	0	.0	0	.0
SUTTON	4,135	1	24.2	0	.0	1	24.2	0	.0
TERRELL	1,410	0	.0	0	.0	0	.0	0	.0
TOM GREEN	98,458	18	18.3	27	27.4	5	5.1	0	.0
UPTON	4,447	0	.0	0	.0	0	.0	0	.0
WARD	13,115	0	.0	0	.0	0	.0	0	.0
UINKLER	8,626	2	23.2	2	23.2	0	.0	0	.0
REGIONAL TOTAL	1,128,265	173	15.3	213	18.9	28	2.5	4	.4
TEXAS	16,986,510	2,315	13.6	3,550	20.9	739	4.4	139	.8

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

PUBLIC HEALTH REGION 3 - 1990

COUNTY	1990 POPULATION	CHLAMYDIA CASES	CHLAMYDIA RATE	GONORRHEA CASES	GONORRHEA RATE	P&S SYPHILIS CASES	P&S SYPHILIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
ANDREWS	14,338	17	118.6	9	62.8	1	7.0	1	7.0
BORDEN	799	0	.0	0	.0	0	.0	0	.0
BREUSTER	8,681	30	345.6	0	.0	0	.0	0	.0
COKE	3,424	1	29.2	0	.0	0	.0	0	.0
CONCHO	3,044	1	32.9	3	98.6	3	98.6	0	.0
CRANE	4,652	1	21.5	0	.0	0	.0	1	21.5
CROCKETT	4,078	2	49.0	2	49.0	0	.0	1	24.5
CULBERSON	3,407	0	.0	1	29.4	0	.0	0	.0
DAUSON	14,349	5	34.8	7	48.8	0	.0	2	13.9
ECTOR	118,934	163	137.1	249	209.4	15	12.6	9	7.6
EL PASO	591,610	748	126.4	355	60.0	34	5.7	106	17.9
GAINES	14,123	31	219.5	2	14.2	1	7.1	0	.0
GLASSCOCK	1,447	0	.0	2	138.2	0	.0	0	.0
HOWARD	32,343	8	24.7	69	213.3	8	24.7	0	.0
HUDSPETH	2,915	0	.0	1	34.3	1	34.3	0	.0
IRION	1,629	1	61.4	0	.0	0	.0	0	.0
JEFF DAVIS	1,946	4	205.5	0	.0	0	.0	0	.0
KIMBLE	4,122	0	.0	2	48.5	0	.0	0	.0
LOVING	107	0	.0	0	.0	0	.0	0	.0
MARTIN	4,956	7	141.2	3	60.5	2	40.4	0	.0
MASON	3,423	1	29.2	0	.0	0	.0	0	.0
MCCULLOCH	8,778	11	125.3	5	57.0	0	.0	0	.0
MENARD	2,252	1	44.4	2	88.8	0	.0	1	44.4
MIDLAND	106,611	159	149.1	292	273.9	43	40.3	4	3.8
PECOS	14,675	54	368.0	4	27.3	9	61.3	2	13.6
PRESIDIO	6,637	10	150.7	0	.0	0	.0	0	.0
REAGAN	4,514	2	44.3	1	22.2	0	.0	0	.0
REEVES	15,852	8	50.5	1	6.3	1	6.3	1	6.3
SCHLEICHER	2,990	1	33.4	0	.0	0	.0	0	.0
STERLING	1,438	2	139.1	3	208.6	0	.0	0	.0
SUTTON	4,135	1	24.2	0	.0	0	.0	0	.0
TERRELL	1,410	0	.0	1	70.9	0	.0	0	.0
TOM GREEN	98,458	129	131.0	101	102.6	5	5.1	4	4.1
UPTON	4,447	4	89.9	1	22.5	0	.0	1	22.5
UARD	13,115	23	175.4	10	76.2	1	7.6	0	.0
WINKLER	8,626	19	220.3	1	11.6	1	11.6	2	23.2
REGIONAL TOTAL	1,128,265	1,444	128.0	1,127	99.9	125	11.1	135	12.0
TEXAS	16,986,510	20,575	121.1	43,231	254.5	5,165	30.4	2,242	13.2

Public Health Region 4

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

PUBLIC HEALTH REGION 4 - 1990

COUNTY	1990 POPULATION	ASEPTIC MENINGITIS CASES	RATE	ENCEPHALITIS CASES	RATE	INFLUENZA & FLU-LIKE ILLNESS CASES	RATE	CHICKENPOX CASES	RATE
AUSTIN	19,832	0	.0	1	5.0	0	.0	0	.0
BRAZORIA	191,707	1	.5	0	.0	3,704	1932.1	128	66.8
CHAMBERS	20,088	0	.0	0	.0	0	.0	40	199.1
COLORADO	18,383	0	.0	0	.0	0	.0	0	.0
FORT BEND	225,421	3	1.3	0	.0	84	37.3	53	23.5
GALVESTON	217,399	10	4.6	0	.0	334	153.6	515	236.9
HARDIN	41,320	1	2.4	1	2.4	0	.0	17	41.1
HARRIS	2,818,199	199	7.1	35	1.2	222,703	7902.3	7,641	271.1
JEFFERSON	239,397	32	13.4	5	2.1	4,173	1743.1	1,247	520.9
LIBERTY	52,726	0	.0	0	.0	0	.0	0	.0
MATAGORDA	36,928	0	.0	0	.0	1,136	3076.3	155	419.7
MONTGOMERY	182,201	2	1.1	1	.5	2	1.1	7	3.8
ORANGE	80,509	0	.0	0	.0	0	.0	0	.0
WALKER	50,917	1	2.0	1	2.0	0	.0	21	41.2
WALLER	23,390	2	8.6	0	.0	0	.0	0	.0
WHARTON	39,955	1	2.5	0	.0	0	.0	0	.0
REGIONAL TOTAL	4,258,372	252	5.9	44	1.0	232,136	5451.3	9,824	230.7
TEXAS	16,986,510	811	4.8	74	.4	314,372	1850.7	26,636	156.8

REPORTED CASES AND RATES OF HEPATITIS PER 100,000 POPULATION

PUBLIC HEALTH REGION 4 - 1990

COUNTY	1990 POPULATION	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS NANB CASES	HEPATITIS NANB RATE	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATE
AUSTIN ✓	19,832	0	.0	0	.0	0	.0	0	.0
BRAZORIA ✓	191,707	21	11.0	8	4.2	0	.0	2	1.0
CHAMBERS ✓	20,088	1	5.0	1	5.0	0	.0	1	5.0
COLORADO ✓	18,383	0	.0	1	5.4	0	.0	0	.0
FORT BEND ✓	225,421	14	6.2	7	3.1	0	.0	2	.9
GALVESTON ✓	217,399	51	23.5	43	19.8	2	.9	1	.5
HARDIN ✓	41,320	1	2.4	1	2.4	0	.0	0	.0
HARRIS	2,818,199	300	10.6	171	6.1	10	.4	78	2.8
JEFFERSON	239,397	8	3.3	38	15.9	0	.0	6	2.5
LIBERTY ✓	52,726	11	20.9	2	3.8	0	.0	1	1.9
MATAGORDA	36,928	8	21.7	1	2.7	0	.0	0	.0
MONTGOMERY	182,201	15	8.2	9	4.9	1	.5	0	.0
ORANGE	80,509	13	16.1	3	3.7	0	.0	1	1.2
WALKER ✓	50,917	20	39.3	93	182.7	1	2.0	0	.0
UALLER ✓	23,390	0	.0	0	.0	0	.0	0	.0
UHARTON ✓	39,955	7	17.5	0	.0	0	.0	0	.0
REGIONAL TOTAL	4,258,372	470	11.0	378	8.9	14	.3	92	2.2
TEXAS	16,986,510	2,722	16.0	1,789	10.5	130	.8	287	1.7

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

PUBLIC HEALTH REGION 4 - 1990

COUNTY	1990 POPULATION	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
AUSTIN	19,832	0	.0	0	.0	0	.0	0	.0
BRAZORIA	191,707	0	.0	2	1.0	2	1.0	0	.0
CHAMBERS	20,088	0	.0	0	.0	0	.0	0	.0
COLORADO	18,383	0	.0	0	.0	0	.0	0	.0
FORT BEND	225,421	9	4.0	0	.0	0	.0	0	.0
GALVESTON	217,399	4	1.8	5	2.3	1	.5	0	.0
HARDI N	41,320	10	24.2	0	.0	0	.0	0	.0
HARRIS	2,818,199	130	4.6	64	2.3	11	.4	4	.1
JEFFERSON	239,397	22	9.2	10	4.2	0	.0	0	.0
LIBERTY	52,726	1	1.9	0	.0	1	1.9	0	.0
MATAGORDA	36,928	0	.0	2	5.4	0	.0	0	.0
MONTGOMERY	182,201	1	.5	5	2.7	1	.5	0	.0
ORANGE	80,509	5	6.2	2	2.5	0	.0	0	.0
WALKER	50,917	0	.0	0	.0	0	.0	0	.0
UALLER	23,390	0	.0	0	.0	2	8.6	0	.0
UHARTON	39,955	5	12.5	0	.0	0	.0	0	.0
REGIONAL TOTAL	4,258,372	187	4.4	90	2.1	18	.4	4	.1
TEXAS	16,986,510	4,409	26.0	470	2.8	158	.9	99	.6

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

PUBLIC HEALTH REGION 4 - 1990

COUNTY	1990 POPULATION	SALMONELLOSIS CASES	SALMONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	AMEBIASIS CASES	AMEBIASIS RATE
AUSTIN	19,832	0	.0	0	.0	0	.0	0	.0
BRAZORIA	191,7071	12	6.31	23	12.0	4	2.1	0	.0
CHAMBERS	20,0881	0	.0	0	.0	0	.0	0	.0
COLORADO	18,383	0	.0	1	5.4	0	.0	0	.0
FORT BEND	225,4211	41	18.21	58	25.7	14	6.2	1	.4
GALVESTON	217,399	27	12.4	29	13.31	13	6.01	1	.5
HARDIN	41,320)	8	19.4	1	2.41	3	7.3	0	.0
HARRIS	12,818,1991	3081	10.91	4991	17.71	92	3.3	13	.5
JEFFERSON	239,3971	36	15.01	9	3.81	17	7.1	0	.0
LIBERTY	52,7261	5	9.51	4	7.6	2	3.8	0	.0
MATAGORDA	36,928	2	5.4	2	5.4	0	.0	0	.0
MONTGOMERY	182,2011	20	11.0	13	7.11	1	.5	0	.0
ORANGE	80,509	9	11.2	3	3.7	4	5.0	0	.0
WALKER	50,917	3	5.91	1	2.01	0	.0	1	2.0
UALLER	23,390	3	12.8)	0	.0	0	.0	0	.0
UHARTON	39,955	1	2.51	2	5.0	0	.0	0	.0
REGIONAL TOTAL	14,258,3721	475	11.2	6451	15.1	150	3.5	16	.4
TEXAS	16,986,510	2,3151	13.61	3,5501	20.9	739	4.41	1391	.8

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

PUBLIC HEALTH REGION 4 - 1990

COUNTY	1990 POPULATION	CHLAMYDIA CASES	CHLAMYDIA RATE	GONORRHEA CASES	GONORRHEA RATE	P&S SYPHILIS CASES	P&S SYPHILIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
AUSTIN	22,497	2	8.9	5	22.2	4	17.8	6	26.7
BRAZORIA	206,657	137	66.3	103	49.8	22	10.6	18	8.7
CHAMBERS	21,310	4	18.8	0	.0	0	.0	1	4.7
COLORADO	20,800	2	9.6	5	24.0	3	14.4	1	4.8
FORT BEND	236,536	60	25.4	94	39.7	29	12.3	15	6.3
GALVESTON	228,833	900	393.3	864	377.6	49	21.4	28	12.2
HARDIN	46,282	1	2.2	4	8.6	2	4.3	1	2.2
HARRIS	3,078,356	2,477	80.5	13,235	429.9	1,806	58.7	574	18.6
JEFFERSON	266,664	46	17.3	1,138	426.8	73	27.4	35	13.1
LIBERTY	60,407	23	38.1	37	61.3	11	18.2	4	6.6
MATAGORDA	37,869	26	68.7	41	108.3	3	7.9	7	18.5
MONTGOMERY	218,370	149	68.2	203	93.0	50	22.9	10	4.6
ORANGE	95,454	7	7.3	77	80.7	9	9.4	2	2.1
WALKER	60,483	92	152.1	241	398.5	120	198.4	68	112.4
UALLER	26,688	205	768.1	154	577.0	27	101.2	4	15.0
UHARTON	41,636	30	72.1	20	48.0	11	26.4	1	2.4
REGIONAL TOTAL	4,668,842	4,161	89.1	16,221	347.4	2,219	47.5	775	16.6
TEXAS	16,986,510	20,575	121.1	43,231	254.5	5,165	30.4	2,242	13.2

