Epidemiology in Texas 1997 Annual Report

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Cover:

Last Chance Forever, the Bird of Prey Conservatory, is a non-profit organization dedicated to the rehabilitation and release of injured and orphaned birds of prey, such as hawks, owls, eagles, falcons, and vultures. Since its inception in 1978, Last Chance Forever has treated thousands of birds of prey, some of them endangered species. Generally, 65-80% of those cases have been successfully returned to nature, while those that become non-releasable and are not suffering are placed in propagation projects, natural science centers for educational purposes or humane research projects. The conservancy also provides educational programs for schools, civic organizations, and other interested groups.

Cover and dividerpage art for the 1997 Epidemiology in Texas Annual Report is by Greg Patterson of the Texas Department of Health. The HHS Printing Services, Central Site, in Austin, printed this report.

EPIDEMIOLOGY IN TEXAS 1997 ANNUAL REPORT - ERRATA

The 1997 report is now available on the world wide web at www.tdh.state.tx.us/epidemiology

The electronic copy on the web has been updated with the following corrections. For your bound copy of the report, please note the following errata.

Pg. **26** Table **1.** Selected Characteristics of United States Born and Foreign Born **Hansen's** Disease Patients, **1973-1997**

Foreign Born	1978-82
Percent:	
Asian	42.3
Hispanic	53.8
Male Sex	71.8
Born in Mexico	50.0
Multi-bacillary	88.5
Known source	88.6
Years:	
Mean age at onset	34.0

Pg. **96** Reported Sexually Transmitted Disease Rates
Public Health Region **1 - 1997**

Lamb County	AIDS Cases	0	AIDS Rate	0.0
Regional Totals	AIDS Cases	57	AIDS Rate	7.4
Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **102** Reported Sexually Transmitted Disease Rates
Public Health Region **2 - 1997**

Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **108** Reported Sexually Transmitted Disease Rates
Public Health Region **3 - 1997**

Denton County	AIDS Cases	31	AIDS Rate	8.3
Ellis County	AIDS Cases	9	AIDS Rate	8.2
Regional Totals	AIDS Cases	1225	AIDS Rate	24.0
Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. 114 Reported Sexuaiiy Transmitted Disease Rates
Public Health Region 4 **- 1997**

Delta County	AIDS Cases	0	AIDS Rate	0.0
Lamar County	AIDS Cases	1	AIDS Rate	2.3
Marion County	AIDS Cases	1	AIDS Rate	9.7
Regional Totals	AIDS Cases	77	AIDS Rate	8.0
Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **120** Reported Sexually Transmitted Disease Rates
Public Health Region 5 **- 1997**

Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **126** Reported Sexually Transmitted Disease Rates
Public Health Region **6 - 1997**

Matagorda County	AIDS Cases	6	AIDS Rate	15.8
Regional Totals	AIDS Cases	1891	AIDS Rate	42.9
Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **132** Reported Sexually Transmitted Disease Rates
Public Health Region **7 - 1997**

Lampasas County	AIDS Cases	1	AIDS Rate	7.0
McLennan County	AIDS Cases	35	AIDS Rate	18.2
Regional Totals	AIDS Cases	338	AIDS Rate	17.6
Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **138** Reported Sexually Transmitted Disease Rates
Public Health Region **8 - 1997**

De Witt County	AIDS Cases	1	AIDS Rate	5.0
La Salle County	AIDS Cases	0	AIDS Rate	0.0
Maverick County	AIDS Cases	1	AIDS Rate	2.4
Regional Totals	AIDS Cases	328	AIDS Rate	16.3
Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **144** Reported Sexually Transmitted Disease Rates
Public Health Region **9 - 1997**

Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **148** Reported Sexually Transmitted Disease Rates
Public Health Region **10 - 1997**

El Paso County	AIDS Cases	127	AIDS Rate	17.7
Regional Totals	AIDS Cases	127	AIDS Rate	17.0
Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **154** Reported Sexually Transmitted Disease Rates
Public Health Region **11 - 1997**

McMullen County	AIDS Cases	0	AIDS Rate	0.0
Regional Totals	AIDS Cases	183	AIDS Rate	11.3
Statewide Totals	AIDS Cases	4720	AIDS Rate	24.4

Pg. **157-158** Footnote **"†"** should read

Beginning in 1996, only Haemophilusinfluenzae type b infections were counted. Prior to 1996, all invasive infections due to any type of Haemophilusinfluenzae were counted.

Pg. **160** Table IV - Reported Selected Diseases by Age Group **- 1997**

AIDS	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+	UNK
	16	6	7	4	43	848	2189	1163	317	127	0

Pg. **161** Table V - Reported Selected Disease Rates by Age Group **- 1997**

AIDS	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+	UNK
	4.9	0.5	0.5	0.3	3.0	29.4	67.6	41.8	18.0	4.9	0.0

Pg. **162** Table VI - Reported Selected Diseases by Public Health Region **- 1997**

AIDS	PHR 1	PHR 2	PHR 3	PHR4	PHR 5	PHR 6	PHR 7	PHR 8	PHR 9	PHR 10	PHR 11
	57	35	1225	77	90	1891	338	328	34	127	183

Pg. **163** Table VII - Reported Selected Disease Rates by Public Health Region **- 1997**

AIDS	PHR 1	PHR 2	PHR 3	PHR 4	PHR 5	PHR 6	PHR 7	PHR 8	PHR 9	PHR 10	PHR 11
	7.4	6.6	24.0	8.0	13.1	42.9	17.6	16.3	6.1	17.0	11.3

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Epidemiology in Texas
1997 Annual Report

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Foreword

Public health agencies are charged with preventing disease and injury in humans. One of the keystones of disease prevention is epidemiology. Epidemiology is not an end unto itself, but an essential tool that enables further intervention, such as contact investigations, education, and treatment.

This report represents a cooperative effort among health professionals in both private and public arenas at the local, state, and federal levels. Outbreak and surveillance articles about infectious disease—the perennial nemeses of public health—are included. In addition, articles on rabies, hantavirus, and Lyme disease highlight the increasing potential for transmission of disease from animals as the expanding human population in the state encroaches on natural wildlife habitat. Other reports reflect an increased awareness of environmental hazards such as lead, pesticides, industrial chemicals, and injuries.

We hope this report will be useful to a variety of agencies and organizations that are developing creative, community-based solutions to old and new public health challenges.

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Acknowledgments

Under the direction of a guidance team consisting of program and division directors, bureau chiefs, and the Associate Commissioner for Disease Control and Prevention, the ***Epidemiology in Texas 1997 Annual Report*** was produced by a project team of representatives from each contributing program.

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Regional Statistical Summaries

Reported Cases of Selected Diseases

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Preface

Disease Surveillance

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

During 1997 many Texas Department of Health (TDH) programs were responsible for coordinating surveillance of adverse health conditions in Texas. These programs included the following: Infectious Disease Epidemiology and Surveillance Division, Zoonosis Control Division, Environmental Epidemiology and Toxicology Division, Injury Prevention and Control Program, Tuberculosis Elimination Division, Immunization Division, Bureau of HIV and STD Prevention, Bureau of Laboratories, and Bureau of Chronic Disease Prevention and Control.

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

Reporting

The *Reportable Conditions in Texas* form (TDH Stock No. 6-101a) lists all reportable conditions in Texas, guidelines for reporting, and telephone numbers for reporting or ordering forms (Appendix). This version of form 6-101a reflects reporting guidelines for calendar year 1997, the year for which the data in this *Report* were compiled. The most current version of form 6-101a may be obtained by calling the TDH Infectious Disease Epidemiology and Surveillance Division at (800) 252-8239 (press 1) or (512) 458-7218.

Most case reports must include the patient's name, date of birth, sex, race/ethnicity, city of residence, date of onset, physician's name, and method of diagnosis. The exceptions are as follows. Chickenpox is reported by number of cases and, beginning in 1998, by age group. HIV infections are reported by name for children under 13 years of age and by the last four digits of the social security number for adults and adolescents. HIV reports for all ages must also include the patient's age and date of birth; sex; racelethnicity; city, county, and zip code of residence; date of test; and physician's name, clinic address, and telephone number.

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

Explanatory Notes

Reportable conditions diagnosed in residents of other states in the US, while they are visiting Texas, are reported to the health authorities of the individual's home state. These cases are not included in this report. Reports regarding Texas residents who became ill while visiting other states are included in this report. Mortality data were obtained from the TDH Bureau of Vital Statistics or from individual program records.

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

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

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

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

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

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

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

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

Reports

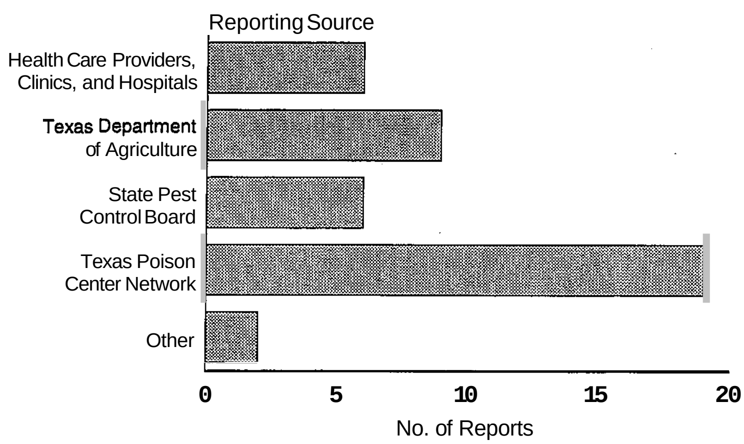
Acute Occupational Pesticide Poisoning Surveillance

Background

Acute occupational pesticide poisoning has been a reportable condition in Texas since the passage of the Occupational Disease Reporting Act in 1985. The Acute Occupational Pesticide Poisoning Surveillance Program in the Division of Environmental Epidemiology and Toxicology has grown from a system largely dependent upon reports from identified sentinel providers to a surveillance system that functions collaboratively with other state agencies involved in pesticide management and the Texas Poison Center Network (TPCN).

During 1997, 48 reports of occupationally-related exposures to pesticides were received by the surveillance system. Forty-two of the reports received are considered confirmed occupational pesticide poisoning cases. The remainder of this report discusses only these 42 confirmed cases. The largest number of reports was received from the TPCN (45%) (see Figure 1). The number of occupationally-related pesticide reports has decreased dramatically, from 95 in 1996 to 42 in 1997. One possible reason for the decrease is that in late 1996 surveillance program staff stopped calling sentinel providers on a quarterly basis to gather pesticide reports. Instead, more effort was focused on increasing reporting from collaborating agencies. By shifting the focus to ascertaining consistent information in a timely fashion from other statewide agencies, such as the Texas Department of Agriculture (TDA), Structural Pest Control Board (SPCB), and the TPCN, staff were able to devote more time to ensuring complete follow-up of every report and implementing intervention activities as necessary.

Figure 1. Number of Occupational Pesticide Poisoning Reports Received by Source



Demographic Distribution

As shown in Table 1, more than half of the pesticide poisoning reports received in 1997 were from individuals aged 21 to 50; 67% of the reports involved male workers.

Of the reports received in 1997, 45% involved persons employed in agricultural settings (See Figure 2). This is not surprising since agricultural acreage represents 77% of the total land mass of Texas and an estimated 225,000 farm workers (not including approximately 370,000 migrant workers and their dependents) are employed in farming and ranching.[1] Although details on the exact amount of pesticides used for agricultural purposes in Texas are unavailable, the United States Department of Agriculture Census of Agriculture reports that more than $288 million was spent for agricultural chemicals in 1992[2] in Texas.

Table 1. Occupational Pesticide Poisoning Reports by Age and Sex

Age	Men No.	Men %	Women No.	Women %
>16	2	7	0	0
16-20	1	4	0	0
21-30	7	24	3	23
31-40	6	21	4	31
41-50	5	17	3	23
51-60	3	10	2	15
61+	2	7	0	0
Unknown	3	10	1	8
Total	29		13	

Personal Protective Equipment Use and Poisoning Symptoms

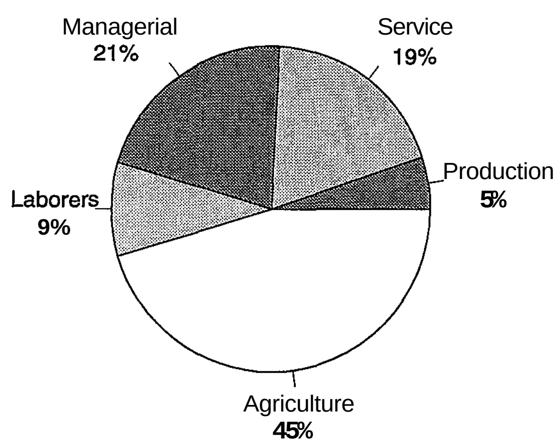
Of the 42 confirmed occupationally-related pesticide poisoning cases, only 9 (21%) patients reported wearing personal protective equipment (PPE) at the time of their exposure, 27 (64%) reported not wearing PPE, while for 6 (14%) of the cases no information regarding use of PPE was available. Among individuals employed in agriculture who may work regularly with "restricted use pesticides" (pesticides designated by the Environmental Protection Agency as being available for sale to and used by certified applicators only), 68% of those exposed reported that they were not wearing personal protective equipment at the time of the exposure. All persons with confirmed pesticide poisoning reported experiencing at least 2 medical symptoms due to their exposure. As noted above, the majority (64%) reported not wearing personal protective equipment at the time of exposure. Figure 3 shows the number of persons who reported experiencing 2 or more physical symptoms due to the reported pesticide poisoning, and whether or not they were using PPE at the time of the exposure.

Neuromuscular symptoms, such as confusion, irritability, paralysis and twitching muscles were most frequently reported (29 individuals). This is likely due to the large percent of poisonings from cholinesterase inhibiting pesticides, such as organophosphates and carbamates (Figure 4). The primary symptoms of exposure to these chemicals are neuromuscular symptoms. Figure 3 also shows that individuals not wearing PPE at the time of exposure were more likely to report a poisoning and develop symptoms due to the poisoning. This may indicate a continuing need for educational efforts focused on when and what type of PPE to use when working with pesticides.

Commonly Reported Pesticides

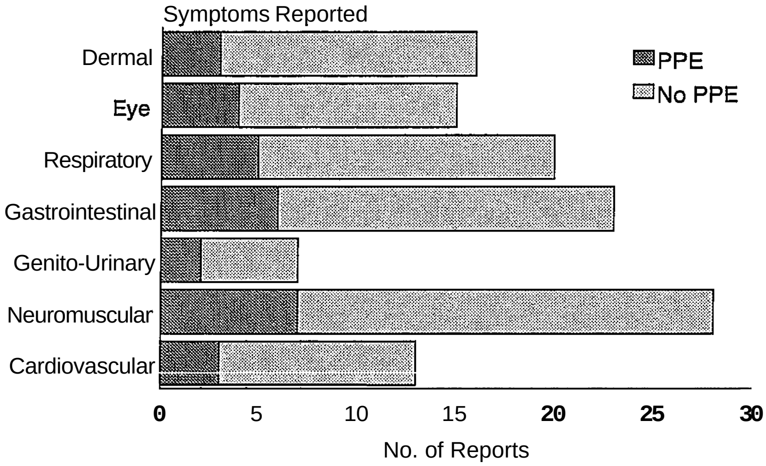
The most commonly reported class of pesticides responsible for the reported cases was organophosphates. Forty-one percent of the reports noted that the type of pesticide being used at the time of exposure was an organophosphate. The second most commonly reported class of pesticides was pyrethroids and pyrethrins (14% of reports).

Figure 2. Occupational Pesticide Poisoning Reports by Occupation



n=42

Figure 3. Occupational Pesticide Poisoning: Use of Personal Protective Equipment (PPE) by Persons Reporting Symptoms



This activity will greatly enhance the surveillance programs case ascertainment efforts and the timeliness of information received.

The Acute Occupational Pesticide Poisoning Surveillance Program also joined efforts with representatives from the Texas Workers Compensation Commission (TWCC), the University of Texas Health Sciences Center in Tyler, and Texas A&M to create the Texas Commission on Agricultural Safety and Health. This joint activity has provided the surveillance program with an opportunity to collaborate with TWCC to increase reporting of occupationally-related pesticide poisonings, as well as to provide a vehicle for developing and disseminating new pesticide poisoning prevention and intervention materials.

These plant-derived pesticides are becoming more popular due to their low toxicity (slightly to moderately toxic to mammals) but are often combined with other more toxic chemicals in order to enhance their ability to control insects. In 5% of the reports, the person who was poisoned did not know the type of pesticide to which they were exposed. It is difficult for physicians to diagnose and treat a person effectively if there is no information available on the type of pesticide and potential medical effects.

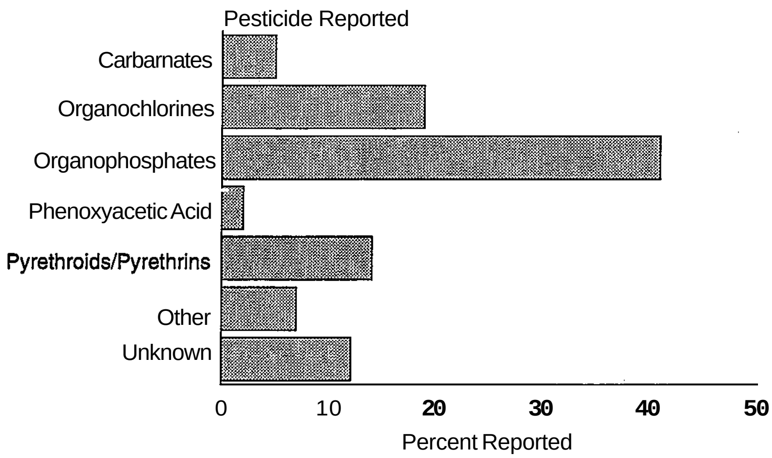
Conclusion

As the second decade of Acute Occupational Pesticide Poisoning Surveillance in Texas

Interagency Collaborations

During 1997 the Acute Occupational Pesticide Poisoning Surveillance Program worked to enhance collaborative efforts with other statewide agencies involved in pesticide use and management. The Texas Poison Center Network agreed to provide electronic downloading of information on pesticide related calls received by any of the 6 Poison Centers statewide.

Figure 4. Most Frequently Reported Pesticides



begins, there has been a successful integration of the lessons learned during the first 10 years of surveillance into the refocusing of program efforts. In 1997 there were changes made to the methods of case ascertainment and efforts placed on developing collaborative relations that would not only enhance surveillance but also provide an increased opportunity for developing and disseminating high quality, targeted intervention and prevention programs. These changes will allow the Acute Occupational Pesticide Poisoning Surveillance Program to successfully reach the goal of reducing the incidence of occupationally-related pesticide poisonings in Texas over the next decade.

References

1. United States Department of Agriculture. Texas Agricultural Statistics Survey. Economics Section. January 1998. http://www.io.com/ – tass/.
2. United States Department of Agriculture. 1992 Census of Agriculture. United States Summary and State Data. Vol.1; Part 51: Chapter 2.

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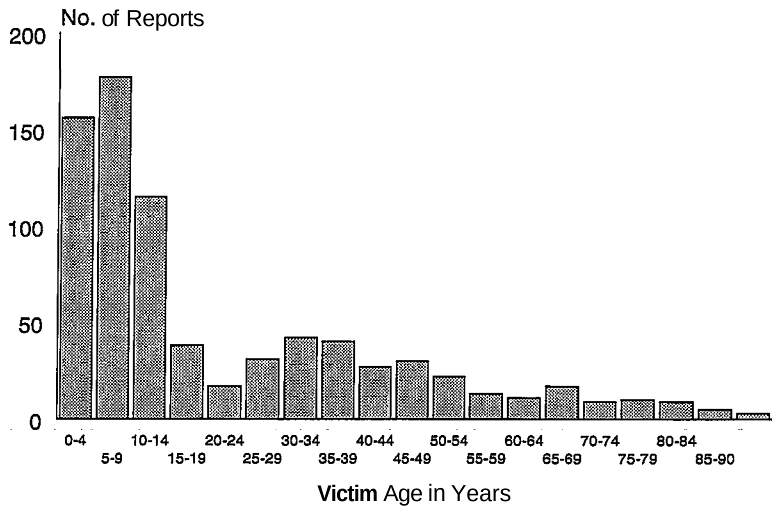
Animal Bites

Figure 1. Victim's Age in Severe Animal Attacks



The tendency of an animal to bite is a product of many factors, including genetic predisposition to aggressiveness, late or inadequate socialization to people, quality of care, and behavior of the victim. To gain further insight into these factors and develop prevention recommendations, the Zoonosis Control Division of the Texas Department of Health analyzed reports of severe animal bites and attacks.' In 1997 a total of 729 reports were voluntarily submitted by local health departments, animal control agencies, and emergency health care providers in 88 of the 254 Texas' counties.

The data on severe animal bites collected in 1997 were comparable to these received in previous years. Two fatalities associated with dog bites occurred in 1997.

Victim Characteristics

Dog bites represent a significant source of morbidity and mortality in the pediatric age group (Figure 1). Children under the age of 11 were almost 4 times more likely to experience a severe bite and 15 times more likely to sustain a head injury during a bite than were adolescents and adults. The anatomic location of dog bites in young children can largely be explained by their diminutive stature, which places the head in close proximity to the dog's mouth. Injuries to the head and neck are extremely serious because they can result in disfiguring wounds as well as life-threatening injuries involving hemorrhage and cranial trauma.

Animal Characteristics

Domestic dogs were involved in 620 (85%) of the incidents. Other species included domestic cat (86), unknown (7); raccoon and rat (3 each); horse and wolf-dog hybrid (2 each); and bat, fox, gerbil, mouse, pig, and tiger (1 each). Almost half (49%) of the biting dogs and cats were vaccinated against rabies.

Eight breeds and breed crosses constituted over half (51%) of the dogs involved in severe attacks (Table 1). However, since breed prevalence figures are not available, it is unknown whether these figures represent breed predisposition to aggressiveness or merely the relative popularity of these breeds. Cats and small breeds of dogs were infrequently reported since they are less likely than large breeds of dogs to inflict severe wounds.

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

Circumstances which may have provoked the animal to attack were described in 326 (45%) of the reports. In the case of an animal bite, provocation should be thought of in terms of an animal's innate response to certain human actions, such as teasing, startling, or abusing the animal; handling its puppies or kittens; playing roughly with the animal; or interfering with the animal when it is eating, guarding its territory, fighting with another dog, or pursuing a female in estrus.

Zoonosis Control Division (512) 458-7255

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

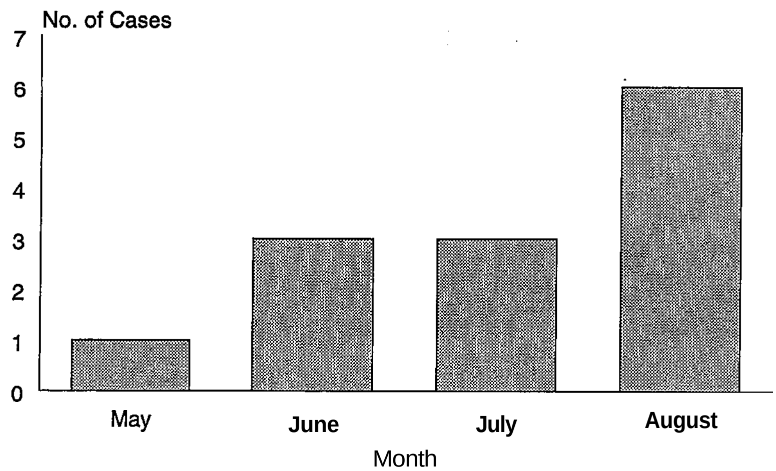
Breed	No.	%
Chow chow	64	10.9
Rottweiler	40	6.8
Pit bull	39	6.7
German shepherd	35	6.0
Mixed	34	5.8
Chow cross	34	5.8
Labrador retriever cross	28	4.8
German shepherd cross	25	4.3
All others	287	49.0

Boat Propeller-Related Injuries

Injuries related to motorboat propellers can be severe and can include multiple and deep lacerations, heavy permanent scarring, amputations, significant blood loss, and death. Individuals sustaining injuries from motorboat propellers may require long periods of hospitalization and rehabilitation. Although the extent of boat propeller injuries occurring in Texas is unknown, the existence of approximately 600,000 motorboats in the state exposes Texans to the potential risk of propeller injury. The Texas Department of Health (TDH) and the Texas Parks and Wildlife Department (TPWD) co-investigated boat propeller-related injuries occurring in the state during the summer of 1997.

The investigation involved establishing active hospital-based surveillance near 4 inland lakes where boating is popular. Thirteen hospitals near the selected lakes were asked to report boat propeller injury cases to TDH. The report form included the following data: patient age and gender, injury date, types of injuries, and injury circumstances. Bimonthly contact with sentinel hospitals was maintained. Additional data were reviewed from TPWD's Boating Accident Reports, TDH's Texas Trauma Registry, and newspaper clippings from across the State. The 101-day study period was from May 24 to September 1, 1997. The study period included major holidays (Memorial Day, Fourth of July, and Labor Day) when boating activities are more frequent.

Figure 1. Cases by Month of Injury



Thirteen individuals were identified who sustained a boat propeller-related injury in Texas during the study period. Ten (77%) of the patients sustained nonfatal injuries and 3 (23%) of the patients sustained fatal injuries. All of the nonfatal cases were identified by the hospital-based surveillance system; all of the fatalities were identified from the TPWD's Boating Accident Reports and/or newspaper clippings.

Nine (69%) of the patients were males and 4 (31%) were female. The mean age was 26 years (range: 6-44 years). The majority of the cases occurred in August (6), followed by June (3), July (3), and May (1) (Figure 1).

Among the 10 patients who survived, 7 sustained lacerations and 4 sustained broken bones (multiple injuries possible). Eight of the patients sustained injuries to the lower extremities. Half (5) of the survivors were admitted to the hospital. Hospital information was available for 4 of these 5 admissions. The length of hospital stay ranged from 4 to 8 days. Three individuals were discharged in good condition (full recovery expected) and 1 patient was discharged with a maximum disability. Of the 3 fatalities, the immediate cause of death for 2 was drowning and for 1 was an open skull fracture.

Information on where the injury occurred was available for 11 (85%) of the incidents.

Eight (73%) of the cases occurred in the surveillance area: Lake Travis (4), Possum Kingdom Lake (2), Lake Lewisville (1), and Lake Conroe (1). Locations outside of the study area where incidents occurred were Richland-Chambers Reservoir (2) and Lake Crook (1).

The circumstances of the injury revealed 3 common scenarios: getting into or out of the boat (5 cases), during a water activity such as jet skiing or skiing (4 cases), and falling or being thrown from the boat (4 cases).

The case reports below describe the circumstances of the 3 deaths:

Case 1. In August 1997, a 36-year-old man was operating a motorboat when it turned sharply, ejecting the man. The boat ran over him, and the propeller cut his head and back. He surfaced, called for help, and then went below the surface again. No personal flotation device was worn. The cause of death was open skull fracture.

Case 2 and 3. In August 1997, 2 siblings, a 12-year-old boy and an 11-year-old girl, were passengers on a pontoon boat during a family outing. The 2 children were dangling their feet at the front end of the boat when the front gate gave way and they fell in the water. The pontoon boat ran over the children, with the propeller striking the children. They were not wearing personal flotation devices. The cause of both deaths was drowning.

Several potential prevention strategies exist to reduce boat propeller-related injury. Boat safety education with specific attention directed to the location and dangers of propellers is essential. Engineering interventions include

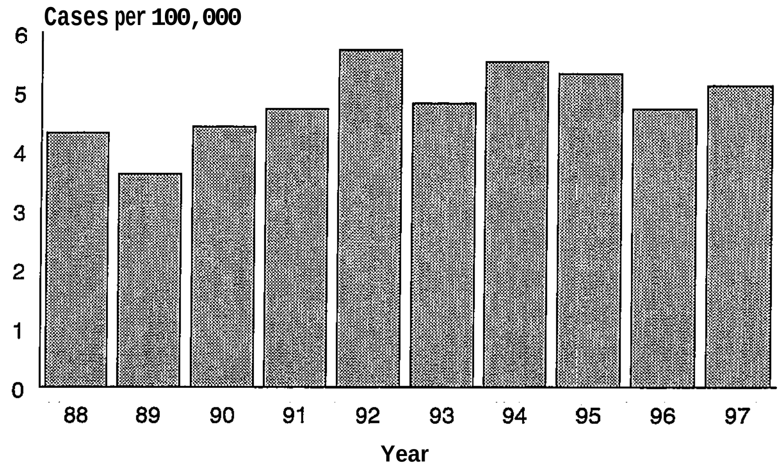
- installing propeller guards, propeller shaft engage alarms, kill switch/auto throttle and neutral return
- repositioning swim ladders and making interlocks as part of the swim ladder installation
- posting large warning notices near the helm of the boat

Injury Prevention and Control Program
(512) 458-7266

Campylobacteriosis

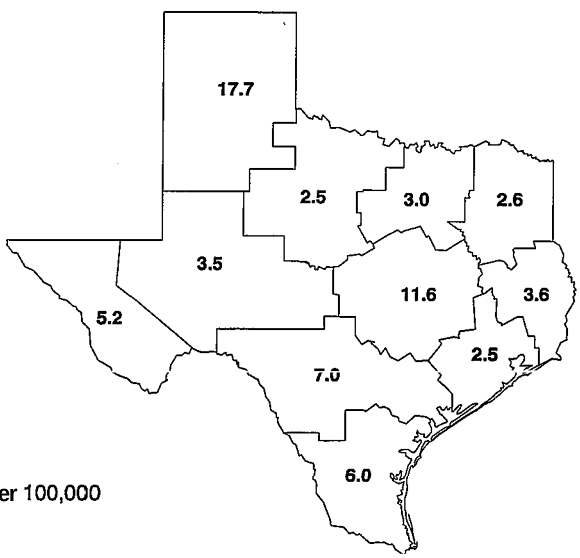
The USDA has stated that campylobacteriosis, caused by the organism Canzpylobacter *jejuni*, is the primary cause of bacterial gastroenteritis in the United States. Campylobacteriosis is responsible for more diarrheal disease than is the combination of both salmonellosis and shigellosis infections. Worldwide, campylobacteriosis accounts for 5% to 14% of all diarrheal illness. Historically, Campylobacter spp. have been underdiagnosed as agents of disease due to their finicky growth requirements. By 1972 successful microbiologic techniques enabled the culture and identification of this enteric pathogen. In 1985 campylobacteriosis became a reportable condition in Texas. Figure 1 demonstrates the incidence rate over the past 10 years for Texas. In 1997 there were 981 cases of reported campylobacteriosis, for an incidence rate of 5.1 cases per 100,000 population. The distribution of reported campylobacteriosis cases by Texas public health regions is shown in Figure 2.

Figure 1. Campylobacteriosis Rates, 1988-1997



Symptoms of campylobacteriosis manifest with variable severity within 2 to 5 days of exposure and include fever, nausea, vomiting, headache, myalgia, abdominal pain, as well as watery diarrhea which may have occult to gross blood, mucus, and white cells. Patients with campylobacteriosis occasionally have symptoms that can be confused with ulcerative colitis, Crohn's disease, or acute appendicitis. Campylobacteriosis is generally self-limited, lasting for 7 to 10 days with a 25% relapse rate of illness.

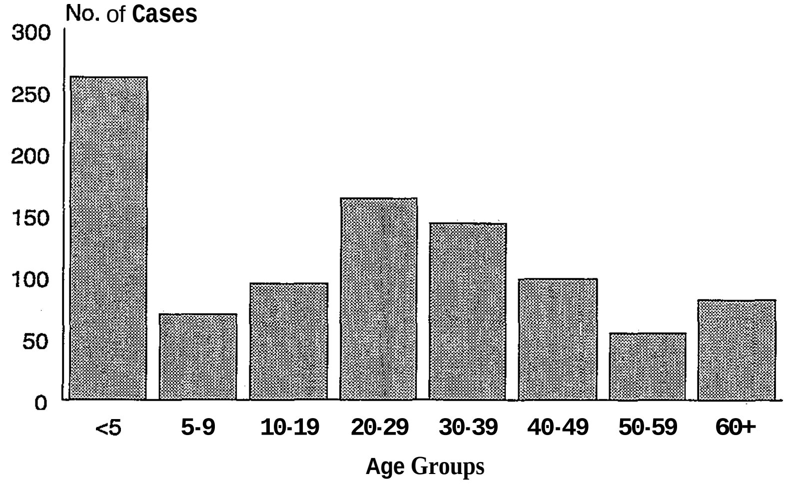
Figure 2. Campylobacteriosis Incidence Rates by Public Health Region



Cases per 100,000

In 1997, 42% (411 cases) of the Campylobacter isolates were speciated. *Campylobacter jejuni* accounted for 98% of the speciated cases. As is commonly seen with other fecal-oral transmitted illnesses, children under the age of 5 years comprised the largest percentage (27.1%) of reported cases (261), for an incidence rate of 16.2 cases per 100,000 population. The second highest percentage (16.9%) of reported cases occurred among the 20- to 29-year-old age group, however the incidence rate for this group was only 5.6 cases per 100,000 population. The percentages of reported campylobacteriosis cases by age group are illustrated in Figure 3.

Figure 3. Campylobacteriosis Cases by Age Group



Common sources of infection include healthy cattle, raw or improperly pasteurized milk, untreated water, chickens, birds, and flies. An increased number of cases occurs during warmer months. USDA estimates that approximately 50% of infections are from individuals either eating or handling chickens. Preventative measures include the use of safe food handling procedures such as: thorough cooking of animal derived foodstuffs; maintenance of clean hands, kitchen surfaces and utensils that contact raw animal foodstuffs; and drinking of pasteurized milk and treated water. Pets with diarrhea, especially puppies and kittens, may also serve as a potential sources of campylobacteriosis; careful hygiene should be exercised around pets with diarrhea.

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Child Mortality

In 1996, 3,966 Texas children under the age of 18 died. The rate of child death (71.7 cases per 100,000), adjusted for the number of children in the population, is a slight decrease from the previous year's rate of 75.4 cases per 100,000 and continues the decline evident since 1980. While this trend is encouraging, the fact that nearly 4,000 Texas children still die each year warrants continued public health attention.

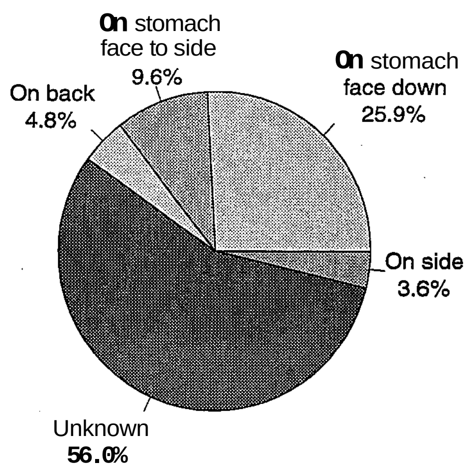
To best understand the nature of child deaths, and thus be better able to prevent such occurrences, it is important to gather as much information available about the child and the circumstances of death. The most exhaustive source for reliable and valid information on child deaths is from death certificates compiled by the Bureau of Vital Statistics. This valuable information about the child and the underlying cause of death is used to identify general demographic or geographic groups of children who are more likely to die from particular illnesses or injuries. In addition, in 1995 the Texas Legislature authorized the creation of local child fatality review teams. These multi-agency teams provide specific information about the child, the family, and the particular circumstances leading to and surrounding the child's death. This report comprises selected information derived from both of these sources.

Natural Deaths

Most child deaths are due to natural causes. Somewhat misnomered, a death of a child is not natural. This term is used only to differentiate from deaths due to external causes. The majority of the 2,739 natural deaths during 1996 occurred to infants. These infant deaths are most commonly due to disease, anomalies, or conditions associated with prematurity.

Some infants die suddenly and without adequate explanation. In 1996, there were 238 deaths of children certified as due to Sudden Infant Death Syndrome (SIDS). This total represents a 7% decrease from the 257 deaths in the previous year and continues a steady decline in the number of SIDS deaths.

Figure 1. Position of Infant in Sudden Infant Death Syndrome



Local child fatality teams reviewed 70% of the 1996 SIDS deaths. As seen in Figure 1, more than half of these reviewed deaths did not have any information regarding the position of the infant at the time of death. This underlines one of the weaknesses of death scene investigations. Such gaps in information has led the Texas Child Fatality Review Team committee to develop a protocol for death scene investigation to be used by law enforcement and other first responders. By gaining more thorough knowledge of the dynamics of these unexplained deaths, prevention efforts can be better targeted.

Motor Vehicle Accidents

Injuries are the leading cause of death among children 1 year of age and older (Table 1). More than 40% of deaths to children at least 1 year of age are due to unintentional injuries, primarily motor vehicle accidents.

The number of Texas children who died from motor vehicle accidents during 1996 (575 deaths) increased by more than 25% from the previous year. Although the cause of this increase in traffic fatalities is not immediately clear, a means of prevention is glaringly obvious. Information from reviews of 277 vehicular fatalities suggests that two-thirds of the children were not using a safety device (seat belt or infant seat) when the accident occurred.

Nearly half of the Texas children who died as a result of a motor vehicle accident in 1996 were from 15 to 17 years of age. Information garnered from the reviews of local child fatality teams reveals that in 75% of the accidents in which the child was driving, the accident was the result of a driving violation (eg, driving under the influence, speeding, failure to obey traffic signals) by the child. Additionally, nearly 25% of these accidents occurred during the late night and early morning (10 PM - 4 AM) hours. Such information has led to suggestion of graduated driving licenses, whereby inexperienced drivers must have an adult licensed driver in the automobile when driving and must have limited driving hours.

Firearm Deaths

In 1996, 203 Texas children died from firearm-related injuries. This is a 25% decrease in the number of firearm deaths from 1995 and drops the firearm death rate to fewer than the 3.8 deaths per 100,000 children in the population recorded in 1980. Most dramatically, the homicide firearm rate has decreased 41% since reaching the high in 1991 (Figure 2).

The rate of accidental firearm deaths has steadily declined throughout this period. Only 19 children were unintentionally killed with a firearm in 1996. In contrast, the suicide firearm rate has remained relatively stable over time, declining only in recent years; 63 children committed suicide with a firearm in 1996.

Most child deaths are preventable: Through the comprehensive work of local child fatality review teams, community level interventions are suggested and established. Through the coordinated efforts of state agencies, policy decisions are formulated and evaluated. Coordinated efforts to report and analyze data help provide a more comprehensive understanding of the nature and scope of deaths to Texas children. This system continues to be expanded, refined, and improved. Local child fatality review teams now provide coverage to more than 80% of the Texas population. To assist these teams, the Texas Department of Health, Bureau of Vital Statistics has developed a software program for local data entry and

Table 1. Leading Causes of Child Mortality in Texas, 1996

Ages 1-9

Cause	No.	%
Unintentional Injury	362	41.8
Cancers	98	11.3
Congenital Anomalies	77	8.9
Homicide	52	6.0
Cardiovascular	33	3.8
Other	243	28.1
Total	865	

Ages 10-17

Cause	No.	%
Unintentional Injury	466	45.6
Homicide	131	12.8
Suicide	109	10.7
Cancers	82	8.0
Congenital Anomalies	38	3.7
Other	195	19.1
Total	1,021	

analyses. It is anticipated this will help local teams with reporting as well as provide snapshot analyses of child deaths in the team's local area. This multilevel involvement for the prevention of child deaths is helping to protect the children of Texas.

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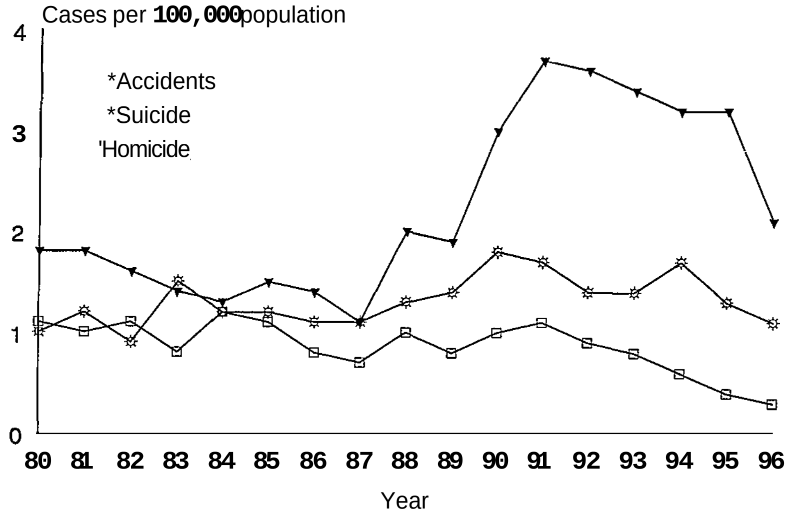
Figure 2. Rate of Firearm Deaths by Manner



Ciguatera Poisoning Outbreak in Brazoria County

In October 1997 the Southeast Texas Regional Poison Center received a report of an outbreak of probable ciguatera poisoning among crew members of a cargo ship that had docked at Freeport. Although ciguatera poisoning occurs worldwide and is commonly seen in the Carribean, cases are rarely recognized in the United States. The Texas Department of Health initiated an investigation of this outbreak to determine the etiologic agent associated with the illness and to determine the extent of the outbreak.

Ciguatera poisoning occurs after ingestion of a fish contaminated with ciguatoxin—a toxin produced by a number of dinoflagellate species commonly found in tropical and subtropical marine waters. Poisoning cases present with a wide variety of symptoms, making diagnosis sometimes difficult. Ciguatera commonly affects the gastrointestinal and central nervous systems, and less commonly affects the cardiovascular system. Distinguishing symptoms associated with ciguatera poisoning include generalized weakness, itching and paresthesias, and the hallmark symptom—sensations of temperature reversal, in which hot things feel cold and cold things feel hot. Other symptoms include nausea, vomiting and diarrhea, and joint and muscle pain.

During the investigation, crew members were interviewed about the presence and onset of symptoms, the use of medications and emetics, and food and alcohol histories for the weekend surrounding the incident. Stool samples were collected and tested for enteric organisms, including *Salmonella*, *Shigella*, E. *Coli*, *Yersinia*, *Campylobacter*, and *Vibrio* species. Fish samples were collected and tested for ciguatoxin at the University of Hawaii.

A case-patient was defined as a ship's crew member with onset of symptoms after 7:00 PM on October 12, who reported either diarrhea or a combination of nausea, vomiting, and abdominal cramps. Seventeen of 27 sailors on board met the case definition. All were male, with a median age of 33 years (range: 23-48 years) and all case-patients were originally from the Philippines.

Table 1. Frequency of Reported Symptoms

Symptom	No.	%
Weakness	15	88
Nausea	13	77
Vomiting	13	77
Perioral itching	13	77
Temperature reversal	11	65
Dental pain	8	47

The median onset of illness occurred 4.5 hours (range: 2-16 hours) after a meal in which the sailors had grilled several fish caught earlier in the day. Of the 17 case-patients, 15 (88%) complained of weakness, and 13 (77%) had nausea, vomiting and perioral itching. Eleven (65 %) experienced temperature reversal sensation while 8 (47%) of the case-patients suffered from dental pain (Table 1).

Crew members reported eating barracuda, grouper, and red snapper. All crew members who ate barracuda became sick (attack rate [AR] = 100%). Seven of 9 sailors who ate grouper became sick (AR = 77.8%), and 7 of 11 crew members who ate snapper became sick (AR = 63.6%). After stratifying on whether or not crew members ate barracuda, researchers found that only

Table 2. Attack Rates for Food Items Implicated in Ciguatera Poisoning

	Ate Barracuda			Didn't Eat Barracuda		
Fish	Sick	Total	AR	Sick	Total	AR
Barracuda	17	17	100	–	–	–
Grouper	7	7	100	0	2	0
Red Snapper	7	7	100	0	4	0

barracuda was implicated; none of 2 people who ate only grouper nor did any of the 4 people who ate only red snapper become sick (Table 2). Laboratory tests showed that the barracuda samples obtained from the ship tested positive for ciguatoxin.

***Bureau** of Epidemiology (512) 458-7268*

Daily Supplement Use and Folic Acid Awareness Among Women

Among the 334,197 live births recorded in 1996 in Texas, an estimated 300 pregnancies in Texas resulted in a diagnosis of a neural tube defect, either spina bifida or anencephaly. Babies diagnosed with anencephaly do not survive, while babies born with spina bifida require multiple surgeries and medical interventions. These serious forms of birth defects are preventable in most women who adopt preconception planning behaviors such as consuming the B vitamin folic acid daily. Studies have shown that women who consume folic acid daily prior to conception or early in pregnancy can reduce the risk of spina bifida and anencephaly by up to 70%. These findings prompted the United States Public Health Service (USPHS) to issue a recommendation in 1992 that all women of childbearing age who are capable of becoming pregnant consume 400 micrograms of folic acid daily.

To better plan for neural tube defects prevention, the Texas Department of Health's (TDH) Birth Defects Research Center designed the Texas Women's Health Survey (TWHS) of Texas women, aged 15 to 44 years. The telephone survey included several questions designed to measure daily use of supplements and awareness of folic acid. Of particular interest were the racial/ethnic and geographic patterns. The survey was supported by Centers for Disease Control and Prevention funds.

Study Methods

Telephone Survey Construction. The TWHS measures period prevalence (to be repeated every 3 years) of preconceptional and prenatal health knowledge, attitudes, and behaviors among Texas women of childbearing age. The TWHS consists of a wide variety of questions, including 4 about folic acid knowledge and daily consumption of a vitamin or mineral supplement.

Sampling, Interviewing, Analysis. To measure geographic differences among Texas women, the 11 administrative units of the TDH Public Health Regions (PHR) were collapsed into 8 geographic regions: PHR 1 and 2 (Panhandle/Northwest Texas), PHR 3 (North Texas), PHR 4 and 5 (East Texas), PHR 6 (Southeast Texas), PHR 7 (Central Texas), PHR 8 (South-Central Texas), PHR 9 and 10 (West Texas), and PHR 11 (Lower Rio Grande Valley). The complex sampling plan required an oversampling of African American and Hispanic women.