Public Health Region 5

REPORTED CASES OF SELECTED VIRAL DISEASES AND RATES PER 100,000 POPULATION
PUBLIC HEALTH REGION 5 - 1990

COUNTY	1990 POPULATION	ASEPTIC MENINGITIS CASES	ASEPTIC MENINGITIS RATE	ENCEPHALITIS CASES	ENCEPHALITIS RATE	INFLUENZA & FLU-LIKE ILLNESS CASES	INFLUENZA & FLU-LIKE ILLNESS RATE	CHICKENPOX CASES	CHICKENPOX RATE
ARCHER	7,973	1	12.5	0	.0	0	.0	0	.0
BAYLOR	4,385	0	.0	0	.0	0	.0	0	.0
BROWN	34,371	1	2.9	0	.0	0	.0	1	2.9
CALLAHAN	11,859	0	.0	0	.0	0	.0	0	.0
CHILDRESS	5,953	0	.0	0	.0	0	.0	0	.0
CLAY	10,024	0	.0	0	.0	0	.0	0	.0
COLEMAN	9,710	0	.0	0	.0	0	.0	17	175.1
COLLIN	264,036	12	4.5	0	.0	9,805	3713.5	799	302.6
COMANCHE	13,381	0	.0	0	.0	2	14.9	2	14.9
COOKE	30,777	0	.0	0	.0	0	.0	2	6.5
COTTLE	2,247	0	.0	0	.0	0	.0	0	.0
DALLAS	1,852,810	214	11.6	8	.4	1,9491	105.2	561	30.3
DENTON	273,525	7	2.6	0	.0	1561	57.0	189	69.1
EASTLAND	18,488	0	.0	0	.0	0	.0	2	10.8
ELLIS	85,167	2	2.3	0	.0	44	51.7	2	2.3
ERATH	27,991	0	.0	0	.0	0	.0	0	.0
FANNIN	24,804	0	.0	0	.0	0	.0	0	.0
FISHER	4,842	0	.0	0	.0	0	.0	0	.0
FOARD	1,794	0	.0	0	.0	0	.0	0	.0
GRAYSON	95,021	0	.0	0	.0	3151	331.5	23	24.2
HARDEMAN	5,283	0	.0	0	.0	0	.0	0	.0
HASKELL	6,820	0	.0	0	.0	0	.0	0	.0
HOOD	28,981	0	.0	0	.0	0	.0	0	.0
HUNT	64,343	4	6.2	0	.0	168	261.1	28	43.5
JACK	6,981	0	.0	0	.0	0	.0	0	.0
JOHNSON	97,165	2	2.1	0	.0	0	.0	0	.0
JONES	16,490	1	6.1	0	.0	69	418.4	31	188.0
KAUFMAN	52,220	3	5.7	0	.0	2591	496.0	2	3.8
KENT	1,010	0	.0	0	.0	0	.0	0	.0
KNOX	4,837	0	.0	0	.0	2491	5147.8	15	310.1
MITCHELL	8,016	0	.0	0	.0	0	.0	0	.0
MONTAGUE	17,274	1	5.8	0	.0	0	.0	0	.0
NAVARRO	39,926	1	2.5	0	.0	50	125.2	81	202.9
NOLAN	16,594	1	6.0	0	.0	20	120.5	0	.0
PALO PINTO	25,055	0	.0	0	.0	0	.0	0	.0
PARKER	64,785	0	.0	0	.0	0	.0	0	.0
ROCKWALL	25,604	4	15.6	0	.0	0	.0	0	.0
RUNNELS	11,294	0	.0	0	.0	2	17.7	1	8.9
SCURRY	18,634	1	5.4	0	.0	9	48.3	14	75.1
SHACKELFORD	3,316	0	.0	0	.0	0	.0	0	.0
SOMERVELL	5,360	0	.0	0	.0	0	.0	0	.0
STEPHENS	9,010	0	.0	0	.0	345	3829.1	0	.0
STONEWALL	2,013	0	.0	0	.0	0	.0	0	.0
TARRANT	1,170,103	43	3.7	4	.3	3,5961	307.3	3,372	288.2
TAYLOR	119,655	10	8.4	0	.0	7,673	6412.6	630	526.5
THROCKMORTON	1,880	0	.0	0	.0	0	.0	0	.0
WICHITA	122,378	6	4.9	0	.0	49	40.0	125	102.1
WILBARGER	15,121	0	.0	0	.0	151	998.6	12	79.4
WISE	34,679	0	.0	0	.0	0	.0	0	.0
YOUNG	18,126	0	.0	0	.0	0	.0	0	.0
REGIONAL TOTAL	4,792,111	314	6.6	12	.3	24,911	519.8	5,909	123.3
TEXAS	16,986,510	811	4.8	74	.4	314,3721	1850.7	26,636	156.8

REPORTED CASES AND RATES OF HEPATITIS PER 100,000 POPULATION
PUBLIC HEALTH REGION 5 - 1990

COUNTY	1990 POPULATION	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS NANB CASES	HEPATITIS NANB RATE	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATE
ARCHER	7,973	0	.0	0	.0	0	.0	0	.0
BAYLOR	4,385	0	.0	0	.0	0	.0	0	.0
BROWN	34,371	6	17.5	5	14.5	0	.0	0	.0
CALLAHAN	11,859	6	50.6	0	.0	1	8.4	0	.0
CHILDRESS	5,953	0	.0	0	.0	0	.0	0	.0
CLAY	10,024	1	10.0	0	.0	0	.0	0	.0
COLEMAN	9,710	0	.0	0	.0	0	.0	0	.0
COLLIN	264,036	20	7.6	13	4.9	2	.8	2	.8
COMANCHE	13,381	1	7.5	0	.0	0	.0	0	.0
COOKE	30,777	3	9.7	1	3.2	1	3.2	0	.0
COTTLE	2,247	0	.0	0	.0	0	.0	0	.0
DALLAS	1,852,810	399	21.5	288	15.5	3	.2	78	4.2
DENTON	273,525	12	4.4	16	5.8	1	.4	0	.0
EASTLAND	18,488	0	.0	0	.0	1	5.4	0	.0
ELLIS	85,167	7	8.2	2	2.3	2	2.3	0	.0
ERATH	27,991	2	7.1	0	.0	0	.0	0	.0
FANNIN	24,804	6	24.2	3	12.1	0	.0	0	.0
FISHER	4,842	0	.0	0	.0	0	.0	0	.0
FOARD	1,794	0	.0	1	55.7	0	.0	0	.0
GRAYSON	95,021	12	12.6	17	17.9	1	1.1	0	.0
HARDEMAN	5,283	0	.0	0	.0	0	.0	0	.0
HASKELL	6,820	2	29.3	1	14.7	0	.0	0	.0
HOOD	28,981	10	34.5	2	6.9	0	.0	0	.0
HUNT	64,343	5	7.8	13	20.2	1	1.6	2	3.1
JACK	6,981	0	.0	0	.0	0	.0	0	.0
JOHNSON	97,165	28	28.8	12	12.4	0	.0	1	1.0
JONES	16,490	6	36.4	1	6.1	0	.0	0	.0
KAUFMAN	52,220	4	7.7	7	13.4	0	.0	1	1.9
KENT	1,010	0	.0	0	.0	0	.0	0	.0
KNOX	4,837	0	.0	1	20.7	0	.0	0	.0
MITCHELL	8,016	0	.0	1	12.5	0	.0	0	.0
MONTAGUE	17,274	1	5.8	0	2.0	1	5.8	0	.0
NAVARRO	39,926	1	2.5	1	2.5	1	2.5	0	.0
NOLAN	16,594	2	12.1	2	12.1	0	.0	0	.0
PALO PINTO	25,055	1	4.0	2	8.0	0	.0	0	.0
PARKER	64,785	2	3.1	11	17.0	1	1.5	0	.0
ROCKUALL	25,604	2	7.8	2	7.8	0	.0	0	.0
RUNNELS	11,294	2	17.7	0	.0	0	.0	1	8.9
SCURRY	18,634	0	.0	4	21.5	0	.0	0	.0
SHACKELFORD	3,316	0	.0	0	.0	0	.0	0	.0
SOMERVELL	5,360	0	.0	1	18.7	0	.0	0	.0
STEPHENS	9,010	0	.0	1	11.1	0	.0	1	11.1
STONEWALL	2,013	0	.0	0	.0	1	49.7	0	.0
TARRANT	1,170,103	149	12.7	204	17.4	9	.8	5	.4
TAYLOR	119,655	11	9.2	11	9.2	2	1.7	2	1.7
THROCKMORTON	1,880	0	.0	0	.0	0	.0	0	.0
WICHITA	122,378	7	5.7	35	28.6	2	1.6	1	.8
WILBARGER	15,121	1	6.6	0	.0	1	6.6	0	.0
WISE	34,679	15	43.3	2	5.8	0	.0	0	.0
YOUNG	18,126	0	.0	0	.0	0	.0	0	.0
REGIONAL TOTAL	4,792,111	724	15.1	660	13.8	31	.6	94	2.0
TEXAS	16,986,510	2,722	16.0	1,789	10.5	130	.8	287	1.7

REPORTED CASES OF SELECTED VACCINE-PREVENTABLE DISEASES AND RATES PER 100,000 POPULATION
PUBLIC HEALTH REGION 5 - 1990

COUNTY	1990 POPULATION	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
ARCHER	7,973	0	.0	0	.0	0	.0	0	.0
BAYLOR	4,385	1	22.8	0	.0	0	.0	0	.0
BROWN	34,371	20	58.2	0	.0	0	.0	0	.0
CALLAHAN	11,859	0	.0	0	.0	0	.0	0	.0
CHILDRESS	5,953	1	16.8	2	33.6	0	.0	0	.0
CLAY	10,024	0	.0	0	.0	0	.0	0	.0
COLEMAN	9,710	0	.0	0	.0	0	.0	0	.0
COLLIN	264,036	65	24.6	6	2.3	1	.4	3	1.1
COMANCHE	13,381	0	.0	0	.0	1	7.5	0	.0
COOKE	30,777	20	65.0	1	3.2	0	.0	0	.0
COTTLE	2,247	0	.0	0	.0	0	.0	0	.0
DALLAS	1,852,810	1,896	102.3	34	1.8	18	1.0	8	.4
DENTON	273,525	155	56.7	2	.7	0	.0	0	.0
EASTLAND	18,488	0	.0	1	5.4	0	.0	1	5.4
ELLIS	85,167	74	86.9	1	1.2	4	4.7	3	3.5
ERATH	27,991	23	82.2	0	.0	0	.0	0	.0
FANNIN	24,804	1	4.0	0	.0	0	.0	0	.0
FISHER	4,842	0	.0	0	.0	0	.0	0	.0
FOARD	1,794	1	55.7	0	.0	0	.0	0	.0
GRAYSON	95,021	80	84.2	1	1.1	0	.0	0	.0
HARDEMAN	5,283	0	.0	0	.0	0	.0	0	.0
HASKELL	6,820	0	.0	0	.0	0	.0	4	58.7
HOOD	28,981	5	17.3	0	.0	0	.0	0	.0
HUNT	64,343	12	18.7	0	.0	0	.0	1	1.6
JACK	6,981	3	43.0	0	.0	0	.0	0	.0
JOHNSON	97,165	23	23.7	4	4.1	4	4.1	2	2.1
JONES	16,490	1	6.1	0	.0	0	.0	0	.0
KAUFMAN	52,220	32	61.3	0	.0	0	.0	2	3.8
KENT	1,010	0	.0	0	.0	0	.0	0	.0
KNOX	4,837	1	20.7	1	20.7	0	.0	0	.0
MITCHELL	8,016	0	.0	0	.0	0	.0	0	.0
MONTAGUE	17,274	9	52.1	0	.0	2	11.6	0	.0
NAVARRO	39,926	17	42.6	2	5.0	0	.0	0	.0
NOLAN	16,594	0	.0	3	18.1	0	.0	0	.0
PALO PINTO	25,055	2	8.0	3	12.0	0	.0	2	8.0
PARKER	64,785	9	13.9	1	1.5	2	3.1	2	3.1
ROCKWALL	25,604	10	39.1	0	.0	1	3.9	0	.0
RUNNELS	11,294	0	.0	0	.0	0	.0	0	.0
SCURRY	18,634	0	.0	0	.0	0	.0	2	10.7
SHACKELFORD	3,316	0	.0	0	.0	0	.0	0	.0
SOMERVELL	5,360	1	18.7	0	.0	0	.0	0	.0
STEPHENS	9,010	1	11.1	0	.0	0	.0	0	.0
STONEWALL	2,013	0	.0	0	.0	0	.0	0	.0
TARRANT	1,170,103	275	23.5	36	3.1	20	1.7	10	.9
TAYLOR	119,655	0	.0	0	.0	0	.0	0	.0
THROCKMORTON	1,880	0	.0	0	.0	0	.0	0	.0
WICHITA	122,378	10	8.2	7	5.7	1	.8	0	.0
WILBARGER	15,121	0	.0	0	.0	2	13.2	0	.0
WISE	34,679	4	11.5	0	.0	2	5.8	2	5.8
YOUNG	18,126	8	44.1	0	.0	0	.0	0	.0
REGIONAL TOTAL	4,792,111	2,760	57.6	105	2.2	58	1.2	42	.9
TEXAS	16,986,510	4,409	26.0	470	2.8	158	.9	99	.6

REPORTED CASES OF GASTROINTESTINAL DISEASES AND RATES PER 100,000 POPULATION
PUBLIC HEALTH REGION 5 - 1990

COUNTY	1990 POPULATION	SALHONELLOSIS CASES	SALHONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	AMEBIASIS CASES	AMEBIASIS RATE
ARCHER	7,973	1	12.5	2	25.1	0	.0	0	.0
BAYLOR	4,385	0	.0	0	.0	0	.0	0	.0
BROWN	34,371	4	11.6	0	.0	0	.0	0	.0
CALLAHAN	11,859	1	8.4	0	.0	0	.0	0	.0
CHILDRESS	5,953	0	.0	0	.0	0	.0	0	.0
CLAY	10,024	1	10.0	0	.0	0	.0	0	.0
COLEMAN	9,710	0	.0	0	.0	1	10.3	0	.0
COLLIN	264,036	15	5.7	1	.4	5	1.9	0	.0
COMANCHE	13,381	2	14.9	2	14.9	0	.0	0	.0
COOKE	30,777	5	16.2	0	.0	0	.0	0	.0
COTTLE	2,247	0	.0	0	.0	0	.0	0	.0
DALLAS	1,852,810	240	13.0	193	10.4	121	6.5	22	1.2
DENTON	273,525	27	9.9	7	2.6	7	2.6	1	.4
EASTLAND	18,488	2	10.8	1	5.4	0	.0	0	.0
ELLIS	85,167	8	9.4	9	10.6	1	1.2	0	.0
ERATH	27,991	9	32.2	0	.0	1	3.6	0	.0
FANNIN	24,804	2	8.1	0	.0	2	8.1	0	.0
FISHER	4,842	2	41.3	0	.0	0	.0	0	.0
FOARD	1,794	1	55.7	0	.0	0	.0	0	.0
GRAYSON	95,021	34	35.8	14	14.7	3	3.2	0	.0
HARDEMAN	5,283	0	.0	0	.0	0	.0	0	.0
HASKELL	6,820	0	.0	0	.0	0	.0	0	.0
HOOD	28,981	17	58.7	5	17.3	1	3.5	0	.0
HUNT	64,343	14	21.8	1	1.6	2	3.1	0	.0
JACK	6,981	2	28.6	0	.0	0	.0	0	.0
JOHNSON	97,165	14	14.4	3	3.1	0	.0	0	.0
JONES	16,490	2	12.1	0	.0	0	.0	2	12.1
KAUFMAN	52,220	6	11.5	1	1.9	2	3.8	0	.0
KENT	1,010	0	.0	0	.0	0	.0	0	.0
KNOX	4,837	0	.0	0	.0	0	.0	0	.0
MITCHELL	8,016	1	12.5	0	.0	0	.0	0	.0
MONTAGUE	17,274	3	17.4	0	2.0	0	.0	0	.0
NAVARRO	39,926	5	12.5	2	5.0	6	15.0	0	.0
NOLAN	16,594	2	12.1	1	6.0	0	.0	0	.0
PALO PINTO	25,055	9	35.9	0	.0	1	4.0	0	.0
PARKER	64,785	27	41.7	11	17.0	46	71.0	0	.0
ROCKUALL	25,604	1	3.9	1	3.9	0	.0	0	.0
RUNNELS	11,294	0	.0	1	8.9	1	8.9	0	.0
SCURRY	18,634	1	5.4	1	5.4	0	.0	0	.0
SHACKELFORD	3,316	0	.0	0	.0	0	.0	1	30.2
SOMERVELL	5,360	1	18.7	0	.0	0	.0	0	.0
STEPHENS	9,010	0	.0	0	.0	0	.0	0	.0
STONEWALL	2,013	1	49.7	0	.0	0	.0	0	.0
TARRANT	1,170,103	130	11.1	208	17.8	46	3.9	2	.2
TAYLOR	119,655	4	3.3	3	2.5	0	.0	17	14.2
THROCKMORTON	1,880	0	.0	0	.0	0	.0	0	.0
WICHITA	122,378	20	16.3	28	22.9	9	7.4	1	.8
U ILBARGER	15,121	3	19.8	0	.0	0	.0	0	.0
UISE	34,679	7	20.2	5	14.4	0	.0	0	.0
YOUNG	18,126	0	.0	0	.0	0	.0	0	.0
REGIONAL TOTAL	4,792,111	624	13.0	500	10.4	255	5.3	46	1.0
TEXAS	16,986,510	2,315	13.6	3,550	20.9	739	4.4	139	.8

REPORTED CASES OF SELECTED DISEASES AND RATES PER 100,000 POPULATION
PUBLIC HEALTH REGION 5 - 1990

CWNTY	1990 POPULATION	CHLAMYDIA CASES	CHLAMYDIA RATE	GONORRHEA CASES	GONORRHEA RATE	P&S SYPHILIS CASES	P&S SYPHILIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
ARCHER	7,973	8	100.3	4	50.2	[illegible]	.0	[illegible]	.0
BAYLOR	4,385	0	.0	0	.0	0	.0	0	.0
BROWN	34,371	23	66.9	56	162.9	1	2.9	1	2.9
CALLAHAN	11,859	4	33.7	6	50.6	0	.0	0	.0
CHILDRESS	5,953	1	16.8	3	50.4	0	.0	0	.0
CLAY	10,024	3	29.9	2	20.0	0	.0	1	10.0
COLEMAN	9,710	3	30.9	1	10.3	0	.0	0	.0
COLLIN	264,036	36	13.6	232	87.9	4	1.5	4	1.5
COMANCHE	13,381	0	.0	2	14.9	0	.0	2	14.9
COOKE	30,777	6	19.5	7	22.7	1	3.2	1	3.2
COTTLE	2,247	1	44.5	4	178.0	0	.0	0	.0
DALLAS	1,852,810	2,193	118.4	9,564	516.2	1,165	62.9	284	15.3
DENTON	273,525	46	16.8	64	23.4	6	2.2	8	2.9
EASTLAND	18,488	2	10.8	6	32.5	0	.0	1	5.4
ELLIS	85,167	25	29.4	53	62.2	11	12.9	2	2.3
ERATH	27,991	13	46.4	1	3.6	0	.0	2	7.1
FANNIN	24,804	5	20.2	16	64.5	0	.0	1	4.0
FISHER	4,842	1	20.7	2	41.3	0	.0	0	.0
FOARD	1,794	0	.0	0	.0	0	.0	0	.0
GRAYSON	95,021	157	165.2	140	147.3	1	1.1	1	1.1
HARDEMAN	5,283	9	170.4	4	75.7	2	37.9	0	.0
HASKELL	6,820	2	29.3	3	44.0	0	.0	1	14.7
HOOD	28,981	7	24.2	3	10.4	0	.0	3	10.4
HUNT	64,343	44	68.4	82	127.4	4	6.2	1	1.6
JACK	6,981	5	71.6	0	.0	0	.0	0	.0
JOHNSON	97,165	9	9.3	141	14.4	3	3.1	4	4.1
JONES	16,490	7	42.4	13	78.8	0	.0	0	.0
KAUFMAN	52,220	7	13.4	25	47.9	11	21.1	4	7.7
KENT	1,010	1	99.0	0	.0	0	.0	0	.0
KNOX	4,837	1	20.7	8	165.4	0	.0	0	.0
MITCHELL	8,016	5	62.4	10	124.8	0	.0	0	.0
MONTAGUE	17,274	5	28.9	1	5.8	0	.0	1	5.8
NAVARRO	39,926	6	15.0	202	505.9	5	12.5	12	30.1
NOLAN	16,594	23	138.6	49	295.3	0	.0	1	6.0
PALO PINTO	25,055	2	8.0	6	23.9	0	.0	1	4.0
PARKER	64,785	3	4.6	7	10.8	0	.0	5	7.7
ROCKWALL	25,604	1	3.9	4	15.6	1	3.9	1	3.9
RUNNELS	11,294	13	115.1	2	17.7	0	.0	0	.0
SCURRY	18,634	11	59.0	15	80.5	0	.0	0	.0
SHACKELFORD	3,316	1	30.2	1	30.2	0	.0	0	.0
SOMERVELL	5,360	0	.0	1	18.7	0	.0	1	18.7
STEPHENS	9,010	9	99.9	1	11.1	0	.0	0	.0
STONEWALL	2,013	0	.0	0	.0	0	.0	0	.0
TARRANT	1,170,103	1,423	121.6	3,341	285.5	283	24.2	101	8.6
TAYLOR	119,655	237	198.1	200	167.1	5	4.2	4	3.3
THROCKMORTON	1,880	0	.0	0	.0	0	.0	0	.0
WICHITA	122,378	346	282.7	475	388.1	16	13.1	10	8.2
WILBARGER	15,121	13	86.0	24	158.7	4	26.5	0	.0
WISE	34,679	3	8.7	2	5.8	0	.0	0	.0
YWNG	18,126	3	16.6	3	16.6	0	.0	0	.0
REGIONAL TOTAL	4,792,111	4,723	98.6	14,659	305.9	1,523	31.8	458	9.6
TEXAS	16,986,510	20,575	121.1	43,231	254.5	5,165	30.4	2,242	13.2

Public Health Region 6

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

PUBLIC HEALTH REGION 6 - 1990

COUNTY	1990 POPULATION	ASEPTIC MENINGITIS CASES	ASEPTIC MENINGITIS RATE	ENCEPHALITIS CASES	ENCEPHALITIS RATE	INFLUENZA & FLU-LIKE ILLNESS CASES	INFLUENZA & FLU-LIKE ILLNESS RATE	CHICKENPOX CASES	CHICKENPOX RATE
ATASCOSA	30,533	0	.0	0	.0	25	81.9	121	396.3
BANDERA	10,562	0	.0	0	.0	0	.0	1	9.5
BEXAR	1,185,394	59	5.0	0	.0	856	72.2	602	50.8
COMAL	51,832	6	11.6	0	.0	286	551.8	327	630.9
DIMMIT	10,433	0	.0	0	.0	0	.0	0	.0
EDWARDS	2,266	0	.0	0	.0	0	.0	0	.0
FRIO	13,472	0	.0	0	.0	0	.0	6	44.5
GILLESPIE	17,204	0	.0	0	.0	0	.0	1	5.8
GUADALUPE	64,873	0	.0	0	.0	7	10.8	113	174.2
KARNES	12,455	0	.0	1	8.0	0	.0	0	.0
KENDALL	14,589	2	13.7	0	.0	0	.0	54	370.1
KERR	36,304	0	.0	0	.0	46	126.7	31	85.4
KINNEY	3,119	0	.0	0	.0	0	.0	0	.0
LA SALLE	5,254	0	.0	0	.0	0	.0	0	.0
MAVERICK	36,378	0	.0	0	.0	0	.0	94	258.4
MEDINA	27,312	1	3.7	0	.0	7	25.6	24	87.9
REAL	2,412	0	.0	0	.0	0	.0	0	.0
UVALDE	23,340	1	4.3	0	.0	187	801.2	73	312.8
VAL VERDE	38,721	0	.0	0	.0	57	147.2	5	12.9
WILSON	22,650	0	.0	0	.0	85	375.3	3	13.2
ZAVALA	12,162	0	.0	0	.0	205	1685.6	58	476.9
REGIONAL TOTAL	1,621,265	69	4.3	1	.1	1,761	108.6	1,513	93.3
TEXAS	16,986,510	811	4.8	74	.4	314,372	1850.7	26,636	156.8

REPORTED CASES AND RATES OF HEPATITIS PER 100,000 POPULATION

PUBLIC HEALTH REGION 6 - 1990

COUNTY	1990 POPULATION	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS NANB CASES	HEPATITIS NANB RATE	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATE
ATASCOSA	30,533	0	.0	0	.0	0	.0	0	.0
BANDERA	10,562	4	37.9	0	.0	0	.0	0	.0
BEXAR	1,185,394	209	17.6	146	12.3	2	.2	2	.2
COMAL	51,832	20	38.6	7	13.5	1	1.9	0	.0
DIMMIT	10,433	1	9.6	0	.0	0	.0	0	.0
EDWARDS	2,266	0	.0	0	.0	0	.0	0	.0
FRIO	13,472	0	.0	0	.0	0	.0	0	.0
GILLESPIE	17,204	1	5.8	0	.0	0	.0	0	.0
GUADALUPE	64,873	26	40.1	9	13.9	0	.0	2	3.1
KARNES	12,455	2	16.1	0	.0	0	.0	0	.0
KENDALL	14,589	0	.0	0	.0	0	.0	0	.0
KERR	36,304	2	5.5	0	.0	0	.0	0	.0
KINNEY	3,119	1	32.1	0	.0	0	.0	0	.0
LA SALLE	5,254	1	19.0	0	.0	0	.0	0	.0
MAVERICK	36,378	18	49.5	0	.0	0	.0	1	2.7
MEDINA	27,312	7	25.6	1	3.7	1	3.7	1	3.7
REAL	2,412	0	.0	0	.0	0	.0	0	.0
UVALDE	23,340	3	12.9	0	.0	0	.0	0	.0
VAL VERDE	38,721	9	23.2	2	5.2	0	.0	0	.0
WILSON	22,650	0	.0	0	.0	0	.0	0	.0
ZAVALA	12,162	1	8.2	0	.0	0	.0	0	.0
REGIONAL TOTAL	1,621,265	305	18.8	165	10.2	4	.2	6	.4
TEXAS	16,986,510	2,722	16.0	1,789	10.5	130	.8	287	1.7