The survey was conducted September 16 through November 6, 1997; 98.7% of the interviews were in English. The sample data were weighted to reflect the population distribution of Texas women. The total sample size for the analyses was 1,275, with 84.1% of eligible women completing the interview.

Baseline Results

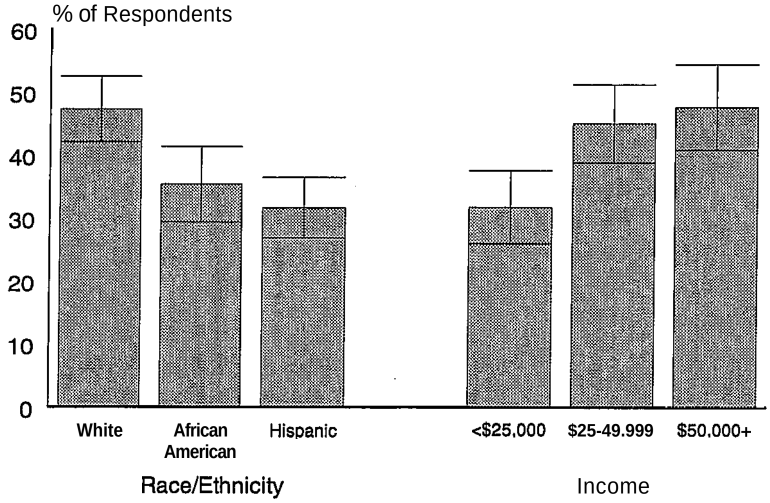
Two survey items from the TWHS describe the 1997 baseline prevalence measures of Texas women's daily consumption of supplements and awareness of folic acid.

Daily Supplement Use. The interviewer asked respondents, "Do you currently take any vitamin or mineral supplements on a daily basis?" Forty-two percent of all Texas women reported that they currently take some type of vitamin or mineral supplements on a daily basis. This percentage is similar to the national estimate (45%) reported by the March of Dimes 1997 Gallup Poll of women's behavior and knowledge.

- **Age:** There was no significant difference in the reported daily consumption of vitamin or mineral by age.

- **Race/Ethnicity:** 47% of White, 35% of African American women, and 32% of Hispanic women reported daily consumption of supplements (Figure 1). The group response of women who

Figure 1. Percent of Women Using Vitamin or Mineral Supplement Daily



*95% confidence interval is indicated

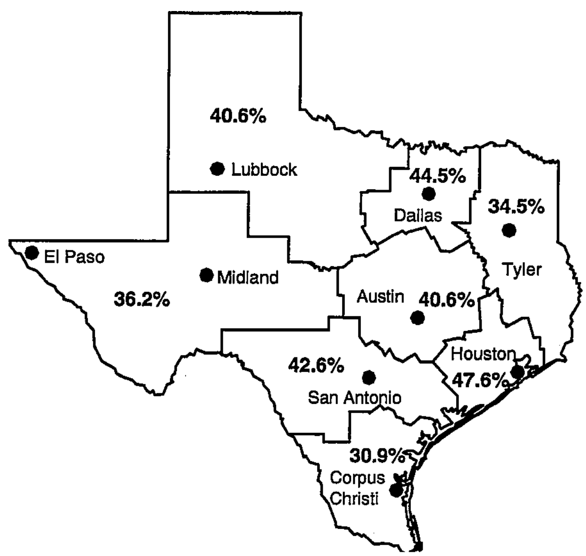
reported other race/ethnic categories was excluded due to the heterogeneity of the category and small sample size (n=49).

- **Total Household Income.** The data showed a proportional relationship between reported household income and daily use of supplements. Forty-five percent of Texas women who reported annual household income of $25,000 and higher also reported daily consumption of supplements. Only 32% of women reporting household income of less than $25,000 reported taking daily vitamin or mineral supplements.

- **Geographic Region.** Figure 2 displays daily supplement use, grouped by the women's reported residence within the 8 geographic regions. The reported daily supplement use by women residing in East Texas (PHR 4 and 5) and the Lower Rio Grande Valley (PHR 11) was significantly lower than that of women who resided in Southeast Texas, which includes Houston (PHR 6), and North Texas, which includes Dallas (PHR 3). For example, 35% of East Texas women and 31% of South Texas women reported daily supplement use. Forty-eight percent of Southeast Texas women residing in PHR 6 reported vitamin or mineral supplement use daily. Women residing in the regions that include Dallas and Houston reported the highest supplement use. Residents of the 14 counties bordering Mexico were less likely to report daily supplement use than were non-barder residents (29.5% vs. 43.2%).

Folic Acid Awareness. Respondents were asked, "Have you ever heard or read, anything about folic acid?" Sixty-six percent of all Texans reported an awareness of folic acid, a percentage that is identical to the national estimate reported by the March of Dimes 1997 Gallup Poll of women's behavior and

Figure 2. Percent of Women Using Vitamin or Mineral Supplement Daily



knowledge. More women reported having an awareness of folic acid than they did taking vitamins or mineral supplements daily.

- ♦ **Age:** Seventy-one percent of women, aged 25 to 44 years reported having heard or read about folic acid. Only 52% of younger women reported an awareness of folic acid daily.

- ♦ **Race/Ethnicity:** Seventy-three percent of White Texas women reported having ever heard or read about folic acid. Only 56% of African American women and 53% of Hispanic women reported having an awareness of folic acid.

- ♦ **Total Household Income:** The women reporting the highest household income also most frequently reported that they had heard or read about folic acid.

- ♦ **Geographic Region:** No significant differences were observed between regions, although lower awareness (58%) was observed among the 191 women living within the 14 Texas counties that border Mexico.

Limitations, Implications, and Recommendations

This report summarized data collected from women who took daily supplements of any type so that we could directly compare state and national responses to key questions. This aggregate summary of all 1,275 respondents includes responses by women who reported they were currently pregnant (4.6%) or unable to get pregnant due to sterilization. Future reports will describe the neural tube defect prevention knowledge and behaviors of nonpregnant Texas women who can get pregnant. We will examine data on women who specifically took folic acid supplements, as well as their barriers to daily supplementation.

This survey did not collect data on women's daily consumption of highly fortified cereals, such as Total^{B} or Product 19® (which are equivalent to daily supplements containing 400 micrograms of synthetic folic acid per serving). Future surveys will include questions about fortified cereal consumption.

Texas Birth Defects Monitoring Division/Texas Birth Defects Research Center (512) 458-7232

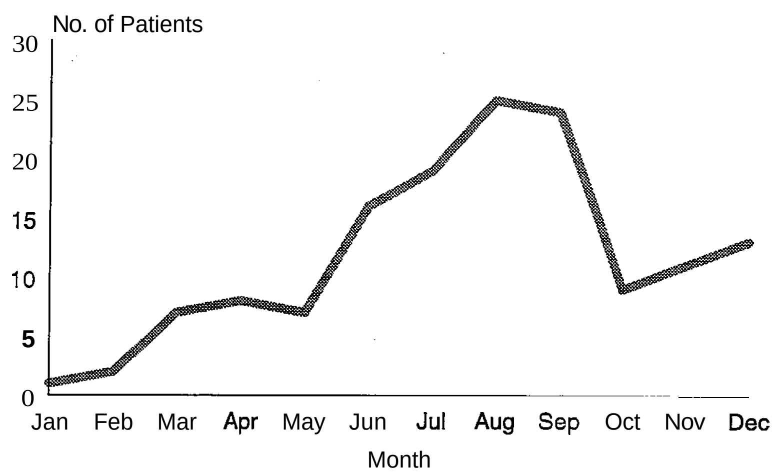
Enteroviruses, Nonpolio

The enteroviruses are a group of at least 67 recognized virus serotypes including polioviruses, coxsackie A and B viruses, echoviruses, and the numbered enteroviruses. Wild-type polioviruses are no longer a major threat in the United States; however, vaccine strains are frequently isolated from young children. As a result, polioviruses isolated in 1997 have limited epidemiological significance and will not be included in this report. Infections caused by nonpolio enteroviruses (NPEVs) are associated with a variety of symptoms but, contrary to what the name suggests, are infrequently associated with enteric disease. Although NPEV infections are usually mild or asymptomatic, patients may present with fever and a rash, herpangina, conjunctivitis, and central nervous system symptoms that range from aseptic meningitis and encephalitis to paralysis. The disease presentation of NPEV infection is unpredictable because a single enterovirus can cause no symptoms or many different symptoms. Individuals with immune deficiencies such as agarnrnaglobulinemia may develop a chronic meningitis or meningoencephalitis.

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

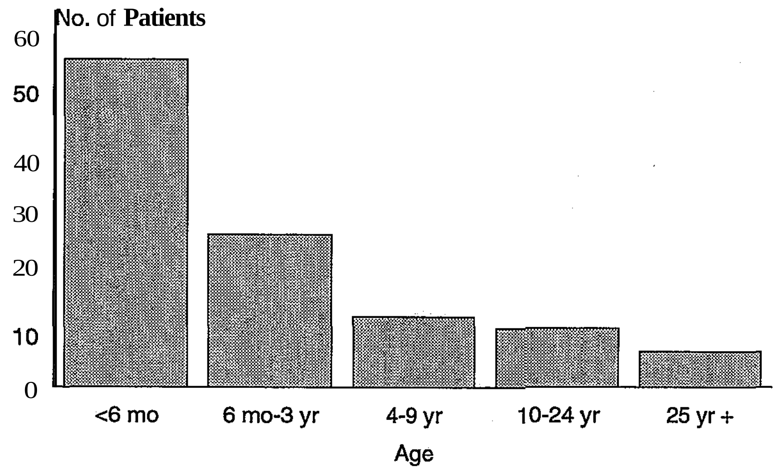
Viruses are obligate intracellular parasites that require a living host system to grow and replicate. The Viral Isolation Laboratory uses a combination of cell cultures to isolate viruses. The isolates can be identified by serum neutralization or immunofluorescence. Immunofluorescence is used to identify 14 of the NPEVs, including coxsackievirus types A9 and A24; coxsackievirus types B1 through B6; echovirus types 6, 9, 11, and 30; and enterovirus types 70 and 71. For these viruses, the time necessary for serotype identification is generally 2 to 4 days from receipt of the specimen and is primarily dependent upon the speed with which the isolate grows in cell culture. For the NPEV that must be identified by serum neutralization test, the time necessary for serotype identification is generally several weeks, again dependent on the isolate's growth pattern. The laboratory recovered a total of 163 NPEVs from 147 patients whose specimens were collected during 1997. Fourteen patients had the same NPEV recovered from multiple specimens. The

Figure 1. Patients with NPEVs by Month of Specimen Collection



specimens were submitted from the following Texas counties: Bell, Bexar, Dallas, Deaf Smith, El Paso, Galveston, Harris, Lubbock, Nacogdoches, Nueces, Potter, Tarrant, Travis, and Wichita.

Figure 2. Age Distribution of Patients with NPEV



Dates of specimen collection were available for 142 of the 147 patients whose specimens yielded NPEV. NPEVs were recovered from patients whose specimens were collected during every month of 1997 (Figure 1). Of the 147 patients whose specimens yielded an NPEV, 104 (70.7%) had specimens collected in the summer and fall, from June though November 1997. Ages were available for 110 of the 147 patients. Figure 2 shows the age profile of patients whose specimens yielded an NPEV. More than half of the patients (56/110) were younger than 6 months of age. Sex was indicated for 122 patients: 72 (59.0%) were male, and 50 (41.0%) were female.

Twenty-four different NPEVs were isolated from patients whose specimens were collected in 1997. Coxsackieviruses were isolated from 17 patients. The following coxsackievirus types (number of patients) were identified: A9 (6), B1 (2), B2 (4), B3 (1), B4 (3), and B6 (1). Echoviruses were isolated from 120 patients.

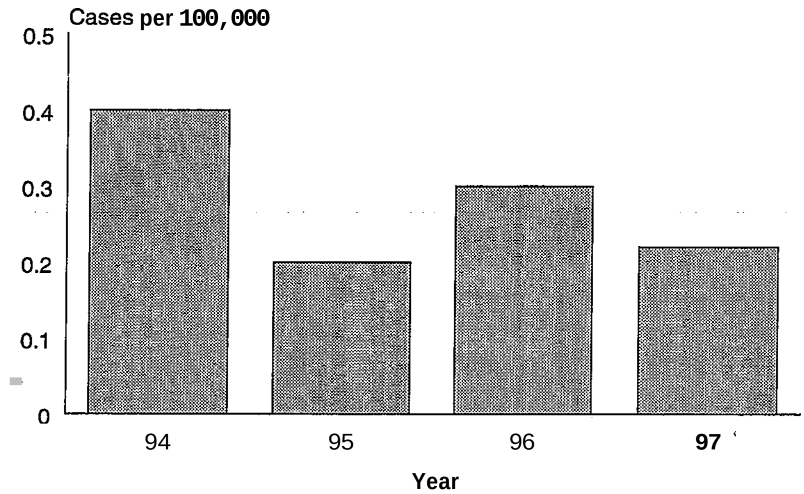
The following echovirus types (number of patients) were identified: 3 (1), 5 (1), 6 (28), 7 (8), 9 (2), 11 (15), 12 (1), 16 (1), 18 (25), 19 (1), 21 (1), 22 (7), 25 (2), 27 (1), 30 (25), and 31 (1). Enterovirus type 68 was isolated from 2 patients and enterovirus type 71 was isolated from 8 patients. Echovirus types 6, 18, and 30 were isolated most frequently. Echovirus type 6 was recovered from 34 specimens collected from 28 patients, echovirus type 18 was recovered from 29 specimens collected from 25 patients, and echovirus type 30 was recovered from 26 specimens collected from 25 patients.

Bureau of Laboratories (512) 458-7318

*Escherichia coli O157:*H7

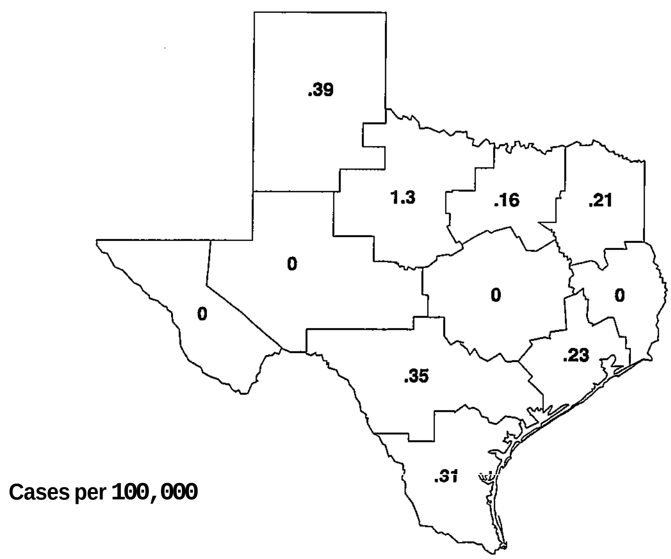
Although first identified as a pathogen in 1982, it was the highly publicized fast food hamburger chain outbreak in 1993 that brought *E. coli* O157:H7 to the forefront of emerging foodborne pathogens. In February 1994 E. *coli* O157:H7 infections became a reportable disease. Figure 1 demonstrates that the number of reported E. *coli* O157:H7 cases to date remains exceptionally low. The 1997 incidence rate was .22 cases per 100,000 population, which is the second lowest rate since 1994. Regional distribution of reported cases within Texas are shown in Figure 2. Note that Public Health Region 1 and 2 had the highest incidence rates statewide.

Figure 1. E. *coli* O157:H7 Incidence Rates, 1994-1997



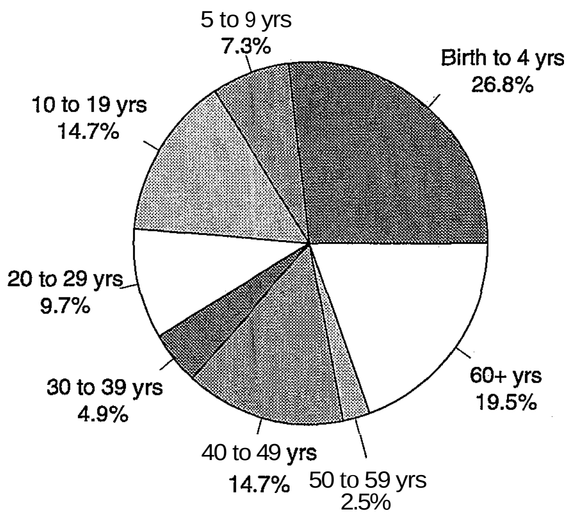
Although hundreds of E. *coli* strains are harmless human and animal intestinal commensals, E. *coli* O157:H7 can secrete a shiga-like (Vero) toxin similar to that of *Shigella dysenteriae.* Like its pathogenic cousin S. *dysenteriae*, as few as 10 organisms can result in disease. Symptoms of E. *coli* O157:H7 illness manifest initially as watery diarrhea with abdominal cramping that may progress to vomiting and severe bloody diarrhea with little or no fever. Generally the illness resolves within 5 to 10 days without sequelae. In 2% to 7% of the cases, the illness progresses to hemolytic uremia leading to acute kidney failure with a consequent 3% to 5% mortality rate; this complication most commonly occurs in children under 5 and the elderly. Figure 3 illustrates the distribution of reported E. *coli* O157:H7 cases by age group in Texas. Note that the percentage of cases are highest among the very young and the elderly.

Figure 2. E. *coli* O157:H7 Incidence Rates by Public Health Region



Modes of transmission primarily include ingesting fecally contaminated food and swimming in fecally contaminated water. Person-to-person transmission can occur through fecal-oral transmission if hygiene is poor. Preventive measures include drinking pasteurized milk and juices, thoroughly cooking all ground beef products, and avoiding swimming in contaminated water. Infection has also been linked to consumption of vegetables from gardens fertilized with cattle manure; care should be taken to thoroughly wash vegetables and fruits grown in this manner.

Figure 3. E *coli* O157:H7 Cases by Age Group



In late July of 1997, an outbreak of E. *coli* O157:H7 was identified in Colorado; by August the source of infection was linked to lot 156A7 of preformed ground beef patties manufactured by Hudson Foods, Inc. On August 12, Hudson Foods, Inc., voluntarily recalled lots 156A7 and lots 155B7 from the 29 States where they had been distributed; Texas was included in this recall.

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

Foodborne Illness Outbreaks

The Texas Department of Health investigated or assisted local health departments in their investigations of 35 different foodborne illness outbreaks in 1997 due to organisms other than hepatitis A. These included viral gastroenteritis outbreaks, parasitic outbreaks associated with Cyclospora and Cryptosporidium, bacterial infections with E. coli O157:H7, and food intoxications due to Staphylococcus aureus and Clostridium botulinum. These investigations demonstrate that although the food supply in Texas is generally safe, foodborne illnesses continues to be a public health concern. Most outbreaks of foodborne illness occur because of poor hygiene, improper cooking temperatures, failure to hold foods at appropriate temperatures after cooking, or ineffective home-canning techniques.

Cyclosporiasis in Houston

A cyclosporiasis outbreak occurred among 89 attendees of a luncheon held on April 25,1997 in Houston. Fifty-nine (67%) attendees were ill. Cyclospora oocysts were observed in stool specimens of 12 ill persons. All ill persons experienced diarrhea. The median duration of diarrhea was 4 days. The most commonly reported symptoms were fatigue (97%), bloating (92%), loss of appetite (88%), abdominal cramps (88%), nausea (84%), and headache (80%). The median incubation period was 7 days, range 1 to 14 days.

A comparison of food history information for ill and well attendees indicated no statistically significant differences in the consumption of the mixed green salad, grilled chicken, cooked vegetables, or rolls. All but one attendee ate the dessert, a creme dessert that contained a layer of fresh raspberries, strawberries, blackberries, and blueberries. All ill attendees (100%), compared with 70% of well attendees, ate some of the berries in the dessert (relative risk=undefined, $p<0.001$).

From April 1 through May 31, 1997, 41 outbreaks of cyclosporiasis, with 762 ill persons, were reported in 13 states and Canada. Fresh raspberries were the only food common to all 41 events and were the only type of berry served at 9 events. The associations between consumption of the raspberry-containing food item and cyclosporiasis were statistically significant for 15 events. For 31 of the 33 events with produce traceback data, the raspberries either definitely or probably came from Guatemala.

Staphylococcus aureus Intoxication in Beaumont

On November 12, 1997, approximately 200 conference attendees became ill with nausea, vomiting, and diarrhea 2 to 3 hours after eating a buffet lunch in a Beaumont convention center. More than 100 people were treated by local Emergency Medical Service personnel and taken to local hospital emergency rooms. Local sanitarians and the Texas Department of Health inspected the hotel kitchen and interviewed conference participants about meals and food items people ate before their symptom onsets. The lunch buffet was associated with illness (risk ratio=4.42, CI=1.85-10.56). The food item that caused the outbreak was a pasta primavera dish (RR=7.21, CI=2.35-22.07). Staphylococcus aureus was grown in stool samples from ill patients, from pasta primavera collected by local sanitarians, and from throat and stool samples of 1 of the food handlers in the restaurant. Improper sanitation and food handling was most likely responsible for the outbreak.

Botulism in El Paso

On December 26, 1997, a 36-year-old woman in El Paso developed abdominal pain, blurred vision, double vision, muscle weakness, and a descending weakness. Foodborne botulism was immediately suspected, and botulism antitoxin was administered on December 27, 1997. Investigation by the El Paso City-County Health Department and the Texas Department of Health failed to uncover any other cases. *Clostridium botulinum* toxin type A was demonstrated in the patient's serum. Home-canned, long green chile peppers with onions and garlic, that were given as a Christmas present by a neighbor, were the source of the intoxication. *Clostridium botulinum* was recovered from the chile peppers. All other jars of the peppers that had been canned were collected and destroyed by local health department personnel.

Infectious Disease Epidemiology and Surveillance (512) 458-7676

Hansen's Disease

Hansen's disease, or leprosy, is caused by the bacteria *Mycobacterium* leprae. Infected persons experience a variety of clinical forms attributed to the immune response. Clinical forms are categorized on clinical, immunologic, and histopathologic findings. Localized disease, termed pauci-bacillary, is characterized by a single or few hypopigmented or erythematous skin lesions. Sensory loss, impaired sweating, and loss of hair may occur within the lesions. Few bacteria are seen in skin biopsies. Generalized disease, termed multi-bacillary, is characterized by more numerous, symmetrically distributed skin lesions. The lesions maybe macular, papular, or nodular in appearance. Nerve damage is usually present. Many bacteria are seen in skin biopsies. Multi-bacillary leprosy is the most contagious form of Hansen's disease.

Humans are the principal reservoir of *Myco*-bacterium leprae. The incubation period from exposure to onset of illness ranges from 1 to 10 years or more but is commonly 3 to 5 years. The bacteria is found in skin lesions and on the nasal and oral mucosa of infected persons. Transmission occurs by contact with infected skin and by inhalation of aerosolized droplets containing M. leprae. However, most patients have no known human contacts with leprosy. Many environmental nonhuman exposures have been suggested.

Two antibiotics, dapsone and rifampin, given for 6 months, constitute the current therapy for treating pauci-bacillary disease. Therapy for multi-bacillary disease involves 3 antibiotics—dapsone, rifampin, and clofazimine—for 2 years or longer.

From 1991 through 1995, 144 to 187 Hansen's disease cases were reported annually in the United States. Although only 25% of cases in the United States are in Texas, Texas reports a majority (60%) of the indigenous cases. Information concerning trends of indigenous cases in Texas is limited. The last description of Hansen's disease in Texas was published over 40 years ago.

Hansen's disease cases are reported to the Hansen's Disease Program of the Texas Department of Health by physicians, local health departments, and other medical facilities. The following patient data for cases reported from January 1, 1973 through December 31, 1997 were reviewed: name; date of birth; country of birth; sex; race/ethnicity; date of arrival to the United States; dates of onset of disease and diagnosis; city and county of residence at diagnosis; known contact to another Hansen's disease case-patient; presence of deformity or insensitivity at diagnosis; vision status at diagnosis; hand, foot, and eye screen; disability grading at diagnosis; disease type; initial bacteriology findings; and known drug resistance.

During 1973 through 1997, 810 Hansen's disease cases were reported in Texas. The number of cases reported annually ranged from 18 in 1974 to 54 in 1992; from 26 to 42 cases were reported annually during 1993 through 1997. The average annual incidence rates for various 5-year time periods ranged from 1.9 cases per million population during 1973 through 1977 to 2.4 cases per million population during 1983 through 1987. Annual incidence rates for persons born in the United States have remained constant at 1 per million population.

The majority of patients were males (63%) and White (77%). Approximately one-fifth (19%) were Asian; half (51%) reported being Hispanic. Only 24 patients were African American. Patients ranged in age at onset of illness from 2 to 87 years, median 44 years. Patients born in the United States were older at onset (mean age=50.6 years) compared with foreign born patients (mean age=36.0 years).

Over half (53%) of the patients were born in the United States. The percentage of cases born in the United States ranged from 46.4% for 1983 through 1987 to 59.8% during 1973 through 1977. From 1993 through 1997, 57% of the cases were born in the United States. The percentage of patients born in the United States did not increase or decrease over time. A majority (83%) of those born in the United States were born in Texas.

The most frequent countries of birth for those born outside the United States were Mexico (51%), Vietnam (21%), India (6%), Philippines (5%), and Cambodia (3%). Year of arrival to the United States was known for 90% of the foreign born patients. A high percentage (44%) experienced onset of disease before or during the year of arrival. A higher percentage (65%) of patients born in Vietnam had onset before arrival compared with patients born in Mexico (29%). Of those with onset after arrival, 44% experienced onset of disease 10 years or more after arrival.

Table 1 presents demographic characteristics for United States born and foreign born patients by time period of report. The percentage of Hispanic patients and patients with pauci-bacillary disease decreased over time for patients born in the United States. Over time, the median age at diagnosis for patients born in the United States was unchanged. For foreign born patients, the percentage of Asian patients has increased while the percentage of cases born in Mexico has decreased over time. The mean age at onset was younger for foreign-born persons compared with those born in the United States for each of the time periods examined. No increase in mean age for both United States born and foreign born patients over time was seen.

Overall, a human source was identified for 22.8% of the cases. The percentage of cases with a human source identified was similar for cases born in the United States (21.4%) and for

Table 1. Selected Characteristics of United States Born and Foreign Born Hansen's Disease Patients, 1973-1997

	Time Period					
Characteristics	**1973-77**	**1978-82**	**1983-87**	**1988-92**	**1993-97**	**Total**
United States Born						
Percent:						
White	95.3	92.2	97.4	97.1	93.5	95.2
Hispanic	59.4	55.8	58.4	34.3	41.9	48.4
Male sex	60.9	61.0	62.3	57.8	65.6	61.5
Born in Texas	82.5	88.3	90.9	81.2	77.4	83.7
Multi-bacillary	81.2	71.0	67.1	74.2	68.5	71.3
Known source	23.8	31.9	25.4	15.3	17.3	21.4
Years:						
Mean age at onset	49.1	49.6	48.6	54.2	50.4	50.6
Foreign Born						
Percent:						
Asian	27.9	43.8	43.8	42.2	44.3	41.3
Hispanic	72.1	53.9	53.9	55.6	48.6	55.4
Male sex	61.4	58.4	58.4	64.4	72.9	65.8
Born in Mexico	65.9	50.6	50.6	51.1	44.3	51.2
Multi-bacillary	84.1	80.7	80.7	73.0	85.5	81.8
Known source	39.3	20.0	20.0	18.6	17.7	24.2
Years:						
Mean age at onset	35.3	33.4	33.4	39.2	38.4	36.0

those born outside the United States (24.6%). The percentage of foreign born patients with a known source decreased over time (test for trend $p=0.003$). This decrease was not seen with patients born in the United States.

Most (55.8%) cases were diagnosed within 1 year from onset of illness. For foreign born patients, the time between onset and diagnosis was longer (mean=3.2 years) compared with that of patients born in the United States (mean=2.6 years). Most (76.3%) patients were diagnosed with multi-bacillary leprosy. Deformity was noted at diagnosis for 10.4%. At diagnosis, loss of sensation was noted for 45.7%. Foreign born patients were more likely to have multi-bacillary disease at diagnosis compared with patients born in the United States (OR=1.81, 95% CI 1.27-2.58). Foreign born patients were also more likely to have deformity noted at diagnosis (15.1%) compared with patients born in the United States (6.4%) (OR=2.58, 95% CI 1.48-4.53). No association with loss of sensation and location of birth was seen. A total of 582 patients were residing in Texas at onset of disease, most (90.5%) resided in Texas for at least 5 years.

Of the 254 counties in Texas, 101 counties had at least 1 resident with Hansen's disease. Harris County (City of Houston) and Dallas County were the counties of residence of 129 and 81 patients, respectively. Counties with the highest average annual incidence rates were primarily located southeast of San Antonio. Goliad, Bee, and Refugio counties had the highest average annual incidence rates of 96.1, 38.8, and 37.0 cases per million population.

Tuberculosis Elimination Division
(512) 458-7447

Hantavirus Pulmonary Syndrome

Four cases of hantavirus pulmonary syndrome (HPS) were reported during 1997. The patients ranged in age from 16 to 51 years and had onsets in January, May, July, and September. Three of the patients were male. The 4 patients resided in Hunt, Randall, El Paso, and Taylor Counties. One patient died as a result of this infection. All 4 patients were infected with the Sin Nombre virus. Eleven cases of HPS have been reported in Texas since 1983. Eight cases were infected with Sin Nombre virus and 2 with Bayou virus; the type of virus was undetermined for 1 case.

The first HPS case in 1997 occurred in January in a 50-year-old appliance repairman from Hunt County. After a few days of vomiting and diarrhea, he presented to an emergency room on January 24 with acute shortness of breath. On admission he was afebrile with a blood pressure of 85/46 mm Hg, and a pulse of 129 beats per minute. He had a pO_2 of 51 mm Hg and a platelet count of 19,000 mm^3. He was admitted with presumptive diagnoses of sepsis and disseminated intravascular coagulopathy. He died the day after admission.

The second case occurred in a 26-year-old farmer. Shortly after onset of chills, malaise, and watery stools, he was treated with intravenous fluids as an outpatient. A few days later, on May 31, he presented to an emergency room with fatigue, myalgias, and temperature to 103°F. On admission, he had bilateral interstitial infiltrates, a pO_2 of 43 mm Hg, a platelet count of 60,000 mm^3, and a hemoglobin of 20 g/dL. He survived his illness and was discharged on June 3.

The third HPS case occurred in a 51-year-old housewife from El Paso County. On July 22, with a temperature to 103°F accompanied by chills, myalgias, and headache, she visited her doctor, and was given intravenous fluids. Over the next few days she developed cough and shortness of breath. On July 24 she was admitted to the hospital with adult respiratory distress syndrome. She survived and was discharged August 18.

The last case of 1997 occurred in a 16-year-old male from Taylor County. On September 19 he began to lose his appetite. Earlier that day, he had played in a high school football game. After the game he developed fever and myalgias. Although he was fatigued and short of breath, he attended another football game the following day but left at half time. On presentation at an emergency room later that evening, his platelet count was 121,000 mm^3. After being rehydrated, he was discharged with a prescription for cephalexin. On returning home he developed nausea, vomiting, and diarrhea. He returned to the emergency room and was admitted for observation of a gastroenteritis accompanied by thrombocytopenia (platelets of 81,000 mm^3) and elevated liver function tests. The following day he developed respiratory distress for which he required intubation. He recovered from his illness and was discharged 8 days after admission.

HPS begins 1 to 6 weeks after exposure to infected rodents or their excreta, although not all patients will give a history of rodent exposure. The recognition of HPS during the prodromal period is difficult. All 4 of these patients were seen at least once prior to being admitted. Three presumably appeared dehydrated, since they were given intravenous fluids as outpatients. As a rule, all patients experience a prodromal phase with fever, chills, and myalgias, persisting for 1 to 7 days before progression to the cardiopulmonary phase. Pain in the legs and back can be very severe during the hantavirus prodrome. Many patients also experience nausea, vomiting, diarrhea, and abdominal pain. Cough and other upper respiratory symptoms are not present at the onset of the prodromal phase but instead begin hours before the onset of the noncardiogenic pulmonary edema.

Since there is no way to clinically distinguish between the prodrome of HPS and that of many other viral and bacterial infections, the Centers for Disease Control and Prevention (CDC) recommends performing a complete blood count (CBC) with differential and platelet count in the appropriate setting. A low platelet count ($<150,000$ mm^3 in 98% of cases; $<130,000$ mm^3 in 92%) is the only CBC abnormality consistently seen during the prodromal phase. All HPS patients eventually have a platelet count $<100,000$ mm^3. Other nonspecific laboratory results suggestive of prodromal HPS include elevated LDH, elevated AST, and reduced serum bicarbonate. Patients with symptoms consistent with early HPS but with platelet counts of $>150,000$ mm^3 should be advised to return to the physician in 24 hours for re-evaluation.

The transition from hantavirus prodrome to respiratory failure occurs 4 to 12 hours after the onset of cough and shortness of breath. With the onset of pulmonary edema, the CBC shows thrombocytopenia; an elevated hematocrit; and leukocytosis with circulating myelocytes, promyelocytes, and immunoblasts which are recognized as large atypical lymphocytes with deep blue cytoplasm.

Acidosis, abnormal PTT, elevated LDH and hepatic enzymes, and reduced serum albumin are usually seen. Serum creatinine is usually not elevated. Hypotension in HPS is secondary to cardiogenic shock with low cardiac output and normal or elevated peripheral vascular resistance. Patient(s) presenting with bilateral alveolar interstitial infiltrates and hypotension and plasma lactate greater than 4meq/L (laboratories may use different units) have high case fatality rates.

Patients with suspected HPS (thrombocytopenia and compatible clinical picture) should be transported to a critical-care unit as early as possible. Fluid management often requires guidance by Swan-Ganz catheter data, hypotension must be treated with inotropes (initiate early treatment with dobutamine), and oxygenation may be difficult even with mechanical ventilation.

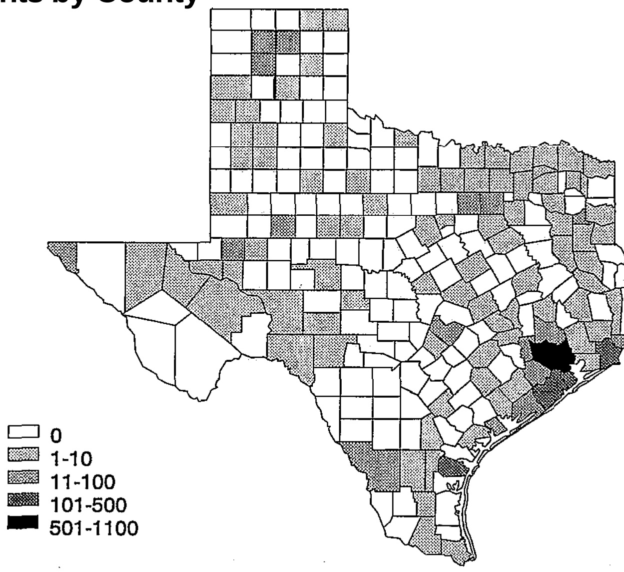
All suspected and confirmed cases of HPS should be reported to the local health department at (800) 705-8868.

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

Hazardous Substances Emergency Events Surveillance

Under a cooperative agreement with the Agency for Toxic Substances and Disease Registry, the Texas Department of Health (TDH) conducts surveillance of emergency spills and air releases involving hazardous chemicals. These chemical events are considered emergencies because they are uncontrolled, illegal, and in the case of spills, require immediate cleanup. TDH staff use a number of sources to collect information about events. These sources include state environmental agencies, local fire department hazardous materials units, hospitals, federal agencies, industry, and other primary responsible parties.

Figure 1. Number of Hazardous Substances Emergency Events by County



Data are collected on emergency events that meet the case definition of an uncontrolled, illegal, or threatened release of hazardous substances or the hazardous by-products of substances. Information obtained about these releases is recorded on standardized data collection forms. Some of the items collected include date, time and location of event, substance released, individuals injured, types of injuries, evacuations, and emergency decontaminations.

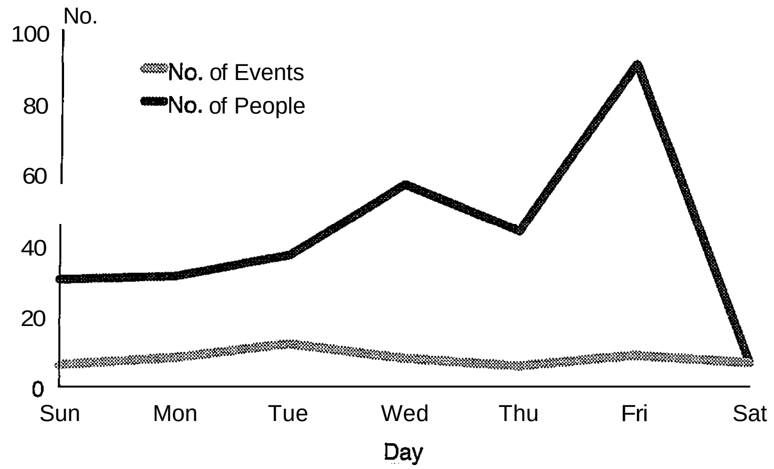
In 1993, the first year of data collection, TDH investigated 1,260 releases that met the case definition: In 1997, 2,714 reported hazardous substances emergency events met the case definition. The increase in the number of spill events from 1993 to present can be attributed to more reporting sources and increased efficiency in data collection. Of the 2,714 events reported in 1997, 2,458 (91%) occurred in fixed facilities, and 256 (9%) were transportation-related events. Figure 1 shows the distribution of these events by county. As in previous years, the majority of releases occurred along the Texas Gulf Coast.

There were 2,842 individual chemicals, multiple chemicals, or chemical mixtures released in 2,714 events. Almost 99% of releases from both fixed facility and transportation events involved only 1 chemical or 1 mixture. Table 1 presents the 10 most frequently spilled or released

Table 1. Most Frequently Spilled or Released Chemicals

Rank	Chemical	No.	% of Cases
1	Sulfur dioxide	287	10.57
2	Butadiene	107	3.94
3	Ethylene	106	3.90
4	Benzene	98	3.61
5	Carbon monoxide	73	2.68
6	Ammonia	65	2.39
7	Sulfuric acid	53	1.95
8	Sodium hydroxide	49	1.80
9	Propylene	47	1.73
10	Hydrogen sulfide	39	1.43
Total		924	

Figure 2. Hazardous Substances Emergency Events Involving Injury



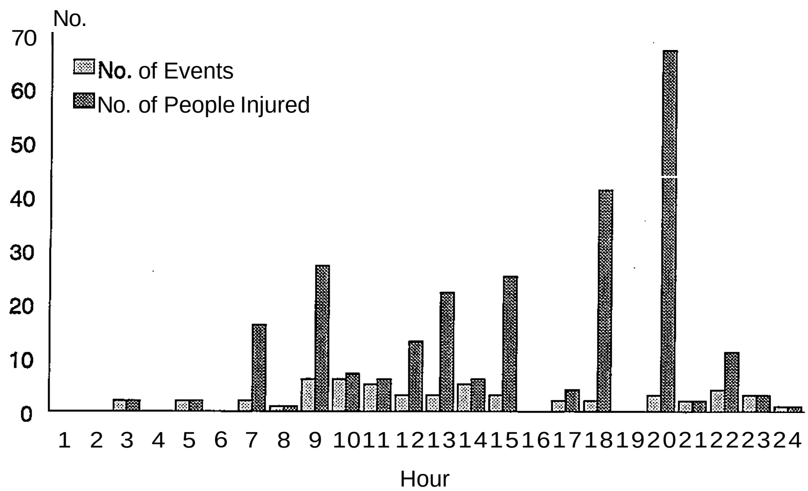
n = 56 events involving 291 people

chemicals that were not part of mixtures; these chemicals were involved in approximately 34% of single chemical events. Sulfur dioxide releases accounted for 11.6% of single chemical events from fixed facilities. Approximately 526 of the multiple chemical events contained 1 or more of the chemicals listed in Table 1.

The frequency of hazardous substances releases varied by time of day, day of week, and time of year. Of the 2,714 events, approximately 66% occurred between 6 AM and 6 PM. Emergency events were less frequent on the weekends. The number of events was lowest October through December (616) and highest July through September (756). Figure 2 shows events involving injuries by day of week; there were 56 such events involving 291 people. The largest number of events (12) occurred on Tuesday; however, Friday had the largest number of injured people (91). Figure 3 shows injury-related events by hour.

A total of 291 persons were injured during emergency events in 1997. Injuries occurred in 11.3% of the transportation-related events and 10.6% of the fixed facility events. The 1997 data show that 65% of the injuries were associated with employees, 24.1% were associated with the general public, and 10.9% were associated with emergency responders. Over 3 quarters (77.5%) of those injured were males. The median age of those injured was 38 years, with a range of 1 to 75 years. Among the 291 persons injured, 28 (9.6%) were admitted to the hospital; 11 died. Approximately 8.2% of those injured in fixed facility events and 1.4% of those injured in transportation-related events were admitted to hospitals. The "employees" group had the highest number of people hospitalized (19); next were "responders" (5); and finally, "general public" (3).

Figure 3. Hazardous Substances Emergency Events Involving Injury



n = 56 events involving 291 people; time unknown in 1 event involving 41 people

Table 2. Distribution of Injuries by Type of Event

	Type of Event					
	Fixed Facility		Transportation		All Events	
Type of Injuries	No. of Injuries	%	No. of Injuries	%	No, of Injuries	%
Chemical burns	6	1.42	0	0.00	6	1.31
Dizziness or other CNS*	18	4.25	3	8.82	21	4.59
Eye irritation	57	13.40	0	0.00	57	12.45
Headache	22	5.20	3	8.82	25	5.46
Heat Stress	1	0.24	0	0.00	1	0.22
Nausea/Vomiting	41	9.70	0	0.00	41	8.95
Respiratory irritation	202	47.60	0	0.00	202	44.10
Skin irritation	30	7.10	1	2.94	31	6.77
Thermal burns	4	0.94	2	5.88	6	1.31
Trauma	31	7.31	23	67.65	54	11.79
Other	12	2.83	2	5.88	14	3.06
Total	424		34		458	

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

Table 2 shows the types of injuries sustained in fixed facility and transportation events. Overall, respiratory irritation was the most common injury reported. Other common injuries or symptoms frequently reported included eye irritation, trauma, and nausea/ vomiting. Fifty-eight (20%) of those injured sustained their injuries during a single event involving the release of diketene (acetyl ketene), an irritant. Events involving 10 or more injuries included exposure to nickel carbonyl (41), a 17 chemical mix (23), hydrofluoric acid (22), a mix of butyl acrylate/butyl alcohol (20) and chlorine (14). The rest of the injuries were associated with exposure to a wide variety of chemicals.

Officials ordered evacuations in 84 (3%) of the 2,714 reported events. There were more evacuations ordered for fixed facility events (69) than for transportation events (15). The estimated number of persons who left their homes, schools, or places of business ranged from 1 to 1,500 with a total of 6,124 persons evacuated. Ammonia releases accounted for approximately 16.6% of events with ordered evacuations, the highest proportion for any chemical release. An estimated 612 people were evacuated as a result of releases of ammonia.

In Texas, emergency chemical events are most likely to occur in the Gulf Coast counties and at fixed facilities. Although sulfur dioxide is the most frequently reported chemical released, the most acute injuries occurred during a single release of diketene.

The information obtained from the hazardous substances emergency events surveillance system can help identify risk factors related to these events and the associated morbidity and mortality. When risk factors are identified, interventions can be instituted to reduce future injuries/deaths. This information can be useful in developing education programs for manufacturers and transporters of hazardous substances as well as for local emergency planning committees, first responders, firefighters, hazardous materials units, and medical personnel.

Environmental Epidemiology and Toxicology Division (512) 458-7269

Hepatitis, Viral

Viral hepatitis is a clinical condition that can result from infection with any of several viruses including hepatitis A (HAV), B (HBV), C (HCV), D (HDV), E (HEV), and G (HGV). Clinical manifestations of acute infections with these viruses range from no recognizable symptoms to fatigue, mild fever, nausea and vomiting, abdominal pain, loss of appetite, jaundice, dark urine, and light-colored stools. Acute infections of viral hepatitis are reportable conditions in Texas; chronic infections of viral hepatitis are not. HAV, HBV, and HCV account for the majority of reported acute viral hepatitis cases in Texas. In 1997, 6,166 cases of viral hepatitis were reported in Texas. Hepatitis A was reported most frequently (73%) followed by hepatitis B (20%) and hepatitis C (6%).

Hepatitis A

Hepatitis A is one of the most common infections reported in Texas. The disease is transmitted by the fecal/oral route through close, person-to-person contact or ingestion of contaminated food and water. In 1997, TDH received 4,511 reports of this infection compared with 3,460 reports received in 1996—a 30% increase in 1 year. The overall incidence of hepatitis A also increased in 1997 (231100,000) and is the highest reported incidence in the past 10 years. This year, persons with reported cases of hepatitis A resided in 158 different counties. The highest reported number and incidence rate for hepatitis A were among Texas Department of Health (TDH) Public Health Region 11 (which includes the Lower Rio Grande Valley) residents, with 1,284 cases and a rate of 79 cases per 100,000.

Table 1. Incidence and Demographics of Hepatitis A, 1996 and 1997

	1996	1997
Counties Reporting	141	158
Incidence Rate* Statewide	18	23
Incidence Rate* by Race/Ethnicity		
White	7	8
Hispanic	35	42
African American	6	7
Male/Female Ratio	1.1:1	1.2:1
Deaths	2	7
Case Fatality Rate	.1%	.2%
Case Total	3,460	4,511

*Cases per 100,000

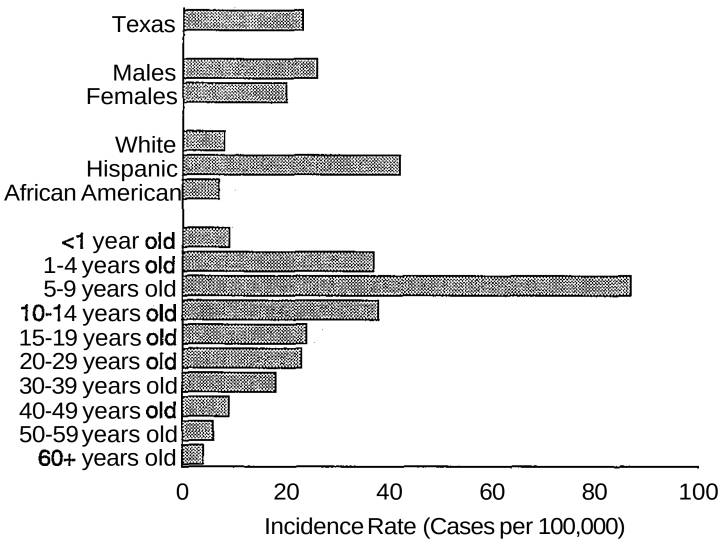
Among ethnic/racial groups, over one-half (53%) of all reported cases occurred in Hispanics. The incidence rates (cases per 100,000 population) were 42 for Hispanics, 7 for Whites, and 6 for African Americans (Table 1). The incidence rate for males (26) was higher than that for females (20). The case fatality rate for hepatitis A is generally less than 1%. In 1997, 7 hepatitis A deaths among Texans were reported for a case fatality rate of 0.2%.

Children play an important role in the transmission of hepatitis A in Texas. In recent years, peak rates of disease have been among children 5 to 9 years of age, and over one-half (52%) of all reported cases in 1997 were among children younger than 15 years of age. However, reported disease rates do not reflect the extent of transmission among young children, because most children who are infected before age 5 have unrecognized, asymptomatic infections. Figure 1 shows the incidence rates of hepatitis A by age group. Children in the 5 through 9 year age group had the highest incidence rate with 87 cases per 100,000 population. Approximately 70% of these reported infections were among Hispanic children who had a rate of 171 cases per 100,000 population compared to 14 for Whites and 12 for African Americans in this age group.

In 1997, outbreaks were reported by local health departments in several counties:

Bexar, Comal, Dallas, Harris, Lubbock, and Tarrant. Hidalgo County Health Department also experienced a substantial increase in number of hepatitis A cases reported in 1997 (567) compared with 1996 (354). In the United States, most hepatitis A occurs through person-to-person transmission during community-wide outbreaks when the highest rates occur among children, adolescents, and young adults. Groups at increased risk for hepatitis A include travelers to developing countries, men who have sex with men, injecting-drug users, and persons who work with nonhuman primates.

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



The spread of hepatitis A can be prevented through good personal hygiene such as thorough handwashing after using the restroom, after handling diapers, and before eating or preparing food. Secondary spread of hepatitis A can be prevented by the timely administration (within 14 days after exposure to a source of the virus) of immune globulin to appropriate contacts. Immune globulin, however, continues to be in short supply in Texas as well as across the United States.

Two hepatitis **A** vaccines are currently licensed in the United States for administration to persons 2 years and older. In studies, these vaccines have shown an efficacy of greater than 90%. In the autumn of 1997, the TDH began providing vaccine to local and regional health departments to vaccinate eligible children 2 through 5 years of age with hepatitis A vaccine. Each agency must analyze available data to document the need for a hepatitis A vaccine program. A vaccine program should be designed to reach preschool children living in colonias, in areas with crowding and low socioeconomic status, or in communities or areas with documented, substantial hepatitis A morbidity. In conjunction with local health authorities, TDH public health regional offices (Public Health Regions 8, 9/10, and 11) have already implemented hepatitis A vaccine programs.

Hepatitis B

Hepatitis B is spread through contact with infected blood, seminal fluid, and vaginal secretions. Transmission can occur through sexual contact with an infected person, percutaneous exposure to contaminated needles, tattoo or body piercing with contaminated instruments, or an infected mother to her newborn. Most acute hepatitis B infections in adults result in complete recovery; however, approximately 30% to 90% of young children and 2% to 10% of adults who are infected with this virus develop chronic infection. Persons with chronic hepatitis B infections are at high risk for developing cirrhosis and/or liver cancer.

A total of 1,245 cases of hepatitis B were reported to TDH from 96 counties in 1997. This number represents a 1% decrease from the 1,258 cases reported in 1996 (Table 2). The acute case fatality rate for this infection ranges from 0.5% to 1%. Ten deaths were reported in 1997 for an overall case fatality rate of 0.8%. As in 1996, males had a higher

Table 2. Incidence and Demographics of Hepatitis B, 1996 and 1997

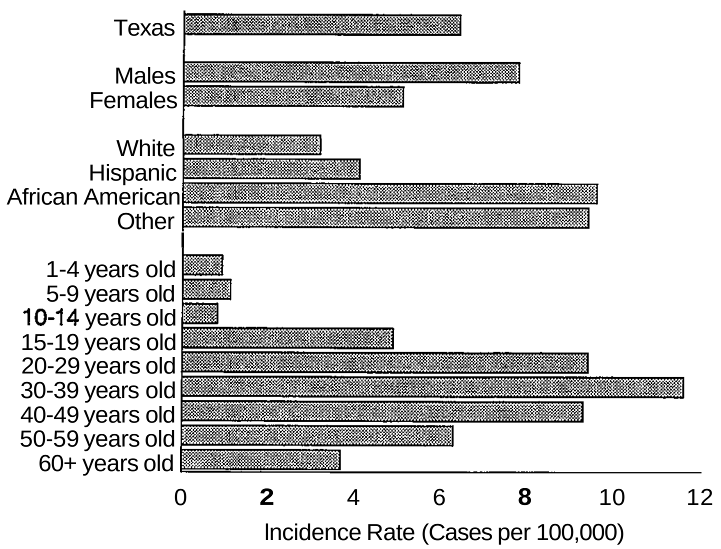
	1996	1997
Counties Reporting	115	96
Incidence Rate* Statewide	6.6	6.4
Incidence Rate* by Race/Ethnicity		
White	3.4	3.2
Hispanic	5.0	4.1
African American	9.8	9.6
Male/Female Ratio	1.5:1	1.5:1
Deaths	8	10
Case Fatality Rate	.6%	.8%
Case Total	1,258	1,245

*Cases per 100,000

incidence (7.8 per 100,000) than did females (5.1 per 100,000). Among ethnic/racial groups, African Americans had the highest incidence rate (9.6 per 100,000).

In Texas hepatitis B is largely a disease of young adults. Figure 2 shows the incidence rates of hepatitis B by age distribution. The highest rates of reported hepatitis B occurred in adults between the ages of 20 and 40 with the 30 through 39 age group having the highest rate (11.6 per 100,000). Among Hispanics and Whites, the highest rates of infection occurred in persons ages 30 through 39 years. In African Americans, persons ages 20 through 29 years and 30 through 39 years had similar incidence rates (15 per 100,000).

Figure 2. Reported Cases of Hepatitis B by Sex, Race/Ethnicity, and Age



Because of the availability of vaccine and vaccination programs, the overall incidence of hepatitis B has been declining in Texas and across the United States. The hepatitis B elimination strategy includes: 1) prevention of perinatal hepatitis B transmission; 2) routine vaccination of all infants; 3) vaccination of children in high-risk groups; 4) vaccination of adolescents including all previously unvaccinated children at 11 to 12 years of age; and 5) vaccination of adults in high-risk groups. Adults who are at increased risk include men and women with a history of other sexually transmitted diseases and persons with multiple sex partners; household contacts and sex partners of persons with chronic hepatitis B infection; health care and public safety workers who have exposure to blood in the workplace; clients and staff of institutions for the developmentally disabled; international travelers who plan to spend more than 6 months in countries with high rates of hepatitis B infection; injecting-drug users; sexually active homosexual and bisexual men; and recipients of clotting-factor concentrates.

Hepatitis C

Hepatitis C is transmitted through contact with infected blood and contaminated IV needles. Perinatal and sexual transmission also occurs. The efficiency of sexual transmission of this virus, however, appears to be low.

More than 85% of persons who develop hepatitis C become chronically infected with this virus, and chronic liver disease develops in about 70% of persons who become infected. These persons are at risk for developing cirrhosis and liver cancer. Because over 70% of persons with acute hepatitis C are asymptomatic and no laboratory test is available that distinguishes an acute infection from a chronic infection, the reporting of acute hepatitis C presents a challenge to reporting entities. A follow-up investigation of positive laboratory results is required in most instances to determine whether the infection is acute or chronic.

Table 3. Incidence and Demographics of Hepatitis C, 1996 and 1997

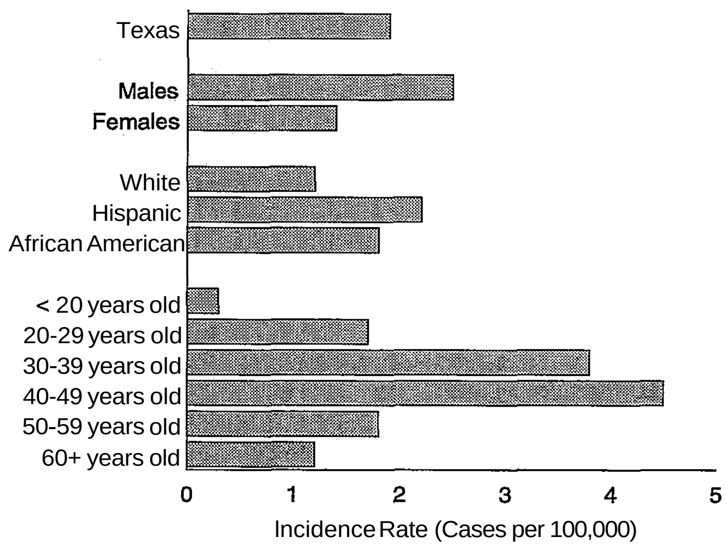
	1996	1997
Counties Reporting	43	64
Incidence Rate* Statewide	1.1	1.9
Incidence Rate* by Race/Ethnicity		
White	0.9	1.2
Hispanic	1.2	2.2
African American	0.9	1.8
Male/Female Ratio	1.6:1	1.7:1
Deaths	8	2
Case Fatality Rate	3.9%	0.5%
Case Total	205	376

*Cases per 100,000

In 1997, 376 cases of hepatitis C were reported to TDH, compared with 205 in 1996, for an overall rate of 1.9 cases per 100,000. As with hepatitis B, males have a higher incidence (2.5 per 100,000) of hepatitis C than females (1.4 per 100,000). Based on reports received, Hispanics had the highest rate (2.2 per 100,000) among ethnic/racial groups (Table 3). In 1997, 2 deaths were reported among reports received for acute infections, for a case fatality rate of 0.5%.

Figure 3 shows rates of hepatitis C by age distribution. This infection is more common among adults who are more likely to have risk factors and behaviors that increase the likelihood of exposure, such as injecting drug use, receiving transfusions or transplants from infected donors, being on hemodialysis, having accidental injuries with needles or sharps in the workplace, and having multiple sex partners. The highest rates in 1997 were among persons ages 30 through 49 years.

Figure 3. Reported Cases of Hepatitis C by Sex, Race/Ethnicity, and Age



No vaccine or immune globulin products are currently available to prevent the transmission of hepatitis C. The primary measures to prevent hepatitis C infections include the screening of blood, organ, and tissue donors; modification of high-risk behaviors; and the use of blood and body fluid precautions.

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

HIV/AIDS

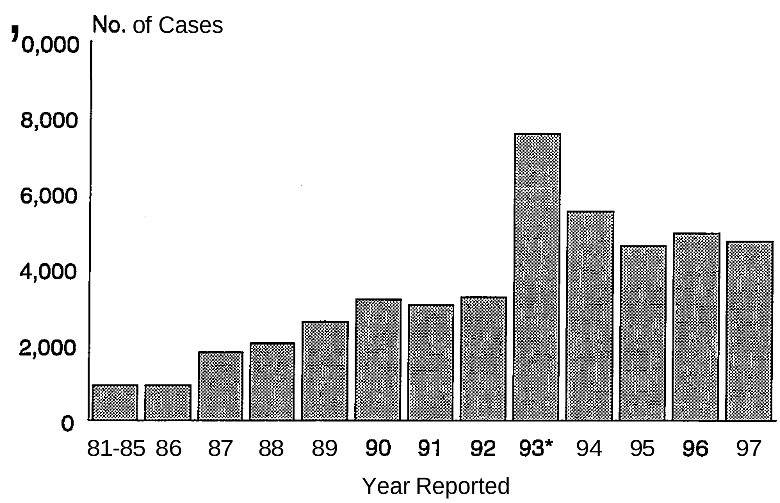
Acquired immunodeficiency syndrome (AIDS) is a specific group of diseases or conditions that result from severe immunosuppression caused by infection with the human immunodeficiency virus (HIV). This human retrovirus specifically infects and depletes a subgroup of white blood cells called helper T-lymphocytes or CD4+ T lymphocytes. The decline in the number of CD4+ T lymphocyte cells is an indicator of HIV disease progression.

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

Identifying trends in the AIDS epidemic in recent years has been difficult because of the change in the AIDS case definition. The inclusion of the CD4+ T cell count criteria caused a marked increase in cases reported in 1993. The lower numbers from 1994 to 1996, after the peak in 1993, may not have represented a true decline in AIDS morbidity (Figure 1). Rather, a tremendous number of cases met the new definition and artificially inflated the 1993 count. Many HIV-infected persons met the new criteria for AIDS months or years earlier than they would have met the previous criteria. A high percentage of recent AIDS cases are now reported based on CD4+ T lymphocyte counts rather than AIDS indicator diseases (63% of those reported in 1997), and the CD4+ T cell count has become the standard for measuring progression of AIDS.

Plasma HIV RNA (or viral load) can now be measured (in copies/mL) by a branched DNA assay or by a reverse transcriptase polymerase chain reaction assay. Viral load tests indicate the level of HIV in the peripheral blood system and, along with CD4+ T lymphocyte counts, predict the clinical course and response to therapy of persons infected with HIV. Viral load, may be important in the future for HIV surveillance and prevention. In addition, although research is not complete, there are indications that viral load may predict the likelihood of transmission of the virus from an infected person to a noninfected person.

Figure 1. AIDS Cases by Year of Report, 1981-1997



'Expanded AIDS surveillance definition implemented
44,865 Cumulative Cases Reported through December 31,1997
AIDS database 01/28/98

1997: The Beginning of A New Era for HIV/AIDS

Currently the nation is experiencing a new trend in the epidemiology of AIDS. AIDS cases are decreasing. Officials from CDC at the Fifth Conference on Retroviruses and Opportunistic Infections announced a nationwide 12% decline in new AIDS cases during the first half of 1997.

The decrease is attributed to the initiation of the triple drug treatment which includes a protease inhibitor and 2 reverse transcriptase inhibitors. Although treatment with the triple drug combination is receiving the credit for the decline, other preventive strategies have also entered into the equation: HIV positive individuals are being treated at earlier stages, a variety of therapeutic interventions to prophylax for secondary infection are available, specific targeting to high-risk groups for testing and preventive education has increased, and the wider variety of medications to choose from have all created a more favorable prevention strategy.

Texas is also experiencing a decline in AIDS cases; however, this article discusses Texas AIDS in terms of the year the case was reported to TDH, not the year the person was diagnosed with AIDS. Although from 1996 to 1997 the number of AIDS reports decreased only slightly, preliminary analyses indicate that around 10% fewer people were diagnosed with AIDS in 1997.' The new triple combination therapies halt, at least temporarily, the decline of CD4+ T lymphocyte counts in people with HIV, so fewer are likely to be counted as AIDS cases in the near future.

Another recent trend emerging in the United States and in some other countries is the decline in AIDS patient deaths compared with earlier years. Officials from CDC announced that US AIDS deaths dropped to 12,040 in the first half of 1997, from 21,460 (a 44% decrease) in the first 6 months of 1996. Several states and cities have reported declines in AIDS deaths: a 60% decline in AIDS deaths in California during the first *6* months of 1997, a 48% decline in AIDS deaths in Virginia during the first half of 1997 compared to 1996, and a 48% decline in AIDS deaths in New York City in 1997.

Nationwide, the decrease in AIDS deaths, like the decrease in progression to AIDS, has been generally attributed to the use of triple drug therapy which delays the progression from HIV infection to AIDS. However, as mentioned, other preventive measures have also contributed to this overall decline in mortality. Improved preventive education and testing, earlier treatment of HIV-positive individuals, and more options for treatment and prophylaxis are affecting these outcomes., With the advent of new drug therapies and HIV measurement methods, guidelines for treatment have shifted from treatment of symptomatic patients to early

Table 1. Texas AIDS Deaths Comparison by Race and Sex*

	January through June 1996 - Deaths	January through June 1997 - Deaths	% Difference in Deaths
Males			
White	532	282	-47
African American	309	155	-50
Hispanic	210	130	-38
All Others	6	5	-17
Females			
White	44	33	-25
African American	67	45	-33
Hispanic	29	8	-72
All Others	0	0	0
Totals	**1197**	**658**	**-45**

* 1996 deaths based on AIDS database 02/13/97 and the 1997 deaths based on AIDS database 01/28/98.

treatment of asymptomatic HIV-positive individuals. These advances increase the importance of educating persons at risk so that they seek HIV testing and access appropriate treatment in a timely fashion.

In Texas, AIDS deaths declined 45% during the first 6 months of 1997 compared with the first 6 months of 1996. This decline is in line with the findings announced by CDC. The decline in AIDS deaths is demonstrable across all races. Among men, the greatest decline in deaths has been for African Americans, followed by Whites and Hispanics. Among women, the greatest decline in deaths has been among Hispanics, followed by African Americans and Whites (Table 1).

Based on World Health Organization estimates, the prevalence of HIV is higher than ever before (over 29.4 million children and adults infected). Despite the new era of HIV, caution and protective measures must be maintained or even heightened: the drug treatments are expensive and do not work for everyone, viral resistance to the drugs may develop in the future, the drugs have significant side-effects, and drug regimens must be adhered to consistently to maintain good results. Preventive efforts are essential to decrease the prevalence of HIV.

HIV Reporting

AIDS, the late-stage presentation of HIV infection, reflects infections occurring years earlier. For health professionals to follow the current trends of a disease and to develop pre-vention strategies, prompt identification and reporting of infection is essential. Accurate, prompt HIV reporting would meet this need better than AIDS case reporting by providing information on more recent infections.

New drug treatments now available to HIV-infected patients delay the decline of CD4+ T lymphocyte counts and also delay the progression to an AIDS-defining condition for these individuals. The decline in the number of AIDS cases is more likely to be a result of medical treatment delaying an AIDS-defining condition than of the prevention of infection. These developments reduce the usefulness of AIDS case data for analyzing the epidemic and increase the need for better HIV reporting. The Texas Department of Health is currently investigating alternatives to the current unique identifier system which was found to have a low completeness of reporting rate and to offer very limited potential for follow-up. With a better HIV surveillance system, health professionals will be able to provide more timely services to HIV-infected persons, more effective preventive education, and a more accurate description of the epidemic.

1997 Texas AIDS Statistics

According to CDC, more than 600,000 AIDS cases have been reported in the United States through the end of 1997. In Texas, 44,950 AIDS cases have been reported since the epidemic began in the early 1980s. Texas ranked 4th highest in the US, with 4,720 AIDS cases reported in 1997. The overall rate was

Table 2. AIDS Cases Reported in 1997 by Sex and Race*

Sex/Race	Cases	%**	Cases per 100,000
Males			
White	1660	43	31.1
African American	1303	34	122.4
Hispanic	898	23	31.3
All Others	29	1	---
Females			
White	193	23	3.5
African American	501	60	43.5
Hispanic	135	16	4.8
All Others	1	<1	---
Total Cases	**4720**		**24.4**

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

**Percentages may not total 100% due to rounding.

24.4 AIDS cases per 100,000 population. In 1996, for the first time since 1989, AIDS dropped to the second leading cause of death in Texas for men 25 to 44 years old. AIDS has remained the third leading cause of death for Texas women 25 to 34 years of age during both 1995 and 1996.

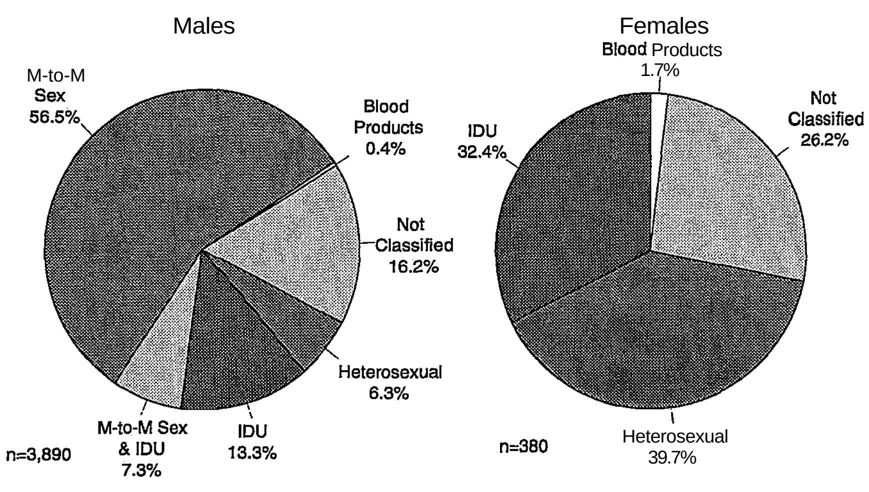
The rate of reported AIDS cases in 1997 among African Americans (81.4 per 100,000 population) was more than 4 times higher than the rates for Whites (17.0) or Hispanics (18.2). Among females, the case rate was 8.5 per 100,000 population. In the African American female population, however, the rate was significantly higher: 43.5 cases per 100,000. The Hispanic and the White female rates were lower: 4.8 and 3.5, respectively. The 1997 AIDS rate for males (40.8 per 100,000 population) was much higher than that for females (8.5). The African American male population had the highest rate, 122.4, followed by Hispanic males at 31.3 and White males at 31.1 AIDS cases per 100,000 population (Table 2).

Although lower than in previous years, the exposure category "male-to-male sex" constituted the highest proportion (56%) of AIDS cases among men. Additionally, injecting-drug use was the most likely route of transmission for 13% of men reported with AIDS in 1997. Among women, 39% were infected through heterosexual contact and 32% through the use of injecting drugs. A higher percentage of cases among women (26%) than men (16%) were initially left unclassified as to mode of exposure (Figure 2). For both sexes, the percentage of cases that remain unclassified will decrease as the investigations of risk are completed.

Most AIDS cases in Texas continue to be reported from metropolitan areas. The largest number of cases reported in 1997 was from Harris County (1,712) followed by Dallas (811), Bexar (302), Tarrant (301), Travis (207), and El Paso Counties (127). Ranking these counties by rate slightly affects the order. Harris County had the highest rate (54.3 per 100,000 population) followed by Dallas (38.8), Travis (33.0), and Bexar Counties (22.9). The rates for Tarrant and El Paso Counties were 21.0 and 17.7 cases per 100,000 population, respectively. Only 30 of the 254 counties in Texas have never reported an AIDS case. The Texas Department of Criminal Justice reported 7% of all 1997 AIDS cases. Although still centered mainly in the metropolitan areas of the state, the HIV epidemic continues to spread to more rural areas, requiring all counties to face the challenges of providing prevention education, health care, and services.

Public health efforts to prevent disease hinge on relevant, complete, and timely data to distribute available funds appropriately for prevention and control programs. Especially now, when the early treatment of HIV-infected populations has proven to substantially increase longevity, outreach

Figure 2. Adult-Adolescent* AIDS Cases Reported in 1997 Mode of Exposure by Gender



*Age 13 or older at time of AIDS diagnosis

AIDS database 01/28/98

to high risk populations is extremely important. The goal of the Texas Department of Health and of CDC is prevention of HIV infection. The present decrease in new AIDS cases and the decrease in AIDS deaths indicate that all facets of the private and public health system can work together to improve outcomes.

[1]Due in part to the extensive investigation and data collection on each case, there is considerable delay in reporting AIDS, so cases reported in one year may have been diagnosed with AIDS either during that year or during a prior year.

HIV and STD Epidemiology Division
(512) 490-2545

Influenza, 1997-1998

Influenza viruses cause acute respiratory illness in persons of all age groups. This viral infection is characterized by fever ≥100°F, chills, malaise, fatigue, sore throat, nasal congestion, headache, and muscle aches. These symptoms appear abruptly after an incubation period of 1 to 3 days. Without prescription antiviral medication, the illness runs its course in 3 to 7 days.

Two major types of influenza viruses cause extensive morbidity and mortality in humans: influenza A and influenza B viruses. Influenza viruses are members of the family *Orthomyxo-*viridae, a group of pleomorphic, ribonucleic acid (RNA)-containing viruses whose prominent characteristics include an envelope that contains the hemagglutinin (H) and neuraminidase (N) proteins. The antigenic properties of these 2 proteins give rise to various subtypes and strains of influenza A viruses and strains of influenza B viruses. Over time new strains of virus appear in response to rising levels of immunity to existing strains. The gradual evolution of new strains within existing subtypes is commonly referred to as "antigenic drift." The appearance of a totally new subtype of influenza A virus is referred to as "antigenic shift." Of these 2 phenomena, the disease implications of an antigenic shift are most profound and include an influenza pandemic with significant morbidity and mortality. Antigenic drift requires the reformulation of vaccine on an annual basis dependent upon circulating virus types and strains. Antigenic drift is the major obstacle to the development of a truly effective vaccine against the disease.

Influenza viruses typically circulate in the Northern Hemisphere for up to 6 months. The "flu season" usually begins in the late fall and continues to the early spring. Short seasons of approximately 8 to 12 weeks are usually dominated by a single virus type. Seasons of 16 to 26 weeks duration often have cocirculation of influenza A and B viruses.

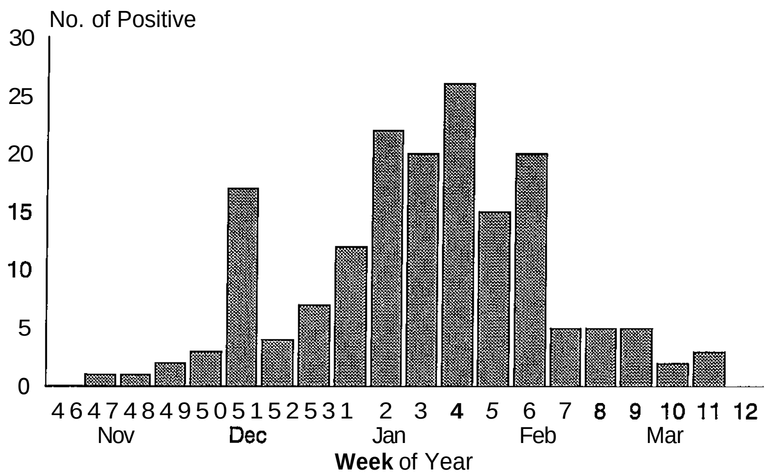
The Texas Department of Health (TDH) Infectious Disease Epidemiology and Surveillance Division (IDEAS) and the Influenza Research Center (IRC) at Baylor College of Medicine in Houston conduct influenza surveillance. IDEAS coordinates influenza surveillance throughout the state. The IRC surveillance network focuses on the Houston/Harris County area. Each center uses tissue culture methods for virus isolation from clinical specimens followed by subtyping or strain denominations via hemagglutination techniques.

The initial positive influenza culture for the 1997-1998 flu season was submitted to the TDH laboratory for testing by University of Texas (UT) Health Services in Travis County on November 21, 1997. The peak of the influenza season in Texas occurred from mid-December to mid-February. Approximately 85% (1481170) of positive cultures were submitted during this 9-week period. The last positive specimen was submitted on March 19, 1998, from a Scott and White Clinic in Bell County.

Submission of isolates to the Centers for Disease Control and Prevention (CDC) provides a measure of the relative prevalence of circulating virus type and subtype. This also provides an opportunity to detect antigenic variants. TDH laboratory submits the initial positive cultures from each flu season to CDC for virologic surveillance and subtyping. CDC surveillance provides an initial indication of the effectiveness of the annual vaccine against circulating influenza virus. The state laboratory submits periodic specimens throughout the flu season. Influenza A H3N2/Wuhan/359/95-like was identified as the subtype of the first UT Austin specimen. A/Wuhan was a component of the 97/98 trivalent vaccine.

In late 1997 sporadic positive specimens were cultured at the TDH lab. In the second week of December the TDH lab cultured 17 positive

Figure 1. Positive Influenza Virus Isolates, November 1997 - March 1998



Source: Morbidity and Mortality Weekly Report

specimens. Widespread influenza activity was reported from Travis, Bexar, Galveston, El Paso, Dallas, Potter, Scurry, and Lubbock Counties until late February 1998, when positive cultures returned to pre-epidemic levels. (Figure 1.)

A total of 229 culture-positive influenza specimens were recorded at TDH. Of these, 198 were cultured by the TDH laboratory, 29 by other in-state laboratories, and 2 cases were reported by out-of-state laboratories (1 from Missouri and 1 from Colorado).

The 1997-1998 influenza season was remarkable for several reasons. The appearance in Hong Kong of a virologically distinct subtype of influenza A (H5N1) from an avian source (chickens) sent alarm through the public health community as fears of human-to-human spread of this new strain were investigated. While there have been no reported H5N1 cases since December 28, 1997, there remains concern that this virus could still present a significant health threat for the 1998-1999 influenza season worldwide. The 1997-1998 flu season did produce a new circulating subtype of the H3N2 strain of influenza A. The strain, Sidney/5/97 is a drifted variant of A/Wuhan/359/95. Although the 1997-1998 trivalent vaccine provided only limited protection against the Sidney/5/97-like viruses, the Sidney strain will be included in the 1998-1999 influenza vaccine.

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

Lead Exposures in Adults

The Texas Administrative Code 99.1 requires reporting of elevated blood lead levels to the Texas Department of Health (TDH). The reporting level is 40 μg/dL of blood in persons 15 years of age or older. In 1997 the Environmental and Occupational Epidemiology Program (EOEP) received blood lead test results for 13,792 blood lead tests for 10,349 workers. Because the US Occupational Safety and Health Administration (OSHA) mandates blood lead testing for workers exposed to lead, EOEP often receives more than 1 test result for an individual. Table 1 shows the number of tests, individuals, and new cases reported by level during 1997.

The majority of workers were male (142); 5 were female. Race was not reported for 82 workers. The race profile for the remaining workers (65) were as follows: 51 were White, 14 were African American. The reported ethnicity of workers shows that 22 workers were Hispanic.

EOEP conducts follow-up on blood lead levels at or above 40 μg/dL. Follow-up includes collecting industry and occupational information. If the information is not on the lab-oratory report, the laboratory that performed the analysis is contacted for additional information. Follow-up may end at this point since most laboratories do not maintain the submitting company or physician information beyond 60 days. When the clinic or physician is known, they are contacted. The distribution of elevated blood lead levels by industry and occupation is presented in Table 2.

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

Blood Lead Level (Micrograms of. Lead per Deciliter of Whole Blood)	No. of Tests[1]	No. of Individuals[2]	New Cases[3]
0 to 24	12,117	9,662	9,031
25 to 39	1,409	540	241
40 to 49	212	119	44
50 to 59	35	19	18
60 and above	19	9	12
Total	**13,792**	**10,349**	**9,346**

[1] The total number of tests received for the year.
[2] The number of persons for whom reports were received for the year, excluding multiple reports for the same person (if more than one report is received, the highest blood lead level is reported.)
[3] The number of "new" entries into the system. "New" entries are persons reported to TDH for the first time during the current year (1997) and persons in the system in the current year who were not in the system in the immediate past year. Thus, for 1997, cases reported for the first time in 1997 are new and any cases not reported during the previous year (1996) but reported during the current (1997) are new, even if they were reported in 1995 or earlier. Cases reported in both 1996 and 1997 are not new.

Laboratories and physicians reported 266 elevated blood lead results for 147 workers. Reported elevated results decreased by 36% from 1996, while the number of workers represented decreased by 12%. Elevated blood lead results for 1996 represented about 3 tests per worker and for 1997, about 2 tests per worker. The decrease may be directly attributable to a single company that used lead in their manufacturing process but is no longer using that process. Since the company no longer uses lead, blood lead testing is not required.

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

Employers and employees who are aware of lead exposure in the workplace and the potential for take-home exposure also may help reduce the risks for lead exposure in children. The following case investigation illustrates how take-home exposure maybe a potential source of lead exposure for children.

Case Investigation

In 1997 EOEP received a call concerning a child who had repeated elevated blood lead levels in the 30 μg/dL range for about 1 year. The 29-month-old child stayed home with his mother. The mother, who was pregnant, also was concerned about prenatal lead exposure to the fetus she was carrying. At 5 weeks from delivery, the fetus was estimated to have weighed less than 3 pounds.

A home assessment visit had been conducted, but nothing in the home environment could be identified as the lead source.

The EOEP requested the assistance of a nurse from the local health department. She visited the family, provided them with lead health information, and obtained a blood sample from the father. The mother had a blood lead test through her physician. The mother's blood lead was not elevated, however, the father's blood lead level (76 μg/dL) was above the OSHA medical removal level.

The father worked for a company that used lead based paint and a sealant containing lead during its manufacturing processes. In his job as an assembler, he used the lead sealant. Since the company's air monitoring results met the OSHA standard, the company was not required to provide employees with routine blood lead testing. The company did not require the employees to leave their uniforms at the workplace or shower prior to leaving the workplace even though shower facilities were available. There is no employee cafeteria. Vending machines were available, but most workers bring food for their 15-minute lunch break.

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

Industry	Frequency	%
Manufacturing	103	70.1
Business and Repair Services	14	9.5
Wholesale Trade	9	6.1
Construction	7	4.8
Oil and Gas Extraction	4	2.7
Entertainment and Recreational Services	2	1.4
Professional and Related Services	1	.7
Retail Trade	1	.7
Missing Occupational Information	6	4.1

Occupation	Frequency	%
Missing Occupational Information	66	44.9
Operators, Fabricators, and Laborers	44	30.0
Precision Production, Craft, and Repairers	31	21.1
Technical, Sales, and Administrative Support	3	2.0
Managerial and Professional Specialities	2	1.4
Service	1	.7

n=147

Table 3. Blood Lead Results for Workers in the Assembler Area

Worker	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7
Father/Worker 1	76 µg/dL	90 µg/dL	96 µg/dL	82 µg/dL	57 µg/dL	76 µg/dL	55 µg/dL
Worker 2	39 µg/dL	32 µg/dL	–	–	–	–	–
Worker 3	28 µg/dL	24 µg/dL	–	–	–	–	–
Worker 4	35 µg/dL	32 µg/dL	–	–	–	–	–
Worker 5	47 µg/dL	43 µg/dL	30 µg/dL	–	–	–	–
Worker 6	40 µg/dL	32 µg/dL	–	–	–	–	–
Worker 7	27 µg/dL	–	–	–	–	–	–

The company provided uniforms and uniform laundry services for the employees, but the father wore his uniforms home and took them back to the workplace for laundering. When the father came home from work, he did not always change from his uniform before playing with his child. It is possible the uniform may have contributed to the child's lead exposure.

This case was referred to OSHA since the company employs over 250 people and comes under OSHA's jurisdiction. OSHA had visited this company previously but immediately revisited to determine the extent of the lead exposure. OSHA had the company conduct blood lead testing on all workers in the assembler area. Table 3 shows the blood lead results for all workers in the assembler area. The father (Worker 1) has had repeated testing due to his high blood lead levels. Most of the workers (Workers 2-7) blood lead levels were below 40 µg/dL. This investigation was initiated in May. By the end of 1997, the blood lead level of the father was 51 µg/dL and has continued to decrease. The child's blood lead level also has continued to decline.

The Occupational Safety and Health Administration provided EOEP with a copy of their Citation and Notification of Penalty Report. The company was cited with 7 serious violations. The father has initiated legal proceedings against the employer. This case illustrates the importance of identifying the occupation of adult members living in the household. Although it was not proven that the child's elevated blood lead was due to a take-home exposure, the possibility of an occupational association should not be overlooked.

Environmental Epidemiology and Toxicology Division (512) 458-7269

Lead Poisoning Surveillance, Childhood

Background

It has been over 100 years since Gibson et al[1] first described lead poisoning in children. However, it was not until the 1970s that strides were made in reducing environmental exposure to lead and developing standard criteria for diagnosing lead poisoning. Use of leaded gasoline was prohibited in all cars manufactured after 1975, and in 1978 the Consumer Product Safety Commission banned the manufacture and use of leaded paint for residential housing.[2] During this same time period, research into the possible health effects of lead demonstrated that adverse health effects in children might be attributed to blood lead levels as low as 10 μg/dL. Based on this research, in 1991 the United States Centers for Disease Control and Prevention (CDC) reduced the blood lead concentration at which a child is identified as having an elevated blood lead level from 25 μg/dL to 10 μg/dL.

Symptoms of Lead Poisoning

Children with elevated blood lead levels may have a wide variety of symptoms, depending upon the concentration of lead in their blood and the individual response to an elevated lead level. Symptoms of an elevated blood lead level may include the following: neuro-behavioral problems, such as clumsiness, hyper-irritability and loss of recently acquired developmental skills; anemia; apathy; and gastrointestinal distress, including loss of appetite, abdominal cramps, constipation, and periodic vomiting.[3] However, many children will remain asymptomatic, even at very high blood lead levels. Therefore, it is important to have children tested if they are thought to be at risk of lead exposure. Early intervention to remove the source of lead from the environment is the best way to reduce a child's blood lead level. This intervention is very important because even if a child is currently asymptomatic, the child may develop problems in the future.

Who is at Risk?

The major source of lead exposure for children in the United States today is lead-based paint.[4] Although the manufacture of lead-based paint for residential use was banned in 1978, lead-based paint may still be present in houses built prior to the 1970s. Because lead tastes very sweet, young children in these older homes may chew on chips of leaded paint from the walls or ceilings. This is considered a particular problem for low-income children who may live in older homes where the original paint has not been covered and may be in poor repair. Lead may also be found in food stored in cans sealed with lead solder. This is rarely a problem in the United States because lead solder for food containers is not legal. However, products imported from other countries may still use lead solder. Lead is occasionally found in water, particularly in older houses that still have lead pipes or pipes with lead solder. It is not unusual to find small amounts of lead in the soil. However, lead levels may increase greatly due to waste from mining operations, and paint dust or particles in areas where leaded-paint has chipped off buildings and remains in the soil. In Texas and other US/Mexico border states there are additional problems'with imported folk medicines that contain up to 98% lead and with lead glazed pottery that is not properly fired.

Elevated Blood Lead Surveillance, Childhood

Nationwide, efforts have been made to identify children with elevated blood lead levels, remove sources of lead from an exposed child's environment, and prevent future lead exposure. In December 1995 the Texas State Legislature mandated that elevated blood lead levels ($\geq$10 μg/dL) in children 14 years of age or younger be reported to the Texas Department of Health (TDH). In January 1996 the Childhood Lead Surveillance Program in the Division of Environmental Epidemiology and Toxicology

Table 1. Childhood Blood Lead Surveillance: Number of Reports Received and Number of Children Tested

	No. of Reports (Capillary and Venous)	% of Elevated (≥10 μg/dL) (Venous Tests Only)
Reports (capillary and venous)	285,299	5.7
Individual Children	291,900	5.0

began receiving reports of elevated blood lead levels in children.

Physicians, clinics, hospitals, and other health professionals are required to report all blood lead levels greater than 9 μg/dL in children aged 14 years and younger to TDH's Childhood Lead Surveillance Program. Additionally, laboratories have been asked to voluntarily report all nonelevated blood lead levels in children 14 years of age or younger. More than half of the 78 laboratories that report to the surveillance system currently report all (both elevated and nonelevated) test results. Results from both screening (capillary) and confirmatory (venous) blood tests are reported to the surveillance system. However, for the purposes of analysis and this report, a test result is only considered elevated if it is ≥10 μg/dL and the result of a venous blood draw.

Data from the Childhood Lead Surveillance Program are used in several ways. First, data may be used to describe the extent to which elevated blood lead levels are a problem among children in Texas. This is most accurately done by comparing the total number of elevated reports received with the total number of reports (both confirmed and screening) received. This percentage, or rate, may then be compared across different regions in Texas or with other states.

Second, the surveillance system helps to identify children with very high (245 μg/dL) lead levels and ensures they are receiving adequate follow-up. The surveillance program works closely with the Texas Health Steps Medicaid Childhood Lead Poisoning Prevention Program (CLPPP) and other local CLPPP programs in Houston, Dallas, and Austin/Travis County to ensure that a child with an elevated blood lead level receives adequate follow-up. If a child does not fall under the auspices of any of the currently functioning prevention programs, the surveillance program staff takes on the responsibility of contacting the appropriate staff at other local or regional health departments to ensure follow-up is done. Program staff will also-immediately mail out educational materials to a child's parents.

Third, surveillance data may be used to help target intervention and prevention activities to population groups that are at increased risk.

Table 2. Distribution of Reported Blood Lead Levels by Age Group. Venous Blood Draw Results Only

	<10 μg/dL		≥10 μg/dL	
Age Groups	**No.**	**%**	**No.**	**%**
under 2	28,625	95.7	1,302	4.3
2 to 3 years	23,040	93.8	1,518	6.2
4 to 5 years	22,269	96.1	893	3.9
6 to 7 years	14,801	98.1	294	1.9
8 to 9 years	11,338	98.2	208	1.8
10 to 11 years	11,080	98.6	158	1.4
12 years and older	12,954	99.0	133	1.0

1997 Results

During the first year of surveillance activities (1996), over 200,000 capillary and venous reports, representing approximately 170,000 children were entered into the surveillance database. In 1997 this number increased by nearly 40% to 358,299 reports entered for over 291,000 children (See Table 1).

In 1997, 16,131 (5%) of the children tested had elevated blood lead levels. Two-thirds of the elevated levels were from children 3 years of age or younger (See Table 2). Children aged 2 to 3 years were the most likely to have elevated lead levels (6% of tests ≥ 10 µg/dL).

The majority of the children reported in 1997 (both elevated and nonelevated) were of Hispanic ethnicity (over 60%). However, the greatest percentage of children with elevated blood lead levels were African American (5%) (see Table 3).

Approximately 95% of all the children with blood lead results reported to the surveillance system were participants in the Medicaid program at the time of testing. Among these children, 3% had an elevated blood lead level. However, among the non-Medicaid children that were tested, 7% had an elevated blood lead level.

Discussion

In 1997, the number of reports received by the Childhood Lead Surveillance Program increased dramatically from 1996. This increase in reporting has helped to provide a more accurate picture of childhood lead poisoning in Texas. The 1997 data support the hypothesis that toddlers (2- to 3-year-olds) are likely to be at greatest risk of lead poisoning. As noted earlier, children may come into contact with lead through ingesting chips of lead-based paint or through handling lead containing products and then placing their hands in their mouths. Two- to 3-year-olds may be at greatest risk of lead exposure due to the combination of an increasing mobility and a tendency toward continued hand to mouth activity (putting their hands and objects they pick up in their mouths). In the 1997 Texas surveillance data, children aged 2 to 3 years were the group with the greatest percent of elevated blood lead test results (6%).

Although blood lead reports are received most frequently from children of Hispanic ethnicity, it is likely that this ethnic/racial distribution simply mirrors that of the Medicaid population, which also is nearly 50% Hispanic.' However, when surveillance data analyses are based on only non-Medicaid children, the largest percent of children tested is still of Hispanic ethnicity.

Table 3. Reported Blood Lead Levels by Race/Ethnic Group. Venous Blood Draw Results Only

Race/Ethnicity	<10 µg/dL No.	<10 µg/dL %	≥10 µg/dL No.	≥10 µg/dL %
Native American	238	97.5	6	2.5
Asian/Pacific Islander	891	98.8	11	1.2
African American	19,913	95.4	952	4.6
Hispanic	80,951	96.7	2,798	3.3
White	15,487	97.3	422	2.7
Other	1,197	97.1	36	3.9
Unknown	5,533	95.1	282	4.9

n=128,720 (with known race/ethnicity)

As discussed previously, children participating in Medicaid are thought to be at greater risk for exposure to lead due to lower socioeconomic status. However, surveillance program data from 1997 demonstrate that there are actually a smaller percent of elevated blood lead levels among children participating in Medicaid (3% elevated) than among non-Medicaid (7% elevated) children. This may be the result of mandatory screening of Medicaid children regardless of whether they have known risk factors for lead exposure. However, these data also indicate that there is clearly a risk of lead exposure among all children in Texas, not just those participating in the Medicaid program.

Physicians may want to consider this finding when determining whether or not to test a child for elevated blood lead levels.

Conclusion

The Childhood Lead Surveillance Program functions to maintain a database of information regarding blood lead levels of children in Texas, provide information regarding lead screening to various health providers, and help to insure the follow-up of children with elevated blood lead levels.

References

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2. ATC Environmental Inc. Coluccio VM, ed. Lead-based paint hazards, assessment and management. Van Nostrand Reinhold, New York, 1994.
3. Texas Department of Health. Get the Lead Out: Detection and Management of Childhood Lead Poisoning. Guidelines for Physicians and Health Care Providers. Winter 1996, Pg. 8-9.
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5. Texas Department of Health. Texas Medicaid in Perspective. January 1997.