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

PUBLIC HEALTH REGION 6 - 1990

COUNTY	1990 POPULATION	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
ATASCOSA	30,533	0	.0	0	.0	0	.0	0	.0
BANDERA	10,562	0	.0	1	9.5	0	.0	1	9.5
BEXAR	1,185,394	22	1.9	2	.2	9	.8	8	.7
COMAL	51,832	0	.0	3	5.8	0	.0	0	.0
DIMMIT	10,433	0	.0	0	.0	0	.0	1	9.6
EDWARDS	2,266	0	.0	0	.0	0	.0	0	.0
FRIO	13,472	1	7.4	3	22.3	0	.0	0	.0
GILLESPIE	17,204	2	11.6	0	.0	0	.0	0	.0
GUADALUPE	64,873	1	1.5	0	.0	1	1.5	2	3.1
KARNES	12,455	23	184.7	0	.0	0	.0	0	.0
KENDALL	14,589	0	.0	0	.0	0	.0	0	.0
KERR	36,304	0	.0	0	.0	0	.0	0	.0
KINNEY	3,119	0	.0	0	.0	0	.0	0	.0
LA SALLE	5,254	1	19.0	0	.0	0	.0	0	.0
MAVERICK	36,378	0	.0	15	41.2	0	.0	1	2.7
MEDINA	27,312	0	.0	0	.0	0	.0	0	.0
REAL	2,412	0	.0	0	.0	0	.0	0	.0
UVALDE	23,340	0	.0	1	4.3	0	.0	0	.0
VAL VERDE	38,721	0	.0	0	.0	0	.0	0	.0
WILSON	22,650	0	.0	0	.0	1	4.4	0	.0
ZAVALA	12,162	0	.0	0	.0	0	.0	0	.0
REGIONAL TOTAL	1,621,265	50	3.1	25	1.5	11	.7	13	.8
TEXAS	16,986,510	4,409	26.0	470	2.8	158	.9	99	.6

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

PUBLIC HEALTH REGION 6 - 1990

COUNTY	1990 POPULATION	SALMONELLOSIS CASES	SALMONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	AMEBIASIS CASES	AMEBIASIS RATE
ATASCOSA	30,533	1	3.3	2	6.6	0	.0	0	.0
BANDERA	10,562	1	9.5	0	.0	0	.0	0	.0
BEXAR	1,185,394	158	13.3	478	40.3	81	6.8	1	.1
COMAL	51,832	11	21.2	14	27.0	12	23.2	0	.0
DIMMIT	10,433	1	9.6	0	.0	0	.0	0	.0
EDWARDS	2,266	0	.0	0	.0	0	.0	0	.0
FRIO	13,472	1	7.4	0	.0	0	.0	0	.0
GILLESPIE	17,204	5	29.1	1	5.8	0	.0	0	.0
GUADALUPE	64,873	2	3.1	7	10.8	1	1.5	0	.0
KARNES	12,455	1	8.0	0	.0	0	.0	0	.0
KENDALL	14,589	0	.0	0	.0	0	.0	0	.0
KERR	36,304	0	.0	0	.0	0	.0	0	.0
KINNEY	3,119	1	32.1	1	32.1	0	.0	0	.0
LA SALLE	5,254	0	.0	0	.0	0	.0	0	.0
MAVERICK	36,378	4	11.0	12	33.0	0	.0	0	.0
MEDINA	27,312	0	.0	1	3.7	0	.0	0	.0
REAL	2,412	0	.0	0	.0	0	.0	0	.0
UVALDE	23,340	10	42.8	9	38.6	0	.0	0	.0
VAL VERDE	38,721	2	5.2	3	7.7	0	.0	0	.0
WILSON	22,650	1	4.4	0	.0	0	.0	0	.0
ZAVALA	12,162	5	41.1	1	8.2	0	.0	0	.0
REGIONAL TOTAL	1,621,265	204	12.6	529	32.6	94	5.8	1	.1
TEXAS	16,986,510	2,315	13.6	3,550	20.9	739	4.4	139	.8

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

PUBLIC HEALTH REGION 6 - 1990

COUNTY	1990 POPULATION	CHLAMYDIA CASES	CHLAMYDIA RATE	GONORRHEA CASES	GONORRHEA RATE	P&S SYPHILIS CASES	P&S SYPHILIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
ATASCOSA	30,533	8	26.2	1	3.3	2	6.6	5	16.4
BANDERA	10,562	2	18.9	2	18.9	0	.0	0	.0
BEXAR	1,185,394	1,003	84.6	1,555	131.2	215	18.1	135	11.4
COMAL	51,832	46	88.7	18	34.7	1	1.9	1	1.9
DIMMIT	10,433	7	67.1	0	.0	2	19.2	6	57.5
EDWARDS	2,266	0	.0	0	.0	0	.0	1	44.1
FRIO	13,472	9	66.8	3	22.3	2	14.8	1	7.4
GILLESPIE	17,204	1	5.8	2	11.6	1	5.8	0	.0
GUADALUPE	64,873	38	58.6	28	43.2	2	3.1	2	3.1
KARNES	12,455	10	80.3	7	56.2	1	8.0	0	.0
KENDALL	14,589	3	20.6	2	13.7	0	.0	2	13.7
KERR	36,304	15	41.3	6	16.5	1	2.8	1	2.8
KINNEY	3,119	0	.0	1	32.1	0	.0	0	.0
LA SALLE	5,254	10	190.3	4	76.1	0	.0	0	.0
MAVERICK	36,378	0	.0	1	2.7	0	.0	26	71.5
MEDINA	27,312	31	113.5	1	3.7	0	.0	2	7.3
REAL	2,412	0	.0	1	41.5	0	.0	0	.0
UVALDE	23,340	13	55.7	7	30.0	1	4.3	4	17.1
VAL VERDE	38,721	85	219.5	9	23.2	3	7.7	9	23.2
UILSON	22,650	11	48.6	3	13.2	0	.0	0	.0
ZAVALA	12,162	2	16.4	2	16.4	0	.0	2	16.4
REGIONAL TOTAL	1,621,265	1,294	79.8	1,653	102.0	231	14.2	197	12.2
TEXAS	16,986,510	20,575	121.1	43,231	254.5	5,165	30.4	2,242	13.2

Public Health Region 7

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

PUBLIC HEALTH REGION 7 - 1990

COUNTY	1990 POPULATION	ASEPTIC MENINGITIS CASES	ASEPTIC MENINGITIS RATE	ENCEPHALITIS CASES	ENCEPHALITIS RATE	INFLUENZA & FLU-LIKE ILLNESS CASES	INFLUENZA & FLU-LIKE ILLNESS RATE	CHICKENPOX CASES	CHICKENPOX RATE
ANDERSON	48,024	0	.0	0	.0	0	.0	4	8.3
ANGELINA	69,884	1	1.4	0	.0	70	100.2	70	100.2
BOUIE	81,665	5	6.1	1	1.2	122	149.4	167	204.5
CAMP	9,904	1	10.1	0	.0	0	.0	0	.0
CASS	29,982	2	6.7	0	.0	0	.0	0	.0
CHEROKEE	41,049	0	.0	0	.0	0	.0	0	.0
DELTA	4,857	0	.0	0	.0	0	.0	0	.0
FRANKLIN	7,802	0	.0	0	.0	0	.0	0	.0
GREGG	104,948	1	1.0	0	.0	517	492.6	205	195.3
HARRISON	57,483	10	17.4	0	.0	487	847.2	47	81.8
HENDERSON	58,543	0	.0	0	.0	0	.0	4	6.8
HOPKINS	28,833	1	3.5	0	.0	0	.0	0	.0
HOUSTON	21,375	0	.0	0	.0	55	257.3	0	.0
JASPER	31,102	0	.0	0	.0	603	1938.8	121	389.0
LAMAR	43,949	0	.0	0	.0	11	25.0	12	27.3
MARION	9,984	0	.0	0	.0	0	.0	8	80.1
MORRIS	13,200	1	7.6	0	.0	59	447.0	5	37.9
NACOGDOCHES	54,753	0	.0	0	.0	63	115.1	0	.0
NEWTON	13,569	0	.0	0	.0	63	464.3	15	110.5
PANOLA	22,035	2	9.1	0	.0	0	.0	0	.0
POLK	30,687	1	3.3	0	.0	0	.0	0	.0
RAINS	6,715	0	.0	0	.0	0	.0	0	.0
RED RIVER	14,317	1	7.0	0	.0	0	.0	0	.0
RUSK	43,735	0	.0	0	.0	58	132.6	1	2.3
SABINE	9,586	0	.0	0	.0	0	.0	0	.0
SAN AUGUSTINE	7,999	0	.0	0	.0	0	.0	66	825.1
SAN JACINTO	16,372	0	.0	1	6.1	0	.0	98	598.6
SHELBY	22,034	0	.0	0	.0	0	.0	1	4.5
SMITH	151,309	2	1.3	0	.0	596	393.9	277	183.1
TITUS	24,009	1	4.2	0	.0	0	.0	0	.0
TRINITY	11,445	1	8.7	0	.0	0	.0	0	.0
TYLER	16,646	0	.0	0	.0	0	.0	0	.0
UPSHUR	31,370	0	.0	0	.0	69	220.0	9	28.7
VAN ZANDT	37,944	1	2.6	0	.0	58	152.9	21	55.3
——	29,380	1	3.4	0	.0	2,959	10071.5	35	119.1
REGIONAL TOTAL	1,206,489	32	2.7	2	.2	5,790	479.9	1,166	96.6
TEXAS	16,986,510	811	4.8	74	.4	314,372	1850.7	26,636	156.8

REPORTED CASES AND RATES OF HEPATITIS PER 100,000 POPULATION

PUBLIC HEALTH REGION 7 - 1990

COUNTY	1990 POPULATION	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS NANB CASES	HEPATITIS NANB RATE	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATE
ANDERSON	48,024	2	4.2	0	.0	0	.0	0	.0
ANGELINA	69,884	12	17.2	22	31.5	1	1.4	2	2.9
BOWIE	81,665	2	2.4	8	9.8	0	.0	0	.0
CAMP	9,904	0	.0	2	20.2	0	.0	1	10.1
CASS	29,982	10	33.4	3	10.0	0	.0	0	.0
CHEROKEE	41,049	7	17.1	5	12.2	0	.0	0	.0
DELTA	4,857	0	.0	0	.0	0	.0	0	.0
FRANKLIN	7,802	0	.0	0	.0	0	.0	0	.0
GREGG	104,948	34	32.4	6	5.7	2	1.9	1	1.0
HARRISON	57,483	1	1.7	2	3.5	0	.0	0	.0
HENDERSON	58,543	0	.0	3	5.1	0	.0	0	.0
HOPKINS	28,833	0	.0	1	3.5	0	.0	0	.0
HOUSTON	21,375	0	.0	1	4.7	0	.0	0	.0
JASPER	31,102	1	3.2	1	3.2	0	.0	0	.0
LAMAR	43,949	3	6.8	6	13.7	0	.0	0	.0
MARION	9,984	0	.0	1	10.0	1	10.0	0	.0
MORRIS	13,200	1	7.6	0	.0	0	.0	0	.0
NACOGDOCHES	54,753	3	5.5	3	5.5	0	.0	0	.0
NEWTON	13,569	0	.0	2	14.7	0	.0	1	7.4
PANOLA	22,035	0	.0	0	.0	0	.0	0	.0
POLK	30,687	0	.0	4	13.0	0	.0	0	.0
RAINS	6,715	0	.0	0	.0	0	.0	0	.0
RED RIVER	14,317	0	.0	0	.0	0	.0	0	.0
RUSK	43,735	1	2.3	4	9.1	0	.0	0	.0
SABINE	9,586	0	.0	1	10.4	0	.0	0	.0
SAN AUGUSTINE	7,999	0	.0	0	.0	0	.0	0	.0
SAN JACINTO	16,372	1	6.1	2	12.2	0	.0	0	.0
SHELBY	22,034	0	.0	2	9.1	0	.0	0	.0
SMITH	151,309	46	30.4	18	11.9	1	.7	0	.0
TITUS	24,009	1	4.2	3	12.5	1	4.2	2	8.3
TRINITY	11,445	1	8.7	2	17.5	1	8.7	0	.0
TYLER	16,646	0	.0	3	18.0	0	.0	0	.0
UPSHUR	31,370	1	3.2	0	.0	0	.0	0	.0
VAN ZANDT	37,944	0	.0	2	5.3	1	2.6	0	.0
WOOD	29,380	0	.0	1	3.4	0	.0	0	.0
REGIONAL TOTAL	1,206,489	127	10.5	108	9.0	8	.7	7	.6
TEXAS	16,986,510	2,722	16.0	1,789	10.5	130	.8	287	1.7

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

PUBLIC HEALTH REGION 7 - 1990

COUNTY	1990 POPULATION	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
ANDERSON	48,024	2	4.2	1	2.1	2	4.2	1	2.1
ANGELINA	69,884	0	.0	1	1.4	0	.0	0	.0
BOWIE	81,665	0	.0	2	2.4	3	3.7	0	.0
CAMP	9,904	2	20.2	0	.0	0	.0	0	.0
CASS	29,982	6	20.0	0	.0	1	3.3	0	.0
CHEROKEE	41,049	1	2.4	0	.0	3	7.3	0	.0
DELTA	4,857	0	.0	0	.0	0	.0	0	.0
FRANKLIN	7,802	2	25.6	1	12.8	0	.0	0	.0
GREGG	104,948	21	20.0	4	3.8	6	5.7	0	.0
HARRISON	57,483	19	33.1	1	1.7	0	.0	0	.0
HENDERSON	58,543	2	3.4	0	.0	0	.0	0	.0
HOPKINS	28,833	0	.0	0	.0	0	.0	0	.0
HOUSTON	21,375	0	.0	2	9.4	0	.0	0	.0
JASPER	31,102	2	6.4	4	12.9	0	.0	0	.0
LAMAR	43,949	9	20.5	0	.0	1	2.3	0	.0
MARION	9,984	2	20.0	0	.0	0	.0	0	.0
MORRIS	13,200	3	22.7	0	.0	0	.0	1	7.6
NACOGDOCHES	54,753	2	3.7	1	1.8	4	7.3	0	.0
NEWTON	13,569	0	.0	0	.0	0	.0	0	.0
PANOLA	22,035	0	.0	0	.0	1	4.5	0	.0
POLK	30,687	0	.0	0	.0	0	.0	0	.0
RAINS	6,715	0	.0	0	.0	0	.0	0	.0
RED RIVER	14,317	0	.0	0	.0	0	.0	0	.0
RUSK	43,735	1	2.3	1	2.3	0	.0	0	.0
SABINE	9,586	0	.0	2	20.9	0	.0	0	.0
SAN AUGUSTINE	7,999	0	.0	0	.0	0	.0	0	.0
SAN JACINTO	16,372	0	.0	0	.0	0	.0	0	.0
SHELBY	22,034	0	.0	0	.0	0	.0	0	.0
SMITH	151,309	20	13.2	1	.7	2	1.3	1	.7
TITUS	24,009	11	45.8	1	4.2	0	.0	0	.0
TRINITY	11,445	0	.0	0	.0	0	.0	0	.0
TYLER	16,646	0	.0	0	.0	0	.0	0	.0
UPSHUR	31,370	7	22.3	0	.0	0	.0	0	.0
VAN ZANDT	37,944	6	15.8	0	.0	1	2.6	0	.0
WOOD	29,380	10	34.0	1	3.4	0	.0	0	.0
REGIONAL TOTAL	1,206,489	128	10.6	23	1.9	24	2.0	3	.2
TEXAS	16,986,510	4,409	26.0	470	2.8	158	.9	99	.6

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

PUBLIC HEALTH REGION 7 - 1990

COUNTY	1990 POPULATION	SALMONELLOSIS CASES	SALMONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	AMEBIASIS CASES	AMEBIASIS RATE
ANDERSON	48,024	3	6.2	0	.0	6	12.5	0	.0
ANGELINA	69,884	12	17.2	6	8.6	5	7.2	0	.0
BOWIE	81,665	10	12.2	2	2.4	4	4.9	0	.0
CAMP	9,904	0	.0	2	20.2	0	.0	0	.0
CASS	29,982	5	16.7	1	3.3	0	.0	0	.0
CHEROKEE	41,049	1	2.4	0	.0	0	.0	0	.0
DELTA	4,857	0	.0	0	.0	0	.0	0	.0
FRANKLIN	7,802	0	.0	0	.0	0	.0	0	.0
GREGG	104,948	39	37.2	17	16.2	0	.0	1	1.0
HARRISON	57,483	3	5.2	1	1.7	0	.0	1	1.7
HENDERSON	58,543	0	.0	0	.0	0	.0	0	.0
HOPKINS	28,833	3	10.4	0	.0	0	.0	0	.0
HOUSTON	21,375	1	4.7	3	14.0	0	.0	0	.0
JASPER	31,102	2	6.4	1	3.2	0	.0	0	.0
LAMAR	43,949	5	11.4	1	2.3	1	2.3	0	.0
MARION	9,984	1	10.0	0	.0	0	.0	0	.0
MORRIS	13,200	0	.0	0	.0	0	.0	0	.0
NACOGDOCHES	54,753	7	12.8	3	5.5	8	14.6	1	1.8
NEUTON	13,569	1	7.4	2	14.7	1	7.4	0	.0
PANOLA	22,035	0	.0	0	.0	0	.0	0	.0
POLK	30,687	0	.0	0	.0	0	.0	0	.0
RAINS	6,715	0	.0	0	.0	0	.0	0	.0
RED RIVER	14,317	3	21.0	0	.0	0	.0	0	.0
RUSK	43,735	4	9.1	0	.0	0	.0	0	.0
SABINE	9,586	0	.0	1	10.4	0	.0	0	.0
SAN AUGUSTINE	7,999	0	.0	2	25.0	0	.0	0	.0
SAN JACINTO	16,372	0	.0	0	.0	0	.0	0	.0
SHELBY	22,034	1	4.5	1	4.5	0	.0	0	.0
SMITH	151,309	40	26.4	8	5.3	1	.7	4	2.6
TITUS	24,009	6	25.0	6	25.0	0	.0	0	.0
TRINITY	11,445	1	8.7	0	.0	0	.0	0	.0
TYLER	16,646	0	.0	0	.0	2	12.0	0	.0
UPSHUR	31,370	0	.0	1	3.2	0	.0	0	.0
VAN ZANOT	37,944	3	7.9	0	.0	2	5.3	0	.0
WOOD	29,380	2	6.8	1	3.4	1	3.4	0	.0
REGIONAL TOTAL	1,206,489	153	12.7	59	4.9	31	2.6	7	.6
TEXAS	16,986,510	2,315	13.6	3,550	20.9	739	4.4	139	.8

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

PUBLIC HEALTH REGION 7 - 1990

COUNTY	1990 POPULATION	CHLAMYDIA CASES	CHLAMYDIA RATE	GONORRHEA CASES	GONORRHEA RATE	P&S SYPHILIS CASES	P&S SYPHILIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
ANDERSON	48,024	21	43.7	39	81.2	6	12.5	2	4.2
ANGELINA	69,884	27	38.6	80	114.5	89	127.4	11	15.7
BOWIE	81,665	94	115.1	360	440.8	58	71.0	10	12.2
CAMP	9,904	0	.0	4	40.4	1	10.1	2	20.2
CASS	29,982	18	60.0	40	133.4	10	33.4	6	20.0
CHEROKEE	41,049	13	31.7	35	85.3	10	24.4	9	21.9
DELTA	4,857	0	.0	2	41.2	0	.0	0	.0
FRANKLIN	7,802	0	.0	0	.0	0	.0	0	.0
GREGG	104,948	229	218.2	136	129.6	82	78.1	10	9.5
HARRISON	57,483	34	59.1	455	791.5	74	128.7	5	8.7
HENDERSON	58,543	19	32.5	25	42.7	26	44.4	8	13.7
HOPKINS	28,833	5	17.3	10	34.7	6	20.8	0	.0
HOUSTON	21,375	16	74.9	57	266.7	34	159.1	2	9.4
JASPER	31,102	60	192.9	111	356.9	2	6.4	4	12.9
LAMAR	43,949	8	18.2	179	407.3	8	18.2	2	4.6
MARION	9,984	11	110.2	24	240.4	1	10.0	1	10.0
MORRIS	13,200	10	75.8	30	227.3	3	22.7	3	22.7
NACOGDOCHES	54,753	20	36.5	45	82.2	40	73.1	2	3.7
NEWTON	13,569	16	117.9	28	206.4	4	29.5	0	.0
PANOLA	22,035	6	27.2	29	131.6	3	13.6	1	4.5
POLK	30,687	11	35.8	15	48.9	18	58.7	6	19.6
RAINS	6,715	0	.0	1	14.9	0	.0	0	.0
RED RIVER	14,317	1	7.0	32	223.5	0	.0	2	14.0
RUSK	43,735	4	9.1	19	43.4	9	20.6	0	.0
SABINE	9,586	3	31.3	8	83.5	2	20.9	1	10.4
SAN AUGUSTINE	7,999	2	25.0	10	125.0	8	100.0	2	25.0
SAN JACINTO	16,372	3	18.3	7	42.8	1	6.1	2	12.2
SHELBY	22,034	9	40.8	45	204.2	10	45.4	1	4.5
SMITH	151,309	38	25.1	506	334.4	93	61.5	11	7.3
TITUS	24,009	0	.0	12	50.0	4	16.7	6	25.0
TRINITY	11,445	6	52.4	1	8.7	5	43.7	0	.0
TYLER	16,646	12	72.1	73	438.5	1	6.0	0	.0
UPSHUR	31,370	3	9.6	15	47.8	2	6.4	0	.0
VAN ZANDT	37,944	16	42.2	7	18.4	1	2.6	1	2.6
WOOD	29,380	0	.0	38	129.3	2	6.8	4	13.6
REGIONAL TOTAL	1,206,489	715	59.3	2,478	205.4	613	50.8	114	9.4
TEXAS	16,986,510	20,575	121.1	43,231	254.5	5,165	30.4	2,242	13.2

Public Health Region 8

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

PUBLIC HEALTH REGION 8 - 1990

COUNTY	1990 POPULATION	ASEPTIC MENINGITIS CASES	RATE	ENCEPHALITIS CASES	RATE	INFLUENZA & FLU-LIKE ILLNESS CASES	RATE	CHICKENPOX CASES	RATE
ARANSAS	17,892	1	5.6	0	.0	0	.0	0	.0
BEE	25,135	0	.0	0	.0	150	596.8	0	.0
BROOKS	8,204	0	.0	0	.0	0	.0	0	.0
CALHOUN	19,053	0	.0	0	.0	96	503.9	20	105.0
CAMERON	260,120	2	.8	0	.0	1,470	565.1	449	172.6
DE WITT	18,840	0	.0	0	.0	0	.0	201	1066.9
DUVAL	12,918	0	.0	0	.0	0	.0	0	.0
GOLIAD	5,980	0	.0	0	.0	0	.0	0	.0
GONZALES	17,205	0	.0	0	.0	30	174.4	2	11.6
HIDALGO	383,545	2	.5	0	.0	58	15.1	158	41.2
JACKSON	13,039	0	.0	0	.0	0	.0	0	.0
JIM HOGG	5,109	0	.0	0	.0	0	.0	0	.0
JIM WELLS	37,679	0	.0	0	.0	0	.0	0	.0
KENEDY	460	0	.0	0	.0	0	.0	0	.0
KLEBERG	30,274	0	.0	0	.0	55	181.7	6	19.8
LAVACA	18,690	0	.0	0	.0	0	.0	21	112.4
LIVE OAK	9,556	0	.0	0	.0	0	.0	0	.0
MCMULLEN	817	0	.0	0	.0	0	.0	0	.0
NUECES	291,145	3	1.0	1	.3	4,099	1407.9	726	249.4
REFUGIO	7,976	0	.0	0	.0	0	.0	0	.0
SAN PATRICIO	58,749	0	.0	0	.0	88	149.8	33	56.2
STARR	40,518	0	.0	0	.0	0	.0	6	14.8
VICTORIA	74,361	0	.0	0	.0	851	1144.4	230	309.3
UEBB	133,239	2	1.5	0	.0	0	.0	0	.0
WILLACY	17,705	0	.0	0	.0	0	.0	110	621.3
ZAPATA	9,279	0	.0	0	.0	0	.0	0	.0
REGIONAL TOTAL	1,517,488	10	.7	1	.1	6,897	454.5	1,962	129.3
TEXAS	16,986,510	811	4.8	74	.4	314,372	1850.7	26,636	156.8