Environmental Epidemiology and Toxicology Division (512) 458-7222

Legionellosis

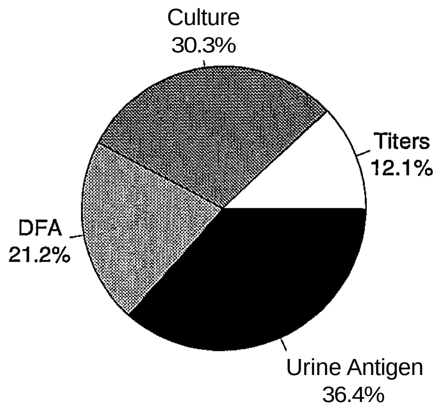
There are 35 currently recognized species of *Legionella* bacteria, any one of which can cause legionellosis in a susceptible host. Most cases are due to infection with one of the 18 serogroups of L. *pneunzophila,* with serogroups 1-6 most commonly associated with human illness. All Legionellae live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

Human cases of disease present either as Pontiac Fever, an acute febrile illness that resolves spontaneously within 1 week, or as Legionnaire's disease. Patients with Legionnaire's disease typically present with pneumonia, myalgia, headache, and fever, with or without gastrointestinal problems. Legionellosis commonly occurs in patients who are elderly, irnmunocompromised, or otherwise in poor health.

Legionella bacteria typically live in water; hot tubs, shower heads, water faucets, air conditioning systems, water cooling towers, and hot water heaters have all been implicated as sources of infection in outbreak situations. People can become ill with legionellosis after breathing aerosolized water droplets contaminated with the bacteria. Infection occurs exclusively from environmental exposure to aerosols of contaminated water. There is no person-to-person transmission of legionellosis. The incubation period between infection and the onset of symptoms is usually 2 to 10 days. Patients usually respond to therapy with either erythromycin or doxycycline.

In 1997 there were 33 confirmed cases of legionellosis reported to the Texas Department of Health. The patients lived in 9 counties (Bell, Bexar, Dallas, Denton, El Paso, Galveston, Harris, Orange, and Travis). Seventeen patients were male and 15 were

Figure 1. Diagnostic Test Method Used to Confirm Legionellosis Cases



female; sex was not reported for 1 patient. The mean age of patients reported was 52 years (range: 2-87 years). Five patients died.

The diagnosis of legionellosis can be confirmed by a positive culture from sputum or bronchial washings, a positive direct florescent antibody (DFA) on a sputum sample, a positive urine antigen test, or 4-fold rising irnmunoflorescent antibody (IFA) titers between acute and convalescent samples taken 3 to 6 weeks apart to a level of at least 1:128. The urine antigen test is now becoming the most common method used in many hospitals to confirm the diagnosis. In 1997, 36% of reported cases were confirmed with this test (Figure 1). The urine antigen test only detects cases caused by *Legionella pneumophila* serogroup 1. Patients with legionellosis caused by other organisms will have negative urine antigen test results, so cultures of sputum or bronchial washings from patients with pneumonia remain the most accurate method for confirming cases of legionellosis.

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

Lyme Disease

Sixty of the 87 possible Lyme disease cases reported to the Texas Department of Health in 1997 met the Centers for Disease Control and Prevention's current case definition [physician diagnosed erythema migrans (EM) at least 5 cm. in diameter or rheumatologic, cardiac or neurologic manifestations with a positive laboratory test]. Forty-three (72%) of the 60 patients were female; ages ranged from 5 to 69 years. Six persons were hospitalized.

Fifteen (25%) of the 60 patients had physician-diagnosed EM; 8 of the 15 had multiple lesions. (EM was reported for an additional 14 patients, but the lesions were not witnessed by a physician). Reported months of EM onset were May, June, July, August, September, and December.

Bell's palsy was reported for 7 (12%) patients; unilateral Bell's palsy was reported for 3 patients and bilateral, for 4 patients. Other commonly reported neurologic manifestations included peripheral neuropathies (reported for 33 patients), limb weakness (19), sensory impairment (18), and vision impairment (17). Thirty-four (57%) patients had migratory joint pain; 38 (63%) had swollen joints.

Sixteen (27%) of the 60 patients recalled tick exposure prior to onset of their illness; 5 (8%) reported flea bites prior to onset.

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

Methyl Parathion—Indoor Use in Texas City

Methyl parathion is a "restricted use" agricultural pesticide that is approved for **outdoor** use on crops. Symptoms of acute, high-dose methyl parathion poisoning include salivation, pinpoint pupils, slow or fast heart rate, chest tightness, blurred vision, sweating, urination, and irritability. High-dose exposures have occurred in intentional poisonings or after improper spraying of the chemical. Low-dose symptoms are usually flu-like and include headache, nausea, vomiting, and diarrhea. Low-dose chronic exposure is typical in instances of indoor methyl parathion use.

Case History

In mid-May 1997 investigators discovered that methyl parathion had been sprayed in 2 Texas City homes to kill roaches. The residents of these homes reported a number of symptoms including rapid heart beat, dizziness, headache, shortness of breath, coughing, and tingling or numbness in the fingers. It is not clear if these symptoms were related to methyl parathion exposure. Discovery of the misuse of methyl parathion in Texas City followed recent publicity about a series of indoor applications of the chemical involving thousands of homes and businesses in Ohio, Mississippi, Louisiana, Michigan, and Illinois.

On May 23, 1997, the Texas Structural Pest Control Board collected wipe samples from surfaces in the 2 Texas City homes where the chemical was sprayed. In 1 home, methyl parathion had not been sprayed in 2 years. In this home the level was below the detection limit. In the second home, the residents reported using methyl parathion indoors for 8 years and had sprayed it in the home within the previous 2 months. In this home, methyl parathion levels (in micrograms per 100 square centimeters) were 789, 48, and 14 in the kitchen, living room, and bedroom, respectively. These levels were not high enough to require evacuation. However, these levels were high enough that testing for methyl parathion exposure via urinalysis was recommended for the residents.

The Texas Department of Health Environmental Epidemiology and Toxicology Division and the Galveston County Health District collected urine samples from the residents of these homes. The samples were analyzed for para-nitrophenol (p-NP), a metabolite of methyl parathion. To date, the highest urinary p-NP levels detected in samples from these residents are 78 parts per billion (ppb) for an adult resident ($\geq$16 years of age) and 72 ppb for a child resident ($>$1 and $<$16 years of age). Urinary p-NP levels signaling the need for relocation are 600 ppb for an adult and 300 ppb for a child. Urine monitoring of residents will continue for 1 year on a quarterly basis to ensure that their urine p-NP levels are decreasing and that methyl parathion exposure has stopped.

Chemical Profile

Methyl parathion is an organophosphate related to nerve agents. It is a brownish liquid that turns milky white when mixed with water. It smells like rotten eggs and can leave a yellow stain on areas where it has been sprayed. Methyl parathion has been marketed under a variety of product names, including Nitrox®, Penncap-M®, Dithon 63®, Ketokil 52®, Seis-Tres 6-3®, Metaspray 5E®, and Paraspray 6-3®.

Also known as "cotton poison," methyl parathion is commonly used by farmers to control insects in fields of cotton, soybeans, corn, wheat, rice, and vegetables. When applied outdoors, methyl parathion is rapidly broken down by sunlight, hydrolysis, and soil bacteria, disappearing almost completely in 4 to 7 days. Because of this, it is legal to use it on agricultural crops in open fields. However, agricultural workers must stay away from fields where methyl parathion has been sprayed for 48 hours to allow chemical breakdown to occur.

Indoors, methyl parathion does not break down quickly and can remain for years. Therefore, it is hazardous and **illegal** to use methyl parathion inside residences or other buildings.

Nationwide Response Actions to Date

- Since the pattern of misuse has come to light, authorities have arrested several people involved in the illegal repackaging, distribution, sale, or indoor application of methyl parathion.

- The Environmental Protection Agency, the Centers for Disease Control and Prevention, the Agency for Toxic Substances and Disease Registry (a federal public health agency, part of the US Department of Health and Human Services), and state and local officials have worked together to develop protocols for environmental sampling, cleanup of contaminated homes and businesses, and urine testing of affected residents.

- Nationwide, officials have investigated 23 applicators since 1994. More than 1,430 homes or businesses have been remediated, requiring relocation of more than 2,840 residents. Urine testing has been completed or is ongoing for these residents and many more who were not relocated. Total cleanup costs to date are approximately $80 million.

- Public service announcements, training, and outreach programs targeting dealers, distributors, certified pesticide applicators, and farmers are helping to identify improper past use and prevent misuse of methyl parathion in the future.

- The US manufacturer of methyl parathion has added a foul-smelling odorizer to the pesticide to discourage indoor use.

Environmental Epidemiology and Toxicology Division (512) 458-7222

Mumps

A total of 247 suspected cases of mumps were reported to the Texas Department of Health in 1997. After thorough case investigation and appropriate laboratory testing, 74 cases were classified as either confirmed (62) or probable (12). A confirmed case of mumps was one which met the clinical case definition and was serologically confirmed or one which could be epidemiologically linked to such a case. A probable case was one in which the illness met the clinical case definition; the patient was excluded (9 days) from childcare, school, or work as if they had a confirmed case of mumps; and no serological tests were ordered. The 74 cases that occurred in 1997 represented a 68% increase in mumps cases over those reported in 1996, when 44 cases occurred. Fifty-eight percent (36162) of the patients with laboratory confirmed mumps had either never been vaccinated against the disease or a vaccine history could not be documented. Twenty-five case-patients reported having received at least 1 dose of a mumps-containing vaccine. No serious complications or deaths related to mumps infection were reported in 1997.

An outbreak that occurred in a federal correctional facility contributed to the 1997 increase in cases. This outbreak occurred in Bowie County (Public Health Region 4) and began on August 11 when an inmate presented to the health services unit with bilateral parotid swelling of 4 days duration. Mumps was diagnosed, and the inmate was immediately placed in respiratory isolation. Relatives from Mexico, including a child with signs and symptoms consistent with mumps, visited the inmate on July 20. Three more cases occurred in this facility in August, 18 in September, and the last case in October. The outbreak included 13 Hispanics, 6 Whites, and 4 Blacks; all case-patients were male. They ranged in age from 20 to 54 years; the median age was 33 years. In response to this outbreak, a 3-day vaccination effort began in the facility on September 5, and approximately 1,300 doses of measles-mumps-rubella vaccine were administered to inmates and staff.

Nonoutbreak case-patients were fairly evenly distributed by sex with 55% of the cases occurring among males. Nonoutbreak case-patients ranged in age from 10 months to 59 years, and the median age was 10 years.

Immunization Division (512) 458-7284

Pertussis

Pertussis is a highly contagious upper respiratory illness with symptoms that can linger 6 to 10 weeks. As the disease progresses, coughing often comes in spasms interspersed with a characteristic "whoop" sound on inspiration of air and may be followed by vomiting. Fever is absent or minimal. In infants less than 6 months of age, apnea is a common manifestation, and the whoop may be absent. Older children and adults may experience persistent cough without the characteristic whoop. Most pertussis occurs in young infants, who experience complications more frequently than adults. Secondary bacterial pneumonia is the cause of most pertussis-related deaths. Other complications include seizures, encephalopathy, otitis media, and conditions resulting from pressure effects of severe paroxysmal coughing, including pneumothorax, epistaxis, subdural hematomas, hernias, and rectal prolapse.

Evidence suggests that adults are a significant source of pertussis transmission and may be the main reservoir. Due to the reactivity of whole-cell pertussis vaccines in adults, pertussis vaccine has not been licensed in the United States for use in persons 7 years of age or older. As antibody levels wane, older children and adults may become infected with pertussis even if they were fully immunized as children. Because the illness is non specific in adults, pertussis is often not considered as a diagnosis. Culture confirmation may not be possible if pertussis is not suspected until late in the illness or until after antibiotics have been utilized. Three studies of adults with chronic coughs found that 21% to 26% of these patients had evidence of pertussis infection.'

In 1997, 233 pertussis cases were reported from 46 counties in Texas, a 54% increase from the cases reported the previous year. Six counties (Bexar, Dallas, Harris, Johnson, Travis, and Victoria) accounted for over 50% of all cases in the state. One pertussis-related death was reported in Harris County.

Nationally, 5,519 cases of pertussis were reported in 1997 (provisional data).

Pertussis cases are classified as confirmed or probable. A confirmed case of pertussis is a clinically compatible case that is laboratory confirmed (isolation of *Bordetella pertussis* from a clinical specimen), or is epidemiologically linked to a laboratory-confirmed case. A probable case is one that meets the Centers for Disease Control and Prevention (CDC) clinical case definition for pertussis but is not laboratory confirmed or epidemiologically linked to a laboratory-confirmed case. Only 8 8 (38%) of the 233 cases were culture confirmed,

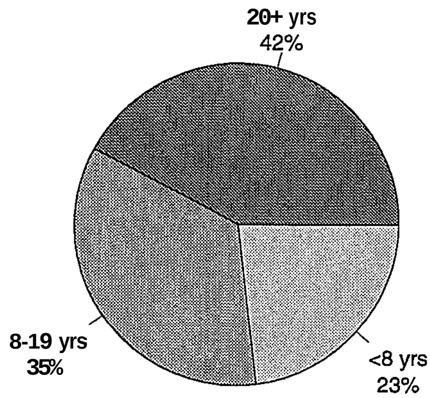
Seventy-one percent (165) of the 233 pertussis case-patients were under 7 years of age. Of the children for whom vaccine status was known, 63 (39%) were too young to receive vaccine. Forty-one (25%) were either unvaccinated or under vaccinated. Fifty-seven (35%) of the children under 7 years of age with pertussis had received all the doses recommended for their age. Nearly 50% of these 57 vaccinated cases were not laboratory confirmed, emphasizing the importance of appropriate investigation.

Age-specific incidence rates for pertussis were 41.2 per 100,000 for infants younger than 12 months; 1.7 per 100,000 for children 1 through 4 years of age; and 1.1 per 100,000 for children 5 through 9 years of age. Of the 134 cases that occurred in infants under 12 months of age, 97 (72%) patients were hospitalized. Only 4 (18%) of the children 1 through 4 years of age were hospitalized. The proportion of infants hospitalized with pertussis or with related complications clearly demonstrates the severity of this disease. The pertussis incidence rate among Hispanics (1.9 per 100,000) was more than double that of non-Hispanic Whites (0.88 per 100,000).

Of pertussis patients for which symptoms were known, 194 (84%) experienced paroxysms of coughing, 95 (41%) an inspiratory whoop, 124

(54%) vomiting, and 55 (24%) apnea. There were few pertussis-related complications: 25 case-patients (11%) had positive x-rays for pneumonia, and 3 (1%) experienced seizures. Erythromycin, the recommended antibiotic for treating pertussis patients, was used to treat 188 (81%) of reported cases.

Figure 1. Household Clusters with Index Case by Age



In 1997, 94 (40%) case-patients were clustered in 32 households. In these clusters, adults (220 years of age) played a significant role in pertussis transmission to household contacts. Since pertussis may not be suspected in adults, their infections are often first recognized during case investigations of children with pertussis in their households. Adults accounted for 15% (36) of all cases; 69% of these (25) occurred in household clusters which included children. Index cases (initial case in the household) were identified in 26 of the 32 household clusters. Forty-two percent (11) of the index case-patients were adults; 35% (9) were aged 7 through 19 years; and 23% (6) were children 6 years of age or younger (Figure 1).

Reference

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Immunization Division (512) 458-7284

Rabies Death in Houston

On October 17, 1997, a 71-year-old Houston man died of rabies. On August 3, while staying at a northeast Texas motel, the man was awakened by a bat clinging to his left shoulder. He removed the bat and disposed of it. His wife immediately examined him and saw no bite wounds. Neither the man nor his wife realized that bats carry rabies and that bat bites may be difficult to see; therefore he did not seek medical attention.

On October 3 the man complained of sharp pain on the left side of his face and stabbing sharp pain in his left ear. Over the next few days he appeared anorexic, restless, and inattentive to his normal activities. He saw his primary care physician on October 6 for burning pain in his left ear radiating down to his left jaw and left upper chest. When asked about animal exposure history, he did not mention the bat incident. On examination, he had a temperature of 99°F and a blood pressure of 1701100 mm Hg. He was referred for a cardiac evaluation and a dental examination that day; both were normal. Propoxyphene napsylate with acetaminophen was prescribed for pain, and the man returned the following day for additional outpatient diagnostic tests.

On October 7 the man reported feeling dizzy and disoriented. He experienced pruritus, and his wife said he seemed to be "coming out of his skin." A computerized tomography (CT) scan of the brain and sinuses revealed left frontal and sphenoid sinusitis and a laryngoscopy identified that the patient's left vocal cord did not move normally. Cephalexin was prescribed. By evening the man became increasingly agitated and confused.

He was hospitalized the morning of October 8 for evaluation of left vocal cord paralysis, fever, sinusitis, and rash. He appeared anxious, wide-eyed, and tremulous, but he was mentally coherent. He had a faint maculopapular rash on his back, chest, and arms and a temperature of 100.1°F. In addition to clarithromycin and cefotaxime, the patient was also prescribed chlordiazepoxide, thiamine, and diazepam.

Over the next two days, his temperature increased to 103.6°F; his rash persisted; and he developed difficulty swallowing, blurry vision, and progressively violent tremors. A lumbar puncture revealed a protein level of 67 mg/dL (normal value = 15-45), a glucose level of 84 mg/dL (normal value = 45-65), 12 red blood cells, and 17 WBCs with 48% lymphocytes, 24% neutrophils, and 17% mononuclear cells. His serum glucose level was 150 mg/dL (normal value = 70-110). An electroencephalogram showed mild bilateral cerebral dysfunction. The chlordiazepoxide and thiamine were discontinued, and vancomycin and ofloxacin were prescribed.

On the morning of October 11 the patient's blood pressure dropped suddenly to 70140 mm Hg, and he became semicomatose. He developed respiratory distress with a pCO_2 of 90.3 mm Hg (normal value = 35-48). The patient was intubated, mechanical ventilation was begun, and medication for hypotension was administered. On October 12 rabies was considered in the differential diagnosis because the man's wife remembered the bat exposure.

Over the next few days, the patient gradually slipped into a deep, unresponsive coma. By October 17 he had no brainstem reflexes, ventilator support was withdrawn, and he died. Rabies was confirmed on the morning of October 18 from postmortem brain specimens. Monoclonal antibody typing and polymerase chain reaction testing confirmed the rabies to be the silver-haired bat (*Lasionycteris* noctivagans) variant of rabies. A serum sample for rabies titer was negative.

One family member, 3 friends, and 42 medical personnel (physicians, nurses, medical aides, respiratory therapists, a dentist, a dental hygienist, and an ultrasonography technician) received postexposure rabies prophylaxis

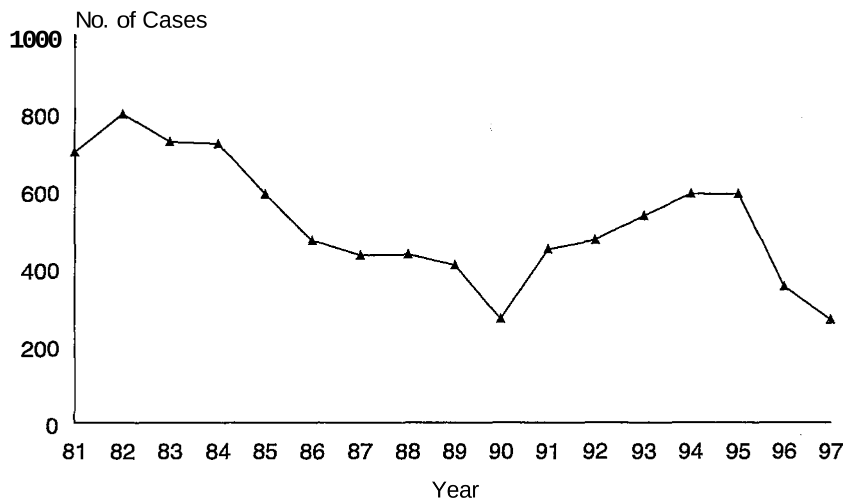
(PEP). Most of the persons receiving PEP had mucous membrane or facial contact with saliva on October 9 or 10, when the patient was agitated and had significant difficulty swallowing. During a lumbar puncture procedure on October 10, one person experienced a needle stick. Some medical personnel had saliva contact their faces or mucous membranes when the patient's ventilator equipment became unintentionally disconnected. The cost of anti-rabies biologicals in association with this case exceeded $40,000. The cost for the antirabies biologicals to vaccinate the family member and friends was more than $7,000. The remainder of the cost of biologicals was incurred because of hospital personnel exposure.

Zoonosis Control Division (512) 458-7255

Rabies in Animals

Rabies is a viral zoonosis affecting the central nervous system of warm-blooded animals. The mode of transmission is by saliva containing rabies virus being introduced into an opening in the skin, usually via the bite (or possibly scratch) of a rabid animal. Though rare, transmission can also occur through contamination of mucous membranes. Animals considered to be high risk for transmitting rabies in Texas include bats, skunks, foxes, coyotes, and raccoons.

Figure 1. Confirmed Cases of Animal Rabies: 1981-1997



In 1997, 266 (3%) of 10,611 animal specimens that were tested (confirmed as positive or negative) in Texas were positive for rabies. This was the lowest yearly total for Texas since 1973; yearly totals for 1981 through 1997 are illustrated in Figure 1. The highest number of cases in 1997 occurred in October, with bats being the predominant rabid species during that month. Rabies in animals occurred in 86 of the 254 Texas counties (Figure 2). For the second consecutive year, Travis County had the highest number of rabies cases per county statewide with 28 cases (all bats).

Rabies in wildlife accounted for 91% of the cases throughout the state. Bats were the primary reservoir in 1997 (45% of all positive cases); they were also the primary reservoir in 1996. During 1997, 121 bats were positive for rabies compared with 120 (34% of all positive cases) in 1996. Of all bats tested for rabies, 13% were positive in 1997 and 12% were positive in 1996.

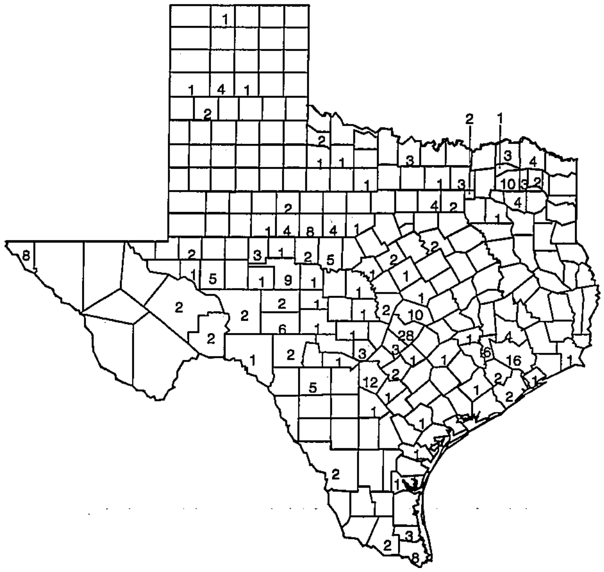
Skunks had the second highest number of rabies cases in a species with 94 cases (35% of all positive cases) in 1997 compared with 78 cases (22% of all positive cases) in 1996. Of all skunks tested for rabies, 21% were positive in 1997 compared with 17% in 1996.

Rabies in domestic animals (9% of all positive cases) continued to be a concern because rabid domestic animals are more likely to have contact with humans than are rabid wildlife. Tables 1 and 2 compare the numbers of domestic and wildlife rabies cases, respectively, for various animal species for 1996 and 1997.

Twenty-one counties, 3 of which had recorded cases in 1997, have been involved in the South Texas canine rabies epizootic since 1988. There was a 70% decline in cases caused by the canine rabies variant from 1996 to 1997. Of all positive cases in 1997, 6 (2%) were the canine variant of rabies virus compared with 20 (6%) in 1996.

The West-Central Texas gray fox rabies epizootic expanded on the northeastern edge with the addition of Eastland County; 49 counties have been involved since 1988, 14 of which had recorded cases in 1997. There was a 76% decline in cases caused by the gray fox rabies variant from 1996 to 1997. Of all

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



positive cases in 1997, 24 (9%) were the gray fox variant of rabies virus compared with 101 (29%) in 1996.

In response to the epizootics, the Oral Rabies Vaccination Program (ORVP) for coyotes in South Texas was initiated in February 1995, and the ORVP for gray foxes in West-Central Texas was initiated in January 1996; implementation has continued annually. These programs target wild animals because they are the primary reservoirs for rabies. Immunization is accomplished by aerial distribution of an edible bait containing oral rabies vaccine. The goals of the ORVP are to create zones of vaccinated coyotes and gray foxes along the leading edges of the epizootics and, subsequently, to halt the expansion of the epizootics and eliminate them.

In addition to a marked reduction in the number of rabies cases involved in the epizootics, the evaluation of the programs also has been accomplished through specialized laboratory techniques that identified a biomark agent contained in the baits. Identification of that biomark agent in dentin rings deposited annually in healthy teeth made it possible to determine the year/s in which a bait was consumed, plus the number of baits consumed in a given year. Results of these procedures indicate that 87% of the South Texas coyote specimens collected in 1997 were positive for biomark in 1 or more years since 1995; the mean number of baits consumed in that sample group was 5.3. In West-Central Texas, 47% of gray foxes had eaten at least 1 bait (gray foxes sampled in 1997 showed biomark for 1997 only due to the shorter life expectancy of that species); the mean number of baits consumed in that sample group was 1.4.

Zoonosis Control Division (512) 458-7255

Table 1. Confirmed Cases of Rabies in Domestic Animal Species: 1996 and 1997

Species	1996	1997
Dogs	15	11
Cats	10	2
Cows	10	9
Horses	4	2
Goats	3	1
Sheep	1	0
Total	**43**	**25**

Table 2. Confirmed Cases of Rabies in Wild Animal Species: 1996 and 1997

Species	1996	1997
Bats	120	121
Skunks	78	94
Foxes	60	13
Coyotes	19	7
Raccoons	25	5
Bobcats	5	1
Deer	1	0
Total	**308**	**241**

Rickettsial Diseases

Three rickettsia1 or rickettsia-like diseases of humans are reportable to the Texas Department of Health: flea-borne typhus, caused by either Rickettsia *typhi* or Rickettsia *felis*; Rocky Mountain spotted fever (RMSF), caused by Rickettsia rickettsii; and ehrlichiosis, usually caused by *Ehrlichia chaffeensis*. A brief epidemiologic summary of these diseases for 1997 is provided below.

Seventy-two cases of flea-borne typhus were confirmed this year. Forty patients were female; 32 were male. Their ages ranged from 4 to 88 years. As usual, most of the typhus cases occurred in patients who resided in South Texas: 32 in Hidalgo County; 26 in Nueces County; 7 in Cameron County; 2 in Jim Wells County; and 1 each in Starr, Victoria, and Willacy Counties. In addition, 1 patient was from Bexar County and another was from Galveston County. Case investigations were completed for 60 of the cases; 12 patients were lost to follow up. Onsets of illness for these 60 patients occurred in January (3 cases), February (3), April (5), May (12), June (13), July (5), August (3), September (5), October (5), November (4), and December (2). Their symptoms included fever (100% of patients investigated), headache (68%), nausea and/or vomiting (62%), malaise (53%), anorexia (52%), myalgia (50%), chills (27%), and diarrhea (25%). Thirty (50%) of the 60 persons had a rash. All but 2 of the 60 patients were hospitalized; none of the patients died.

Four cases of RMSF were confirmed in 1997. Three patients were male and 1 was female; they resided in Comanche, Dallas, Randall, and Rockwall Counties. Three patients were children aged 4, 9, and 12. Onsets of illness were in July, September, and October. Three of the patients were hospitalized; none died. All 4 patients had a rash.

Human ehrlichiosis became a notifiable disease in Texas in 1997. Four cases were reported. Two patients were male and 2 were female; their ages ranged from 40 to 65 years. They resided in Lamar, Nacogdoches, Real, and Van Zandt Counties. Onsets of illness were in March, May, June, and November. Three of the patients were hospitalized; 1 died. None of the patients had a rash; all of the patients had thrombocytopenia and 3 had elevated liver enzymes.

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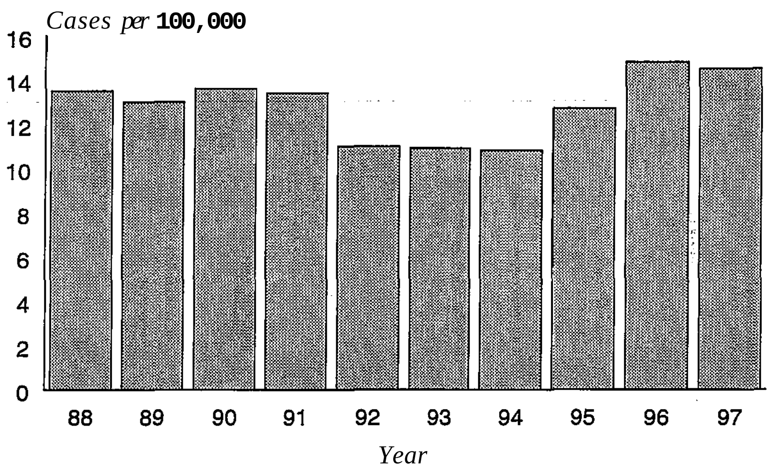
Salmonellosis

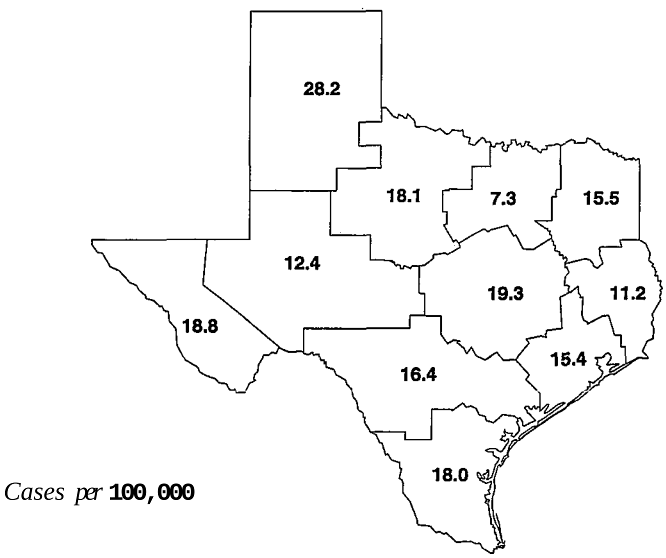
According to the Centers for Disease Control and Prevention (CDC), some 40,000 cases of salmonellosis are reported each year in the United States. The etiologic agent, Salmonella species (spp.), can be infective at doses as small as 15 bacteria, although 100 to 1,000 bacterial cells are generally required. Illness occurs within 12 to 24 hours following infection resulting in the following symptoms: fever, acute enterocolitis, abdominal pain, nausea, and diarrhea. Severe infection may lead to severe dehydration and occasionally death. Salmonellosis can be prevented through thorough cooking of raw foods (especially eggs, poultry, and ground beef), good hand washing, and careful cleaning of kitchen surfaces, as well as utensils that contact raw foods. Additionally, reptiles should be handled with caution as they are more likely to carry Salmonella spp. than are other animals.

Figure 1. Salmonellosis Incidence Rates, 1988-1997



On the emerging infections forefront is Salmonella *typhimurium* DT104. This foodborne pathogen is multiply resistant to ampicillin, chloramphenicol, streptomycin, sulfonamides, and tetracycline. Current trends in antibiotic usage in humans and animals have been implicated in the emergence of these drug-resistance patterns. The United States Department of Agriculture report entitled "Salmonella typhimurium DT104 Situation Assessment" reports that this agent is more likely to result in bacteremia and longer hospitalization stays than are other species of Salmonella.

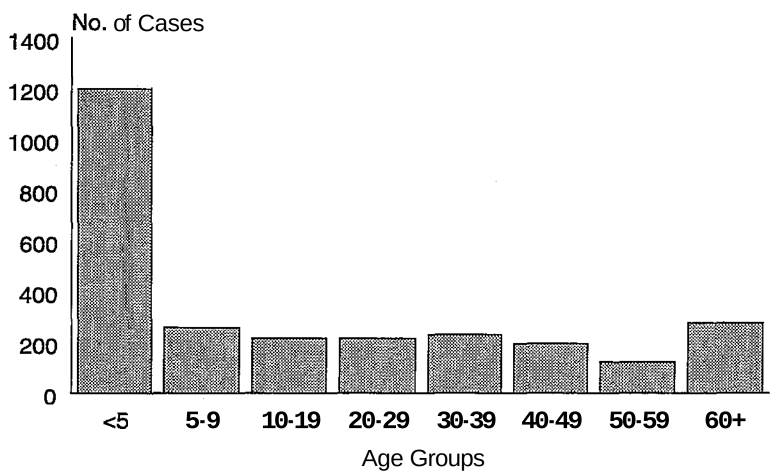
Figure 2. Salmonellosis Incidence Rates by Public Health Region



For 1997 there were 2,793 cases of salmonellosis reported statewide, constituting the fourth highest number of reported cases in Texas since 1951. Figure 1 displays the salmonellosis rate for

Texas over a 10-year time frame. Despite the high number of reported cases this year, the 1997 incidence rate of 14.5 cases per 100,000 population was roughly equivalent to that of 1996. Figure 2 depicts the incidence rate of salmonellosis by public health region for 1997. In 1997 the mean age of infected individuals was 21.6 years and the median age was 10 years. Figure 3 illustrates that illness occurs predominately in children under the age of 5 years, comprising 44.2% of the total cases reported. The incidence rate of this age group (birth to 4 years) was 74.4 per 100,000 population.

Figure 3. Salmonellosis Cases by Age Groups



The organism was speciated for 1,959 (70.2%) cases. The most prevalent organism isolated was *Salmonella typhimurium*. The 5 most common species reported this year were *S. typhimurium* (19.4%), *S. newport* (12.4%), *S. enteritidis* (9.1%), *S. javiana* (4.8%), and *S. infantis* (3.3%). This pattern is similar to that exhibited in 1996, with the exception of the organisms S. *javiana* and *S. infantis* replacing *S. oranienburg* and *S. montevideo*, respectively.

Of significance is the death of a previously healthy Caucasian 5-year-old girl in Public Health Region 1. This child died of complications arising from infection by a multidrug resistant strain of *Salmonella typhimurium* of an untypeable phage type. The organism was resistant to ampicillin, streptomycin, sulfisoxizole, tetracycline, with moderate resistance to chlorarnphenicol. An investigation into this case could not reveal the organism's origin. This tragic death, in combination with the ongoing high incidence of this disease, demonstrates that salmonellosis continues to be a significant disease in Texas.

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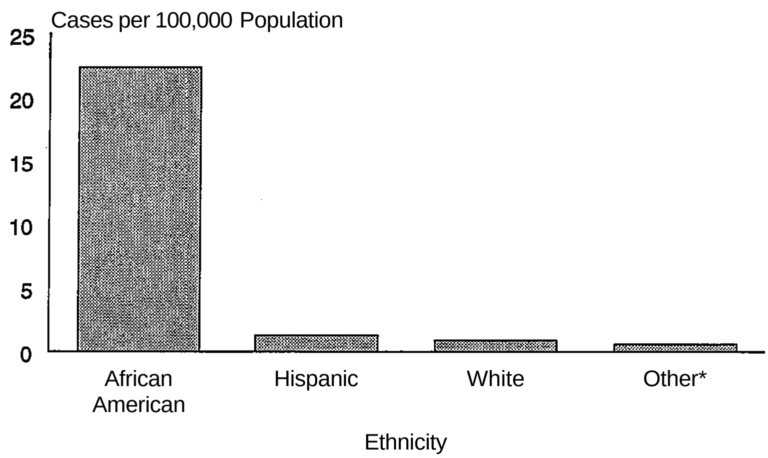
Sexually Transmitted Diseases

Primary and Secondary Syphilis

The spirochete *Treponenza pallidum* causes syphilis. Primary lesions (ulcer or chancre at the site of infection) followed by secondary infection (manifestations that include rash, mucocutaneous lesions, and adenopathy) characterize the acute form of syphilis. Untreated syphilis progresses into a chronic disease with long periods of latency. Statewide, 683 cases of primary and secondary (P&S) syphilis were reported in 1997. This 23% decrease from cases reported in 1996 continues a downward trend. The number of P&S syphilis cases reported in 1997 was one-seventh the number reported in 1991. The overall state rate in 1997 for P&S syphilis was 3.5 cases per 100,000 population—the lowest rate since the late 1950s. More than 28% of the patients were from 15 to 24 years old, and the number of cases in men and in women were almost equal. Women accounted for 321 cases (47% of the total) compared with 362 cases among men.

African Americans continue to account for the majority (73%) of P&S syphilis cases reported in Texas. The rate of P&S syphilis among African Americans was 22.4 cases per 100,000 population in 1997, less than one half the 1995 rate of 53.2 per 100,000. Nonetheless, the rate for African Americans remained extremely high compared with other ethnic groups (Figure 1). The case rate for Hispanics was 1.3 cases per 100,000 population, for Whites 0.9 cases per 100,000 population, and for other ethnic groups (excluding cases with race unspecified) 0.6 cases per 100,000 population. Among African Americans, women aged 15 through 19 had the highest rate: 56.8 cases per 100,000 population. The highest rate for African American men was found among those aged 20 through 24: 52.4 per 100,000 (Figure 2). The extremely high case rate for both sexes indicates the continuing severity of the problem of P&S syphilis among young African-Americans in Texas.

Figure 1. Primary and Secondary Syphilis Rates by Ethnicity



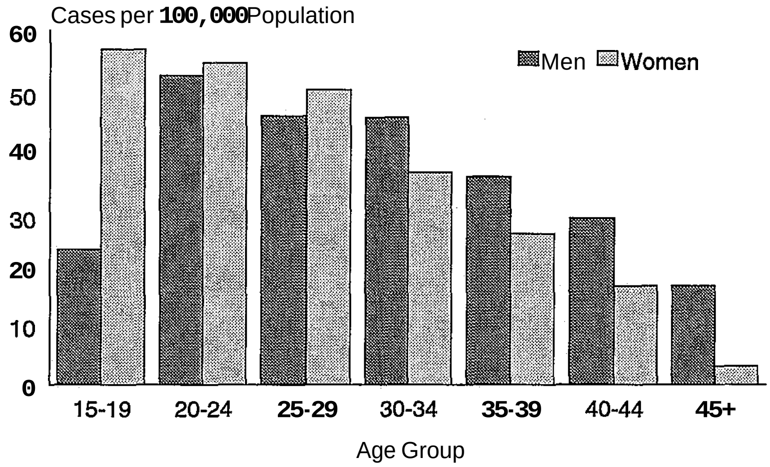
*Excludes cases of unspecified ethnicity

Early Latent Syphilis

The early latent stage of syphilis follows untreated secondary syphilis after a period of weeks or months up to 1 year. Untreated cases of more than 1 year's duration or of unknown duration are classified as late latent syphilis. In both early and late latent stages, positive clinical signs are absent, and detection of syphilis relies upon serologic tests.

In 1990 slightly over 5,000 cases of P&S and of early latent syphilis were reported with similar rates of 30.4 and 29.9, respectively (Figure 3). Since that time, the rate of P&S syphilis has steadily declined. However, the early latent syphilis rate increased in 1991 and since then has decreased more slowly than the P&S syphilis rate. This delayed decline of early latent syphilis rates is typical of periods of decreasing syphilis morbidity. Although both P&S syphilis and early latent syphilis cases were considerably lower in 1997 compared with 1990, the number of early latent syphilis cases (1,876) was almost 3 times the number of P&S syphilis cases. The 1997 overall rate of early latent syphilis was 9.7 cases per 100,000 population. The incidence rates (cases per 100,000 population) for early latent syphilis by race/ethnicity were as follows: African Americans, 55.7; Hispanics, 6.7; Whites, 2.0.

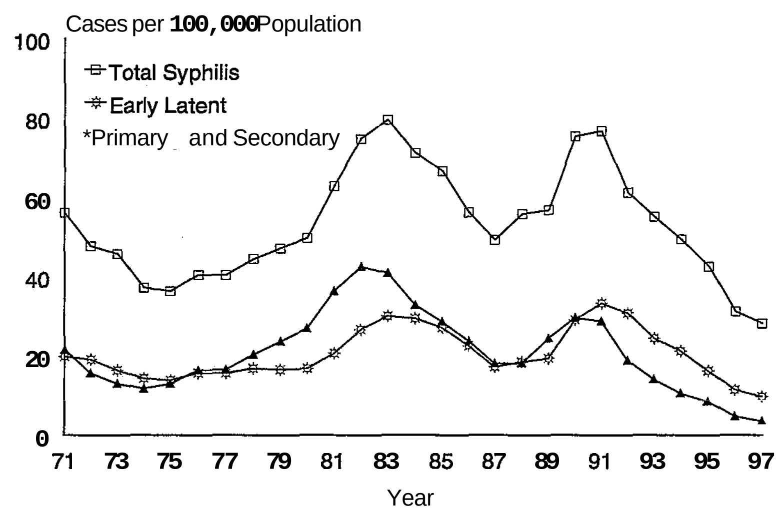
Figure 2. Primary and Secondary Syphilis Case Rates Among African Americans by Age Group and Sex



Congenital Syphilis

Congenital syphilis, one of the most serious forms of the disease, may cause abortion, stillbirth, or premature delivery, as well as numerous severe complications in the newborn. In 1997, 160 cases of congenital syphilis were reported, marking the fourth straight year of decline. The lower number of congenital syphilis cases in 1997 represented a 2% decrease from 1996. With 108 cases, Harris County had the highest number of congenital cases—slightly fewer than the 122 cases reported from that county in 1996. Tarrant County had the second-highest number with 12 cases. Statewide, 55% of congenital cases were in African Americans; 33% among Hispanics; and 6% in Whites.

Figure 3. Syphilis Case Rates, 1971-1997

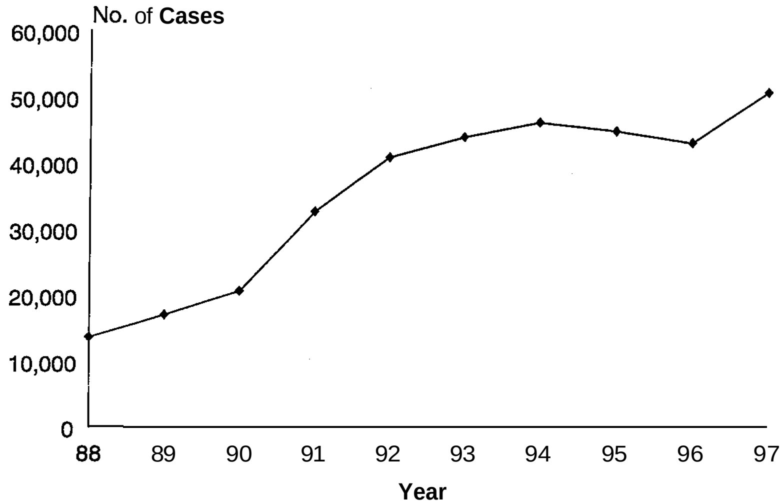


Chlamydia

Infections caused by the bacteria *Chlamydia trachomatis* are among the most common of all sexually transmitted diseases. Chlamydia infection in women can result in serious complications such as pelvic inflammatory disease and ectopic pregnancy. After chlamydia became reportable in 1987, the number of cases soared, reflecting increased testing but not necessarily increased disease. Reports of chlamydia in 1997 totaled 50,661, an

18% increase from the previous year's total of 43,003 (Figure 4). Statewide the total number of clients screened by public funding increased 27% (from 280,102 in 1996 to 354,889 in 1997); the number of positives resulting from those screenings increased by 5,781 (from 18,327 to 24,108 positives). The increased screening may account for much of the apparent increase in cases.

Figure 4. Chlamydia Cases, 1988-1997



Of the total chlamydia cases reported in 1997, 84% were in females. Women are more likely to be screened for chlamydia during clinical exams for family planning, prenatal care, and routine pap smear testing. Because of the increased risk of severe outcomes (including the potential to infect a newborn child), chlamydia screening programs focus on women. Males are often asymptomatic and therefore do not seek treatment. Given that men make up such a small proportion (16%) of chlamydia cases reported, there is no way to estimate the true incidence of chlamydia in the Texas population.

Because women accounted for the vast majority of chlamydia reports, rates for each sex should be examined separately. The 1997 case rate for females was 435 cases per 100,000 population with African American women having the highest rate (650), followed by Hispanic women (591) and Whites (116 cases per 100,000 women). Men showed the same racial/ethnic distribution as did women but with far lower rates. However, if males were equally targeted for screening and testing, incidence among males would be higher than suggested by case reports.

Over 60% of all reported chlamydia patients were aged 15 to 24 years of age. With more than 27,000 cases reported for women 15 to 24 years of age alone, the rates for chlamydia among young women age 15 to 19 years and 20 to 24 years were 2,214 cases and 1,789 cases per 100,000 population, respectively.

Gonorrhea

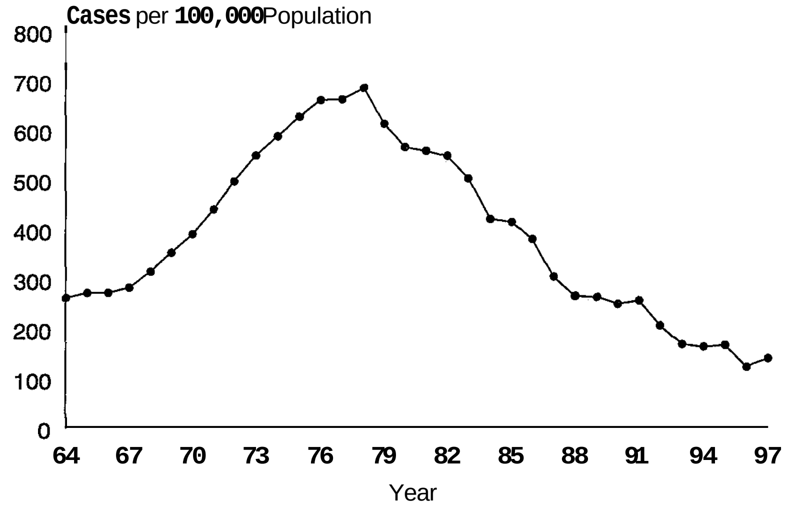
The bacteria ***Neisseria gonorrhoeae*** causes gonorrhea. Left untreated, gonorrhea may lead to sterility in men and pelvic inflammatory disease, ectopic pregnancy, and sterility in women. The 26,617 cases reported in 1997 represent a 16% increase from the number of cases reported in 1996. In Texas, except for minor fluctuations, the rate of gonorrhea has been decreasing since 1978, when it reached a peak of 683 cases per 100,000 population (Figure 5). The overall rate for 1997 was 138 per 100,000, higher than 1996 (122 per 100,000) but still lower than the 1995 rate (165).