REPORTED CASES AND RATES OF HEPATITIS PER 100,000 POPULATION

PUBLIC HEALTH REGION 8 - 1990

COUNTY	1990 POPULATION	HEPATITIS A CASES	HEPATITIS A RATE	HEPATITIS B CASES	HEPATITIS B RATE	HEPATITIS NANB CASES	HEPATITIS NANB RATE	HEPATITIS UNSPECIFIED CASES	HEPATITIS UNSPECIFIED RATE
ARANSAS	17,892	1	5.6	1	5.6	0	.0	0	.0
BEE	25,135	0	.0	0	.0	0	.0	1	4.0
BROOKS	8,204	0	.0	0	.0	0	.0	0	.0
CALHOUN	19,053	0	.0	0	.0	0	.0	0	.0
CAMERON	260,120	91	35.0	6	2.3	2	.8	27	10.4
DE UITT	18,840	0	.0	0	.0	0	.0	0	.0
DUVAL	12,918	2	15.5	0	.0	0	.0	0	.0
GOLIAD	5,980	0	.0	0	.0	0	.0	0	.0
GONZALES	17,205	0	.0	0	.0	0	.0	0	.0
HIDALGO	383,545	104	27.1	4	1.0	0	.0	11	2.9
JACKSON	13,039	0	.0	1	7.7	0	.0	0	.0
JIM HOGG	5,109	0	.0	0	.0	0	.0	0	.0
JIM UELLS	37,679	1	2.7	1	2.7	0	.0	0	.0
KENEDY	460	0	.0	0	.0	0	.0	0	.0
KLEBERG	30,274	4	13.2	2	6.6	0	.0	1	3.3
LAVACA	18,690	1	5.4	1	5.4	0	.0	0	.0
LIVE OAK	9,556	0	.0	0	.0	0	.0	0	.0
MCMULLEN	817	0	.0	0	.0	0	.0	0	.0
NUECES	291,145	47	16.1	40	13.7	3	1.0	11	3.8
REFUGIO	7,976	0	.0	0	.0	0	.0	0	.0
SAN PATRICIO	58,749	13	22.1	4	6.8	1	1.7	0	.0
STARR	40,518	11	27.1	0	.0	0	.0	1	2.5
VICTORIA	74,361	9	12.1	4	5.4	0	.0	3	4.0
WEBB	133,239	115	86.3	10	7.5	0	.0	1	.8
WILLACY	17,705	1	5.6	1	5.6	0	.0	3	16.9
ZAPATA	9,279	0	.0	0	.0	0	.0	0	.0
REGIONAL TOTAL	1,517,488	400	26.4	75	4.9	6	.4	59	3.9
TEXAS	16,986,510	2,722	16.0	1,789	10.5	130	.8	287	1.7

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

PUBLIC HEALTH REGION 8 - 1990

COUNTY	1990 POPULATION	MEASLES CASES	MEASLES RATE	MUMPS CASES	MUMPS RATE	PERTUSSIS CASES	PERTUSSIS RATE	RUBELLA CASES	RUBELLA RATE
ARANSAS	17,892	0	.0	0	.0	0	.0	0	.0
BEE	25,135	16	63.7	1	4.0	0	.0	1	4.0
BROOKS	8,204	0	.0	0	.0	0	.0	0	.0
CALHWN	19,053	5	26.2	0	.0	0	.0	1	5.2
CAMERON	260,120	78	30.0	12	4.6	0	.0	3	1.2
DE WITT	18,840	0	.0	0	.0	0	.0	0	.0
DUVAL	12,918	0	.0	0	.0	0	.0	0	.0
GOLIAD	5,980	0	.0	0	.0	0	.0	0	.0
GONZALES	17,205	0	.0	0	.0	0	.0	0	.0
HIDALGO	383,545	74	19.3	1	.3	0	.0	1	.3
JACKSON	13,039	0	.0	0	.0	0	.0	0	.0
JIM HOGG	5,109	0	.0	0	.0	0	.0	0	.0
JIM WELLS	37,679	0	.0	0	.0	0	.0	0	.0
KENEDY	460	0	.0	0	.0	0	.0	0	.0
KLEBERG	30,274	1	3.3	0	.0	0	.0	0	.0
LAVACA	18,690	1	5.4	0	.0	0	.0	0	.0
LIVE OAK	9,556	0	.0	0	.0	0	.0	0	.0
MCMULLEN	817	0	.0	0	.0	0	.0	0	.0
NUECES	291,145	6	2.1	3	1.0	0	.0	2	.7
REFUGIO	7,976	0	.0	0	.0	0	.0	0	.0
SAN PATRICIO	58,749	2	3.4	3	5.1	0	.0	0	.0
STARR	40,518	11	27.1	0	.0	0	.0	0	.0
VICTORIA	74,361	17	22.9	4	5.4	1	1.3	0	.0
UEBB	133,239	188	141.1	0	.0	0	.0	1	.8
WILLACY	17,705	4	22.6	0	.0	0	.0	0	.0
ZAPATA	9,279	0	.0	0	.0	1	10.8	0	.0
REGIONAL TOTAL	1,517,488	403	26.6	24	1.6	2	.1	9	.6
TEXAS	16,986,510	4,409	26.0	470	2.8	158	.9	99	.6

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

PUBLIC HEALTH REGION 8 - 1990

COUNTY	1990 POPULATION	SALMONELLOSIS CASES	SALMONELLOSIS RATE	SHIGELLOSIS CASES	SHIGELLOSIS RATE	CAMPYLOBACTER CASES	CAMPYLOBACTER RATE	AMEBIASIS CASES	AMEBIASIS RATE
ARANSAS	17,892	4	22.4	0	.0	0	.0	0	.0
BEE	25,135	2	8.0	0	.0	1	4.0	0	.0
BRWKS	8,204	1	12.2	1	12.2	0	.0	0	.0
CALHWN	19,053	1	5.2	1	5.2	0	.0	0	.0
CAMERON	260,120	31	11.9	61	23.5	4	1.5	28	10.8
DE WITT	18,840	0	.0	1	5.3	0	.0	0	.0
DUVAL	12,918	0	.0	1	7.7	0	.0	0	.0
GOLIAD	5,980	1	16.7	0	.0	0	.0	0	.0
GONZALES	17,205	0	.0	0	.0	0	.0	0	.0
HIDALGO	383,545	91	23.7	582	151.7	20	5.2	6	1.6
JACKSON	13,039	1	7.7	0	.0	0	.0	0	.0
JIM HOGG	5,109	0	.0	0	.0	0	.0	0	.0
JIM UELLS	37,679	3	8.0	2	5.3	0	.0	0	.0
KENEDY	460	0	.0	0	.0	0	.0	0	.0
KLEBERG	30,274	11	36.3	0	.0	0	.0	0	.0
LAVACA	18,690	0	.0	0	.0	0	.0	0	.0
LIVE OAK	9,556	2	20.9	0	.0	0	.0	0	.0
MCMULLEN	817	0	.0	0	.0	0	.0	0	.0
NUECES	291,145	60	20.6	100	34.3	14	4.8	0	.0
REFUGIO	7,976	0	.0	0	.0	0	.0	0	.0
SAN PATRICIO	58,749	16	27.2	15	25.5	2	3.4	1	1.7
STARR	40,518	5	12.3	6	14.8	2	4.9	1	2.5
VICTORIA	74,361	37	49.8	55	74.0	3	4.0	1	1.3
WEBB	133,239	25	18.8	60	45.0	1	.8	0	.0
UILLACY	17,705	1	5.6	2	11.3	1	5.6	0	.0
ZAPATA	9,279	2	21.6	0	.0	0	.0	0	.0
REGIONAL TOTAL	1,517,488	294	19.4	887	58.5	48	3.2	37	2.4
TEXAS	16,986,510	2,315	13.6	3,550	20.9	739	4.4	139	.8

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

PUBLIC HEALTH REGION 8 - 1990

COUNTY	1990 POPULATION	CHLAMYDIA CASES	CHLAMYDIA RATE	GONORRHEA CASES	GONORRHEA RATE	P&S SYPHILIS CASES	P&S SYPHILIS RATE	TUBERCULOSIS CASES	TUBERCULOSIS RATE
ARANSAS	17,892	48	268.3	4	22.4	0	.0	1	5.6
BEE	25,135	158	628.6	12	47.7	0	.0	0	.0
BROOKS	8,204	1	12.2	3	36.6	2	24.4	2	24.4
CALHWN	19,053	2	10.5	2	10.5	3	15.7	3	15.7
CAMERON	260,120	322	123.8	84	32.3	8	3.1	85	32.7
DE WITT	18,840	12	63.7	26	138.0	1	5.3	1	5.3
DUVAL	12,918	14	108.4	1	7.7	0	.0	1	7.7
GOLIAD	5,980	0	.0	1	16.7	2	33.4	0	.0
GONZALES	17,205	119	691.7	37	215.1	2	11.6	2	11.6
HIDALGO	383,545	520	135.6	114	29.7	6	1.6	125	32.6
JACKSON	13,039	7	53.7	27	207.1	3	23.0	1	7.7
JIM HOGG	5,109	1	19.6	0	.0	0	.0	1	19.6
JIM WELLS	37,679	42	111.5	4	10.6	1	2.7	2	5.3
KENEDY	460	3	652.2	12	2608.7	0	.0	0	.0
KLEBERG	30,274	3	9.9	5	16.5	0	.0	7	23.1
LAVACA	18,690	9	48.2	25	133.8	2	10.7	1	5.4
LIVE OAK	9,556	41	429.0	0	.0	1	10.5	2	20.9
MCMULLEN	817	0	.0	0	.0	0	.0	0	.0
NUECES	291,145	768	263.8	506	173.8	23	7.9	34	11.7
REFUGIO	7,976	16	200.6	3	37.6	0	.0	0	.0
SAN PATRICIO	58,749	118	200.9	12	20.4	2	3.4	10	17.0
STARR	40,518	0	.0	0	.0	1	2.5	10	24.7
VICTORIA	74,361	67	90.1	133	178.9	20	26.9	4	5.4
UEBB	133,239	80	60.0	34	25.5	1	.8	43	32.3
UILLACY	17,705	20	113.0	6	33.9	2	11.3	8	45.2
ZAPATA	9,279	0	.0	1	10.8	1	10.8	9	97.0
REGIONAL TOTAL	1,517,488	2,371	156.2	1,052	69.3	81	5.3	352	23.2
TEXAS	16,986,510	20,575	121.1	43,231	254.5	5,165	30.4	2,242	13.2

APPENDIX

TABLE I

REPORTED CASES OF SELECTED DISEASES IN TEXAS
1981-1990

DISEASE	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
AMEBIASIS	139	159	252	290	394	279	356	412	493	604
BOTULISM	7	4	4	4	5	4	9	3	1	4
BRUCELLOSIS	18	23	22	51	18	47	26	84	27	45
CAMPYLOBACTERIOSIS	739	625	745	780	803	666	198			
CHICKENPOX	26,636	23,722	20,085	23,228	23,221	20,758	16,124	15,031	11,050	10,824
COCCIDIOIDOMYCOSIS	52	46	56	45	50	21	4			
DENGUE	0	2	0	0	17	1	0	0	2	1
ENCEPHALITIS	74	60	74	118	191	144	114	163	179	99
GONORRHEA	43,231	45,786	45,639	51,688	63,376	66,728	65,802	76,903	81,580	81,822
HANSEN'S DISEASE	37	25	35	31	29	28	31	35	29	33
H. INFLUENZAE INFECTIONS	625	797	843	747	647	554	524	394	439	204
HEPATITIS A	2,722	3,211	2,739	1,886	2,137	2,565	2,605	3,030	3,226	2,721
HEPATITIS B	1,789	1,853	1,654	1,487	1,500	1,513	1,544	1,234	1,043	823
HEPATITIS NA-NB	130	236	149	161	205	178	144			
HEPATITIS UNSPECIFIED	287	530	576	599	854	1290	1695	2387	2071	1608
HISTOPLASMOSIS	142	106	133	71	77	44	10			
INFLUENZA & FLU-LIKE ILLNESS	314,372	134,604	109,871	62,192	83,524	96,164	176,900	92,160	93,736	143,955
LEGIONELLOSIS	25	50	20	38	41	29	24			
LEPTOSPIROSIS	1	0	0	1	6	6	4	4	18	9
LISTERIOSIS	32	40	45	42	28	-	-	-	-	-
LYME DISEASE	44	82	25	33	9	-	-	-	-	-
MALARIA	80	79	73	56	84	93	77	54	55	87
MEASLES	4,409	3,313	286	452	398	450	642	37	129	851
MENINGITIS, ASEPTIC	811	836	675	758	1383	989	645	1175	785	622
MENINGITIS, OTHER/BACTERIAL	345	371	385	354	533	423	301			
MENINGOCOCCAL INFECTIONS	93	93	98	126	138	132	180	188	238	327
MUMPS	470	551	327	338	239	321	219	225	255	227
PERTUSSIS	158	366	158	111	112	379	60	95	79	91
PSITTACOSIS	2	1	2	2	4	1	9	7	8	9
REYE SYNDROME	4	5	8	9	8	13	17	25		
ROCKY MOUNTAIN SPOTTED FEVER	6	19	22	22	21	33	53	108	64	45
RUBELLA	99	64	30	5	78	52	75	117	120	176
SALMONELLOSIS	2,315	2,277	2,334	2,803	2,445	2,442	2,339	2,838	2,506	2,612
SHIGELLOSIS	3,550	1,654	2,826	2,087	2,454	1,718	1,659	2,206	2,173	2,299
SYPHILIS, PRIMARY/SECONDARY	5,165	4,267	3,124	3,071	3,967	4,610	5,136	6,254	6,338	5,329
TETANUS	7	5	6	5	12	9	10	8	8	8
TOXIC SHOCK SYNDROME	9	15	29	21	18	27	22	29	31	
TRICHINOSIS	0	0	0	0	2	3	13	4	2	2
TUBERCULOSIS	2,242	1,915	1,901	1,757	1,890	1,891	1,762	1,965	2,045	2,015
TULAREMIA	3	1	3	5	8	8	9	13	16	23
TYPHOID FEVER	28	20	30	36	28	32	30	72	42	127
TYPHUS FEVER, MURINE	36	30	30	34	52	25	37	46	41	49
VIBRIO INFECTIONS	25	17	27	20	-	-	-	-	-	-