As noted above for chlamydia, increased screening may be responsible for this rise. Statewide the total number of publicly funded screenings increased 23% (from 294,183 in 1996 to 357,317 in 1997); the number of positives resulting from these screenings rose 34% from 10,965 to 14,689 between 1996 and 1997.

The 1997 overall rate for gonorrhea was 138 cases per 100,000 population; the female rate

(140) was slightly higher than the male rate (135). Among age groups, the highest rate for females was found in women aged 15 to 19 years (665 cases per 100,000 population) followed by those aged 20 to 24 years (515 cases per 100,000 population). Men in these age groups also had higher rates than did other males. Gonorrhea among women aged 15 to 24 years comprised 60% of all cases in females; men of the same age group accounted for 38% of all gonorrhea cases among males.

Figure 5. Gonorrhea Rates, 1964-1997



The rate for African Americans (677 cases per 100,000 population) is over 8 times greater than that for Hispanics (79 cases per 100,000 population) and 27 times higher than the rate for Whites (25 cases per 100,000 population). African American men had the highest rate of all race-sex groups, with 768 cases per 100,000 population. Gonorrhea cases among African Americans aged 15 to 24 years accounted for the greatest share of African American cases (49% of those reported); they also represented 27% of all cases reported, regardless of race or age.

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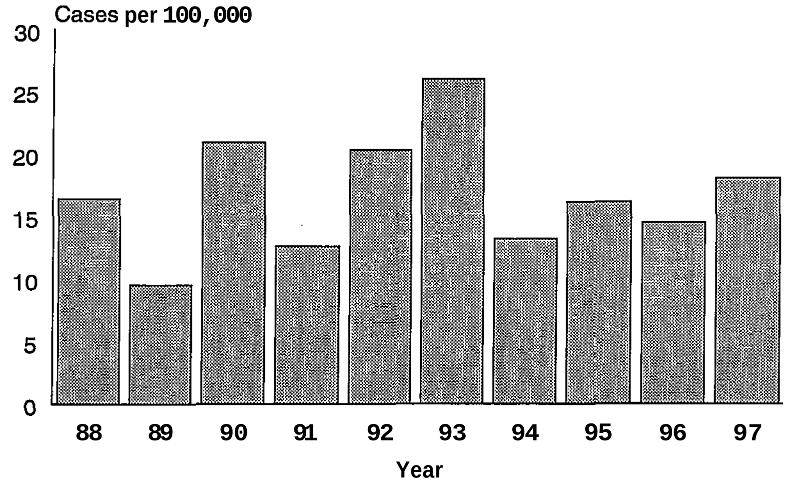
Shigellosis

Shigellosis continues to be one of the most frequently reported gastroenteritis diseases in Texas. The etiologic agent of shigellosis, *Shigella spp.*, can cause disease with as few as 10 organisms. Symptoms appear within 12 to 50 hours after infection and include abdominal pain, cramps, tenesmus, fever, vomiting, as well as mucoid or pus laden diarrhea. Prevention of shigellosis is through standard sanitary practices such as thorough hand washing before food preparation.

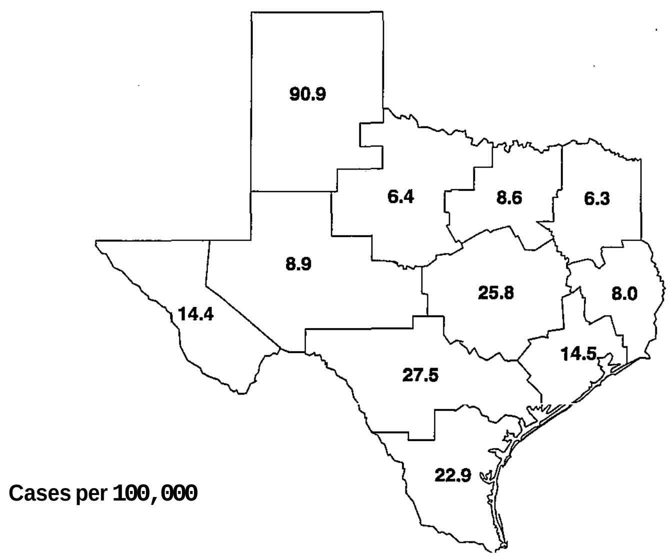
Figure 1. Shigellosis Rates, 1988-1997



The total number of shigellosis cases for 1997 in Texas was 3,504 for an incidence rate of 18.1 cases per 100,000 population. This constitutes the fourth highest number of reported cases over the past 10 years of surveillance (Figure 1). Of the 2,426 (69.3%) isolates that were speciated, the 3 most frequently identified species were *S. sonnei* (84.5%), *S. flexneri* (12.9%), and *S. boydii* (1.5%). Figure 2 displays shigellosis cases by public health region (PHR). PHR 1, specifically Lubbock County, possessed the highest rate for the state.

Case rates by race and ethnicity reveal that the highest incidence of shigellosis occurred in the Hispanic population at 25.6 cases per 100,000 population. Other population rates were Blacks (15.0/100,000) and Whites (6.2/100,000).

Figure 2. Shigellosis Rate by Public Health Region



Age distribution trends show that the mean age of infected individuals was 21 years while the median age was 6 years. The highest incidence rate (86.2/100,000 population) occurred in children from birth to 4 years of age (Figure 3). The second highest rate (61.5/100,000 population) occurred in children aged 5 to 9 years. Among clusters of shigellosis outbreaks, transmission within day-care settings was the most common risk factor identified. In McLennan County alone, shigellosis transmission within a day-care setting contributed to a community-wide outbreak. Precautionary measures such as ready availability of hot water and soap for hand washing as well as positioning sinks near diaper changing areas would help lower shigellosis transmission within day-care settings and the community.

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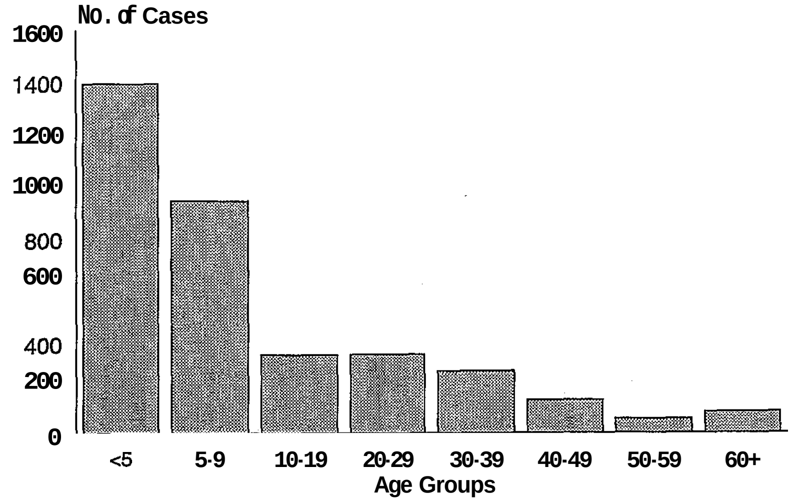
Figure 3. Shigellosis Cases by Age Groups



Silicosis and Asbestosis Surveillance

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

Since the inception of the reporting law in 1986, surveillance for both silicosis and asbestosis has grown tremendously. Much of this growth was made possible by the financial assistance from a cooperative agreement with the National Institute for Occupational Safety and Health (NIOSH). NIOSH provides funding to states to conduct active surveillance for occupational conditions. This agreement ended in 1997 primarily because Texas no longer met the eligibility requirements.

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

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

Silicosis

Silicosis is a lung disease that results from inhalation of crystalline silica. The relationship between dusty work conditions and occupational lung disease has been described since antiquity, and methods for the prevention of silicosis have been recommended by the US Department of Labor at least since the early 1930s. Unfortunately, this preventable lung condition continues to disable workers today.

Table 1. Industry for Silicosis Cases

No.	Industry
1	Mining
11	Construction
3	Manufacturing
1	Business and Repair Services
12	Unknown
28	**Total**

Table 2. Occupation for Silicosis Cases

No.	Occupation
10	Precision Production, Craft, and Repair
7	Operators, Fabricators, and Laborers
11	Unknown
28	**Total**

Historically, workers at high risk of silicosis have included miners, quarry workers, foundry workers, and sandblasters. Many of these occupations continue to be high risk today.

During 1997 EOEP received 35 reports of individuals with confirmed or suspected cases of silicosis. In addition to the 12 reports from physicians, 3 silicosis cases were identified through death certificate review and 20 through medical record review. Of the 35 individuals reported, 28 had a confirmed diagnosis of silicosis. Illness in 7 was reported as suspected silicosis or silica exposure only. The remainder of this report will discuss only the 28 individuals with a diagnosis of silicosis.

All the individuals were male. The majority of individuals, 19 (68%) were White, 4 (14%) were African American, and information on race was not available for 5 (18%). There were 15 (54%) workers identified as Hispanic and 4 (14%) as non-Hispanic. Ethnicity was not reported for 5 (18%).

Table 1 lists the number of workers by major industry division and Table 2 by major occupational category. Of workers in the occupational categories listed, 13 were sandblasters/painters. Missing industry and occupation information is listed as unknown.

Having a chronic lung condition such as silicosis often results in increased risk for other lung diseases. In addition, smoking is known to increase the risk of many chronic lung conditions, including silicosis (given silica exposure). Occasionally, it is possible to obtain information on other lung conditions or on the smoking status of individuals whose silicosis is reported to the EOEP. Of these 28 workers with silicosis, 7 also had a diagnosis of asbestosis and 3 had tuberculosis. Smoking status was available for 17 workers, of whom 11 were identified as current smokers.

Asbestosis

Like silicosis, asbestosis is a chronic fibrotic lung disease which results from inhalation of a mineral, in this case asbestos fibers, in the workplace. Asbestos has been referred to as the magic mineral because of it's heat resistance and fibrous nature. There are literally thousands of uses of asbestos, and the construction industry in the United States has been a major asbestosis consumer. Some of these uses include asbestos cement products (tile, roofing, drain pipes), floor tile, and insulation and fireproofing. Substitute materials have replaced asbestos since 1972, but the process of removing these asbestos-containing materials continues to pose a potential hazard.

Table 3. Industry for Asbestosis Cases

No.	Industry
1	Mining
81	Construction
160	Manufacturing
22	Transportation, Communications, and other Public Utilities
3	Wholesale Trade
2	Retail Trade
2	Business and Repair Services
4	Public Administration
177	Unknown
452	**Total**

Table 4. Occupation for Asbestosis Cases

No.	Occupation
9	Managerial and Professional
6	Technical, Sales, and Administrative Support
3	Service
147	Precision Production, Craft, and Repair
452	**Total**

During 1997, EOEP received reports of suspected or confirmed diagnoses of asbestosis in 489 individuals: 459 with a confirmed diagnosis of asbestosis and 30 with suspected asbestos or asbestos exposure only. In addition to the 229 reports from physicians, 50 asbestosis cases were identified through death certificate review and 210 through medical record review. The majority of the workers reported with asbestosis were male; 447 (97%). Of the 12 (3%) females, 7 were housewives whose only exposure was to a male family member who worked with asbestos (take-home exposure). Information on race and ethnicity was available for only 421 and 197 workers, respectively. Of these, 363 (86%) were White, 58 (14%) were African American; 18 (9%) were Hispanic, and 179 (91%) non-Hispanic.

Unfortunately, not all reports contain work histories complete enough to identify the industry or occupation where the exposure occurred. Excluding these 7 women exposed to asbestos through take-home exposure, Table 3 lists the industry and Table 4 the occupation of workers for whom this information was reported.

As with silicosis, EOEP occasionally is able to obtain information on other lung conditions or smoking status for individuals with asbestosis. Of the workers reported during 1997, 4 workers had asbestosis and silicosis, 2 of the workers with asbestosis also had mesothelioma, and 3 had lung cancer. Smoking status was reported for 213 individuals, 169 (79%) of whom were current smokers.

Environmental Epidemiology and Toxicology Division (512) 458-7222

Submersion Injuries

Submersion injuries consist of drownings and near-drownings. A "drowning" is defined as a death resulting from suffocation within 24 hours of submersion in water and a "near-drowning" is defined as survival for at least 24 hours after suffocation from submersion in water.

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

In 1997, a total of 864 submersion injuries were reported to TDH. The Injury Prevention and Control Program received reports of 489 drowning and near-drowning cases: 315 were reported by hospitals or local health departments, using the Drowning and Near-Drowning Report Form, and 174 were identified from trauma cases received by the Trauma Registry from Emergency Medical Services firms and hospitals. In addition, 375 (provisional data) drowning cases were obtained from the Bureau of Vital Statistics. After duplications were eliminated, 740 cases remained. Of these, 57% were drownings, 39% were near-drownings, and 4% had unknown survival status.

Males experienced 3 times as many submersion injuries as did females (536 males, 198 females, 6 missing gender data). Males were also less likely to survive a submersion event. Sixty-five percent of males died from the submersion and 35% survived (n=519, 17 missing survival status data). In contrast, 45% of females died and 55% survived.

A greater number of Whites sustained a submersion injury than did any other racial/ethnic group. However, when rates are calculated for each racial/ethnic group, Whites experienced the lowest rates (3.1 cases per 100,000 population). The highest submersion rate was experienced by the racial/ethnic group designated Other, 9.2 cases per 100,000 (49 cases). (The Other category includes all people who are not White, African American, or Hispanic.) The submersion rate for African Americans was 4.8 cases per 100,000 (106 cases) and the submersion rate for Hispanics was 4.0 cases per 100,000 (229 cases).

Figure 1. Submersions by Age Group

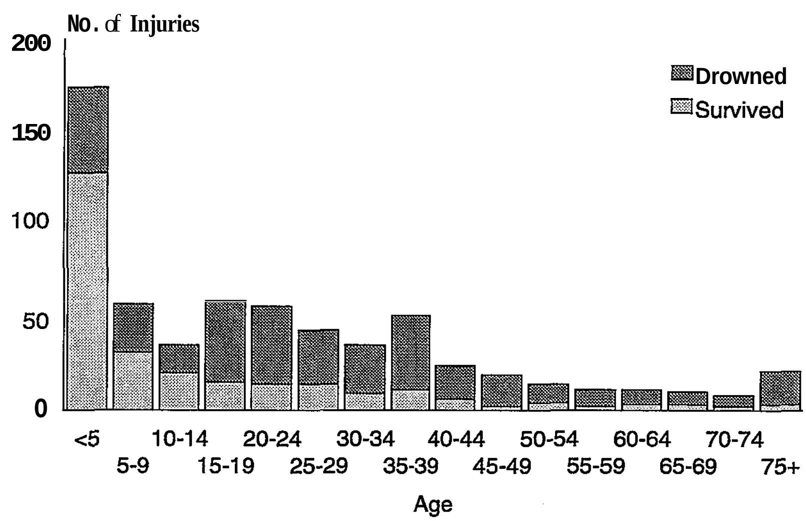
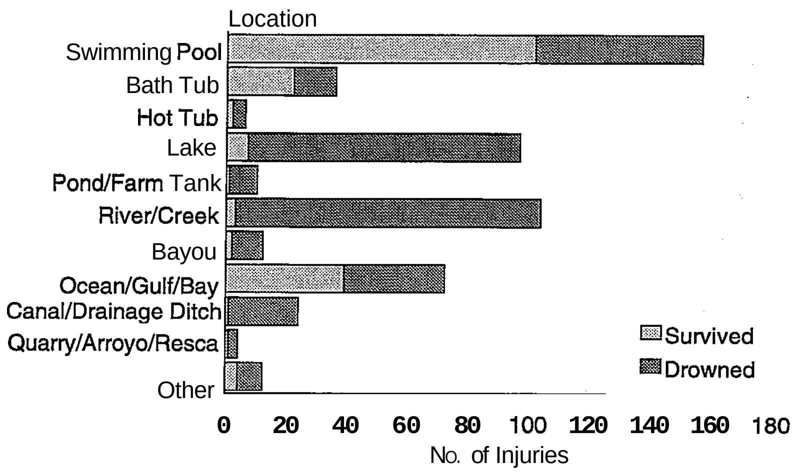


Figure 1 shows the age distribution of the patients with submersion injuries. Ages ranged from 3 months to 94 years. Children younger than 5 years of age experienced the highest percentage of submersion injury among the designated age groups (26%). Among children younger than 5 years of age, 45% of submersion injuries occurred to children younger than 2 years. Sixty-seven percent of children under age 15 survived the submersion, whereas 24% of people 15 years and older survived.

Detailed information concerning the location where the injury occurred was available for cases reported using the Drowning and Near-Drowning Report form and for cases in which a death certificate was issued (n=534, cases with missing data on location and survival status excluded). Figure *2* shows the distribution of submersion cases by location of the event and survival status. More submersions occurred in swimming pools (29%) than in any other locations; submersions in swimming pools also had a higher survival rate (65%) than did submersions in other locations. Submersions that occurred in bath tubs or gulf/bay areas had a greater than 50% survival rate, whereas submersions that occurred in lakes, rivers, ponds, bayous, quarries, or other natural bodies of water (except gulf/bay areas) had only a 6% survival rate.

For swimming pool submersions, information concerning the site of the pool was available for 115 cases. Eighty-one percent occurred at private residences, including apartment pools; 15% occurred in community or other public pools; and 3% occurred in hotel pools.

Figure 2. Submersion by Location



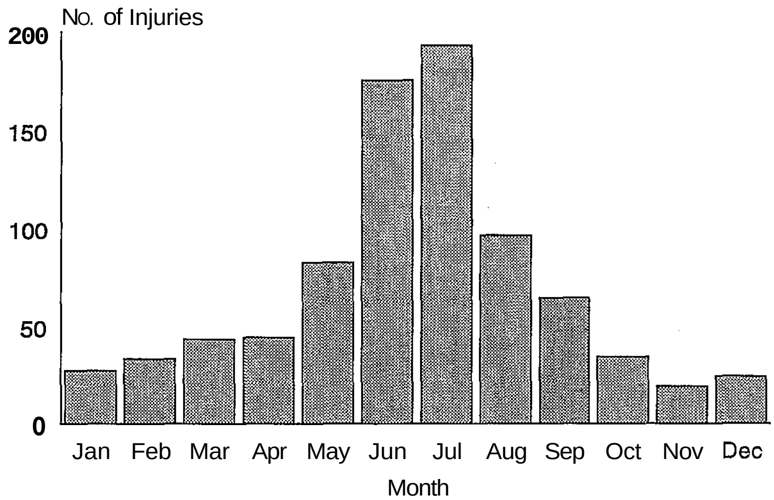
Forty-seven percent of all patients (349\740) were children under 20 years of age. Information concerning location of the submersion was available for 267 cases. Among children younger than 20 years, 51% of submersions occurred in swimming pools, 13% in bath tubs, and 25% occurred in lakes, rivers, or gulf/bay areas. Seventy-four percent of infants (less than 1 year of age) were injured in bath tubs; however no infants were injured in swimming pools. Among 1-year-old children, submersions occurring in bath tubs dropped to 18%, while submersions occurring in swimming pools rose to 50%. For children aged 1 to 6 years, 71% of their submersions occurred in swimming pools; 10% occurred in bath tubs. Among children aged 7 to 19, 34% of submersions occurred in swimming pools, and 50% of submersions occurred in lakes, rivers, or gulf/bay areas. Circumstance information was available only for cases that were reported on a Drowning and Near-drowning Report Form. The most common circumstance surrounding a submersion incident involving children under 15 years of age was being unattended when the incident occurred (54%). In most of these cases, however, the child was out of sight of his or her caretaker for only a couple of minutes (eg, the caretaker went to answer the phone, or to get a drink, etc). Twenty-five percent of children under 15 years of age sustained a submersion by falling or slipping into the water. The circumstance most common among all the submersion incidents for children younger than 15 was that the child was unattended.

Forty-two percent of all submersions (740) occurred in June and July, and 64% occurred from May through August (Figure 3). Fifty-four percent of the submersions occurred on the weekend (Friday through Sunday). Information on use of a personal flotation device (PFD) was available for 258 cases. In 14% of the submersion cases the person used a PFD. Alcohol consumption prior to the injury was known for 374 (51%) of patients 15% of whom were reported to have used alcohol.

Approximately 12% (801664, [information on 76 cases was unavailable]) of the victims had preexisting medical conditions or physical impairments (eg, seizure disorder, asthma, heart conditions, diabetes, etc). Preexisting medical conditions and/or physical impairments may produce symptoms that increase the potential risk of submersion injuries such as dizziness, fatigue, or loss of consciousness.

Cardiopulmonary resuscitation was performed on 149 (50%) of 296 patients for whom the information was available. (Information was unavailable for cases identified through death certificate data.)

Figure 3. Submersions by Month



Of 327 patients for whom information on hospitalization was available, 243 (74%) were hospitalized. Two hundred ninety individuals survived a near-drowning. Information concerning neurological deficits was available for 137 patients. Eighty-two percent had no neurological deficits and 18% suffered some manner of deficits; of those 60% had severe deficits.

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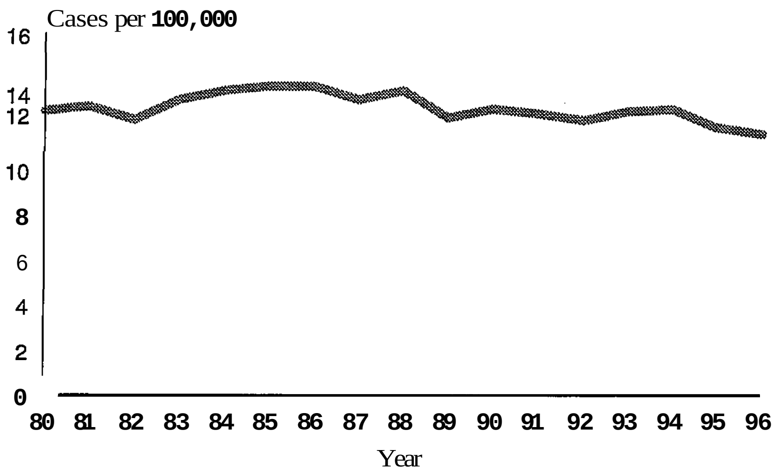
Suicide

Each year in Texas more than 2,200 people commit suicide, an average of 1 person every 4 hours. Suicide is one of the leading causes of death among all age groups older than 9 years of age. As a leading cause of death among youth, it is also one of the leading causes of Years of Productive Life Lost (YPLL).

Figure 1. Trends in Manner of Death, 1980-1996



Suicide rates for Texans older than 9 years have remained relatively stable during the last 2 decades, decreasing only 13% from 1980 to 1996 (from 16 suicide deaths1100,000 population to 141100,000). While any decrease in the number of intentional deaths is to be applauded, this is very moderate when compared to other mortality rates (see Figure 1). During the same time, the rate of death from motor vehicle collisions decreased by nearly one-third and homicide deaths by one-half.

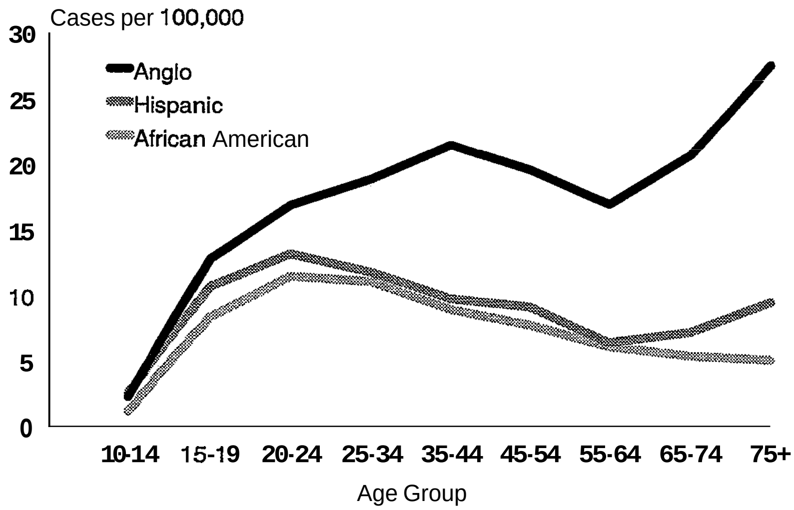
Demographics

A great deal of suicide literature documents the demographic patterns of suicide throughout the United States. Although national suicide patterns tend to vary widely across age groups and place of residence, 3 well established truisms regarding suicide are noted in Texas:

- Males kill themselves more frequently than do females. Eighty percent of the 6,774 reported Texas suicides from 1994 to 1996 were by males (n=5,479). The rate of male suicide (19.7 for every 100,000 males in the population) is 4 times higher than the female rate (4.6/100,000). The rates for minority males are 6 to 8 times higher than for minority females, but this higher ratio may be a statistical artifact due to the relatively few minority suicides (see next truism).
- Anglos kill themselves more frequently than do African Americans or Hispanics. Three of every 4 suicides in Texas from 1994 to 1996 were committed by Anglos (5,13516,774). Not only is the incidence higher among members of this racial group, but the rates of suicide for Anglos (181100,000) are more than twice that of Texas minorities. This pattern is evidenced in both sexes and all age groups. More than 80% of all females who commit suicide are Anglos (1,04611,295).
- Suicide is primarily an Anglo male phenomenon. Anglo males committed 60% (4,08916,774) of all suicides committed in Texas from 1994 to 1996. Nearly one-third of the suicides among Anglo males were committed by those 55 years of age or older (1,224).

While aggregated suicide statistics most often reflect suicides of Anglo males, closer examination reveals some marked differences in patterns of suicide (Figure 2). Suicide rates for African Americans and Hispanics reach

Figure 2. Suicide by Race and Age Group, 1994-1996



their peak for individuals aged in their early twenties and steadily decline through the older ages. Rates for Anglos, however, continue to escalate beyond youth into 2 distinct peaks: during middle age and during old age. The peak in rates among people 35 to 44 years old is primarily due to the increased rates for females. Suicide rates for females are highest during this age (7.5/100,000), and the ratio of male to female suicides is at its lowest (2.9:1). The peak rate among elderly Anglos is almost completely due to males. The rate of suicide among Anglo men at least 75 years of age is more than double the rate of any other group.

Method of Suicide

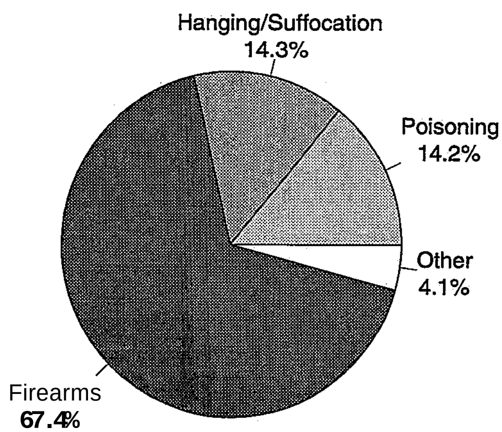
More suicides are committed with a firearm than by all other methods combined (see Figure 3). The gunshot, usually from a handgun, is the most com-mon method for every age, race, and sex group. The proportion of suicides com-mitted with a firearm tends to increase with age. Nearly 85% (6321750) of the suicides among people 65 years and older are committed with a firearm.

Trends in recent years indicate that the rate of firearm suicides is declining. Firearm suicide rates among children younger than 20 years of age, for example, have declined 25%, from 5.5 per 100,000 population in 1991 to 4.1 per 100,000 population in 1996. This decrease, however, was more than offset by an increase in non-firearm suicides. The non-firearm suicide rate for this age group increased more than 60% during these years. Hanging, in particular, increased. The number of suicidal hangings among children less than 20 years of age doubled from 1991 to 1996.

Conclusion

Suicide claims more than 2,000 lives each year in Texas. The tragedy that occurs when someone deliberately ends his/her life extends well beyond the immediate victim, however. Family members, friends, acquaintances, and the community all feel the repercussions in each case. The apparent preventability of suicide and the ensuing emotional consequences

Figure 3. Method of Suicide, 1994-1996



of such a death seem to make these deaths a more difficult problem.

The implications for public health in trying to deal with this problem are enormous. Prevention and intervention efforts have historically been few in number and limited in scope. More efforts should be made to provide early identification of people at risk of committing suicide. Mental health services should be extended to reach more people wrestling with depression and substance abuse. Efforts should be continued to restrict children's access to firearms. Only with an integrated, comprehensive approach will the rate of suicide be reduced.

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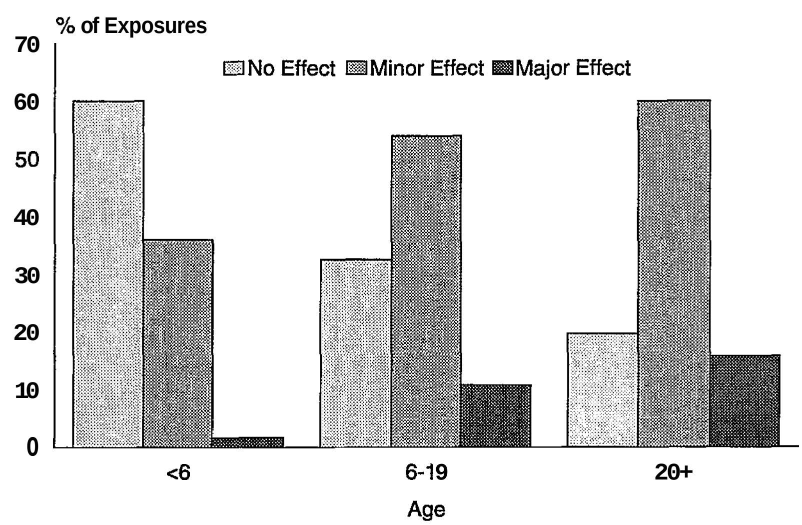
Texas Poison Center Network

The Texas Poison Center Network (TPCN) was established by the Texas State Legislature in 1993 to provide seamless coverage regarding poisonings and toxic exposures for all Texas citizens. Staffed by specially trained physicians, pharmacists, nurses, and paramedics, the Network provides a 24-hour-a-day resource for health care information and referral. In Texas the number to call is 800 POISON 1 (764-7661). A Specialist in Poison Information (SPI) from the TPCN will assess the situation, provide treatment information, direct the patient to a health care facility in those situations which warrant it, and provide follow-up services to insure proper care for the patient. State-of-the-art telecommunications technology also includes access to 911 databases across the state, allowing for immediate call conferencing between the poison victim, 911 operators, and poison center personnel. Three out of every 4 calls to a poison center are safely handled at the caller's home under the poison center's direction, thus avoiding costly ambulance transportation and unnecessary emergency room expenses.

Figure 1. Exposure Outcomes by Patient's Age



Human Exposures

There were 151,988 exposure calls reported to the TPCN during 1997. This total represents nearly 80% of all calls received by the TPCN during the year and is a slight increase from the 151,459 exposure calls received during 1996. Many of the calls to the Network are related to the health of children younger than 3 years. Calls about potentially toxic exposures to infants and toddlers constitute 42% of all exposure calls made to the network. Fortunately, the majority of these exposures are nonthreatening. In more than 60% of the exposure calls for children of these ages, the patient developed no symptoms or the exposure was determined to be nontoxic.

As can be seen in Figure 1, the severity of symptoms increased with age of the person exposed. Whereas most exposures occurring to young children are benign, about 65% of the children 6 to 19 years of age suffered at least minor effects due to the toxic exposure. Minor effects usually resolve rapidly and usually involve skin or mucous membrane manifestations, such as mild gastrointestinal symptoms, skin irritation, or limited episodes of vomiting. Among adults, 3 of every 4 exposures resulted in at least minor effects to the person exposed; 16% of these exposures resulted in major effects. Included were those which resulted in significant residual disability, disfigurement, or even death. Adults accounted for 92% of the 59 fatalities resulting from toxic exposure cases handled by the TPCN in 1997.

One of the reasons for the age differences in treatment outcomes may be the type of substance to which the person

Table 1. Top 5 Sources of Toxic Exposure Substances by Patient's Age

Substance	No.	%
<6 Years		
Cosmetics/Personal Care Products	10,850	12.5
Household Cleaning Products	9,041	10.4
Analgesics	6,415	7.4
Cold and Cough Preparations	5,944	6.9
Plants	4,906	5.7
6-19 Years		
Analgesics	3,760	15.2
Insect Bites/Envenomations	1,731	7.0
Cold and Cough Preparations	1,491	6.0
Household Cleaning Productions	1,190	4.8
Cosmetics/Personal Care Products	1,133	4.6
20+ Years		
Analgesics	4,935	10.8
Insect Bites/Envenomations	4,303	9.4
Sedatives	3,386	7.4
Household Cleaning Products	3,293	7.2
Antidepressants	2,569	5.6

is exposed. Table 1 lists the top 5 exposure substances for each age group. Not surprisingly, the toxic substances most frequently ingested by young children are contained in common household items, such as perfumes, lotions, detergents, and bleach. Cosmetics and cleaning products account for nearly one-fourth of the TPCN calls regarding toxic exposures of young children. Some of these cleaning and personal care products are also among the leading causes of exposure for older children. The most common toxic substances for older children, however, are analgesics (primarily acetaminophen and aspirin). An additional 7% of the calls for older children, and 9% of the adult calls, are in response to an insect or snake bite. Unlike for children, sedatives and antidepressants are among the most common exposure substances for adults. These substances accounted for nearly 6,000 exposure calls to the TPCN in 1997.

Poisonings are a significant cause of injury and premature death in Texas. In addition to providing treatment information, the TPCN is also engaged in prevention education initiatives. Through educational materials and curricula, community presentations, public service announcements, and other means of health education, the Network is using its resources to reduce the incidence and severity of toxic exposures in Texas.

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Tornado Disaster, May 1997

On May 27, 1997, multiple tornadoes swept through Williamson and Travis counties in central Texas. The tornadoes caused 32 injuries, 29 deaths, and an estimated $20 million in personal and commercial insured losses. This report summarizes the injuries and deaths associated with these tornadoes. Information was obtained from emergency departments, hospital records, and death certificates.

Three tornadoes swept through the towns of Jarrell, Cedar Park, and Pedernales Valley at approximately 3:40 PM, 4:00 PM, and 4:50 PM, respectively (Table 1). The first tornado, a slow-moving multivortex F-5 (Fujita Tornado Intensity Scale) (Table 2), swept a path 7.6 miles long and approximately 1320 yards wide through Jarrell. The tornado destroyed 30 permanent homes, 8 mobile homes, and 3 businesses in this predominantly rural town in Williamson County.

Table 1. Population of Towns Struck by Tornadoes and Characteristics of Injuries, Deaths, Damage, and Each Tornado, by Location–Williamson and Travis Counties, May 27, 1997

	Town		
Population/Characteristics	**Jarrell***	**Cedar Park***	**Pedernales Valley†**
Estimated Population	800	15,000	7,000
Person injured			
Level of care			
Treated and released	8	14	5
Hospitalized	4	1	0
Total	**12**	**15**	**5**
Median age (yrs.)	25	45	47
Deaths			
Cause			
Multiple trauma	26	0	0
Myocardial infarction	0	1	0
Asphyxia	1	0	0
Head Injury	0	0	1
Total	**27**	**1**	**1**
Median age of decedents (yrs.)	17	69	25
Buildings destroyed			
Permanent homes	30	11	15
Mobile homes	8	0	3
Business	3	3	2
Tornado characteristics			
Watch issued	12:54 PM	12:54 PM	3:31 PM
Warning issued	3:30 PM	3:30 PM	4:09 PM
Time of impact	3:40 PM	4:00 PM	4:50 PM
Intensity	F-5	F 3	F-4

*Williamson County
†Travis County

The second tornado (F-3) touched down in Cedar Park in Williamson County and swept a path 9.2 miles long and 250 yards wide, destroying 11 permanent homes and 3 businesses. The third tornado (F-4) swept a path 5.6 miles long and 440 yards wide through Pedernales Valley, a heavily wooded area in western Travis County, destroying 15 permanent homes, 3 mobile homes, and 2 businesses.

A total of 33 persons presented to 6 area hospitals for treatment of injuries sustained directly or indirectly by the 3 tornadoes. Of these 33 persons, 13 (39%) had multiple diagnoses. The categories of injuries included 18 lacerations (55%), 15 contusions (45%), 10 abrasions (30%), 6 strains/sprains/muscle spasms (18%), 2 fractures (6%), 1 penetrating wound (3%), and 1 closed-head injury (3%). The median age of the injured persons was 38 years (range: 1-75 years). Twenty-seven persons were treated and released from area hospitals, and 5 were admitted; 1 person died in an emergency department. Among patients admitted to the hospital, the median length of stay was 21 days (range: 1-31 days). Four persons were discharged, and 1 person was transferred to an inpatient rehabilitation facility.

Of the 29 tornado-related deaths, 27 (93%) occurred in Jarrell. Decedents' ages ranged from 5 to 69 years (median: 22 years), and 14 (48%) were aged less than 18 years; 16 (55%) were males. All but 1 death occurred at the site of the tornado. The immediate cause of death for 26 (90%) of the victims was multiple traumatic injuries; other causes of death included myocardial infarction, head injury, and asphyxia. At the time the tornadoes struck, none of the decedents were in structures with basements. In 9 families, there were 2 or more deaths; 5 members of 1 family were killed.

Table 2. Fujita Tornado Intensity Scale

Category	Description	Approximate Wind Speed	Examples of Damage
F-0	Gale tornado	40-72 mph	Chimney damage; broken tree limbs; small trees uprooted
F-1	Moderate tornado	73-112 mph	Roof surfaces partially removed; mobile homes overturned; moving automobiles pushed from roads
F-2	Significant tornado	113-157 mph	Roof surfaces removed; mobile homes demolished; railroad cars overturned; large trees uprooted or split; lightweight objects thrown
F-3	Severe tornado	158-206 mph	Roofs and walls removed; trains overturned; most trees uprooted; heavy cars thrown
F-4	Devastating tornado	207-260 mph	Houses leveled; structures with foundations moved; heavy cars and large objects thrown
F-5	Incredible tornado	261-318 mph	Homes destroyed; trees debarked; cars thrown >100 yards; incredible phenomena occur

Tornado watches were issued by the National Weather Service for Williamson County at 12:54 PM and Travis County at 3:31 PM. Tornado warnings were issued for Williamson County at 3:30 PM and Travis County at 4:09 PM. None of the 3 areas had tornado shelters or warning sirens. The Jarrell volunteer fire department siren was sounded when the tornado was spotted. (This siren is not used as a tornado warning but to summon volunteers to the firehouse.) Jarrell had experienced an F-3 tornado in 1989, resulting in 1 death and 28 injuries. Tornadoes have not been reported previously in Cedar Park or Pedernales Valley.

Adapted from Morbidity and Mortality Weekly Report (MMWR), November 14, 1997/Vol. 46/No. 45

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Traumatic Spinal Cord Injuries

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

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

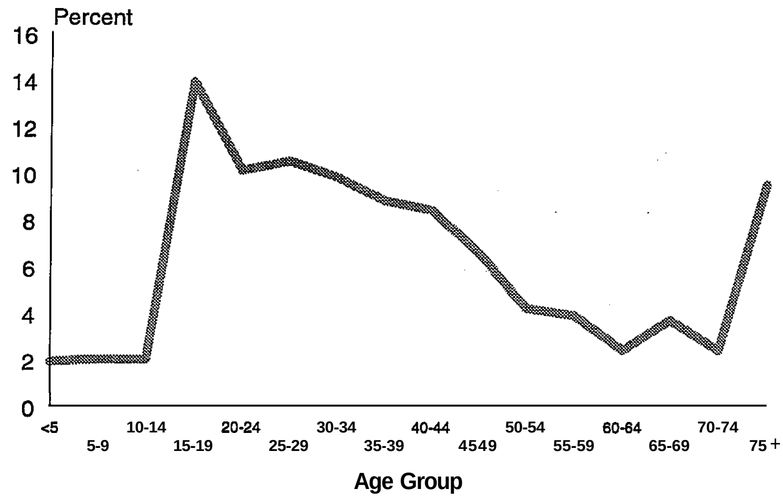
Traumatic spinal cord injuries have been a reportable condition in Texas since 1994. Physicians and hospitals are required to report such injuries to the local/regional health department or to the Texas Department of Health (TDH). Physicians and hospitals may meet their reporting requirements by either sending a paper report or transmitting data electronically to the Trauma Registry. Information collected includes items such as demographic data, etiology, intentionality, level and extent of injury, use of occupant restraints or helmets, and discharge status.

Cases of SCI occurring to Texans and reported to TDH in 1997 numbered 605 (paper and electronic cases combined). Three times as many males as females sustained an SCI. The raciallethnic distribution of SCI cases was 51% White, 30% Hispanic, 16% African American, and 3% other. Considering the racial/ethnic distribution of Texas, African Americans, who comprise 11% of the Texas population, experienced proportionally more cases of SCI.

The age of persons sustaining an SCI ranged from less than 1 day to 97 years. The median age of SCI cases was 34 years. Among five-year age groups, persons who were 15 to 19 had the highest percentage of SCIs (14%) (see Figure 1). The majority of SCIs occurred among persons aged 15 to 44 years (61%).

Eighty-four percent of SCIs occurring in 1997 were unintentionally caused, and 16% were intentionally caused (ie, self-inflicted or assault). As shown in Figure 2, the most frequent unintentional cause was motor vehicle-related incidents (61%), followed by falls (24%). Eighty-three percent of intentional injuries were assaults. Firearms were used in 67% of intentional SCIs (70% of assaults, and 50% of self-inflicted cases).

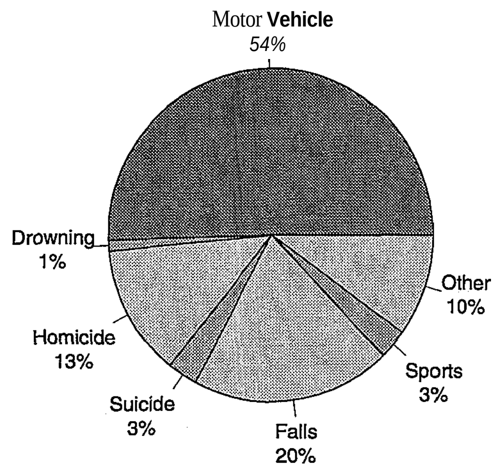
Figure 1. Spinal Cord Injuries by Age Group



Two hundred and seven (68%) motor vehicle-related SCIs occurred to persons 15 to 49 years. Persons aged 15 to 19 had the highest percentage of motor-vehicle-related (MV) SCIs (12%), followed by persons aged 30 to 34 (11%). Twenty-one percent of all SCIs caused by falls occurred to persons aged 75 years and older. The percentage of SCIs caused by falls for all 5 year age groups (0-74 years) ranged from 2% to 8%.

MV-related incidents were the leading cause of SCIs for all racial/ethnic groups (Figure 3). The second leading cause of SCIs for Whites was falls. However, the second leading cause of SCIs for African Americans and Hispanics was assault. For all causes except assault, Whites had the highest proportion of SCIs. Hispanics experienced a higher proportion of SCIs from assault than did any other race/ethnicity.

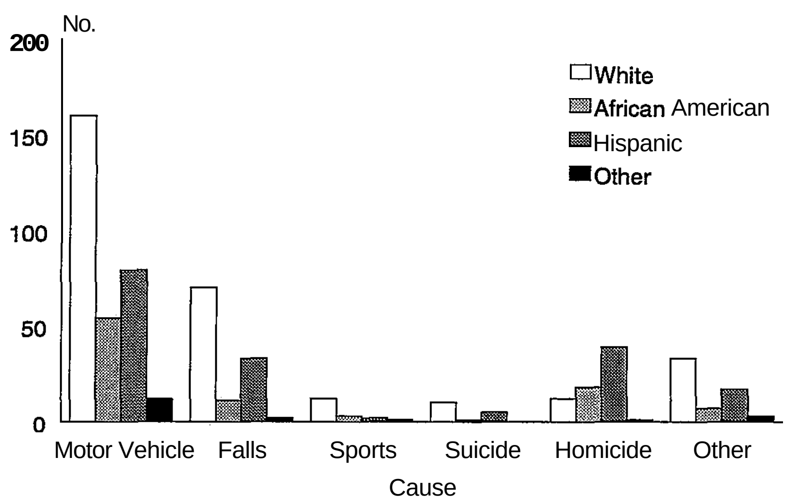
Figure 2. Spinal Cord Injuries by Etiology



Motor vehicle cases (excluding motorcycles and bicycles) accounted for 286 (92%) of all MV–related injuries. Information regarding the use of protective devices in MV-related SCIs was available for 202 cases. Among these cases, 75% of patients did not use a seat belt and/or air bag at the time of the incident. There were 24 motor vehicle-related incidents involving motorcyclists or bicyclists. Fifteen motorcyclists or bicyclists (63%) were not wearing a helmet at the time of the incident.

Among 214 patients who were tested for blood alcohol level, 73 (34%) were found to have a blood alcohol level above the statutory level of intoxication (≥100 mg/dL). Eighty-four percent of patients who were legally intoxicated were male. Fourteen percent who were legally intoxicated were under the legal drinking age (ie, under 21 years of age). Among cases in which the individuals suffered an SCI and were legally intoxicated, 48 were motor-vehicle-related incidents, 12 were falls, and 6 were assaults. Seven of the alcohol-related injuries involved firearms.

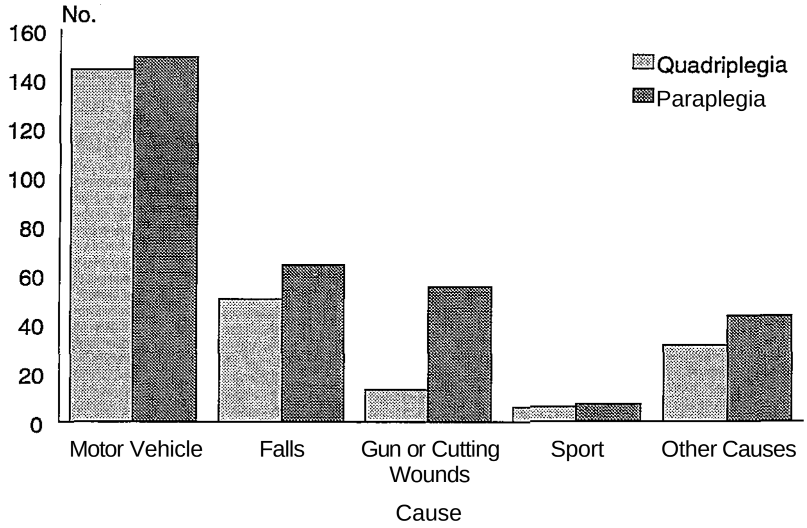
Figure 3. Spinal Cord Injuries by Cause and Race/Ethnicity



Information concerning job-related injuries was available for 399 cases. Twenty-three (6%) of these cases were job-related: 10 patients were injured while in a motor vehicle, 7 fell, 4 were struck by falling or moving objects, and 2 were using machinery.

Figure 4 shows the injury level and the extent of neurological impairment of SCI patients. The severity of the SCI refers to both the level of the injury (ie, the injured segment of the spinal cord) and the amount of neurological impairment below the level of the injury. Forty percent of injuries resulted in quadriplegia (ie, injury to the cervical segments of the spinal cord), 53% in paraplegia (injury in the thoracic, lumbar, or sacral segments of spinal cord), and 6% in injury of unspecified segments; 1% of injury reports had missing information concerning the injured segment. Three times as many quadriplegics died as did with paraplegics. Vehicle-related incidents and sport incidents resulted in nearly the same number of cases of quadriplegia and paraplegia. However, falls and gun or cutting wounds resulted in more cases of paraplegia than of quadriplegia. Status regarding patients' use of protective devices (seat belts, air bags, and helmets) was available for 276 patients. More than two-thirds of all 276 patients did not use a protective device. The total number of persons involved in these activities is not known.

Figure 4. Level of Injury by Cause



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Trichloroethylene in Groundwater

Trichloroethylene (TCE) is a toxic chemical solvent used to remove grease from metal parts. From the 1940s to the 1970s, large amounts of TCE were used in many industries. The US military used TCE in manufacturing and repair operations at **3** sites in Texas: Air Force Plant 4 in Fort Worth, Tarrant County; Kelly Air Force Base in San Antonio, Bexar County; and Longhorn Army Ammunition Plant in Karnack, Harrison County. TCE leaked from storage tanks at these sites and seeped into the underlying groundwater. Although the military has eliminated or significantly reduced the use of TCE since the 1970s, large underground plumes of contamination exist at each site as a result of past TCE use.

Assessment of Public Health Risks: High concentrations of TCE are present in upper level aquifers at all 3 sites. The Health Risk Assessment and Toxicology (HRAT) Program works with the Agency for Toxic Substances and Disease Registry (ATSDR), a federal environmental health agency of the US Department of Health and Human Services, to determine if the groundwater contamination poses a threat to public health. Some studies have found that drinking water containing TCE may be associated with birth defects and childhood leukemia. However, these studies, while suggestive, are inconclusive. Most residents near each site are connected to public water supply systems that obtain water from sources unaffected by the contamination. Health and environmental officials have surveyed domestic water well use near each site and have determined that residents are not using TCE contaminated water for drinking. Although currently not a public health danger, the migration of TCE into deeper aquifer layers that are used as drinking water sources could result in future public health risk. While regular testing of public water supplies ensures their safety, permanent containment or removal of TCE in the groundwater at each site is planned to ensure the continued safety of public water supply sources.

Groundwater Cleanup: Groundwater extraction wells at each site allow environmental engineers to monitor and reduce the spread of the TCE groundwater plumes. Long-term groundwater cleanup systems are operating at Air Force Plant 4 and Longhorn Army Ammunition Plant. These cleanup systems pump the contaminated groundwater to the surface and remove contaminants from it. The final cleanup plan at Kelly AFB is in the design and approval phase. In each case, the groundwater cleanup process will likely take many years to complete.

HRAT is working with ATSDR to complete a Public Health Assessment for each site. The Public Comment draft of the Public Health Assessment document for each site will be released in 1998. These assessments will evaluate any potential public health risks due to the TCE contamination and will propose actions to reduce or eliminate any present or future exposures.

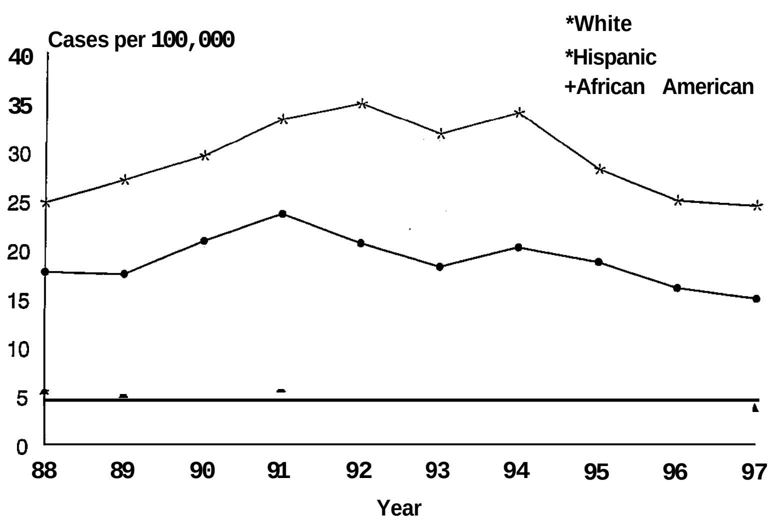
Environmental Epidemiology and Toxicology Division (512) 458-7222

Tuberculosis

Tuberculosis is a bacterial disease caused by *Mycobacteriunz tuberculosis.* This bacteria primarily infects the lungs and is transmitted from person-to-person by inhalation of droplet nuclei containing the bacteria. Patients with pulmonary or laryngeal tuberculosis generate nuclei when they talk, cough, or sneeze. A majority of patients experience pulmonary tuberculosis characterized by fever, night sweats, weight loss, difficulty breathing, and cough.

From 1987 through 1996, 22,257 tuberculosis cases were reported in Texas. The number reported annually ranged from 1,757 cases reported in 1987 to 2,542 cases reported in 1994. A total of 1,992 tuberculosis cases were reported in Texas in 1997. This represents a 5.3% decline from the number of cases reported in 1996 and 550 fewer cases compared with the number of reported cases in 1994. The incidence rate in 1997 was 10.3 cases per 100,000 population.

Figure 1. Tuberculosis Incidence Rates by Race/Ethnicity, 1988-1997



In 1997, most patients were male (66.1%) and a majority (69.9%) were Hispanic or African American. Incidence rates (cases per 100,000 population) for Whites, Hispanics, and African Americans were 3.7, 15.0, and 24.4, respectively. Figure 1 shows annual incidence rates by race for 1988 through 1997. For each year, Whites had the lowest rates and African Americans had the highest rates. Rates for Hispanics and African American showed a trend of increasing then decreasing rates. From 1988 to 1997, incidence rates for Whites have decreased 31%. Rates for African Americans have decreased only 4%.

The initial treatment of tuberculosis involves administration of 4 drugs—isoniazid, rifampin, pyrazinamide, and either ethambutol or streptomycin—until drug susceptibility test results are obtained. Drug susceptibility test results determine the choice of drugs and duration to complete therapy. For patients with drug resistance, therapy may continue for 2 years or longer. In the United States, tuberculosis incidence rates are higher in males, minority populations, and in older age groups. Areas in the United States reporting the highest incidence rates include New York City and the states of California, Florida, New Jersey, and Texas.

The 1,992 cases reported in 1997 ranged in age from less than 1 year to 106 years, median 42 years. A total of 85 patients were 4 years of age or younger. A majority (94.2%) of patients 4 years of age or younger were Hispanic or African American.

Almost one-third of the patients (32.0%) were born outside the United States. Only 5.0% of Whites were foreign born. A higher percentage of Hispanics (48.1%) and Asians (88.9%) were foreign born. The most frequent countries of birth for those born outside the United States were Mexico (56.7%), Vietnam (12.0%), India (4.5%), and the Philippines (4.1%). Over 40% (42%) of the foreign-born patients arrived in the United States within the last 5 years; 12% arrived in 1997.

A total of 214 tuberculosis patients were coinfected with human immunodeficiency virus (HIV). A higher percentage (21.0%) of African Americans were coinfected with HIV compared with Hispanics (6.2%). Similarly, a higher percentage (13.0%) of males were coinfected with HIV compared with females (6.4%).

A history of incarceration was reported for 12.0% of the patients, substance abuse for 13.2%, and homelessness for 6.8%. A previous history of tuberculosis was reported for 74 patients.

A total of 1,610 cases were culture confirmed; 116 patients (7.2%) were infected with a drug resistant strain of *Mycobacterium tuberculosis.* By comparison, 8.6% of patients reported in 1996 had drug resistant strains. Isoniazid resistance was noted, whether alone or in combination with other drugs, in 3.9%. Rifampin resistance was noted in 1.8%. Any M. *tuberculosis* strain that is resistant to both isoniazid and rifampin is classified as multidrug-resistant tuberculosis (MDR-TB). Ten patients in 1997 were identified as having MDR-TB. Two of these 10 patients had tuberculosis resistant to all 4 first-line antibiotics—isoniazid, rifampin, pyrazinamide, and etharnbutol. Multidrug resistance, was more common in recurrent cases (4.0%) compared with new cases (0.6%) and more common in foreign-born patients (1.6%) compared with patients born in the United States (0.3%). Resistance to rifampin was more common in tuberculosis patients with HIV infection (4.2%) compared with tuberculosis patients without HIV infection (1.6%).

Patients with tuberculosis resided in 130 counties throughout the state. A majority (74.9%) resided in only 10 of the 254 counties in Texas. Harris County was the county of residence for 613 patients; 279 patients resided in Dallas County. Eleven counties had an annual incidence rate at least twice the state rate. Four of the 11 counties with the highest incidence rates were located along the Mexico-Texas border. Annual incidence rate for Harris County and Dallas County were 19.7 and 13.8, respectively.

Tuberculosis Elimination Division
(512) 458-7447

Varicella Surveillance Project

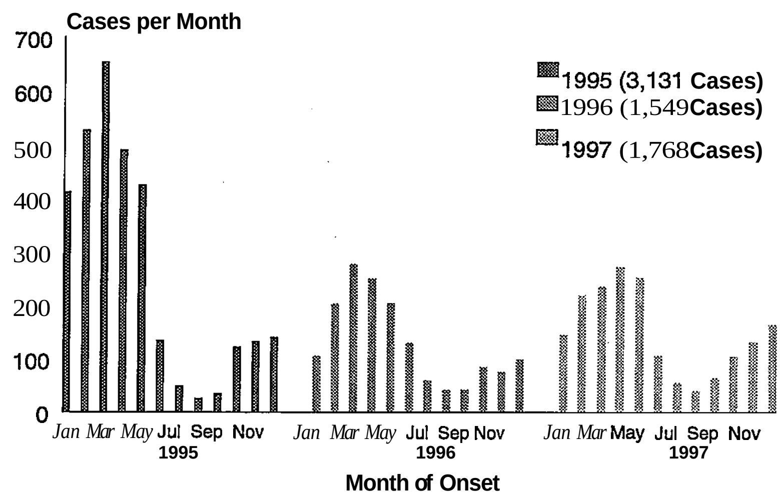
Varicella is a highly contagious, viral disease that affects virtually all people in the United States by adulthood. Primary infection results in chickenpox, which presents as a generalized, pruritic, vesicular rash and may be accompanied by mild fever and systemic symptoms. Complications include bacterial superinfecton, viral pneumonia, encephalitis, meningitis, and thrombocytopenia. Secondary infection of lesions with invasive group A streptococci (GAS) may cause necrotizing fasciitis or toxic shock syndrome.

The Varicella Surveillance Project (VSP) in Travis County was established by the Centers for Disease Control and Prevention (CDC) to monitor varicella disease trends through active surveillance and epidemiological studies prior to and after licensure of varicella vaccine. The 5-year study began in January 1995. Two similar projects are being conducted in West Philadelphia, Pennsylvania, and in the Antelope Valley of Los Angeles County, California. Varicella vaccine was licensed in the United States on March 17, 1995. In May 1996 it was made available through the Vaccines for Children (VFC) program for vaccination of children who met VFC eligibility criteria and who were either 12 through 18 months of age or 11 through 12 years of age with no history of chickenpox infection, or younger than 19 years of age and living with an irnmunocompromised person. In June 1997, VFC coverage of varicella vaccine was expanded to all eligible children at least 12 months old and born on or after January 1, 1983.

Approximately 500 sentinel reporting sites are participating in the Travis County VSP. These sentinels include approximately 60% of the licensed day-care facilities, 30% of public and private schools, a large university, all public health clinics and hospitals, and approximately 40% of the family practice, general practice, and pediatric physicians in Travis County. All reported cases of chickenpox are thoroughly investigated to obtain detailed epidemiological information including varicella vaccine status.

The number of confirmed VSP chickenpox cases declined by 50% from 3,131 in 1995 to 1,549 in 1996 (Figure 1). A confirmed case was one which met all of the following criteria: the illness met the case definition of chickenpox, the patient resided within Travis County, and an investigation was completed. In 1997, 1,768 cases were successfully investigated and confirmed. As in previous years, the majority (63%) of the cases occurred during the winter and spring (January through May).

Figure 1. Confirmed Varicella Cases by Month in Travis County, 1995-1997



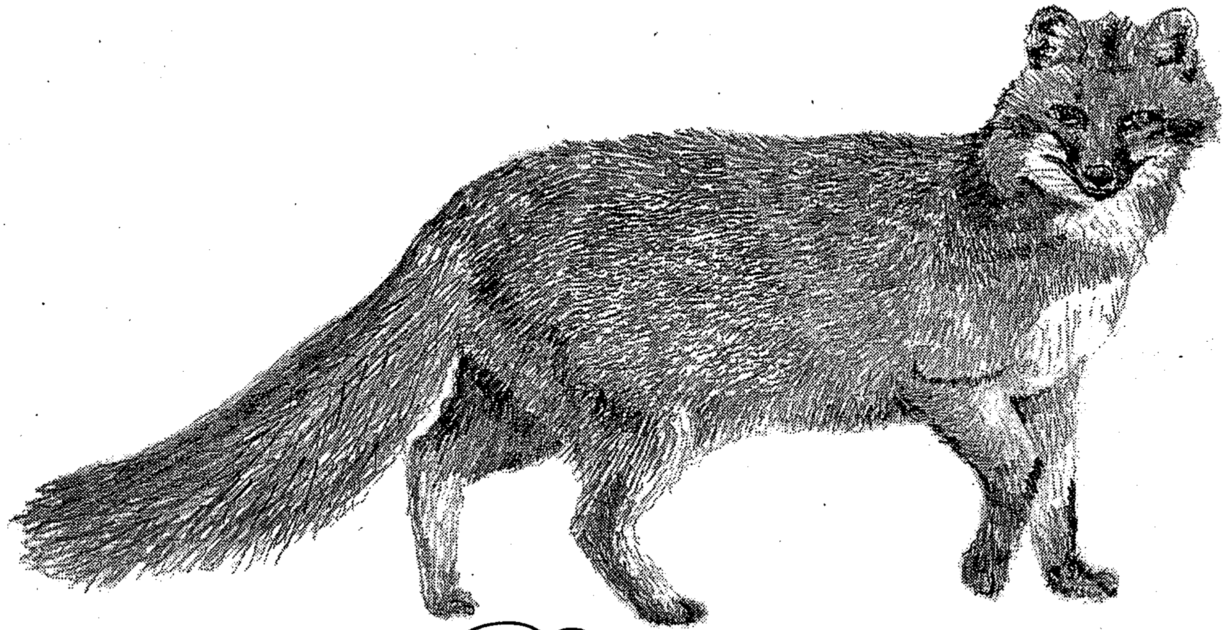
Cases were distributed fairly evenly between the sexes, with males accounting for 52% of the cases. In 1995, the distribution of cases by race/ethnicity (55% non-Hispanic White, 27% Hispanic, 13% Black, 4% Asian/Pacific Islander, and 1% "other") was proportional to the county population. Although the percentage of persons of Hispanic ethnicity remained at 23% to 25% in Travis County from 1995 to 1997, the percentage of case-patients of Hispanic ethnicity rose from 27% in 1995 to 41% in both 1996 and 1997. The distribution by race/ethnicity of the non-Hispanic cases in 1997 was 40% White, 14% Black, and 2% Asian/Pacific Islander. The race for 3% of the case-patients was reported as "other" or "unknown."

In each year of the study, the highest proportion of cases occurred in children 1 through 4 years of age. The proportion of cases occurring in this age group, however, declined from 58% in 1995 to 47% in 1997. Correspondingly, the proportion of the second most prevalent age group, those 5 through 9 years of age, increased from 26% to 34%. Although the decrease in the number of cases from 1995 to 1996 may reflect cyclical variation of the disease or changes in the level of reporting, the decreased proportion of cases in the 1 through 4 year age group may reflect the pattern of vaccine administration in Travis County. Six Travis County health maintenance organizations reported administering 2,562 doses of varicella vaccine in 1995, 2,506 doses in 1996, and 3,225 doses in 1997. Eighty-seven percent of these doses were administered to children 1 through 4 years of age, 8% to children ages 5 through 9 years of age, 2% to children 10 through 14 years of age, 1% to adolescents 15 through 19 years of age, and 3% to adults. Public health clinics in Travis County administered 356 doses of varicella vaccine in 1996 (beginning in September), and 2,720 doses in 1997. Ninety-six percent of these doses were administered to children 1 through 4 years of age, 1% to children ages 5 through 9 years of age, 2% to children 10 through 14 years of age, and less than 1% to all other ages. Although vaccine is not licensed for children under 1 year of age, both private and public sources reported 1% of varicella vaccine doses were administered to infants in this age group.

Seventy-nine (4%) of the case-patients with varicella confirmed by the Travis County VSP in 1997 had been vaccinated against varicella prior to onset of disease; 64 were considered breakthrough cases, and 15 were most likely vaccinated after their exposure to varicella. A varicella breakthrough case is one in which rash onset occurs more than 42 days after varicella vaccination. Breakthrough case-patients were more likely to have fewer than 50 chickenpox lesions (72%) than were unvaccinated case-patients (40%).

Eighteen varicella patients were hospitalized, including 4% of case-patients 20 years of age or older, 5% of those less than 1 year of age, and less than 1% of all other age groups. Hospital stays ranged from 1 to 12 days (median=4 days). There were no fatalities in Travis County. A review of 1997 Texas death certificates revealed 8 deaths (4 children and 4 adults) that mentioned varicella as an immediate or contributing cause of death. Varicella deaths are often related to secondary infection and may not be captured by review of death certificate data. For example, the death of 1 child caused by group A streptococcus septicemia and pneumonia following varicella infection was recorded by the Texas Department of Health during a GAS outbreak investigation. Varicella, however, was not recorded on the death certificate.

Immunization Division (512) 458-7284



Regional Statistical Summaries

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 1 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARMSTRONG	1,991	0	0.0	1	50.2	0	0.0	0	0.0
BAILEY	7,346	0	0.0	0	0.0	3	40.8	4	54.5
BRISCOE	1,928	0	0.0	0	0.0	3	155.6	0	0.0
CARSON	6,471	0	0.0	0	0.0	5	77.3	0	0.0
CASTRO	9,463	0	0.0	1	10.6	4	42.3	3	31.7
CHILDRESS	6,627	0	0.0	0	0.0	1	15.1	0	0.0
COCHRAN	4,715	0	0.0	2	42.4	1	21.2	0	0.0
COLLINGSWORTH	3,429	0	0.0	2	58.3	1	29.2	1	29.2
CROSBY	7,548	0	0.0	1	13.2	4	53.0	9	119.2
DALLAM	5,487	0	0.0	1	18.2	0	0.0	0	0.0
DEAF SMITH	19,932	0	0.0	8	40.1	14	70.2	11	55.2
DICKENS	2,484	0	0.0	0	0.0	2	80.5	2	80.5
DONLEY	3,516	0	0.0	0	0.0	0	0.0	0	0.0
FLOYD	8,729	0	0.0	1	11.5	3	34.4	0	0.0
GARZA	5,255	0	0.0	0	0.0	0	0.0	1	19.0
GRAY	23,142	0	0.0	2	8.6	1	4.3	1	4.3
HALE	35,986	0	0.0	3	8.3	7	19.5	2	5.6
HALL	3,718	0	0.0	0	0.0	0	0.0	0	0.0
HANSFORD	5,860	0	0.0	0	0.0	0	0.0	0	0.0
HARTLEY	4,581	0	0.0	0	0.0	0	0.0	0	0.0
HEMPHILL	3,658	0	0.0	1	27.3	0	0.0	0	0.0
HOCKLEY	24,538	0	0.0	0	0.0	3	12.2	8	32.6
HUTCHINSON	25,004	0	0.0	1	4.0	6	24.0	1	4.0
KING	377	0	0.0	0	0.0	0	0.0	0	0.0
LAMB	14,738	0	0.0	4	27.1	4	27.1	0	0.0
LIPSCOMB	3,077	0	0.0	0	0.0	0	0.0	1	32.5
LUBBOCK	229,027	1	0.4	51	22.3	61	26.6	626	273.3
LYNN	6,838	0	0.0	0	0.0	1	14.6	4	58.5
MOORE	18,721	0	0.0	0	0.0	4	21.4	7	37.4
MOTLEY	1,455	0	0.0	1	68.7	1	68.7	0	0.0
OCHILTREE	9,085	0	0.0	0	0.0	2	22.0	0	0.0
OLDHAM	2,227	0	0.0	0	0.0	0	0.0	0	0.0
PARMER	10,328	0	0.0	0	0.0	11	106.5	2	19.4
POTTER	104,123	0	0.0	34	32.7	47	45.1	11	10.6
RANDALL	103,840	0	0.0	18	17.3	14	13.5	2	1.9
ROBERTS	1,017	0	0.0	0	0.0	0	0.0	0	0.0
SHERMAN	2,920	0	0.0	0	0.0	1	34.2	0	0.0
SWISHER	8,626	0	0.0	1	11.6	6	69.6	0	0.0
TERRY	13,998	0	0.0	0	0.0	7	50.0	3	21.4
WHEELER	5,486	0	0.0	2	36.5	1	18.2	0	0.0
YOAKUM	9,265	0	0.0	1	10.8	0	0.0	1	10.8
REGIONAL TOTALS	766,556	1	0.1	136	17.7	218	28.4	700	91.3
STATEWIDE TOTALS	19,307,376	153	0.8	981	5.1	2,793	14.5	3,504	18.1'

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 1 - 1997

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARMSTRONG	1,991	0	0.0	0	0.0	0	0.0	0	0.0
BAILEY	7,346	6	81.7	1	13.6	0	0.0	0	0.0
BRISCOE	1,928	0	0.0	0	0.0	0	0.0	0	0.0
CARSON	6,471	0	0.0	0	0.0	0	0.0	0	0.0
CASTRO	9,463	1	10.6	0	0.0	0	0.0	0	0.0
CHILDRESS	6,627	0	0.0	2	30.2	0	0.0	0	0.0
COCHRAN	4,715	1	21.2	2	42.4	0	0.0	0	0.0
COLLINGSWORTH	3,429	1	29.2	0	0.0	0	0.0	0	0.0
CROSBY	7,548	0	0.0	0	0.0	0	0.0	0	0.0
DALLAM	5,487	1	18.2	0	0.0	0	0.0	0	0.0
DEAF SMITH	19,932	5	25.1	2	10.0	2	10.0	0	0.0
DICKENS	2,484	0	0.0	0	0.0	0	0.0	0	0.0
DONLEY	3,516	1	28.4	0	0.0	0	0.0	0	0.0
FLOYD	8,729	0	0.0	0	0.0	0	0.0	0	0.0
GARZA	5,255	2	38.1	1	19.0	0	0.0	0	0.0
GRAY	23,142	11	47.5	10	43.2	0	0.0	0	0.0
HALE	35,986	3	8.3	0	0.0	0	0.0	0	0.0
HALL	3,718	0	0.0	0	0.0	0	0.0	0	0.0
HANSFORD	5,860	0	0.0	0	0.0	0	0.0	0	0.0
HARTLEY	4,581	0	0.0	0	0.0	0	0.0	0	0.0
HEMPHILL	3,658	0	0.0	0	0.0	0	0.0	0	0.0
HOCKLEY	24,538	5	20.4	2	8.2	1	4.1	0	0.0
HUTCHINSON	25,004	11	44.0	0	0.0	1	4.0	0	0.0
KING	377	0	0.0	0	0.0	0	0.0	0	0.0
LAMB	14,738	3	20.4	0	0.0	0	0.0	0	0.0
LIPSCOMB	3,077	0	0.0	0	0.0	0	0.0	0	0.0
LUBBOCK	229,027	20	8.7	21	9.2	12	5.2	0	0.0
LYNN	6,838	1	14.6	0	0.0	0	0.0	0	0.0
MOORE	18,721	6	32.0	2	10.7	1	5.3	0	0.0
MOTLEY	1,455	0	0.0	0	0.0	0	0.0	0	0.0
OCHILTREE	9,085	0	0.0	0	0.0	0	0.0	0	0.0
OLDHAM	2,227	0	0.0	0	0.0	0	0.0	0	0.0
PARMER	10,328	6	58.1	0	0.0	0	0.0	0	0.0
POTTER	104,123	34	32.7	26	25.0	1	1.0	0	0.0
RANDALL	103,840	13	12.5	3	2.9	0	0.0	0	0.0
ROBERTS	1,017	0	0.0	0	0.0	0	0.0	0	0.0
SHERMAN	2,920	0	0.0	0	0.0	0	0.0	0	0.0
SWISHER	8,626	1	11.6	1	11.6	0	0.0	0	0.0
TERRY	13,998	8	57.2	0	0.0	0	0.0	0	0.0
WHEELER	5,486	1	18.2	3	54.7	0	0.0	0	0.0
YOAKUM	9,265	1	10.8	0	0.0	1	10.8	0	0.0
REGIONAL TOTALS	766,556	142	18.5	76	9.9	19	2.5	0	0.0
STATEWIDE TOTALS	19,307,376	4,511	23.4	1,245	6.4	376	1.9	31	0.2

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 1 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARMSTRONG	1,991	0	0.0	0	0.0	0	0.0	0	0.0
BAILEY	7,346	0	0.0	11	149.7	0	0.0	0	0.0
BRISCOE	1,928	0	0.0	0	0.0	0	0.0	0	0.0
CARSON	6,471	1	15.5	0	0.0	0	0.0	0	0.0
CASTRO	9,463	1	10.6	0	0.0	0	0.0	0	0.0
CHILDRESS	6,627	0	0.0	0	0.0	0	0.0	0	0.0
COCHRAN	4,715	0	0.0	4	84.8	0	0.0	0	0.0
COLLINGSWORTH	3,429	0	0.0	0	0.0	0	0.0	0	0.0
CROSBY	7,548	0	0.0	10	132.5	0	0.0	0	0.0
DALLAM	5,487	0	0.0	0	0.0	0	0.0	0	0.0
DEAF SMITH	19,932	0	0.0	74	371.3	0	0.0	0	0.0
DICKENS	2,484	0	0.0	0	0.0	0	0.0	0	0.0
DONLEY	3,516	0	0.0	0	0.0	0	0.0	0	0.0
FLOYD	8,729	0	0.0	18	206.2	0	0.0	0	0.0
GARZA	5,255	0	0.0	132	2,511.9	1	19.0	0	0.0
GRAY	23,142	0	0.0	1	4.3	0	0.0	0	0.0
HALE	35,986	2	5.6	306	850.3	0	0.0	0	0.0
HALL	3,718	0	0.0	0	0.0	0	0.0	0	0.0
HANSFORD	5,860	0	0.0	0	0.0	0	0.0	0	0.0
HARTLEY	4,581	0	0.0	0	0.0	0	0.0	0	0.0
HEMPHILL	3,658	0	0.0	2	54.7	0	0.0	0	0.0
HOCKLEY	24,538	2	8.2	0	0.0	0	0.0	4	16.3
HUTCHINSON	25,004	0	0.0	0	0.0	1	4.0	1	4.0
KING	377	0	0.0	0	0.0	0	0.0	0	0.0
LAMB	14,738	0	0.0	8	54.3	1	6.8	0	0.0
LIPSCOMB	3,077	0	0.0	0	0.0	0	0.0	0	0.0
LUBBOCK	229,027	11	4.8	1,030	449.7	1	0.4	6	2.6
LYNN	6,838	0	0.0	30	438.7	0	0.0	0	0.0
MOORE	18,721	1	5.3	0	0.0	0	0.0	1	5.3
MOTLEY	1,455	0	0.0	0	0.0	0	0.0	0	0.0
OCHILTREE	9,085	0	0.0	0	0.0	0	0.0	0	0.0
OLDHAM	2,227	0	0.0	0	0.0	0	0.0	0	0.0
PARMER	10,328	0	0.0	8	77.5	0	0.0	0	0.0
POTTER	104,123	17	16.3	129	123.9	0	0.0	1	1.0
RANDALL	103,840	1	1.0	0	0.0	0	0.0	1	1.0
ROBERTS	1,017	0	0.0	0	0.0	0	0.0	0	0.0
SHERMAN	2,920	0	0.0	0	0.0	0	0.0	0	0.0
SWISHER	8,626	0	0.0	0	0.0	1	11.6	0	0.0
TERRY	13,998	0	0.0	1	7.1	0	0.0	0	0.0
WHEELER	5,486	1	18.2	23	419.2	0	0.0	0	0.0
YOAKUM	9,265	1	10.8	11	118.7	0	0.0	1	10.8
REGIONAL TOTALS	766,556	38	5.0	1,798	234.6	5	0.7	15	2.0
STATEWIDE TOTALS	19,307,376	1,018	5.3	26,688	138.2	44	0.2	1,992	10.3

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

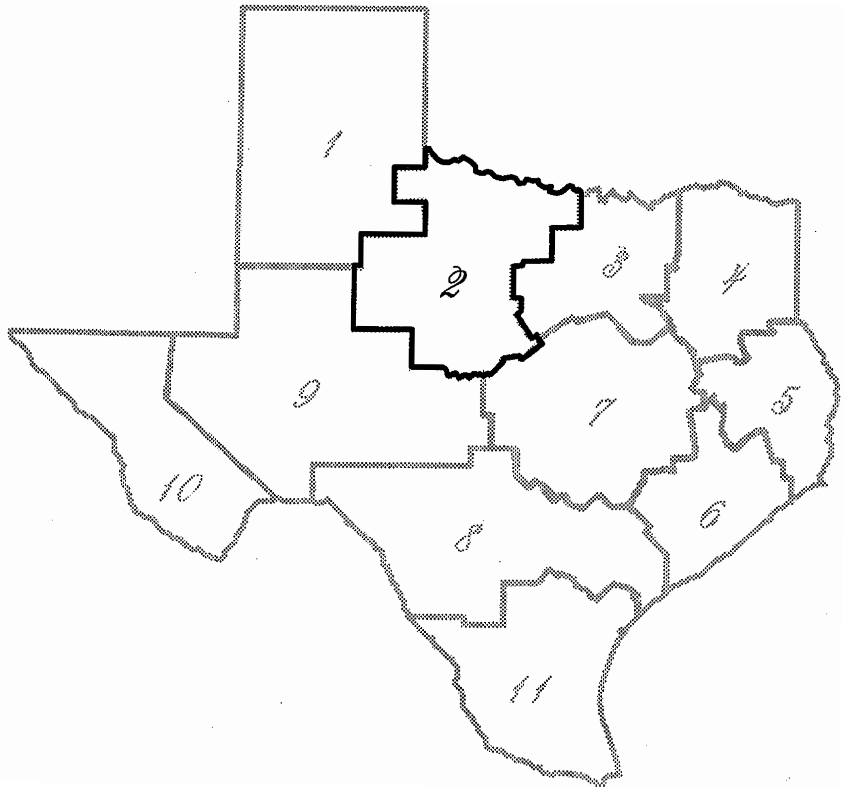
PUBLIC HEALTH REGION 1 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARMSTRONG	1,991	0	0.0	1	50.2	0	0.0	0	0.0
BAILEY	7,346	0	0.0	12	163.4	2	27.2	0	0.0
BRISCOE	1,928	0	0.0	4	207.5	0	0.0	0	0.0
CARSON	6,471	0	0.0	2	30.9	0	0.0	0	0.0
CASTRO	9,463	0	0.0	23	243.1	1	10.6	0	0.0
CHILDRESS	6,627	1	15.1	15	226.3	2	30.2	0	0.0
COCHRAN	4,715	0	0.0	3	63.6	1	21.2	0	0.0
COLLINGSWORTH	3,429	0	0.0	4	116.7	3	87.5	0	0.0
CROSBY	7,548	0	0.0	16	212.0	6	79.5	0	0.0
DALLAM	5,487	1	18.2	12	218.7	2	36.4	0	0.0
DEAF SMITH	19,932	0	0.0	66	331.1	6	30.1	0	0.0
DICKENS	2,484	0	0.0	4	161.0	0	0.0	0	0.0
DONLEY	3,516	0	0.0	4	113.8	0	0.0	0	0.0
FLOYD	8,729	0	0.0	12	137.5	2	22.9	0	0.0
GARZA	5,255	1	19.0	23	437.7	2	38.1	0	0.0
GRAY	23,142	0	0.0	59	254.9	22	95.1	0	0.0
HALE	35,986	1	2.8	107	297.3	27	75.0	1	2.8
HALL	3,718	0	0.0	2	53.8	4	107.6	0	0.0
HANSFORD	5,860	0	0.0	4	68.3	1	17.1	0	0.0
HARTLEY	4,581	0	0.0	0	0.0	0	0.0	0	0.0
HEMPHILL	3,658	1	27.3	5	136.7	1	27.3	0	0.0
HOCKLEY	24,538	1	4.1	57	232.3	15	61.1	0	0.0
HUTCHINSON	25,004	0	0.0	74	296.0	32	128.0	0	0.0
KING	377	0	0.0	0	0.0	0	0.0	0	0.0
LAMB	14,738	1	6.8	30	203.6	6	40.7	0	0.0
LIPSCOMB	3,077	0	0.0	3	97.5	0	0.0	0	0.0
LUBBOCK	229,027	24	10.5	1010	441.0	476	207.8	2	0.9
LYNN	6,838	0	0.0	16	234.0	1	14.6	0	0.0
MOORE	18,721	0	0.0	69	368.6	1	5.3	0	0.0
MOTLEY	1,455	0	0.0	0	0.0	0	0.0	0	0.0
OCHILTREE	9,085	1	11.0	12	132.1	1	11.0	0	0.0
OLDHAM	2,227	0	0.0	0	0.0	0	0.0	0	0.0
PARMER	10,328	1	9.7	6	58.1	1	9.7	0	0.0
POTTER	104,123	22	21.1	548	526.3	247	237.2	1	1.0
RANDALL	103,840	3	2.9	169	162.8	57	54.9	0	0.0
ROBERTS	1,017	0	0.0	2	196.7	0	0.0	0	0.0
SHERMAN	2,920	0	0.0	1	34.2	0	0.0	0	0.0
SWISHER	8,626	0	0.0	21	243.5	3	34.8	0	0.0
TERRY	13,998	0	0.0	29	207.2	3	21.4	0	0.0
WHEELER	5,486	0	0.0	6	109.4	0	0.0	1	18.2
YOAKUM	9,265	0	0.0	16	172.7	2	21.6	0	0.0
REGIONAL TOTALS	766,556	58	7.61	2,447	319.2	927	120.9	5	0.7
STATEWIDE TOTALS	19,307,376	4,386	22.7	50,119	259.6	26,378	136.6	648	3.4

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 1 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARMSTRONG	1,991	0	0.0	0	0.0	0	0.0	0	0.0
BAILEY	7,346	0	0.0	0	0.0	0	0.0	0	0.0
BRISCOE	1,928	0	0.0	0	0.0	0	0.0	0	0.0
CARSON	6,471	0	0.0	0	0.0	0	0.0	0	0.0
CASTRO	9,463	0	0.0	0	0.0	0	0.0	0	0.0
CHILDRESS	6,627	0	0.0	0	0.0	0	0.0	0	0.0
COCHRAN	4,715	0	0.0	0	0.0	0	0.0	0	0.0
COLLINGSWORTH	3,429	0	0.0	0	0.0	0	0.0	0	0.0
CROSBY	7,548	0	0.0	0	0.0	0	0.0	0	0.0
DALLAM	5,487	0	0.0	0	0.0	0	0.0	0	0.0
DEAF SMITH	19,932	0	0.0	0	0.0	1	5.0	0	0.0
DICKENS	2,484	0	0.0	0	0.0	0	0.0	0	0.0
DONLEY	3,516	0	0.0	0	0.0	0	0.0	0	0.0
FLOYD	8,729	0	0.0	0	0.0	0	0.0	0	0.0
GARZA	5,255	0	0.0	0	0.0	0	0.0	0	0.0
GRAY	23,142	0	0.0	0	0.0	0	0.0	0	0.0
HALE	35,986	0	0.0	0	0.0	0	0.0	0	0.0
HALL	3,718	0	0.0	0	0.0	0	0.0	0	0.0
HANSFORD	5,860	0	0.0	0	0.0	0	0.0	0	0.0
HARTLEY	4,581	0	0.0	0	0.0	0	0.0	0	0.0
HEMPHILL	3,658	0	0.0	0	0.0	0	0.0	0	0.0
HOCKLEY	24,538	0	0.0	1	4.1	1	4.1	0	0.0
HUTCHINSON	25,004	0	0.0	0	0.0	0	0.0	0	0.0
KING	377	0	0.0	0	0.0	0	0.0	0	0.0
LAMB	14,738	0	0.0	0	0.0	0	0.0	0	0.0
LIPSCOMB	3,077	0	0.0	0	0.0	0	0.0	0	0.0
LUBBOCK	229,027	0	0.0	2	0.9	6	2.6	0	0.0
LYNN	6,838	0	0.0	0	0.0	0	0.0	0	0.0
MOORE	18,721	0	0.0	0	0.0	0	0.0	0	0.0
MOTLEY	1,455	0	0.0	0	0.0	0	0.0	0	0.0
OCHILTREE	9,085	0	0.0	0	0.0	0	0.0	0	0.0
OLDHAM	2,227	0	0.0	0	0.0	0	0.0	0	0.0
PARMER	10,328	0	0.0	0	0.0	1	9.7	0	0.0
POTTER	104,123	0	0.0	1	1.0	1	1.0	0	0.0
RANDALL	103,840	0	0.0	0	0.0	0	0.0	0	0.0
ROBERTS	1,017	0	0.0	0	0.0	0	0.0	0	0.0
SHERMAN	2,920	0	0.0	0	0.0	0	0.0	0	0.0
SWISHER	8,626	0	0.0	0	0.0	0	0.0	0	0.0
TERRY	13,998	0	0.0	0	0.0	0	0.0	0	0.0
WHEELER	5,486	0	0.0	0	0.0	0	0.0	0	0.0
YOAKUM	9,265	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	766,556	0	0.0	4	0.5	10	1.3	0	0.0
STATEWIDE TOTALS	19,307,376	7	0.0	75	0.4	233	1.2	12	0.1



Public Health Region 2

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 2 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARCHER	8,245	0	0.0	0	0.0	1	12.1	1	12.1
BAYLOR	4,171	0	0.0	0	0.0	1	24.0	0	0.0
BROWN	34,223	0	0.0	0	0.0	0	0.0	0	0.0
CALLAHAN	11,905	0	0.0	0	0.0	3	25.2	1	8.4
CLAY	9,979	0	0.0	0	0.0	1	10.0	0	0.0
COLEMAN	9,319	0	0.0	0	0.0	1	10.7	0	0.0
COMANCHE	13,189	0	0.0	0	0.0	1	7.6	1	7.6
COTTLE	2,156	0	0.0	0	0.0	0	0.0	0	0.0
EASTLAND	17,709	0	0.0	0	0.0	22	124.2	1	5.6
FISHER	4,693	0	0.0	0	0.0	1	21.3	0	0.0
FOARD	1,722	0	0.0	0	0.0	0	0.0	0	0.0
HARDEMAN	5,056	0	0.0	0	0.0	0	0.0	0	0.0
HASKELL	6,607	0	0.0	1	15.1	3	45.4	0	0.0
JACK	6,871	0	0.0	0	0.0	0	0.0	0	0.0
JONES	18,206	0	0.0	2	11.0	2	11.0	2	11.0
KENT	1,010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,736	0	0.0	0	0.0	2	42.2	1	21.1
MITCHELL	9,792	0	0.0	0	0.0	0	0.0	0	0.0
MONTAGUE	16,303	0	0.0	0	0.0	1	6.1	3	18.4
NOLAN	16,874	0	0.0	0	0.0	4	23.7	1	5.9
RUNNELS	11,355	0	0.0	0	0.0	1	8.8	0	0.0
SCURRY	18,879	0	0.0	2	10.6	2	10.6	1	5.3
SHACKELFORD	3,198	0	0.0	0	0.0	0	0.0	0	0.0
STEPHENS	9,158	0	0.0	0	0.0	2	21.8	0	0.0
STONEWALL	1,972	0	0.0	0	0.0	2	101.4	0	0.0
TAYLOR	124,879	0	0.0	1	0.8	16	12.8	6	4.8
THROCKMORTON	1,829	0	0.0	0	0.0	0	0.0	0	0.0
WICHITA	127,428	0	0.0	7	5.5	29	22.8	14	11.0
WILBARGER	15,231	0	0.0	0	0.0	1	6.6	2	13.1
YOUNG	17,291	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	**533,986**	**0**	**0.0**	**13**	**2.4**	**96**	**18.0**	**34**	**6.4**
STATEWIDE TOTALS	19,307,376	153	0.8	981	5.1	2,793	14.5	3,504	18.1

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 2 - 1997

COUNTY	1997 POP.	HEPATITIS A CASE	HEPATITIS A RATE	HEPATITIS B CASE	HEPATITIS B RATE	HEPATITIS C CASE	HEPATITIS C RATE	HEPATITIS UNSPECIFIED CASE	HEPATITIS UNSPECIFIED RATE
ARCHER	8,245	0	0.0	0	0.0	0	0.0	0	0.0
BAYLOR	4,171	0	0.0	0	0.0	0	0.0	0	0.0
BROWN	34,223	1	2.9	0	0.0	1	2.9	0	0.0
CALLAHAN	11,905	0	0.0	0	0.0	0	0.0	0	0.0
CLAY	9,979	0	0.0	0	0.0	0	0.0	0	0.0
COLEMAN	9,319	0	0.0	0	0.0	0	0.0	0	0.0
COMANCHE	13,189	0	0.0	0	0.0	0	0.0	0	0.0
COTTLE	2,156	0	0.0	0	0.0	0	0.0	0	0.0
EASTLAND	17,709	2	11.3	0	0.0	0	0.0	0	0.0
FISHER	4,693	0	0.0	1	21.3	1	21.3	0	0.0
FOARD	1,722	0	0.0	0	0.0	0	0.0	0	0.0
HARDEMAN	5,056	0	0.0	0	0.0	0	0.0	0	0.0
HASKELL	6,607	0	0.0	0	0.0	0	0.0	0	0.0
JACK	6,871	0	0.0	0	0.0	0	0.0	0	0.0
JONES	18,206	0	0.0	0	0.0	2	11.0	0	0.0
KENT	1,010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,736	1	21.1	0	0.0	0	0.0	0	0.0
MITCHELL	9,792	0	0.0	0	0.0	0	0.0	0	0.0
MONTAGUE	16,303	0	0.0	0	0.0	0	0.0	0	0.0
NOLAN	16,874	1	5.9	1	5.9	0	0.0	0	0.0
RUNNELS	11,355	5	44.0	0	0.0	0	0.0	0	0.0
SCURRY	18,879	0	0.0	0	0.0	0	0.0	0	0.0
SHACKELFORD	3,198	0	0.0	0	0.0	1	31.3	0	0.0
STEPHENS	9,158	1	10.9	1	10.9	1	10.9	0	0.0
STONEWALL	1,972	0	0.0	0	0.0	0	0.0	0	0.0
TAYLOR	124,879	7	5.6	8	6.4	4	3.2	0	0.0
THROCKMORTON	1,829	0	0.0	0	0.0	0	0.0	0	0.0
WICHITA	127,428	25	19.6	8	6.3	0	0.0	0	0.0
WILBARGER	15,231	0	0.0	0	0.0	1	6.6	0	0.0
YOUNG	17,291	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	**533,986**	**43**	**8.1**	**19**	**3.6**	**11**	**2.1**	**0**	**0.0**
TOTAL	**19,307,376**	**4,511**	**23.4**	**45**	**6.4**	**376**	**1.9**	**31**	**0.2**