TABLE II

REPORTED CASES OF SELECTED DISEASES IN TEXAS PER 100,000 POPULATION
1981-1990

DISEASE	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
AMEBIASIS	.8	.9	1.5	1.7	2.4	1.7	2.3	2.7	3.3	4.1
BOTULISM	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
BRUCELLOSIS	.1	.1	.1	.3	.1	.3	.2	.6	.2	.3
CAMPYLOBACTERIOSIS	4.4	3.6	4.3	4.6	4.8	4.1	1.3			
CHICKENPOX	156.8	135.8	116.3	162.3	138.6	128.7	102.7	98.0	73.9	73.7
COCCIDIOIDOMYCOSIS	.3	.3	.3	.3	.3	.1	.0			
DENGUE	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
ENCEPHALITIS	.4	.3	.4	.7	1.1	.9	.7	1.0	1.1	.6
GONORRHEA	254.5	262.1	264.3	303.6	378.3	413.7	419.1	501.1	545.9	557.4
HANSEN'S DISEASE	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2
H. INFLUENZAE INFECTIONS	3.7	4.6	4.9	4.4	3.9	3.4	3.3			
HEPATITIS A	16.0	18.4	15.9	11.1	12.8	15.9	16.6	19.7	21.6	18.5
HEPATITIS B	10.5	10.6	9.6	8.7	9.0	9.4	9.8	8.0	7.0	5.6
HEPATITIS NA-NB	.8	1.4	.9	1.0	1.2	1.1	.9			
HEPATITIS UNSPECIFIED	1.7	3.0	3.3	3.5	5.1	8.0	10.8	15.6	13.9	11.0
HISTOPLASMOSIS	.8	.6	.8	.4	.5	.3	.1			
INFLUENZA & FLU-LIKE ILLNESS	1850.7	770.5	636.3	365.3	498.5	596.2	1126.7	600.6	627.3	980.6
LEGIONELLOSIS	.1	.3	.1	.2	.2	.2	.2			
LEPTOSPIROSIS	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
LISTERIOSIS	.2	.2	.3	.3	.2					
LYME DISEASE	.3	.5	.1	.2	.1					
MEASLES	26.0	19.0	1.7	2.7	2.4	2.8	4.1	.2	.9	5.8
MENINGITIS, ASEPTIC	4.8	4.8	3.9	4.5	8.3	6.1	4.1	7.7	5.3	4.2
MENINGITIS, OTHER/BACTERIAL	2.0	2.1	2.2	2.1	3.2	2.6	1.9			
MENINGOCOCCAL INFECTIONS	.5	.5	.6	.7	.8	.8	1.2	1.2	1.6	2.2
MUMPS	2.8	3.2	1.9	2.0	1.4	2.0	1.4	1.5	1.7	1.6
PERTUSSIS	.9	2.1	.9	.7	.7	2.4	.4	.6	.5	.6
PSITTACOSIS	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
REYE SYNDROME	.02	.0	.1	.1	.1	.1	.1			
ROCKY MOUNTAIN SPOTTED FEVER	.0	.1	.1	.1	.1	.2	.3	.7	.4	.3
RUBELLA	.6	.4	.2	.0	.5	.3	.5	.8	.8	1.2
SALMONELLOSIS	13.6	13.0	13.5	16.5	14.6	15.1	14.9	18.5	16.8	17.8
SHIGELLOSIS	20.9	9.5	16.4	12.3	14.7	10.7	10.6	14.4	14.5	15.7
SYPHILIS, PRIMARY/SECONDARY	30.4	24.4	18.1	18.0	23.7	28.6	32.7	40.8	42.4	36.3
TETANUS	.0	.0	.0	.1	.1	.2	.1			
TOXIC SHOCK SYNDROME	.1	.1	.2	.0	.1	.1	.1	.1	.1	.1
TRICHINOSIS	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
TUBERCULOSIS	13.2	11.0	11.0	10.3	11.3	11.7	11.2	12.8	13.7	13.7
TULAREMIA	.02	.0	.0	.0	.1	.1	.1	.1	.1	.2
TYPHOID FEVER	.2	.1	.2	.2	.2	.2	.2	.5	.3	.9
TYPHUS FEVER, MURINE	.2	.2	.2	.2	.3	.2	.2	.3	.3	.3
VIBRIO INFECTIONS	.1	.1	.2	.1						

1990 Estimated Texas Population = 16,986,510

TABLE III

REPORTED CASES OF SELECTED DISEASES BY MONTH OF ONSET
TEXAS, 1990

DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AMEBIASIS	8	7	12	20	15	18	19	14	9	6	7	4
BOTULISM	2	1	1	1	1	0	0	0	1	1	0	0
BRUCELLOSIS	0	2	2	2	3	3	0	0	1	2	1	2
CAMPYLOBACTERIOSIS	29	22	46	54	118	102	87	86	68	57	46	24
CHICKENPOX *	879	3,882	3,560	5,572	2,424	3,952	1,659	176	300	670	574	2,988
COCCIDIOIDOMYCOSIS	4	8	1	3	4	6	6	6	3	2	8	1
DENGUE	0	0	0	0	0	0	0	0	0	0	0	0
ENCEPHALITIS	6	5	2	5	4	3	8	14	16	4	2	5
GONORRHEA *	2,437	2,850	4,506	2,980	4,683	3,182	3,404	4,672	4,044	3,127	4,204	3,142
HANSEN'S DISEASE	5	1	4	7	3	3	4	3	3	1	3	0
H. INFLUENZAE INFECTIONS	88	71	87	70	48	29	29	32	39	54	46	32
HEPATITIS A	216	181	213	200	134	102	157	223	365	326	340	265
HEPATITIS B	163	141	177	159	145	153	172	157	149	162	128	83
HEPATITIS NA-NB	6	8	7	9	5	9	6	10	17	19	8	26
HEPATITIS UNSPECIFIED	34	16	32	31	25	10	11	26	34	23	22	23
HISTOPLASMOSIS	11	11	17	9	15	14	10	19	8	8	6	14
INFLUENZA *	153,738	52,510	16,254	6,063	2,789	6,188	1,882	1,177	1,058	4,685	9,377	58,651
LEGIONELLOSIS	3	2	2	2	3	2	0	2	2	3	2	2
LISTERIOSIS	1	2	1	3	2	6	2	4	4	3	1	3
LYME DISEASE	3	3	2	5	6	6	5	5	4	2	2	1
MALARIA	12	2	4	3	6	8	15	11	8	1	5	5
MEASLES	570	1001	999	881	668	179	51	14	16	15	7	8
MENINGITIS, ASEPTIC	23	24	47	62	84	104	91	102	95	76	69	34
MENINGITIS, OTHER/BACTERIAL	45	37	33	28	34	21	23	20	18	40	16	30
MENINGOCOCCAL INFECTIONS	16	12	6	6	6	7	3	6	5	9	8	9
MUMPS	40	39	61	57	33	12	16	16	22	46	87	41
PERTUSSIS	13	2	0	7	7	14	40	30	16	9	6	14
PSITTACOSIS	0	0	0	0	0	0	0	0	2	0	0	0
REYE SYNDROME	1	2	0	0	0	0	0	0	0	0	0	1
RMSF	0	0	1	2	1	0	2	0	0	0	0	0
RUBELLA	10	10	17	17	9	7	7	2	3	8	6	3
SALMONELLOSIS	112	93	116	111	159	242	298	284	288	290	213	109
SHIGELLOSIS	123	125	153	187	264	788	456	418	333	340	228	135
SYPHILIS, PRIMARY/SECONDARY *	142	424	617	400	411	350	431	529	474	495	473	419
TOXIC SHOCK SYNDROME	0	0	0	1	1	2	1	0	2	0	1	1
TETANUS	0	3	0	1	0	0	1	1	0	0	1	0
TUBERCULOSIS *	234	173	186	202	191	175	213	217	178	180	142	151
TULAREMIA	0	0	1	0	0	0	0	1	1	0	0	0
TYPHOID FEVER	1	0	1	4	0	2	2	8	3	6	1	0
TYPHUS FEVER, MURINE	0	2	3	4	5	11	3	2	3	1	1	1
VIBRIO INFECTIONS	0	0	0	2	1	5	4	4	2	3	4	0

* TOTALS ARE BY MONTH OF REPORT RATHER THAN MONTH OF ONSET

TABLE IV

REPORTED CASES OF SELECTED DISEASES IN TEXAS
BY AGE GROUP, 1990

DISEASE	TOTAL 1990	< 1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+	UNK
AMEBIASIS	139	2	15	17	7	7	23	24	18	12	5	9
BOTULISM	7	7	0	0	0	0	0	0	0	0	0	0
BRUCELLOSIS	18	0	1	0	1	2	5	4	1	0	4	0
CAMPYLOBACTERIOSIS	739	49	110	90	19	28	161	107	48	32	47	48
CHICKENPOX *	26636	351	3796	11318	2038	1291	*	*	*	*	*	7842
COCCIDIOIDOMYCOSIS	52	0	0	0	1	0	6	6	9	6	16	8
DENGUE	0	0	0	0	0	0	0	0	0	0	0	0
ENCEPHALITIS	73	1	2	7	4	3	14	11	6	5	20	0
GONORRHEA	43231	0	40	31	627	12490	20767	6997	1704	398	177	0
HANSEN'S DISEASE	37	0	0	0	1	0	5	5	7	8	10	1
H. INFLUENZAE INFECTIONS	625	191	131	28	5	4	26	23	24	31	157	5
HEPATITIS A	2722	9	249	752	362	212	478	284	118	64	97	97
HEPATITIS B	1789	9	17	11	18	128	632	493	182	64	98	137
HEPATITIS NA-NB	130	0	0	2	4	6	29	42	21	4	18	4
HEPATITIS UNSPECIFIED	287	2	17	56	35	24	50	53	29	8	10	3
HISTOPLASMOSIS	142	0	0	0	1	1	15	23	13	6	14	69
LEGIONELLOSIS	25	0	0	1	0	0	1	4	5	2	12	0
LISTERIOSIS	32	3	0	0	0	0	4	3	3	4	15	0
LYME DISEASE	44	0	3	5	1	1	1	14	7	8	4	0
MALARIA	80	0	5	7	6	4	19	23	9	6	1	0
MEASLES	4409	703	1391	387	338	642	721	189	33	4	1	0
MENINGITIS, ASEPTIC	811	224	100	99	70	37	122	92	29	14	14	10
MENINGITIS, OTHER/BACTERIAL	345	85	36	12	6	5	30	48	30	25	66	2
MENINGOCOCCAL INFECTIONS	93	22	16	8	9	5	8	3	5	5	10	2
MUMPS	470	7	64	151	113	91	19	11	9	1	2	2
PERTUSSIS	158	86	43	12	4	1	5	7	0	0	0	0
PSITTACOSIS	2	0	0	0	0	0	0	1	1	0	0	0
REYE SYNDROME	4	2	1	0	1	0	0	0	0	0	0	0
RMSF	6	0	1	2	0	0	0	1	1	1	0	0
RUBELLA	99	19	24	20	6	4	10	13	2	1	0	0
SALMONELLOSIS	2315	505	414	161	79	74	175	196	120	83	243	265
SHIGELLOSIS	3550	93	1111	711	170	94	286	214	88	49	96	638
SYPHILIS	5165	0	0	1	37	599	2287	1547	487	140	67	0
TETANUS	7	0	0	0	0	0	0	0	0	1	6	0
TOXIC SHOCK SYNDROME	9	0	0	0	1	1	0	5	1	0	1	0
TULAREMIA	3	0	0	0	0	0	0	1	2	0	0	0
TYPHOID FEVER	28	0	3	4	3	1	7	3	4	0	1	2
TYPHUS FEVER, MURINE	36	0	2	4	2	3	5	8	4	4	4	0
VIBRIO INFECTIONS	25	0	2	0	0	1	2	4	6	1	8	1