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 2 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARCHER	8,245	10	121.3	0	0.0	0	0.0	0	0.0
BAYLOR	4,171	0	0.0	0	0.0	0	0.0	0	0.0
BROWN	34,223	1	2.9	0	0.0	0	0.0	0	0.0
CALLAHAN	11,905	0	0.0	3	25.2	0	0.0	1	8.4
CLAY	9,979	0	0.0	12	120.3	0	0.0	0	0.0
COLEMAN	9,319	0	0.0	0	0.0	0	0.0	1	10.7
COMANCHE	13,189	0	0.0	1	7.6	0	0.0	0	0.0
COTTLE	2,156	0	0.0	14	649.4	0	0.0	1	46.4
EASTLAND	17,709	0	0.0	0	0.0	0	0.0	0	0.0
FISHER	4,693	0	0.0	0	0.0	0	0.0	0	0.0
FOARD	1,722	0	0.0	1	58.1	0	0.0	0	0.0
HARDEMAN	5,056	1	19.8	0	0.0	0	0.0	0	0.0
HASKELL	6,607	0	0.0	0	0.0	0	0.0	1	15.1
JACK	6,871	1	14.6	0	0.0	1	14.6	1	14.6
JONES	18,206	0	0.0	0	0.0	0	0.0	0	0.0
KENT	1,010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,736	0	0.0	0	0.0	0	0.0	1	21.1
MITCHELL	9,792	1	10.2	0	0.0	0	0.0	0	0.0
MONTAGUE	16,303	0	0.0	0	0.0	0	0.0	0	0.0
NOLAN	16,874	1	5.9	20	118.5	1	5.9	0	0.0
RUNNELS	11,355	2	17.6	0	0.0	0	0.0	1	8.8
SCURRY	18,879	0	0.0	0	0.0	0	0.0	0	0.0
SHACKELFORD	3,198	0	0.0	1	31.3	0	0.0	0	0.0
STEPHENS	9,158	0	0.0	2	21.8	0	0.0	0	0.0
STONEWALL	1,972	0	0.0	0	0.0	0	0.0	0	0.0
TAYLOR	124,879	2	1.6	115	92.1	2	1.6	10	8.0
THROCKMORTON	1,829	0	0.0	0	0.0	0	0.0	0	0.0
WICHITA	127,428	8	6.3	85	66.7	2	1.6	14	11.0
WILBARGER	15,231	1	6.6	0	0.0	0	0.0	0	0.0
YOUNG	17,291	1	5.8	14	81.0	0	0.0	1	5.8
REGIONAL TOTALS	**533**	29	5.4	268	**50.2**	6	1.1	2	6.0
TATEWIDE TOT	19,307,376	1,018	5.3	6,688	**138.2**	44	0.2	**1,992**	10.3

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

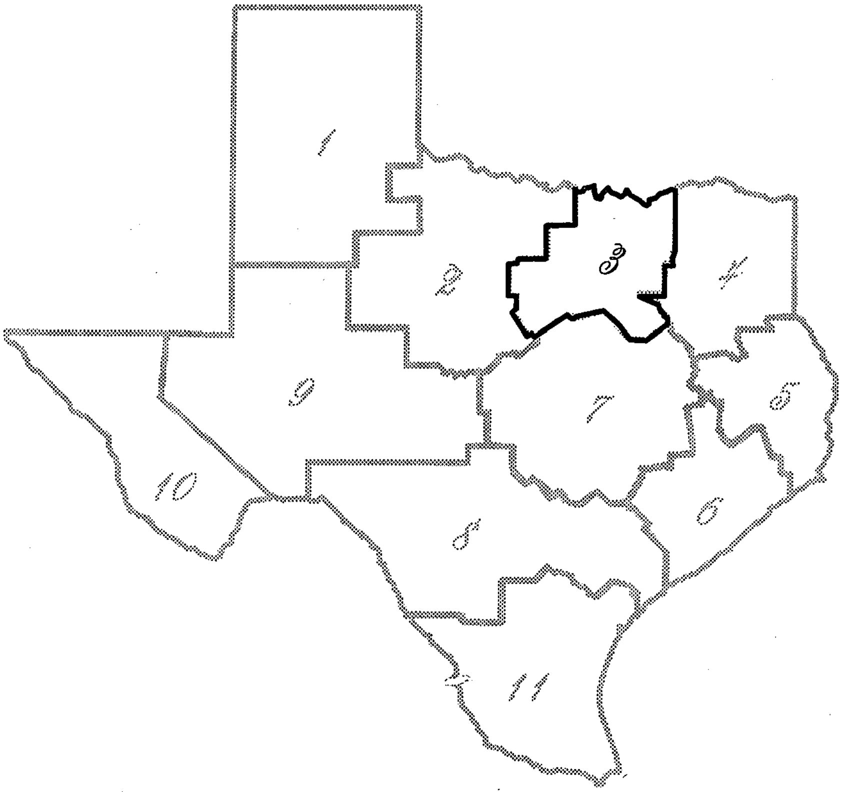
PUBLIC HEALTH REGION 2 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARCHER	8,245	0	0.0	10	121.3	2	24.3	0	0.0
BAYLOR	4,171	0	0.0	4	95.9	10	239.8	0	0.0
BROWN	34,223	1	2.9	56	163.6	18	52.6	0	0.0
CALLAHAN	11,905	0	0.0	4	33.6	2	16.8	0	0.0
CLAY	9,979	0	0.0	8	80.2	1	10.0	0	0.0
COLEMAN	9,319	0	0.0	13	139.5	2	21.5	0	0.0
COMANCHE	13,189	0	0.0	12	91.0	3	22.7	0	0.0
COTTLE	2,156	0	0.0	2	92.8	1	46.4	0	0.0
EASTLAND	17,709	3	16.9	5	28.2	4	22.6	0	0.0
FISHER	4,693	0	0.0	7	149.2	0	0.0	0	0.0
FOARD	1,722	0	0.0	2	116.1	0	0.0	0	0.0
HARDEMAN	5,056	1	19.8	3	59.3	0	0.0	0	0.0
HASKELL	6,607	0	0.0	4	60.5	0	0.0	0	0.0
JACK	6,871	1	14.6	3	43.7	0	0.0	0	0.0
JONES	18,206	1	5.5	8	43.9	3	16.5	0	0.0
KENT	1,010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,736	0	0.0	8	168.9	6	126.7	0	0.0
MITCHELL	9,792	1	10.2	5	51.1	1	10.2	0	0.0
MONTAGUE	16,303	1	6.1	7	42.9	2	12.3	0	0.0
NOLAN	16,874	0	0.0	58	343.7	14	83.0	0	0.0
RUNNELS	11,355	0	0.0	12	105.7	2	17.6	0	0.0
SCURRY	18,879	1	5.3	28	148.3	16	84.8	2	10.6
SHACKELFORD	3,198	0	0.0	3	93.8	0	0.0	0	0.0
STEPHENS	9,158	0	0.0	13	142.0	2	21.8	0	0.0
STONEWALL	1,972	0	0.0	1	50.7	0	0.0	0	0.0
TAYLOR	124,879	8	6.4	264	211.4	137	109.7	0	0.0
THROCKMORTON	1,829	0	0.0	3	164.0	0	0.0	0	0.0
WICHITA	127,428	15	11.8	483	379.0	267	209.5	0	0.0
WILBARGER	15,231	2	13.1	32	210.1	5	32.8	1	6.6
YOUNG	17,291	1	5.8	18	104.1	3	17.4	0	0.0
REGIONAL TOTALS	533,986	36	6.7	1,076	201.5	501	93.8	3	0.6
STATEWIDE TOTALS	19,307,376	4,386	22.7	50,119	259.6	26,378	136.6	648	3.4

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 2 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARCHER	8,245	0	0.0	0	0.0	0	0.0	0	0.0
BAYLOR	4,171	0	0.0	0	0.0	0	0.0	0	0.0
BROWN	34,223	0	0.0	0	0.0	0	0.0	0	0.0
CALLAHAN	11,905	0	0.0	0	0.0	0	0.0	0	0.0
CLAY	9,979	0	0.0	0	0.0	0	0.0	0	0.0
COLEMAN	9,319	0	0.0	0	0.0	0	0.0	0	0.0
COMANCHE	13,189	0	0.0	0	0.0	0	0.0	0	0.0
COTTLE	2,156	0	0.0	0	0.0	0	0.0	0	0.0
EASTLAND	17,709	0	0.0	0	0.0	0	0.0	0	0.0
FISHER	4,693	0	0.0	0	0.0	0	0.0	0	0.0
FOARD	1,722	0	0.0	0	0.0	0	0.0	0	0.0
HARDEMAN	5,056	0	0.0	0	0.0	0	0.0	0	0.0
HASKELL	6,607	0	0.0	0	0.0	0	0.0	0	0.0
JACK	6,871	0	0.0	0	0.0	0	0.0	0	0.0
JONES	18,206	0	0.0	0	0.0	0	0.0	0	0.0
KENT	1,010	0	0.0	0	0.0	0	0.0	0	0.0
KNOX	4,736	0	0.0	0	0.0	0	0.0	0	0.0
MITCHELL	9,792	0	0.0	0	0.0	0	0.0	0	0.0
MONTAGUE	16,303	0	0.0	0	0.0	1	6.1	0	0.0
NOLAN	16,874	0	0.0	0	0.0	0	0.0	0	0.0
RUNNELS	11,355	0	0.0	0	0.0	0	0.0	0	0.0
SCURRY	18,879	0	0.0	0	0.0	1	5.3	0	0.0
SHACKELFORD	3,198	0	0.0	0	0.0	0	0.0	0	0.0
STEPHENS	9,158	0	0.0	0	0.0	0	0.0	0	0.0
STONEWALL	1,972	0	0.0	0	0.0	0	0.0	0	0.0
TAYLOR	124,879	0	0.0	0	0.0	0	0.0	0	0.0
THROCKMORTON	1,829	0	0.0	0	0.0	0	0.0	0	0.0
WICHITA	127,428	0	0.0	0	0.0	0	0.0	0	0.0
WILBARGER	15,231	0	0.0	0	0.0	0	0.0	0	0.0
YOUNG	17,291	0	0.0	0	0.0	0	0.0	0	0.0
AL TOTALS	**3[illegible]**	0	0.0	0	0.0	2	0.4	0	0.0
TOTALS	19,307,376	7	0.0	75	0.4	233	1.2	12	0.1



Public Health Region 3

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 3 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
COLLIN	374,456	0	0.0	6	1.6	18	4.8	38	10.1
COOKE	31,971	0	0.0	0	0.0	6	18.8	0	0.0
DALLAS	2,092,634	55	2.6	78	3.7	177	8.5	220	10.5
DENTON	374,063	1	0.3	5	1.3	23	6.1	15	4.0
ELLIS	109,928	0	0.0	2	1.8	0	0.0	5	4.5
ERATH	30,940	0	0.0	7	22.6	6	19.4	0	0.0
FANNIN	26,790	1	3.7	1	3.7	2	7.5	0	0.0
GRAYSON	96,703	0	0.0	2	2.1	3	3.1	5	5.2
HOOD	38,360	0	0.0	0	0.0	1	2.6	3	7.8
HUNT	71,588	1	1.4	1	1.4	7	9.8	2	2.8
JOHNSON	124,533	0	0.0	1	0.8	5	4.0	3	2.4
KAUFMAN	65,876	0	0.0	0	0.0	3	4.6	5	7.6
NAVARRO	42,746	0	0.0	1	2.3	3	7.0	3	7.0
PALO PINTO	26,415	0	0.0	0	0.0	1	3.8	0	0.0
PARKER	85,040	0	0.0	1	1.2	1	1.2	1	1.2
ROCKWALL	35,932	0	0.0	1	2.8	3	8.3	0	0.0
SOMERVELL	6,127	0	0.0	0	0.0	1	16.3	2	32.6
TARRANT	1,431,554	2	0.1	45	3.1	111	7.8	131	9.2
WISE	40,411	0	0.0	1	2.5	3	7.4	8	19.8
REGIONAL TOTAL	**5,106,067**	**60**	**1.2**	**152**	**3.0**	**374**	**7.3**	**441**	**8.6**
STATEWIDE TOTALS	**19,307,376**	[illegible]	**0.8**	**981**	**5.1**	**2,793**	**14.5**	**3,504**	**18.1**

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 3 - 1997

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
COLLIN	374,456	52	13.9	20	5.3	2	0.5	0	0.0
COOKE	31,971	3	9.4	0	0.0	1	3.1	0	0.0
DALLAS	2,092,634	498	23.8	262	12.5	59	2.8	1	0.0
DENTON	374,063	33	8.8	8	2.1	9	2.4	0	0.0
ELLIS	109,928	13	11.8	1	0.9	2	1.8	0	0.0
ERATH	30,940	7	22.6	1	3.2	0	0.0	0	0.0
FANNIN	26,790	1	3.7	1	3.7	0	0.0	0	0.0
GRAYSON	96,703	42	43.4	20	20.7	2	2.1	0	0.0
HOOD	38,360	5	13.0	0	0.0	0	0.0	0	0.0
HUNT	71,588	1	1.4	0	0.0	0	0.0	0	0.0
JOHNSON	124,533	1	0.8	4	3.2	0	0.0	0	0.0
KAUFMAN	65,876	2	3.0	2	3.0	0	0.0	0	0.0
NAVARRO	42,746	3	7.0	1	2.3	0	0.0	0	0.0
PALO PINTO	26,415	0	0.0	1	3.8	0	0.0	0	0.0
PARKER	85,040	5	5.9	2	2.4	1	1.2	0	0.0
ROCKWALL	35,932	1	2.8	0	0.0	0	0.0	0	0.0
SOMERVELL	6,127	1	16.3	0	0.0	0	0.0	0	0.0
TARRANT	1,431,554	241	16.8	132	9.2	24	1.7	1	0.1
WISE	40,411	5	12.4	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	5,106,067	914	17.9	455	8.9	100	2.0	2	0.0
STATEWIDE TOTALS	19,307,376	[illegible],511	23.4	1,245	6.4	376	1.9	31	0.2

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 3 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
COLLIN	374,456	8	2.1	382	102.0	2	0.5	5	1.3
COOKE	31,971	0	0.0	0	0.0	0	0.0	0	0.0
DALLAS	2,092,634	108	5.2	1,137	54.3	5	0.2	289	13.8
DENTON	374,063	13	3.5	75	20.1	0	0.0	7	1.9
ELLIS	109,928	2	1.8	30	27.3	0	0.0	2	1.8
ERATH	30,940	1	3.2	63	203.6	0	0.0	3	9.7
FANNIN	26,790	0	0.0	0	0.0	0	0.0	0	0.0
GRAYSON	96,703	5	5.2	68	70.3	0	0.0	6	6.2
HOOD	38,360	0	0.0	23	60.0	0	0.0	0	0.0
HUNT	71,588	1	1.4	28	39.1	1	1.4	6	8.4
JOHNSON	124,533	2	1.6	16	12.8	0	0.0	1	0.8
KAUFMAN	65,876	1	1.5	2	3.0	0	0.0	1	1.5
NAVARRO	42,746	0	0.0	70	163.8	0	0.0	1	2.3
PALO PINTO	26,415	0	0.0	1	3.8	0	0.0	0	0.0
PARKER	85,040	2	2.4	0	0.0	0	0.0	1	1.2
ROCKWALL	35,932	0	0.0	0	0.0	0	0.0	0	0.0
SOMERVELL	6,127	0	0.0	0	0.0	0	0.0	0	0.0
TARRANT	1,431,554	109	7.6	1,228	85.8	1	0.1	108	7.5
WISE	40,411	2	4.9	49	121.3	0	0.0	2	4.9
REGIONAL TOTALS	5,106,067	254	5.0	3,172	62.1	9	0.2	432	8.5
STATEWIDE TOTALS	19,307,376	1,018	5.3	26,688	138.2	44	0.2	1,992	10.3

REPORTED SEXUALLY TRANSMITTED DISEASE RATES (CASES PER 100,000 POPULATION)

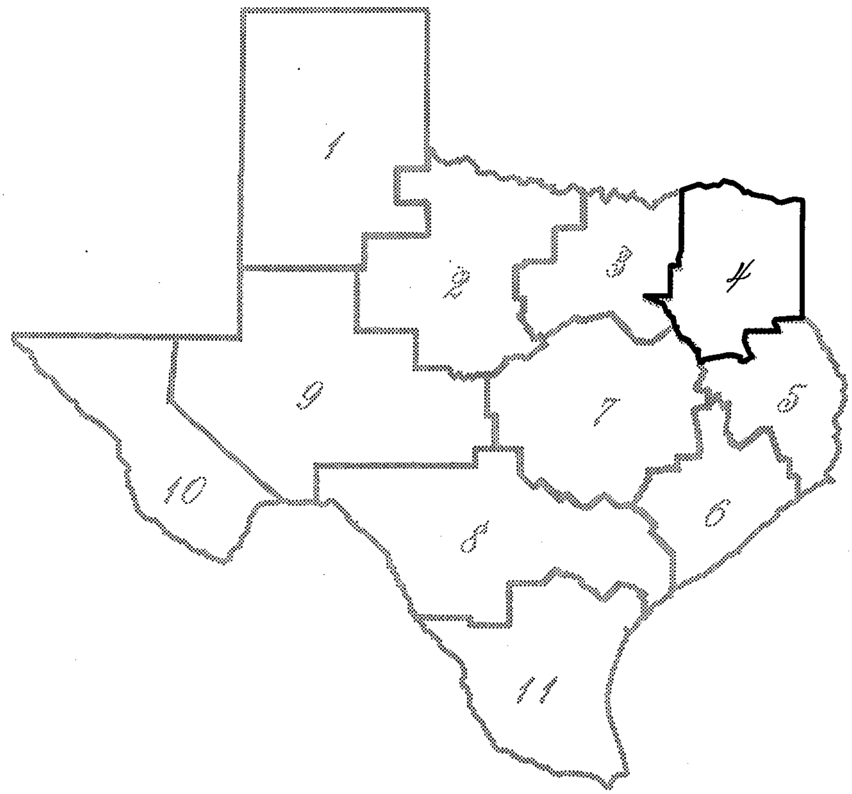
PUBLIC HEALTH REGION 3 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
COLLIN	374,456	22	5.9	378	100.9	152	40.6	2	0.5
COOKE	31,971	2	6.3	41	128.2	19	59.4	0	0.0
DALLAS	2,092,634	811	38.8	7,990	381.8	6,644	317.5	148	7.1
DENTON	374,063	1	0.3	431	115.2	144	38.5	0	0.0
ELLIS	109,928	127	115.5	196	178.3	105	95.5	3	2.7
ERATH	30,940	0	0.0	68	219.8	9	29.1	0	0.0
FANNIN	26,790	1	3.7	44	164.2	19	70.9	0	0.0
GRAYSON	96,703	10	10.3	286	295.8	79	81.7	0	0.0
HOOD	38,360	5	13.0	22	57.4	4	10.4	2	5.2
HUNT	71,588	2	2.8	171	238.9	72	100.6	1	1.4
JOHNSON	124,533	10	8.0	153	122.9	39	31.3	1	0.8
KAUFMAN	65,876	5	7.6	120	182.2	36	54.6	0	0.0
NAVARRO	42,746	5	11.7	173	404.7	92	215.2	0	0.0
PALO PINTO	26,415	1	3.8	29	109.8	5	18.9	0	0.0
PARKER	85,040	7	8.2	63	74.1	8	9.4	1	1.2
ROCKWALL	35,932	2	5.6	33	91.8	16	44.5	0	0.0
SOMERVELL	6,127	0	0.0	0	0.0	0	0.0	0	0.0
TARRANT	1,431,554	301	21.0	2,400	167.6	1,756	122.7	39	2.7
WISE	40,411	1	2.5	40	99.0	18	44.5	1	2.5
REGIONAL TOTALS	5,106,067	1,313	25.7	12,638	247.5	9,217	180.5	198	3.9
STATEWIDE TOTALS	19,307,376	4,354	22.6	50,661	6 2 .	26,617	137.9	683	3.5

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 3 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
COLLIN	374,456	0	0.0	1	0.3	0	0.0	0	0.0
COOKE	31,971	0	0.0	0	0.0	0	0.0	0	0.0
DALLAS	2,092,634	1	0.0	9	0.4	26	1.2	2	0.1
DENTON	374,063	0	0.0	0	0.0	4	1.1	0	0.0
ELLIS	109,928	0	0.0	0	0.0	0	0.0	0	0.0
ERATH	30,940	0	0.0	0	0.0	0	0.0	0	0.0
FANNIN	26,790	0	0.0	0	0.0	6	22.4	0	0.0
GRAYSON	96,703	0	0.0	0	0.0	1	1.0	0	0.0
HOOD	38,360	0	0.0	0	0.0	0	0.0	0	0.0
HUNT	71,588	0	0.0	0	0.0	2	2.8	0	0.0
JOHNSON	124,533	0	0.0	0	0.0	11	8.8	0	0.0
KAUFMAN	65,876	0	0.0	0	0.0	0	0.0	0	0.0
NAVARRO	42,746	0	0.0	0	0.0	2	4.7	0	0.0
PALO PINTO	26,415	0	0.0	0	0.0	0	0.0	0	0.0
PARKER	85,040	0	0.0	0	0.0	0	0.0	0	0.0
ROCKWALL	35,932	0	0.0	0	0.0	0	0.0	0	0.0
SOMERVELL	6,127	0	0.0	0	0.0	0	0.0	0	0.0
TARRANT	1,431,554	0	0.0	4	0.3	9	0.6	0	0.0
WISE	40,411	0	0.0	1	2.5	0	0.0	0	0.0
REGIONAL TOTALS	5,106,067	1	0.0	15	0.3	61	1.2	2	0.0
STATEWIDE TOTALS	19,307,376	7	0.0	75	0.4	233	1.2	12	0.1



Public Health Region 4

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 4 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANDERSON	51,808	0	0.0	0	0.0	8	15.4	2	3.9
BOWIE	86,200	1	1.2	9	10.4	13	15.1	2	2.3
CAMP	10,515	0	0.0	1	9.5	2	19.0	2	19.0
CASS	29,862	0	0.0	0	0.0	1	3.3	0	0.0
CHEROKEE	43,467	0	0.0	0	0.0	4	9.2	9	20.7
DELTA	4,827	0	0.0	0	0.0	1	20.7	0	0.0
FRANKLIN	8,026	0	0.0	0	0.0	2	24.9	0	0.0
GREGG	107,129	0	0.0	4	3.7	13	12.1	16	14.9
HARRISON	61,472	0	0.0	0	0.0	3	4.9	0	0.0
HENDERSON	70,836	0	0.0	2	2.8	2	2.8	1	1.4
HOPKINS	29,441	0	0.0	0	0.0	3	10.2	1	3.4
LAMAR	43,877	0	0.0	4	9.1	4	9.1	2	4.6
MARION	10,287	0	0.0	0	0.0	1	9.7	0	0.0
MORRIS	12,893	0	0.0	0	0.0	1	7.8	1	7.8
PANOLA	23,314	0	0.0	0	0.0	1	4.3	0	0.0
RAINS	7,692	0	0.0	0	0.0	0	0.0	0	0.0
RED RIVER	13,891	0	0.0	0	0.0	6	43.2	2	14.4
RUSK	44,993	0	0.0	0	0.0	4	8.9	1	2.2
SMITH	164,035	1	0.6	4	2.4	59	36.0	18	11.0
TITUS	24,998	0	0.0	0	0.0	9	36.0	2	8.0
UPSHUR	32,878	0	0.0	0	0.0	2	6.1	0	0.0
VAN ZANDT	41,716	0	0.0	0	0.0	3	7.2	1	2.4
WOOD	32,432	0	0.0	1	3.1	7	21.6	0	0.0
REGIONAL TOTALS	956,589	2	0.2	25	2.6	149	15.6	60	6.3
STATEWIDE TOTALS	19,307,376	153	0.8	981	5.1	2,793	14.5	3,504	18.1

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 4 - 1997

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	**1997 POP.**	**CASE**	**RATE**	**CASE**	**RATE**	**CASE**	**RATE**	**CASE**	**RATE**
ANDERSON	51,808	5	9.7	2	3.9	4	7.7	0	0.0
BOWIE	86,200	46	53.4	13	15.1	7	8.1	0	0.0
CAMP	10,515	4	38.0	0	0.0	0	0.0	0	0.0
CASS	29,862	0	0.0	4	13.4	0	0.0	0	0.0
CHEROKEE	43,467	2	4.6	1	2.3	1	2.3	0	0.0
DELTA	4,827	0	0.0	0	0.0	0	0.0	0	0.0
FRANKLIN	8,026	3	37.4	0	0.0	0	0.0	0	0.0
GREGG	107,129	39	36.4	6	5.6	8	7.5	0	0.0
HARRISON	61,472	0	0.0	3	4.9	0	0.0	0	0.0
HENDERSON	70,836	4	5.6	2	2.8	3	4.2	0	0.0
HOPKINS	29,441	7	23.8	1	3.4	0	0.0	0	0.0
LAMAR	43,877	5	11.4	4	9.1	0	0.0	0	0.0
MARION	10,287	2	19.4	0	0.0	0	0.0	0	0.0
MORRIS	12,893	0	0.0	0	0.0	0	0.0	0	0.0
PANOLA	23,314	0	0.0	1	4.3	2	8.6	0	0.0
RAINS	7,692	0	0.0	1	13.0	0	0.0	0	0.0
RED RIVER	13,891	1	7.2	0	0.0	0	0.0	0	0.0
RUSK	44,993	2	4.4	3	6.7	1	2.2	0	0.0
SMITH	164,035	30	18.3	16	9.8	5	3.0	0	0.0
TITUS	24,998	12	48.0	0	0.0	1	4.0	0	0.0
UPSHUR	32,878	0	0.0	0	0.0	0	0.0	0	0.0
VAN ZANDT	41,716	4	9.6	3	7.2	0	0.0	0	0.0
WOOD	32,432	1	3.1	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	**956,589**	**167**	**17.5**	**60**	**6.3**	**32**	**3.3**	**0**	**0.0**
STATEWIDE TOTALS	**19,307,376**	**4,511**	**23.4**	**1,245**	**6.4**	**376**	**1.9**	**31**	**0.2**

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 4 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS			
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANDERSON	51,808	1	1.9	6	11.6	0	0.0	0	0.0
BOWIE	86,200	2	2.3	266	308.6	0	0.0	7	8.1
CAMP	10,515	0	0.0	0	0.0	0	0.0	0	0.0
CASS	29,862	0	0.0	34	113.9	0	0.0	2	6.7
CHEROKEE	43,467	2	4.6	0	0.0	0	0.0	2	4.6
DELTA	4,827	0	0.0	3	62.2	0	0.0	0	0.0
FRANKLIN	8,026	0	0.0	2	24.9	0	0.0	0	0.0
GREGG	107,129	9	8.4	28	26.1	1	0.9	12	11.2
HARRISON	61,472	1	1.6	33	53.7	0	0.0	6	9.8
HENDERSON	70,836	1	1.4	21	29.6	0	0.0	2	2.8
HOPKINS	29,441	0	0.0	2	6.8	0	0.0	0	0.0
LAMAR	43,877	0	0.0	2	4.6	0	0.0	3	6.8
MARION	10,287	0	0.0	0	0.0	0	0.0	0	0.0
MORRIS	12,893	0	0.0	0	0.0	0	0.0	1	7.8
PANOLA	23,314	2	8.6	1	4.3	0	0.0	0	0.0
RAINS	7,692	0	0.0	1	13.0	0	0.0	0	0.0
RED RIVER	13,891	1	7.2	4	28.8	0	0.0	2	14.4
RUSK	44,993	0	0.0	12	26.7	0	0.0	4	8.9
SMITH	164,035	12	7.3	204	124.4	1	0.6	12	7.3
TITUS	24,998	0	0.0	9	36.0	0	0.0	1	4.0
UPSHUR	32,878	1	3.0	25	76.0	0	0.0	0	0.0
VAN ZANDT	41,716	3	7.2	76	182.2	0	0.0	2	4.8
WOOD	32,432	0	0.0	11	33.9	0	0.0	1	3.1
REGIONAL TOTALS	956,589	35	3.71	740	77.4	2	0.2	57	6.0
STATEWIDE TOTALS	19,307,376	1,018	5.3	26,688	138.2	44	0.2	1,982	10.3

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

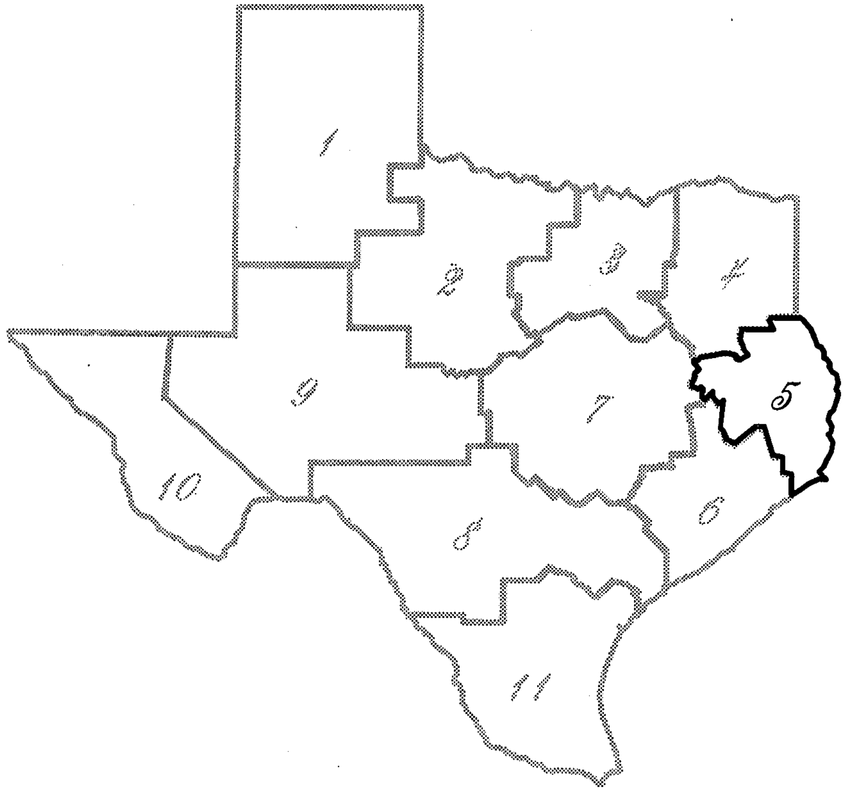
PUBLIC HEALTH REGION 4 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANDERSON	51,808	8	15.4	31	59.8	15	29.0	4	7.7
BOWIE	86,200	7	8.1	143	165.9	137	158.9	8	9.3
CAMP	10,515	2	19.0	12	114.1	4	38.0	0	0.0
CASS	29,862	2	6.7	30	100.5	15	50.2	2	6.7
CHEROKEE	43,467	2	4.6	60	138.0	30	69.0	1	2.3
DELTA	4,827	31	642.2	0	0.0	1	20.7	1	20.7
FRANKLIN	8,026	0	0.0	2	24.9	1	12.5	0	0.0
GREGG	107,129	10	9.3	248	231.5	51	47.6	23	21.5
HARRISON	61,472	7	11.4	91	148.0	91	148.0	4	6.5
HENDERSON	70,836	3	4.2	42	59.3	13	18.4	13	18.4
HOPKINS	29,441	1	3.4	25	84.9	7	23.8	0	0.0
LAMAR	43,877	0	0.0	77	175.5	42	95.7	0	0.0
MARION	10,287	35	340.2	10	97.2	2	19.4	14	136.1
MORRIS	12,893	1	7.8	12	93.1	7	54.3	2	15.5
PANOLA	23,314	1	4.3	47	201.6	9	38.6	2	8.6
RAINS	7,692	0	0.0	2	26.0	2	26.0	0	0.0
RED RIVER	13,891	1	7.2	19	136.8	3	21.6	0	0.0
RUSK	44,993	2	4.4	44	97.8	15	33.3	1	2.2
SMITH	164,035	21	12.8	454	276.8	167	101.8	11	6.7
TITUS	24,998	2	8.0	32	128.0	10	40.0	1	4.0
UPSHUR	32,878	3	9.1	23	70.0	3	9.1	1	3.0
VAN ZANDT	41,716	2	4.8	8	19.2	4	9.6	0	0.0
WOOD	32,432	0	0.0	11	33.9	2	6.2	0	0.0
REGIONAL TOTALS	**956,589**	**141**	**14.7**	**1,423**	**148.8**	**631**	**66.0**	**88**	**9.2**
STATEWIDE TOTALS	**19,307,376**	**4,386**	**22.7**	**50,119**	**259.6**	**26,378**	**136.6**	**648**	**3.4**

REPORTED VACCINE PREVENTABLE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 4 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANDERSON	51,808	0	0.0	0	0.0	0	0.0	0	0.0
BOWIE	86,200	0	0.0	23	26.7	0	0.0	0	0.0
CAMP	10,515	0	0.0	0	0.0	0	0.0	0	0.0
CASS	29,862	0	0.0	0	0.0	0	0.0	0	0.0
CHEROKEE	43,467	0	0.0	0	0.0	0	0.0	0	0.0
DELTA	4,827	0	0.0	0	0.0	0	0.0	0	0.0
FRANKLIN	8,026	0	0.0	0	0.0	0	0.0	0	0.0
GREGG	107,129	0	0.0	0	0.0	5	4.7	0	0.0
HARRISON	61,472	0	0.0	0	0.0	0	0.0	0	0.0
HENDERSON	70,836	0	0.0	0	0.0	1	1.4	0	0.0
HOPKINS	29,441	0	0.0	0	0.0	0	0.0	0	0.0
LAMAR	43,877	0	0.0	0	0.0	4	9.1	0	0.0
MARION	10,287	0	0.0	0	0.0	0	0.0	0	0.0
MORRIS	12,893	0	0.0	0	0.0	0	0.0	0	0.0
PANOLA	23,314	0	0.0	0	0.0	0	0.0	0	0.0
RAINS	7,692	0	0.0	0	0.0	0	0.0	0	0.0
RED RIVER	13,891	0	0.0	0	0.0	0	0.0	0	0.0
RUSK	44,993	0	0.0	0	0.0	0	0.0	0	0.0
SMITH	164,035	0	0.0	0	0.0	4	2.4	0	0.0
TITUS	24,998	0	0.0	0	0.0	0	0.0	0	0.0
UPSHUR	32,878	0	0.0	0	0.0	0	0.0	0	0.0
VAN ZANDT	41,716	0	0.0	1	2.4	0	0.0	0	0.0
WOOD	32,432	0	0.0	0	0.0	1	3.1	0	0.0
REGIONAL TOTALS	956,589	0	0.0	24	2.5	15	1.6	0	0.0
STATEWIDE TOTALS	19,307,376	7	0.0	75	0.4	233	1.2	12	0.1



Public Health Region 5

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 5 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANGELINA	73,419	0	0.0	2	2.7	4	5.4	2	2.7
HARDIN	42,389	0	0.0	4	9.4	15	35.4	14	33.0
HOUSTON	21,611	0	0.0	0	0.0	2	9.3	0	0.0
JASPER	32,066	0	0.0	1	3.1	5	15.6	1	3.1
JEFFERSON	237,966	0	0.0	5	2.1	29	12.2	30	12.6
NACOGDOCHES	56,769	0	0.0	7	12.3	9	15.9	5	8.8
NEWTON	14,267	0	0.0	0	0.0	1	7.0	1	7.0
ORANGE	81,822	0	0.0	4	4.9	4	4.9	0	0.0
POLK	36,085	0	0.0	0	0.0	3	8.3	0	0.0
SABINE	10,078	0	0.0	0	0.0	0	0.0	0	0.0
SAN AUGUSTINE	7,961	0	0.0	0	0.0	0	0.0	0	0.0
SAN JACINTO	19,736	0	0.0	0	0.0	0	0.0	0	0.0
SHELBY	21,863	0	0.0	1	4.6	1	4.6	1	4.6
TRINITY	12,453	0	0.0	0	0.0	1	8.0	0	0.0
TYLER	18,123	0	0.0	1	5.5	3	16.6	1	5.5
REGIONAL TOTALS	**686,608**	**0**	**0.0**	**25**	**3.6**	**77**	**11.2**	**55**	**8.0**
STATEWIDE TOTALS	**19,307,376**	**153**	**0.8**	**981**	**5.1**	**2,793**	**14.5**	**3,504**	**18.1**

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 5 - 1997

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANGELINA	73,419	1	1.4	4	5.4	0	0.0	0	0.0
HARDIN	42,389	1	2.4	1	2.4	0	0.0	0	0.0
HOUSTON	21,611	2	9.3	0	0.0	0	0.0	0	0.0
JASPER	32,066	1	3.1	1	3.1	0	0.0	0	0.0
JEFFERSON	237,966	55	23.1	35	14.7	8	3.4	0	0.0
NACOGDOCHES	56,769	7	12.3	4	7.0	0	0.0	0	0.0
NEWTON	14,267	1	7.0	0	0.0	0	0.0	0	0.0
ORANGE	81,822	5	6.1	7	8.6	0	0.0	0	0.0
POLK	36,085	1	2.8	1	2.8	0	0.0	0	0.0
SABINE	10,078	1	9.9	1	9.9	0	0.0	0	0.0
SAN AUGUSTINE	7,961	2	25.1	0	0.0	0	0.0	0	0.0
SAN JACINTO	19,736	1	5.1	2	10.1	0	0.0	0	0.0
SHELBY	21,863	0	0.0	0	0.0	0	0.0	0	0.0
TRINITY	12,453	0	0.0	0	0.0	1	8.0	0	0.0
TYLER	18,123	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	686,608	78	11.4	56	8.2	9	[illegible]	0	0.0
STATEWIDE TOTALS	19,307,376	4,511	23.4	1,245	6.4	376	1.9	31	0.2

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 5 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANGELINA	73,419	2	2.7	3	4.1	0	0.0	6	8.2
HARDIN	42,389	0	0.0	92	217.0	0	0.0	1	2.4
HOUSTON	21,611	1	4.6	0	0.0	0	0.0	1	4.6
JASPER	32,066	0	0.0	10	31.2	0	0.0	1	3.1
JEFFERSON	237,966	1	0.4	841	353.4	0	0.0	20	8.4
NACOGDOCHES	56,769	1	1.8	32	56.4	0	0.0	5	8.8
NEWTON	14,267	1	7.0	47	329.4	0	0.0	2	14.0
ORANGE	81,822	0	0.0	32	39.1	0	0.0	4	4.9
POLK	36,085	1	2.8	3	8.3	0	0.0	0	0.0
SABINE	10,078	0	0.0	1	9.9	0	0.0	1	9.9
SAN AUGUSTINE	7,961	1	12.6	0	0.0	0	0.0	3	37.7
SAN JACINTO	19,736	0	0.0	0	0.0	0	0.0	2	10.1
SHELBY	21,863	1	4.6	16	73.2	1	4.6	2	9.1
TRINITY	12,453	0	0.0	24	192.7	0	0.0	1	8.0
TYLER	18,123	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	**686,608**	**9**	1.3	**1,101**	160.4	**1**	0.1	**49**	7.1
STATEWIDE TOTALS	**19,307,376**	**1,018**	5.3	**26,688**	138.2	**44**	0.2	**1,992**	10.3

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

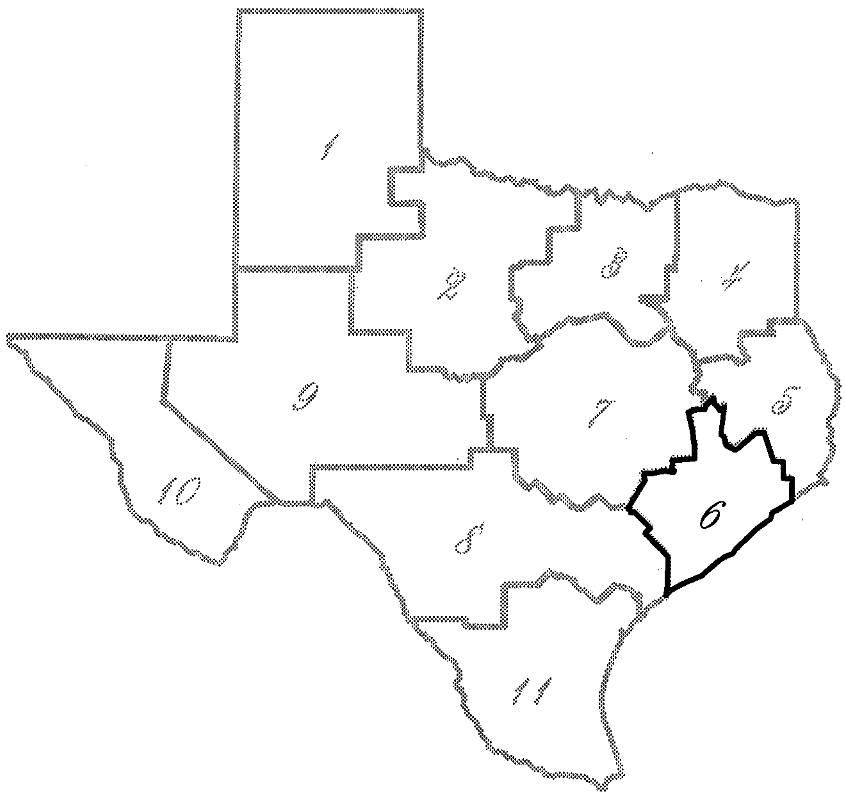
PUBLIC HEALTH REGION 5 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANGELINA	73,419	2	2.7	42	57.2	71	96.7	15	20.4
HARDIN	42,389	3	7.1	72	169.9	36	84.9	1	2.4
HOUSTON	21,611	1	4.6	16	74.0	10	46.3	5	23.1
JASPER	32,066	4	12.5	101	315.0	55	171.5	0	0.0
JEFFERSON	237,966	54	22.7	933	392.1	1031	433.3	19	8.0
NACOGDOCHES	56,769	5	8.8	59	103.9	14	24.7	2	3.5
NEWTON	14,267	0	0.0	26	182.2	6	42.1	0	0.0
ORANGE	81,822	9	11.0	146	178.4	60	73.3	5	6.1
POLK	36,085	5	13.9	24	66.5	17	47.1	1	2.8
SABINE	10,078	0	0.0	3	29.8	0	0.0	0	0.0
SAN AUGUSTINE	7,961	0	0.0	14	175.9	1	12.6	0	0.0
SAN JACINTO	19,736	1	5.1	0	0.0	0	0.0	0	0.0
SHELBY	21,863	3	13.7	13	59.5	0	0.0	1	4.6
TRINITY	12,453	2	16.1	5	40.2	6	48.2	0	0.0
TYLER	18,123	1	5.5	7	38.6	3	16.6	1	5.5
REGIONAL TOTALS	**686,608**	**90**	**13.1**	**1,461**	**212.8**	**1,310**	**190.8**	**50**	**7.3**
STATEWIDE TOTALS	**19,307,376**	**4,386**	**22.7**	**50,119**	**259.6**	**26,378**	**136.6**	**648**	**3.4**

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 5 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANGELINA	73,419	0	0.0	0	0.0	0	0.0	0	0.0
HARDIN	42,389	0	0.0	0	0.0	0	0.0	0	0.0
HOUSTON	21,611	0	0.0	0	0.0	0	0.0	0	0.0
JASPER	32,066	0	0.0	0	0.0	0	0.0	0	0.0
JEFFERSON	237,966	0	0.0	1	0.4	0	0.0	0	0.0
NACOGDOCHES	56,769	0	0.0	0	0.0	0	0.0	0	0.0
NEWTON	14,267	0	0.0	0	0.0	0	0.0	0	0.0
ORANGE	81,822	0	0.0	0	0.0	0	0.0	0	0.0
POLK	36,085	0	0.0	1	2.8	0	0.0	0	0.0
SABINE	10,078	0	0.0	0	0.0	0	0.0	0	0.0
SAN AUGUSTINE	7,961	0	0.0	0	0.0	0	0.0	0	0.0
SAN JACINTO	19,736	0	0.0	0	0.0	0	0.0	0	0.0
SHELBY	21,863	0	0.0	0	0.0	0	0.0	0	0.0
TRINITY	12,453	0	0.0	0	0.0	0	0.0	0	0.0
TYLER	18,123	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	**686,608**	**0**	**0.0**	**2**	**0.3**	**0**	**0.0**	**0**	**0.0**
STATEWIDE TOTALS	**19,307,376**	**7**	**0.0**	**75**	**0.4**	**233**	**1.2**	**12**	**0.1**



Public Health Region 6

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 6 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
AUSTIN	20,511	0	0.0	3	14.6	3	14.6	0	0.0
BRAZORIA	214,697	0	0.0	5	2.3	32	14.9	15	7.0
CHAMBERS	20,697	0	0.0	0	0.0	1	4.8	0	0.0
COLORADO	18,190	1	5.5	0	0.0	0	0.0	3	16.5
FORT BEND	307,312	0	0.0	18	5.9	42	13.7	40	13.0
GALVESTON	229,903	0	0.0	7	3.0	50	21.7	42	18.3
HARRIS	3,154,477	28	0.9	75	2.4	505	16.0	509	16.1
LIBERTY	57,038	0	0.0	0	0.0	8	14.0	2	3.5
MATAGORDA	38,081	0	0.0	0	0.0	3	7.9	2	5.3
MONTGOMERY	222,704	0	0.0	2	0.9	16	7.2	19	8.5
WALKER	55,964	0	0.0	1	1.8	8	14.3	0	0.0
WALLER	25,917	0	0.0	0	0.0	7	27.0	2	7.7
WHARTON	40,662	0	0.0	0	0.0	3	7.4	4	9.8
REGIONAL TOTALS	4,406,153	29	0.7	111	2.5	678	15.4	638	14.5
STATEWIDE TOTALS	19,307,376	153	0.8	981	5.1	2,793	14.5	3,504	18.1

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 6 - 1997

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
AUSTIN	20,511	0	0.0	0	0.0	0	0.0	0	0.0
BRAZORIA	214,697	48	22.4	5	2.3	1	0.5	0	0.0
CHAMBERS	20,697	1	4.8	0	0.0	0	0.0	0	0.0
COLORADO	18,190	0	0.0	0	0.0	0	0.0	0	0.0
FORT BEND	307,312	46	15.0	13	4.2	2	0.7	0	0.0
GALVESTON	229,903	15	6.5	23	10.0	3	1.3	0	0.0
HARRIS	3,154,477	565	17.9	137	4.3	45	1.4	19	0.6
LIBERTY	57,038	0	0.0	0	0.0	0	0.0	0	0.0
MATAGORDA	38,081	5	13.1	0	0.0	0	0.0	0	0.0
MONTGOMERY	222,704	7	3.1	0	0.0	0	0.0	0	0.0
WALKER	55,964	3	5.4	3	5.4	0	0.0	0	0.0
WALLER	25,917	2	7.7	0	0.0	0	0.0	0	0.0
WHARTON	40,662	4	9.8	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	4,406,153	696	15.8	181	4.1	51	12	19	0.4
STATEWIDE TOTALS	19,307,376	4,511	23.4	1,245	6.4	376	1.9	31	0.2

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 6 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS*	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE*	RATE
AUSTIN	20,511	0	0.0	2	9.8	0	0.0	4	19.5
BRAZORIA	214,697	3	1.4	251	116.9	0	0.0	12	5.6
CHAMBERS	20,697	0	0.0	235	1135.4	0	0.0	1	4.8
COLORADO	18,190	0	0.0	0	0.0	0	0.0	0	0.0
FORT BEND	307,312	12	3.9	1,380	449.1	1	0.3	28	9.1
GALVESTON	229,903	25	10.9	186	80.9	2	0.9	27	11.7
HARRIS	3,154,477	212	6.7	4,629	146.7	7	0.2	623	19.7
LIBERTY	57,038	0	0.0	2	3.5	1	1.8	3	5.3
MATAGORDA	38,081	0	0.0	1	2.6	0	0.0	5	13.1
MONTGOMERY	222,704	0	0.0	73	32.8	0	0.0	10	4.5
WALKER	55,964	0	0.0	58	103.6	1	1.8	0	0.0
WALLER	25,917	0	0.0	22	84.9	0	0.0	2	7.7
WHARTON	40,662	1	2.5	16	39.3	0	0.0	2	4.9
REGIONAL TOTALS	**4,406,153**	**253**	**5.7**	**6,855**	**155.6**	**12**	**0.3**	**717**	**16.3**
STATEWIDE TOTALS	**19,307,376**	**1,018**	**5.3**	**26,688**	**138.2**	**44**	**0.2**	**1,992**	**10.3**

*TB totals from Region 6 do not include cases from the Texas Department of Criminal Justice (cases = 36, rate 25.6 per 100,000).
These cases are included in statewide totals.