* TOTAL FOR 15-19 YR OLDS INCLUDES ALL CASES 15 YEARS OF AGE AND OLDER

TABLE V

REPORTED CASES OF SELECTED DISEASES PER 100,000 POPULATION
BY AGE GROUP, 1990

DISEASE	TOTAL 1990	< 1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+	UNK
AMEBIASIS	.8	.8	1.3	1.2	.5	.5	.8	.8	.9	.9	.2	
BOTULISM	.0	2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	
BRUCELLOSIS	.1	.0	.1	.0	.1	.2	.2	.1	.0	.0	.2	
CAMPYLOBACTERIOSIS	4.4	20.4	9.6	6.4	1.5	2.1	5.6	3.7	2.3	2.3	2.0	
CHICKENPOX *	156.8	146.4	330.0	810.6	157.5	98.4	*	*	*	*	*	
COCCIDIOIDOMYCOSIS	.3	.0	.0	.0	.1	.0	.2	.2	.4	.4	.7	
DENGUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
ENCEPHALITIS	.4	.4	.2	.5	.3	.2	.5	.4	.3	.4	.9	
GONORRHEA	254.5	.0	3.5	2.2	48.4	952.2	724.3	239.1	82.2	28.8	7.5	
HANSEN'S DISEASE	.2	.0	.0	.0	.1	.0	.2	.2	.3	.6	.4	
H. INFLUENZAE INFECTIONS	3.7	79.6	11.4	2.0	.4	.3	.9	.8	1.2	2.2	6.7	
HEPATITIS A	16.0	3.8	21.6	53.9	28.0	16.2	16.7	9.7	5.7	4.6	4.1	
HEPATITIS B	10.5	3.8	1.5	.8	1.4	9.8	22.0	16.8	8.8	4.6	4.2	
HEPATITIS NA-NB	.8	.0	.0	.1	.3	.5	1.0	1.4	1.0	.3	.8	
HEPATITIS UNSPECIFIED	1.7	.8	1.5	4.0	2.7	1.8	1.7	1.8	1.4	.6	.4	
HISTOPLASMOSIS	.8	.0	.0	.0	.1	.1	.5	.8	.6	.4	.6	
LEGIONELLOSIS	.1	.0	.0	.1	.0	.0	.0	.1	.2	.1	.5	
LISTERIOSIS	.2	1.3	.0	.0	.0	.0	.1	.1	.1	.3	.6	
LYME DISEASE	.3	.0	.3	.4	.1	.1	.0	.5	.3	.6	.2	
MALARIA	.5	.0	.4	.5	.5	.3	.7	.8	.4	.4	.0	
MEASLES	26.0	293.1	120.9	27.7	26.1	48.9	25.1	6.5	1.6	.3	.0	
MENINGITIS, ASEPTIC	4.8	93.4	8.7	7.1	5.4	2.8	4.3	3.1	1.4	1.0	.6	
MENINGITIS, OTHER/BACTERIAL	2.0	35.4	3.1	.9	.5	.4	1.0	1.6	1.4	1.8	2.8	
MENINGOCOCCAL INFECTIONS	.5	9.2	1.4	.6	.7	.4	.3	.1	.2	.4	.4	
MUMPS	2.8	2.9	5.6	10.8	8.7	6.9	.7	.4	.4	.1	.1	
PERTUSSIS	.9	35.9	3.7	.9	.3	.1	.2	.2	.0	.0	.0	
PSITTACOSIS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
REYE SYNDROME	.0	.8	.1	.0	.1	.0	.0	.0	.0	.0	.0	
RMSF	.0	.0	.1	.1	.0	.0	.0	.0	.0	.1	.0	
RUBELLA	.6	7.9	2.1	1.4	.5	.3	.3	.4	.1	.1	.0	
SALMONELLOSIS	13.6	210.6	36.0	11.5	6.1	5.6	6.1	6.7	5.8	6.0	10.4	
SHIGELLOSIS	20.9	38.8	96.6	50.9	13.1	7.2	10.0	7.3	4.2	3.5	4.1	
SYPHILIS, PRIMARY/SECONDARY	30.4	.0	.0	.1	2.9	45.7	79.8	52.9	23.5	10.1	2.9	
TETANUS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3	
TOXIC SHOCK SYNDROME	.1	.0	.0	.0	.1	.1	.0	.2	.0	.0	.0	
TULAREMIA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
TYPHOID FEVER	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	
TYPHUS FEVER, MURINE	.2	.0	.3	.3	.2	.1	.2	.1	.2	.0	.0	
VIBRIO INFECTIONS	.2	.0	.2	.3	.2	.2	.2	.3	.2	.3	.2	

* RATE FOR CHICKENPOX FOR 15-19 YR OLDS INCLUDES ALL CASES 15 YEARS OF AGE AND OLDER

TABLE VI

REPORTED CASES OF SELECTED DISEASES IN TEXAS
BY PUBLIC HEALTH REGION, TEXAS - 1990

DISEASE	TOTAL 1990	PHR 1	PHR 2	PHR 3	PHR 4	PHR 5	PHR 6	PHR 7	PHR 8
AMEBIASIS	139	21	7	4	16	46	1	7	37
BOTULISM	7	0	0	3	0	0	1	3	0
BRUCELLOSIS	18	1	1	0	0	3	1	0	12
CAMPYLOBACTERIOSIS	739	85	48	28	150	255	94	31	48
CHICKENPOX	26,636	2,076	1,421	2,765	9,824	5,909	1,513	1,166	1,962
COCCIDIOIDOMYCOSIS	52	4	4	13	4	5	9	1	12
DENGUE	0	0	0	0	0	0	0	0	0
ENCEPHALITIS	73	7	6	0	44	12	1	2	1
GONORRHEA	43,231	4,491	1,550	1,127	16,221	14,659	1,653	2,478	1,052
HANSEN'S DISEASE	37	0	0	1	6	9	4	5	12
H. INFLUENZAE INFECTIONS	625	59	71	36	120	174	47	79	39
HEPATITIS A	2,722	190	131	375	470	724	305	127	400
HEPATITIS B	1,789	119	97	187	378	660	165	108	75
HEPATITIS NA-NB	130	55	2	10	14	31	4	8	6
HEPATITIS UNSPECIFIED	287	4	2	23	92	94	6	7	59
HISTOPLASMOSIS	142	18	2	2	45	49	10	14	2
INFLUENZA	314,372	31,132	8,942	2,803	232,136	24,911	1,761	5,790	6,897
LEGIONELLOSIS	25	3	0	0	10	8	0	1	3
LISTERIOSIS	32	6	1	4	9	6	4	2	0
LYME DISEASE	44	2	2	1	7	24	2	6	0
MALARIA	80	15	0	2	29	24	4	3	3
MEASLES	4,409	512	11	358	187	2760	50	128	403
MENINGITIS, ASEPTIC	811	54	46	34	252	314	69	32	10
MENINGITIS, OTHER/BACTERIAL	345	33	13	10	112	92	27	17	41
MENINGOCOCCAL INFECTIONS	93	13	6	2	26	33	2	5	6
MUMPS	470	54	103	46	90	105	25	23	24
PERTUSSIS	158	24	11	10	18	58	11	24	2
PSITTACOSIS	2	0	0	1	0	0	0	0	1
REYE SYNDROME	4	0	0	1	0	1	2	0	0
RMSF	6	1	0	0	0	4	I	0	0
RUBELLA	99	11	14	3	4	42	13	3	9
SALMONELLOSIS	2,315	241	151	173	475	624	204	153	294
SHIGELLOSIS	3,550	214	503	213	645	500	529	59	887
SYPHILIS, PRIMARY/SECONDARY	5,165	331	42	125	2,219	1,523	231	613	81
TETANUS	7	1	0	1	1	1	0	2	1
TOXIC SHOCK SYNDROME	9	1	0	1	1	4	0	1	1
TUBERCULOSIS	2242	169	42	135	775	458	197	114	352
TULAREMIA	3	1	0	0	1	0	1	0	0
TYPHOID FEVER.	28	1	2	1	11	6	1	1	5
TYPHUS FEVER, ENDEMIC	36	3	2	4	0	0	0	0	27
VIBRIO INFECTIONS	25	1	0	1	16	2	2	1	2

TABLE VII

REPORTED CASES OF SELECTED DISEASES PER 100,000 POPULATION
BY PUBLIC HEALTH REGION, TEXAS - 1990

DISEASE	TOTAL 1990	PHR 1	PHR 2	PHR 3	PHR 4	PHR 5	PHR 6	PHR 7	PHR 8
AMEBIASIS	.8	1.2	1.0	.4	.4	1.0	.1	.6	2.4
BOTULISM	.0	.0	.0	.3	.0	.0	.1	.2	.0
BRUCELLOSIS	.1	.1	.1	.0	.0	.1	.1	.0	.8
CAMPYLOBACTERIOSIS	4.4	4.9	6.6	2.5	3.5	5.3	5.8	2.6	3.2
CHICKENPOX	156.8	119.7	195.1	245.1	230.7	123.3	93.3	96.6	129.3
COCCIDIOIDOMYCOSIS	.3	.2	.5	1.2	.1	.1	.6	.1	.8
DENGUE	.0	.0	.0	.0	.0	.0	.0	.0	.0
ENCEPHALITIS	.4	.4	.8	.0	1.0	.3	.1	.2	.1
GONORRHEA	254.5	258.9	212.9	99.9	380.9	305.9	102.0	205.4	69.3
HANSEN'S DISEASE	.2	.0	.0	.1	.1	.2	.2	.4	.8
H. INFLUENZAE INFECTIONS	3.7	3.4	9.8	3.2	2.8	3.6	2.9	6.5	2.6
HEPATITIS A	16.0	11.0	18.0	33.2	11.0	15.1	18.8	10.5	26.4
HEPATITIS B	10.5	6.9	13.3	16.6	8.9	13.8	10.2	9.0	4.9
HEPATITIS NA-NB	.8	3.2	.3	.9	.3	.6	.2	.7	.4
HEPATITIS UNSPECIFIED	1.7	.2	.3	2.0	2.2	2.0	.4	.6	3.9
HISTOPLASMOSIS	.8	1.0	.3	.2	1.1	1.0	.6	1.2	.1
INFLUENZA	1850.7	1795.0	1228.0	248.4	5451.3	519.8	108.6	479.9	454.5
LEGIONELLOSIS	.1	.2	.0	.0	.2	.2	.0	.1	.2
LISTERIOSIS	.2	.3	.1	.4	.2	.1	.2	.2	.0
LYME DISEASE	.3	.1	.3	.1	.2	.5	.1	.5	.0
MEASLES	.5	.9	.0	.2	.7	.5	.2	.2	.2
MENINGITIS, ASEPTIC	26.0	29.5	1.5	31.7	4.4	57.6	3.1	10.6	26.6
MENINGITIS, OTHER/BACTERIAL	4.8	3.1	6.3	3.0	5.9	6.6	4.3	2.7	.7
MENINGOCOCCAL INFECTIONS	2.0	1.9	1.8	.9	2.6	1.9	1.7	1.4	2.7
MUMPS	.5	.7	.8	.2	.6	.7	.1	.4	.4
PERTUSSIS	2.8	3.1	14.1	4.1	2.1	2.2	1.5	1.9	1.6
PSITTACOSIS	.9	1.4	1.5	.9	.4	1.2	.7	2.0	.1
REYE SYNDROME	.0	.0	.0	.1	.0	.0	.0	.0	.1
RMSF	.0	.0	.0	.1	.0	.0	.1	.0	.0
RUBELLA	.0	.1	.0	.0	.0	.1	.1	.0	.0
SALMONELLOSIS	.6	.6	1.9	.3	.1	.9	.8	.2	.6
SHIGELLOSIS	13.6	13.9	20.7	15.3	11.2	13.0	12.6	12.7	19.4
SYPHILIS, PRIMARY/SECONDARY	20.9	12.3	69.1	18.9	15.1	10.4	32.6	4.9	58.5
TETANUS	30.4	19.1	5.8	11.1	52.1	31.8	14.2	50.8	5.3
TOXIC SHOCK SYNDROME	.0	.1	.0	.1	.0	.0	.0	.2	.1
TUBERCULOSIS	.1	.1	.0	.1	.0	.1	.0	.1	.1
TULAREMIA	13.2	9.7	5.8	12.0	18.2	9.6	12.2	9.4	23.2
TYPHOID FEVER	.0	.1	.0	.0	.0	.0	.1	.0	.0
TYPHUS FEVER, ENDEMIC	.2	.1	.3	.1	.3	.1	.1	.1	.3
VIBRIO INFECTIONS	.1	.1	.0	.1	.4	.0	.1	.1	.1