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

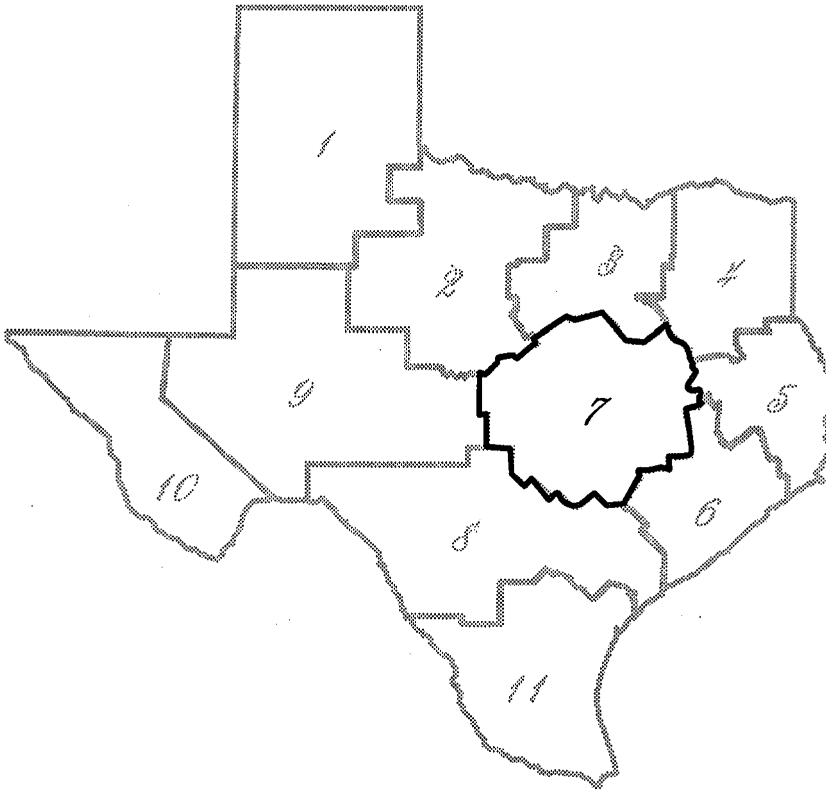
PUBLIC HEALTH REGION 6 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
AUSTIN	20,511	0	0.0	15	73.1	1	4.9	0	0.0
BRAZORIA	214,697	15	7.0	357	166.3	145	67.5	2	0.9
CHAMBERS	20,697	0	0.0	8	38.7	7	33.8	1	4.8
COLORADO	18,190	0	0.0	15	82.5	14	77.0	0	0.0
FORT BEND	307,312	51	16.6	250	81.4	151	49.1	10	3.3
GALVESTON	229,903	58	25.2	787	342.3	586	254.9	13	5.7
HARRIS	3,154,477	1,712	54.3	10,732	340.2	6,590	208.9	184	5.8
LIBERTY	57,038	9	15.8	13	22.8	0	0.0	1	1.8
MATAGORDA	38,081	1	2.6	38	99.8	28	73.5	1	2.6
MONTGOMERY	222,704	25	11.2	11	4.9	5	2.2	5	2.2
WALKER	55,964	7	12.5	9	16.1	6	10.7	2	3.6
WALLER	25,917	3	11.6	7	27.0	12	46.3	2	7.7
WHARTON	40,662	5	12.3	104	255.8	33	81.2	2	4.9
REGIONAL TOTALS	**4,406,153**	**1,886**	**42.8**	**12,346**	**280.2**	**7,578**	**172.0**	**223**	**5.1**
STATEWIDE TOTALS	**19,307,376**	**4,386**	**22.7**	**50,119**	**259.6**	**26,378**	**136.6**	**648**	**3.4**

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 6 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
AUSTIN	20,511	0	0.0	0	0.0	0	0.0	0	0.0
BRAZORIA	214,697	0	0.0	2	0.9	1	0.5	0	0.0
CHAMBERS	20,697	0	0.0	0	0.0	0	0.0	0	0.0
COLORADO	18,190	0	0.0	0	0.0	0	0.0	0	0.0
FORT BEND	307,312	0	0.0	1	0.3	2	0.7	0	0.0
GALVESTON	229,903	0	0.0	1	0.4	1	0.4	0	0.0
HARRIS	3,154,477	2	0.1	6	0.2	33	1.0	1	0.0
LIBERTY	57,038	0	0.0	0	0.0	0	0.0	0	0.0
MATAGORDA	38,081	0	0.0	0	0.0	0	0.0	0	0.0
MONTGOMERY	222,704	0	0.0	0	0.0	0	0.0	1	0.4
WALKER	55,964	0	0.0	0	0.0	0	0.0	0	0.0
WALLER	25,917	0	0.0	0	0.0	0	0.0	0	0.0
WHARTON	40,662	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	4,406,153	2	0.0	10	0.2	37	0.8	2	0.0
STATEWIDE TOTALS	19,307,376	7	0.0	75	0.4	233	1.2	1	0.1



Public Health Region 7

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 7 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BASTROP	49,601	0	0.0	4	8.1	8	8.1	43	86.7
BELL	205,946	1	0.5	5	2.4	43	2.4	6	2.9
BLANCO	6,956	0	0.0	1	14.4	0	14.4	0	0.0
BOSQUE	15,890	0	0.0	0	0.0	4	0.0	2	12.6
BRAZOS	123,490	0	0.0	11	8.9	18	8.9	40	32.4
BURLESON	14,915	0	0.0	1	6.7	1	6.7	2	13.4
BURNET	26,907	0	0.0	4	14.9	4	14.9	2	7.4
CALDWELL	30,992	0	0.0	0	0.0	4	0.0	6	19.4
CORYELL	71,852	0	0.0	0	0.0	5	0.0	0	0.0
FALLS	18,718	0	0.0	0	0.0	2	0.0	0	0.0
FAYETTE	20,259	0	0.0	1	4.9	5	4.9	1	4.9
FREESTONE	16,676	0	0.0	0	0.0	3	0.0	0	0.0
GRIMES	21,830	0	0.0	0	0.0	1	0.0	1	4.6
HAMILTON	7,404	0	0.0	0	0.0	0	0.0	0	0.0
HAYS	83,637	0	0.0	9	10.8	27	10.8	24	28.7
HILL	28,234	0	0.0	0	0.0	0	0.0	1	3.5
LAMPASAS	14,292	0	0.0	2	14.0	1	14.0	1	7.0
LEE	14,275	0	0.0	1	7.0	1	7.0	1	7.0
LEON	14,872	0	0.0	0	0.0	1	0.0	1	6.7
LIMESTONE	21,464	0	0.0	0	0.0	1	0.0	4	18.6
LLANO	12,274	0	0.0	0	0.0	2	0.0	1	8.1
MADISON	11,704	0	0.0	0	0.0	1	0.0	0	0.0
MCLENNAN	191,851	1	0.5	6	3.1	36	3.1	88	45.9
MILAM	23,158	0	0.0	0	0.0	4	0.0	2	8.6
MILLS	4,462	0	0.0	0	0.0	1	22.4	0	0.0
ROBERTSON	16,642	0	0.0	0	0.0	2	12.0	8	48.1
SAN SABA	5,855	0	0.0	0	0.0	2	34.2	0	0.0
TRAVIS	626,575	20	3.2	159	25.4	158	25.2	215	34.3
WASHINGTON	28,362	0	0.0	2	7.1	5	17.6	2	7.1
WILLIAMSON	195,954	0	0.0	17	8.7	31	15.8	45	23.0
REGIONAL TOTALS	**1,925,047**	**22**	**1.1**	**223**	**11.6**	**371**	**19.3**	**496**	**25.8'**
STATEWIDE TOTALS	**19,307,376**	**153**	**0.8**	**1**	**5.1**	**2,793**	**14.5**	**[illegible]**	**18.1**

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 7 - 1997

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BASTROP	49,601	6	12.1	2	4.0	1	2.0	0	0.0
BELL	205,946	10	4.9	2	1.0	1	0.5	0	0.0
BLANCO	6,956	2	28.8	0	0.0	0	0.0	0	0.0
BOSQUE	15,890	5	31.5	0	0.0	0	0.0	0	0.0
BRAZOS	123,490	6	4.9	3	2.4	0	0.0	0	0.0
BURLESON	14,915	1	6.7	0	0.0	0	0.0	0	0.0
BURNET	26,907	4	14.9	0	0.0	0	0.0	0	0.0
CALDWELL	30,992	6	19.4	3	9.7	0	0.0	0	0.0
CORYELL	71,852	0	0.0	0	0.0	0	0.0	0	0.0
FALLS	18,718	0	0.0	0	0.0	0	0.0	0	0.0
FAYETTE	20,259	3	14.8	0	0.0	0	0.0	0	0.0
FREESTONE	16,676	1	6.0	0	0.0	1	6.0	0	0.0
GRIMES	21,830	1	4.6	0	0.0	0	0.0	0	0.0
HAMILTON	7,404	0	0.0	0	0.0	0	0.0	0	0.0
HAYS	83,637	5	6.0	3	3.6	0	0.0	0	0.0
HILL	28,234	2	7.1	0	0.0	1	3.5	0	0.0
LAMPASAS	14,292	0	0.0	0	0.0	0	0.0	0	0.0
LEE	14,275	3	21.0	0	0.0	0	0.0	0	0.0
LEON	14,872	1	6.7	0	0.0	0	0.0	0	0.0
LIMESTONE	21,464	4	18.6	2	9.3	1	4.7	0	0.0
LLANO	12,274	6	48.9	0	0.0	0	0.0	0	0.0
MADISON	11,704	1	8.5	0	0.0	0	0.0	0	0.0
MCLENNAN	191,851	17	8.9	7	8.9	2	1.0	0	0.0
MILAM	23,158	0	0.0	0	0.0	0	0.0	0	0.0
MILLS	4,462	0	0.0	0	0.0	0	0.0	0	0.0
ROBERTSON	16,642	6	36.1	0	36.1	0	0.0	0	0.0
SAN SABA	5,855	2	34.2	1	34.2	0	0.0	0	0.0
TRAVIS	626,575	132	21.1	65	21.1	2	0.3	0	0.0
WASHINGTON	28,362	2	7.1	3	7.1	0	0.0	0	0.0
WILLIAMSON	195,954	17	8.7	3	8.7	1	0.5	0	0.0
REGIONAL TOTALS	1,925,047	243	12.6	94	4.9	10	0.5	0	0.0
STATEWIDE TOTALS	19,307,376	4,511	23.4	1,245	6.4	376	1.9	31	0.2

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 7 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BASTROP	49,601	2	4.0	58	116.9	0	0.0	1	2.0
BELL	205,946	4	1.9	130	63.1	0	0.0	17	8.3
BLANCO	6,956	0	0.0	0	0.0	0	0.0	0	0.0
BOSQUE	15,890	1	6.3	2	12.6	0	0.0	0	0.0
BRAZOS	123,490	9	7.3	102	82.6	0	0.0	9	7.3
BURLESON	14,915	0	0.0	39	261.5	0	0.0	0	0.0
BURNET	26,907	0	0.0	6	22.3	0	0.0	2	7.4
CALDWELL	30,992	0	0.0	14	45.2	0	0.0	1	3.2
CORYELL	71,852	2	2.8	44	61.2	0	0.0	2	2.8
FALLS	18,718	0	0.0	0	0.0	0	0.0	0	0.0
FAYETTE	20,259	0	0.0	15	74.0	0	0.0	0	0.0
FREESTONE	16,676	0	0.0	18	107.9	0	0.0	1	6.0
GRIMES	21,830	0	0.0	7	32.1	0	0.0	0	0.0
HAMILTON	7,404	0	0.0	0	0.0	0	0.0	0	0.0
HAYS	83,637	2	2.4	178	212.8	0	0.0	2	2.4
HILL	28,234	0	0.0	11	39.0	0	0.0	2	7.1
LAMPASAS	14,292	0	0.0	2	14.0	0	0.0	1	7.0
LEE	14,275	2	14.0	1	7.0	0	0.0	0	0.0
LEON	14,872	0	0.0	87	585.0	0	0.0	0	0.0
LIMESTONE	21,464	0	0.0	11	51.2	0	0.0	4	18.6
LLANO	12,274	0	0.0	1	8.1	0	0.0	0	0.0
MADISON	11,704	0	0.0	19	162.3	0	0.0	0	0.0
MCLENNAN	191,851	1	0.5	1,251	652.1	1	0.5	10	5.2
MILAM	23,158	0	0.0	7	30.2	0	0.0	0	0.0
MILLS	4,462	0	0.0	0	0.0	0	0.0	0	0.0
ROBERTSON	16,642	1	6.0	5	30.0	0	0.0	0	0.0
SAN SABA	5,855	0	0.0	0	0.0	0	0.0	0	0.0
TRAVIS	626,575	76	12.1	3,438	548.7	1	0.2	75	12.0
WASHINGTON	28,362	1	3.5	7	24.7	0	0.0	3	10.6
WILLIAMSON	195,954	12	6.1	653	333.2	0	0.0	1	0.5
REGIONAL TOTALS	2 47	11	5.9	6,106	317.2	2	0.1	1	6.8
EWIDE TC	19,307,376	1,018	5.3	26,688	138.2	44	0.2	1,992	10.3

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

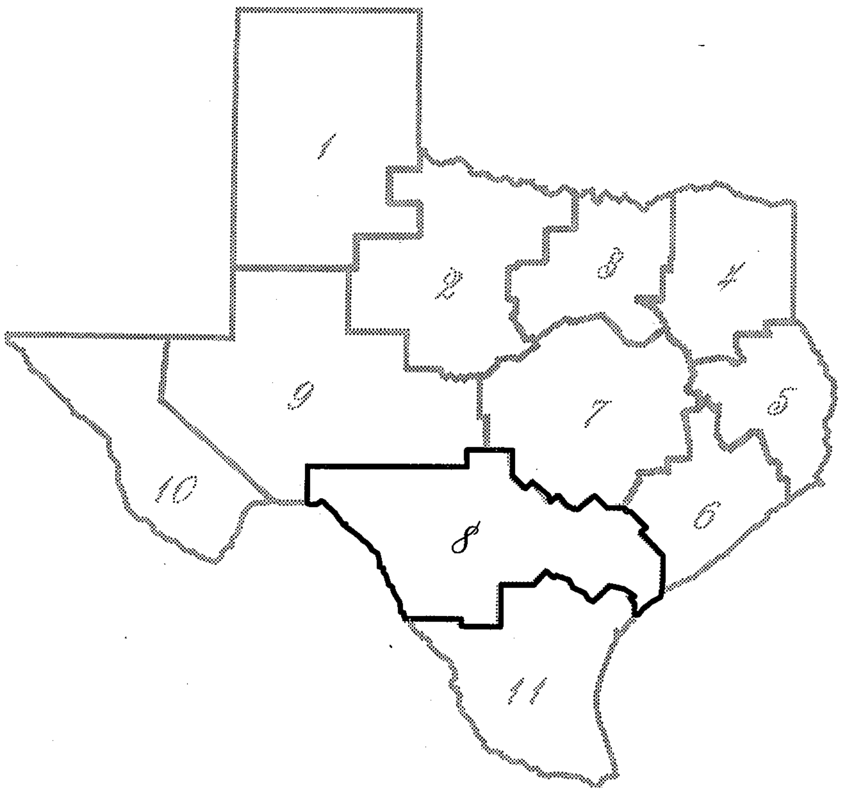
PUBLIC HEALTH REGION 7 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BASTROP	49,601	7	14.1	49	98.8	28	56.5	0	0.0
BELL	205,946	26	12.6	933	453.0	386	187.4	4	1.9
BLANCO	6,956	0	0.0	1	14.4	0	0.0	0	0.0
BOSQUE	15,890	0	0.0	12	75.5	7	44.1	0	0.0
BRAZOS	123,490	15	12.1	266	215.4	130	105.3	11	8.9
BURLESON	14,915	3	20.1	18	120.7	18	120.7	1	6.7
BURNET	26,907	4	14.9	40	148.7	5	18.6	0	0.0
CALDWELL	30,992	3	9.7	19	61.3	6	19.4	0	0.0
CORYELL	71,852	1	1.4	74	103.0	16	22.3	0	0.0
FALLS	18,718	1	5.3	43	229.7	21	112.2	1	5.3
FAYETTE	20,259	1	4.9	42	207.3	40	197.4	0	0.0
FREESTONE	16,676	1	6.0	23	137.9	9	54.0	1	6.0
GRIMES	21,830	1	4.6	24	109.9	16	73.3	4	18.3
HAMILTON	7,404	0	0.0	7	94.5	2	27.0	0	0.0
HAYS	83,637	3	3.6	169	202.1	40	47.8	2	2.4
HILL	28,234	1	3.5	32	113.3	21	74.4	0	0.0
LAMPASAS	14,292	0	0.0	22	153.9	2	14.0	0	0.0
LEE	14,275	0	0.0	8	56.0	9	63.0	1	7.0
LEON	14,872	1	6.7	12	80.7	4	26.9	0	0.0
LIMESTONE	21,464	1	4.7	42	195.7	17	79.2	0	0.0
LLANO	12,274	1	8.1	14	114.1	1	8.1	0	0.0
MADISON	11,704	0	0.0	21	179.4	18	153.8	0	0.0
MCLENNAN	191,851	6	3.1	896	467.0	543	283.0	0	0.0
MILAM	23,158	4	17.3	45	194.3	12	51.8	0	0.0
MILLS	4,462	0	0.0	3	67.2	0	0.0	0	0.0
ROBERTSON	16,642	0	0.0	26	156.2	22	132.2	1	6.0
SAN SABA	5,855	0	0.0	10	170.8	1	17.1	0	0.0
TRAVIS	626,575	207	33.0	2,948	470.5	1,510	241.0	7	1.1
WASHINGTON	28,362	4	14.1	32	112.8	20	70.5	1	3.5
WILLIAMSON	195,954	17	8.7	184	93.9	64	32.7	0	0.0
REGIONAL TOTALS	**1,925,047**	**3**	**16.0**	**01**	**312.5**	**2,968**	**154.2**	**34**	**1.8**
ST/ATEWIDE TOTALS	**19,307,376**	**4,386**	**22.7**	**50,119**	**259.6**	**26,378**	**136.6**	**648**	**3.4**

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 7 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BASTROP	49,601	0	0.0	0	0.0	0	0.0	0	0.0
BELL	205,946	0	0.0	1	0.5	1	0.5	0	0.0
BLANCO	6,956	0	0.0	0	0.0	0	0.0	0	0.0
BOSQUE	15,890	0	0.0	0	0.0	0	0.0	0	0.0
BRAZOS	123,490	0	0.0	0	0.0	3	2.4	0	0.0
BURLESON	14,915	0	0.0	0	0.0	0	0.0	0	0.0
BURNET	26,907	0	0.0	0	0.0	0	0.0	0	0.0
CALDWELL	30,992	0	0.0	0	0.0	0	0.0	0	0.0
CORYELL	71,852	0	0.0	0	0.0	0	0.0	0	0.0
FALLS	18,718	0	0.0	0	0.0	0	0.0	0	0.0
FAYETTE	20,259	0	0.0	0	0.0	0	0.0	0	0.0
FREESTONE	16,676	0	0.0	0	0.0	0	0.0	0	0.0
GRIMES	21,830	0	0.0	0	0.0	0	0.0	0	0.0
HAMILTON	7,404	0	0.0	0	0.0	0	0.0	0	0.0
HAYS	83,637	0	0.0	1	1.2	0	0.0	0	0.0
HILL	28,234	0	0.0	0	0.0	0	0.0	0	0.0
LAMPASAS	14,292	0	0.0	0	0.0	0	0.0	0	0.0
LEE	14,275	0	0.0	0	0.0	0	0.0	0	0.0
LEON	14,872	0	0.0	0	0.0	0	0.0	0	0.0
LIMESTONE	21,464	0	0.0	0	0.0	0	0.0	0	0.0
LLANO	12,274	0	0.0	0	0.0	0	0.0	0	0.0
MADISON	11,704	0	0.0	0	0.0	0	0.0	0	0.0
MCLENNAN	191,851	0	0.0	0	0.0	3	1.6	0	0.0
MILAM	23,158	0	0.0	1	4.3	0	0.0	0	0.0
MILLS	4,462	0	0.0	0	0.0	0	0.0	0	0.0
ROBERTSON	16,642	0	0.0	0	0.0	0	0.0	0	0.0
SAN SABA	5,855	0	0.0	0	0.0	0	0.0	0	0.0
TRAVIS	626,575	3	0.5	2	0.3	10	1.6	0	0.0
WASHINGTON	28,362	0	0.0	0	0.0	0	0.0	0	0.0
WILLIAMSON	195,954	1	0.5	1	0.5	1	0.5	0	0.0
REGIONAL TOTALS	1,925,047	4	0.2	6	0.3	18	0.9	0	0.0
STATEWIDE TOTALS	19,307,376	7	0.0	75	0.4	233	1.2	12	0.1



Public Health Region 8

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 8 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ATASCOSA	35,414	0	0.0	0	0.0	2	0.0	3	8.5
BANDERA	13,119	0	0.0	1	7.6	0	7.6	0	0.0
BEXAR	1,319,871	1	0.1	112	8.5	161	8.5	358	27.1
CALHOUN	19,882	0	0.0	7	35.2	10	35.2	7	35.2
COMAL	68,315	0	0.0	2	2.9	15	2.9	14	20.5
DE WITT	19,954	0	0.0	0	0.0	1	0.0	1	5.0
DIMMIT	11,073	0	0.0	0	0.0	1	0.0	0	0.0
EDWARDS	2,454	0	0.0	0	0.0	0	0.0	0	0.0
FRIO	15,767	0	0.0	1	6.3	2	6.3	2	12.7
GILLESPIE	19,207	0	0.0	0	0.0	0	0.0	0	0.0
GOLIAD	6,392	0	0.0	0	0.0	0	0.0	1	15.6
GONZALES	17,950	0	0.0	0	0.0	0	0.0	3	16.7
GUADALUPE	79,485	0	0.0	1	1.3	10	1.3	9	11.3
JACKSON	13,172	0	0.0	1	7.6	1	7.6	0	0.0
KARNES	15,088	1	6.6	0	0.0	0	0.0	2	13.3
KENDALL	17,911	0	0.0	1	5.6	5	5.6	0	0.0
KERR	40,720	0	0.0	3	7.4	5	7.4	0	0.0
KINNEY	3,307	0	0.0	1	30.2	0	30.2	0	0.0
LA SALLE	6,314	0	0.0	0	0.0	0	0.0	0	0.0
LAVACA	18,188	0	0.0	0	0.0	2	0.0	4	22.0
MAVERICK	42,454	0	0.0	1	2.4	4	2.4	7	16.5
MEDINA	32,733	0	0.0	0	0.0	1	0.0	4	12.2
REAL	2,509	0	0.0	0	0.0	1	0.0	0	0.0
UVALDE	25,168	2	7.9	1	4.0	2	4.0	2	7.9
VAL VERDE	43,094	0	0.0	3	7.0	7	16.2	6	13.9
VICTORIA	78,831	0	0.0	5	6.3	96	121.8	128	162.4
WILSON	28,049	0	0.0	1	3.6	2	7.1	1	3.6
ZAVALA	13,382	0	0.0	0	0.0	1	7.5	0	0.0
REGIONAL TOTAL	2,009,803	4	0.2	141	7.0	329	16.4	552	27.5
STATEWIDE TOTALS	19,307,376	153	0.8	981	5.1	2,793	14.5	3,504	18.1

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 8 - 1997

		HEPATITIS		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ATASCOSA	35,414	0	0.0	0	0.0	0	0.0	0	0.0
BANDERA	13,119	5	38.1	0	0.0	0	0.0	0	0.0
BEXAR	1,319,871	432	32.7	94	7.1	11	0.8	0	0.0
CALHOUN	19,882	0	0.0	0	0.0	0	0.0	0	0.0
COMAL	68,315	61	89.3	2	2.9	10	14.6	0	0.0
DE WITT	19,954	1	5.0	1	5.0	0	0.0	0	0.0
DIMMIT	11,073	5	45.2	0	0.0	0	0.0	0	0.0
EDWARDS	2,454	0	0.0	0	0.0	0	0.0	0	0.0
FRIO	15,767	1	6.3	0	0.0	0	0.0	0	0.0
GILLESPIE	19,207	3	15.6	3	15.6	0	0.0	0	0.0
GOLIAD	6,392	0	0.0	0	0.0	0	0.0	0	0.0
GONZALES	17,950	2	11.1	0	0.0	1	5.6	0	0.0
GUADALUPE	79,485	9	11.3	4	5.0	0	0.0	0	0.0
JACKSON	13,172	1	7.6	0	0.0	0	0.0	0	0.0
KARNES	15,088	15	99.4	0	0.0	0	0.0	0	0.0
KENDALL	17,911	2	11.2	0	0.0	0	0.0	0	0.0
KERR	40,720	4	9.8	0	0.0	0	0.0	0	0.0
KINNEY	3,307	2	60.5	0	0.0	0	0.0	0	0.0
LA SALLE	6,314	0	0.0	0	0.0	0	0.0	0	0.0
LAVACA	18,188	2	11.0	0	0.0	0	0.0	0	0.0
MAVERICK	42,454	78	183.7	0	0.0	0	0.0	0	0.0
MEDINA	32,733	6	18.3	0	0.0	0	0.0	0	0.0
REAL	2,509	0	0.0	0	0.0	0	0.0	0	0.0
UVALDE	25,168	11	43.7	0	43.7	0	0.0	0	0.0
VAL VERDE	43,094	23	53.4	0	53.4	0	0.0	0	0.0
VICTORIA	78,831	11	14.0	4	14.0	2	2.5	0	0.0
WILSON	28,049	1	3.6	0	3.6	0	0.0	1	3.6
ZAVALA	13,382	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	[illegible]	**675**	**33.6**	**108**	**5.4**	**24**	**1.2**	**1**	**0.0**
STATEWIDE TOTALS	**19,307,376**	**4,511**	**23.4**	**1,245**	**6.4**	**376**	**1.9**	**31**	**0.2**

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 8 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ATASCOSA	35,414	0	0.0	0	0.0	0	0.0	0	0.0
BANDERA	13,119	1	7.6	0	0.0	0	0.0	1	7.6
BEXAR	1,319,871	111	8.4	71	5.4	0	0.0	101	7.7
CALHOUN	19,882	1	5.0	7	35.2	0	0.0	2	10.1
COMAL	68,315	5	7.3	146	213.7	3	4.4	3	4.4
DE WITT	19,954	0	0.0	59	295.7	0	0.0	1	5.0
DIMMIT	11,073	0	0.0	0	0.0	0	0.0	1	9.0
EDWARDS	2,454	0	0.0	0	0.0	0	0.0	0	0.0
FRIO	15,767	0	0.0	56	355.2	0	0.0	0	0.0
GILLESPIE	19,207	1	5.2	12	62.5	0	0.0	0	0.0
GOLIAD	6,392	0	0.0	1	15.6	0	0.0	0	0.0
GONZALES	17,950	0	0.0	0	0.0	0	0.0	3	16.7
GUADALUPE	79,485	3	3.8	33	41.5	0	0.0	3	3.8
JACKSON	13,172	0	0.0	6	45.6	0	0.0	0	0.0
KARNES	15,088	0	0.0	0	0.0	0	0.0	1	6.6
KENDALL	17,911	0	0.0	3	16.7	0	0.0	1	5.6
KERR	40,720	0	0.0	6	14.7	0	0.0	2	4.9
KINNEY	3,307	0	0.0	0	0.0	0	0.0	0	0.0
LA SALLE	6,314	0	0.0	0	0.0	0	0.0	1	15.8
LAVACA	18,188	0	0.0	0	0.0	0	0.0	2	11.0
MAVERICK	42,454	2	4.7	46	108.4	0	0.0	13	30.6
MEDINA	32,733	4	12.2	39	119.1	0	0.0	1	3.1
REAL	2,509	0	0.0	0	0.0	0	0.0	0	0.0
UVALDE	25,168	1	4.0	47	186.7	0	0.0	1	4.0
VAL VERDE	43,094	0	0.0	93	215.8	0	0.0	11	25.5
VICTORIA	78,831	2	2.5	73	92.6	0	0.0	12	15.2
WILSON	28,049	1	3.6	1,144	4,078.6	0	0.0	1	3.6
ZAVALA	13,382	0	0.0	1	7.5	0	0.0	1	7.5
REGIONAL TOTAI	**2,009,803**	**132**	**6.6**	**1,843**	**91.7**	**3**	**0.1**	**162**	**8.1**
STATEWIDE TOTALS	19,307,376	1,018	**5.3**	26,688	**138.2**	44	**0.2**	1 332	**10.3**

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

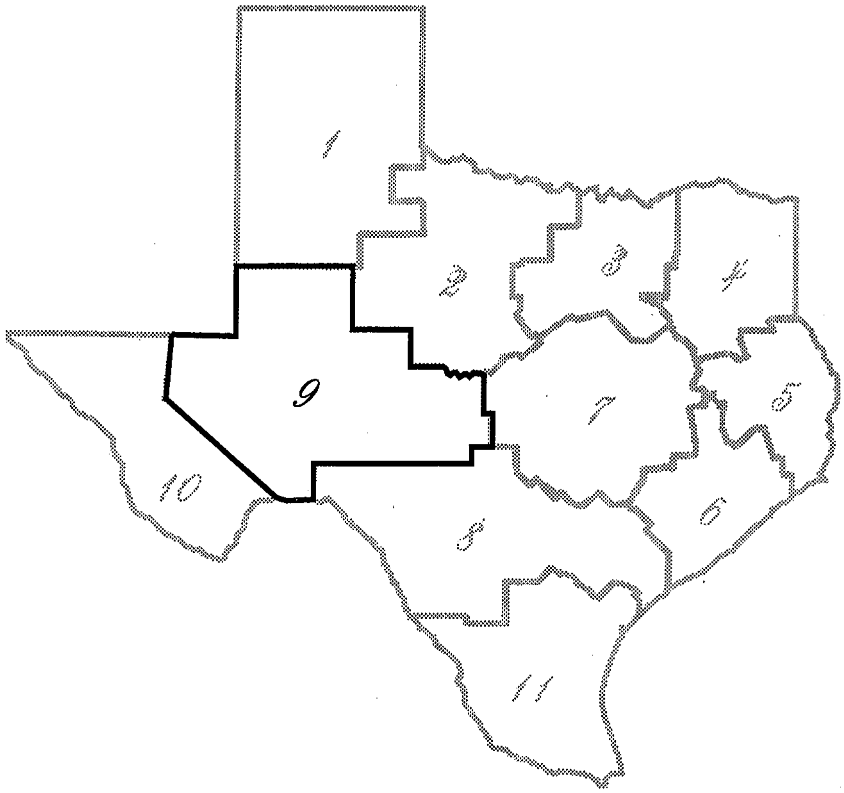
PUBLIC HEALTH REGION 8 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ATASCOSA	35,414	3	8.5	55	155.3	5	14.1	0	0.0
BANDERA	13,119	0	0.0	1	7.6	0	0.0	0	0.0
BEXAR	1,319,871	302	22.9	4,618	349.9	1,645	124.6	27	2.0
CALHOUN	19,882	2	10.1	19	95.6	13	65.4	2	10.1
COMAL	68,315	4	5.9	75	109.8	16	23.4	0	0.0
DE WITT	19,954	0	0.0	13	65.1	7	35.1	0	0.0
DIMMIT	11,073	0	0.0	23	207.7	1	9.0	0	0.0
EDWARDS	2,454	0	0.0	0	0.0	0	0.0	0	0.0
FRIO	15,767	0	0.0	30	190.3	4	25.4	0	0.0
GILLESPIE	19,207	2	10.4	11	57.3	6	31.2	0	0.0
GOLIAD	6,392	0	0.0	6	93.9	5	78.2	0	0.0
GONZALES	17,950	1	5.6	41	228.4	25	139.3	0	0.0
GUADALUPE	79,485	3	3.8	90	113.2	27	34.0	0	0.0
JACKSON	13,172	1	7.6	5	38.0	10	75.9	0	0.0
KARNES	15,088	0	0.0	29	192.2	16	106.0	0	0.0
KENDALL	17,911	0	0.0	9	50.2	3	16.7	0	0.0
KERR	40,720	1	2.5	68	167.0	14	34.4	0	0.0
KINNEY	3,307	0	0.0	0	0.0	0	0.0	0	0.0
LA SALLE	6,314	1	15.8	1	15.8	0	0.0	0	0.0
LAVACA	18,188	0	0.0	13	71.5	25	137.5	1	5.5
MAVERICK	42,454	0	0.0	88	207.3	3	7.1	0	0.0
MEDINA	32,733	2	6.1	28	85.5	7	21.4	0	0.0
REAL	2,509	0	0.0	1	0.0	0	0.0	0	0.0
UVALDE	25,168	1	4.0	73	4.0	6	23.8	0	0.0
VAL VERDE	43,094	0	0.0	95	0.0	14	32.5	0	0.0
VICTORIA	78,831	2	2.5	320	2.5	171	216.9	1	1.3
WILSON	28,049	2	7.1	19	7.1	0	0.0	0	0.0
ZAVALA	13,382	0	0.0	25	0.0	2	14.9	0	0.0
REGIONAL TOTALS	2,009,803	327	16.3	5,756	286.4	2,025	100.8	31	1.5
STATEWIDE TOTALS	19,307,376	4,386	22.7	50,119	259.6	26,378	136.6	648	3.4

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 8 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ATASCOSA	35,414	0	0.0	0	0.0	1	2.8	0	0.0
BANDERA	13,119	0	0.0	0	0.0	0	0.0	0	0.0
BEXAR	1,319,871	0	0.0	3	0.2	40	3.0	0	0.0
CALHOUN	19,882	0	0.0	0	0.0	2	10.1	0	0.0
COMAL	68,315	0	0.0	0	0.0	0	0.0	0	0.0
DE WITT	19,954	0	0.0	0	0.0	0	0.0	0	0.0
DIMMIT	11,073	0	0.0	0	0.0	0	0.0	0	0.0
EDWARDS	2,454	0	0.0	0	0.0	0	0.0	0	0.0
FRIO	15,767	0	0.0	0	0.0	0	0.0	0	0.0
GILLESPIE	19,207	0	0.0	0	0.0	0	0.0	0	0.0
GOLIAD	6,392	0	0.0	0	0.0	0	0.0	0	0.0
GONZALES	17,950	0	0.0	0	0.0	0	0.0	0	0.0
GUADALUPE	79,485	0	0.0	0	0.0	0	0.0	0	0.0
JACKSON	13,172	0	0.0	0	0.0	0	0.0	0	0.0
KARNES	15,088	0	0.0	0	0.0	0	0.0	0	0.0
KENDALL	17,911	0	0.0	0	0.0	0	0.0	0	0.0
KERR	40,720	0	0.0	0	0.0	0	0.0	0	0.0
KINNEY	3,307	0	0.0	0	0.0	0	0.0	0	0.0
LA SALLE	6,314	0	0.0	0	0.0	0	0.0	0	0.0
LAVACA	18,188	0	0.0	0	0.0	0	0.0	0	0.0
MAVERICK	42,454	0	0.0	1	2.4	0	0.0	0	0.0
MEDINA	32,733	0	0.0	0	0.0	1	3.1	0	0.0
REAL	2,509	0	0.0	0	0.0	0	0.0	0	0.0
UVALDE	25,168	0	0.0	0	0.0	0	0.0	0	0.0
VAL VERDE	43,094	0	0.0	0	0.0	1	2.3	0	0.0
VICTORIA	78,831	0	0.0	1	1.3	10	12.7	0	0.0
WILSON	28,049	0	0.0	0	0.0	0	0.0	0	0.0
ZAVALA	13,382	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	2,009,803	0	0.0	5	0.2	55	2.7	0	0.0
STATEWIDE TOTALS	19,307,376	7	0.0	75	0.4	233	1.2	12	0.1



Public Health Region 9

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 9 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANDREWS	15,230	0	0.0	0	0.0	1	0.0	0	0.0
BORDEN	812	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,416	0	0.0	0	0.0	0	0.0	0	0.0
CONCHO	3,241	0	0.0	0	0.0	0	0.0	0	0.0
CRANE	5,004	0	0.0	0	0.0	0	0.0	1	20.0
CROCKETT	4,272	0	0.0	0	0.0	0	0.0	1	23.4
DAWSON	15,475	0	0.0	0	0.0	1	0.0	8	51.7
ECTOR	125,836	0	0.0	4	3.2	27	3.2	11	8.7
GAINES	14,783	0	0.0	0	0.0	1	0.0	0	0.0
GLASSCOCK	1,577	0	0.0	0	0.0	0	0.0	0	0.0
HOWARD	31,904	0	0.0	0	0.0	2	0.0	1	3.1
IRION	1,721	0	0.0	0	0.0	0	0.0	0	0.0
KIMBLE	4,106	0	0.0	0	0.0	0	0.0	0	0.0
LOVING	114	0	0.0	0	0.0	0	0.0	0	0.0
MARTIN	5,311	0	0.0	0	0.0	0	0.0	0	0.0
MASON	3,317	0	0.0	1	30.1	0	30.1	0	0.0
MCCULLOCH	8,828	0	0.0	0	0.0	0	0.0	0	0.0
MENARD	2,288	0	0.0	0	0.0	0	0.0	0	0.0
MIDLAND	122,817	0	0.0	2	1.6	12	1.6	5	4.1
PECOS	17,090	0	0.0	1	5.9	1	5.9	0	0.0
REAGAN	4,979	0	0.0	0	0.0	0	0.0	1	20.1
REEVES	16,793	0	0.0	2	11.9	3	11.9	1	6.0
SCHLEICHER	3,183	0	0.0	0	0.0	0	0.0	1	31.4
STERLING	1,513	0	0.0	0	0.0	0	0.0	0	0.0
SUTTON	4,421	0	0.0	0	0.0	0	0.0	0	0.0
TERRELL	1,485	0	0.0	0	0.0	1	67.3	0	0.0
TOM GREEN	107,930	0	0.0	9	8.3	19	17.6	19	17.6
UPTON	4,726	0	0.0	0	0.0	0	0.0	0	0.0
WARD	13,417	0	0.0	0	0.0	0	0.0	0	0.0
WINKLER	8,917	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	**554,506**	**0**	**0.0**	**19**	**3.4**	**68**	**12.3**	**49**	**8.8**
STATEWIDE TOTALS	**19,307,376**	**153**	**0.8**	**981**	**5.1**	**2,793**	**14.5**	**3,504**	**18.1**

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 9 - 1997

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANDREWS	15,230	7	46.0	0	0.0	1	6.6	0	0.0
BORDEN	812	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,416	0	0.0	0	0.0	0	0.0	0	0.0
CONCHO	3,241	0	0.0	0	0.0	0	0.0	0	0.0
CRANE	5,004	0	0.0	0	0.0	0	0.0	0	0.0
CROCKETT	4,272	0	0.0	0	0.0	0	0.0	0	0.0
DAWSON	15,475	0	0.0	0	0.0	1	6.5	0	0.0
ECTOR	125,836	22	17.5	8	6.4	8	6.4	2	1.6
GAINES	14,783	2	13.5	0	0.0	1	6.8	0	0.0
GLASSCOCK	1,577	0	0.0	0	0.0	0	0.0	0	0.0
HOWARD	31,904	3	9.4	3	9.4	0	0.0	0	0.0
IRION	1,721	0	0.0	1	58.1	0	0.0	0	0.0
KIMBLE	4,106	0	0.0	0	0.0	0	0.0	0	0.0
LOVING	114	0	0.0	0	0.0	0	0.0	0	0.0
MARTIN	5,311	0	0.0	0	0.0	0	0.0	0	0.0
MASON	3,317	1	30.1	0	0.0	0	0.0	0	0.0
MCCULLOCH	8,828	0	0.0	0	0.0	0	0.0	0	0.0
MENARD	2,288	0	0.0	0	0.0	0	0.0	0	0.0
MIDLAND	122,817	36	29.3	10	8.1	0	0.0	0	0.0
PECOS	17,090	20	117.0	3	17.6	0	0.0	0	0.0
REAGAN	4,979	0	0.0	0	0.0	0	0.0	0	0.0
REEVES	16,793	2	11.9	0	0.0	0	0.0	0	0.0
SCHLEICHER	3,183	0	0.0	0	0.0	0	0.0	0	0.0
STERLING	1,513	0	0.0	0	0.0	0	0.0	0	0.0
SUTTON	4,421	0	0.0	0	0.0	0	0.0	0	0.0
TERRELL	1,485	0	0.0	0	0.0	0	0.0	0	0.0
TOM GREEN	107,930	8	7.4	4	7.4	1	0.9	0	0.0
UPTON	4,726	1	21.2	0	21.2	0	0.0	0	0.0
WARD	13,417	0	0.0	0	0.0	0	0.0	0	0.0
WINKLER	8,917	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	**554,506**	**102**	**18.4**	29	5.2	12	2.2	**2**	**0.4**
STATEWIDETOTALS	19,307,376	4,511	23.4	1,245	6.4	376	1.9	31	0.2

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 9 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANDREWS	15,230	0	0.0	0	0.0	0	0.0	0	0.0
BORDEN	812	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,416	1	29.3	0	0.0	0	0.0	0	0.0
CONCHO	3,241	0	0.0	0	0.0	0	0.0	0	0.0
CRANE	5,004	0	0.0	0	0.0	0	0.0	0	0.0
CROCKETT	4,272	0	0.0	46	1,076.8	0	0.0	0	0.0
DAWSON	15,475	0	0.0	5	32.3	0	0.0	0	0.0
ECTOR	125,836	2	1.6	83	66.0	0	0.0	12	9.5
GAINES	14,783	0	0.0	0	0.0	0	0.0	0	0.0
GLASSCOCK	1,577	0	0.0	0	0.0	0	0.0	0	0.0
HOWARD	31,904	3	9.4	25	78.4	0	0.0	4	12.5
IRION	1,721	1	58.1	0	0.0	0	0.0	0	0.0
KIMBLE	4,106	1	24.4	0	0.0	0	0.0	1	24.4
LOVING	114	0	0.0	0	0.0	0	0.0	0	0.0
MARTIN	5,311	0	0.0	0	0.0	0	0.0	0	0.0
MASON	3,317	0	0.0	0	0.0	0	0.0	0	0.0
MCCULLOCH	8,828	0	0.0	0	0.0	0	0.0	1	11.3
MENARD	2,288	2	87.4	0	0.0	0	0.0	0	0.0
MIDLAND	122,817	23	18.7	223	181.6	0	0.0	5	4.1
PECOS	17,090	0	0.0	4	23.4	0	0.0	0	0.0
REAGAN	4,979	0	0.0	0	0.0	0	0.0	0	0.0
REEVES	16,793	1	6.0	0	0.0	0	0.0	3	17.9
SCHLEICHER	3,183	0	0.0	0	0.0	0	0.0	0	0.0
STERLING	1,513	0	0.0	0	0.0	0	0.0	0	0.0
SUTTON	4,421	0	0.0	0	0.0	0	0.0	0	0.0
TERRELL	1,485	0	0.0	0	0.0	0	0.0	0	0.0
TOM GREEN	107,930	9	8.3	153	141.8	1	0.9	3	2.8
UPTON	4,726	0	0.0	0	0.0	0	0.0	0	0.0
WARD	13,417	0	0.0	40	298.1	0	0.0	0	0.0
WINKLER	8,917	0	0.0	17	190.6	0	0.0	0	0.0
REGIONAL TOTALS	554,506	43	7.8	596	107.5	1	0.2	29	5.2
STATEWIDE TOTALS	19,307,376	1,018	5.3	26,688	138.2	44	0.2	1,992	10.3"

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

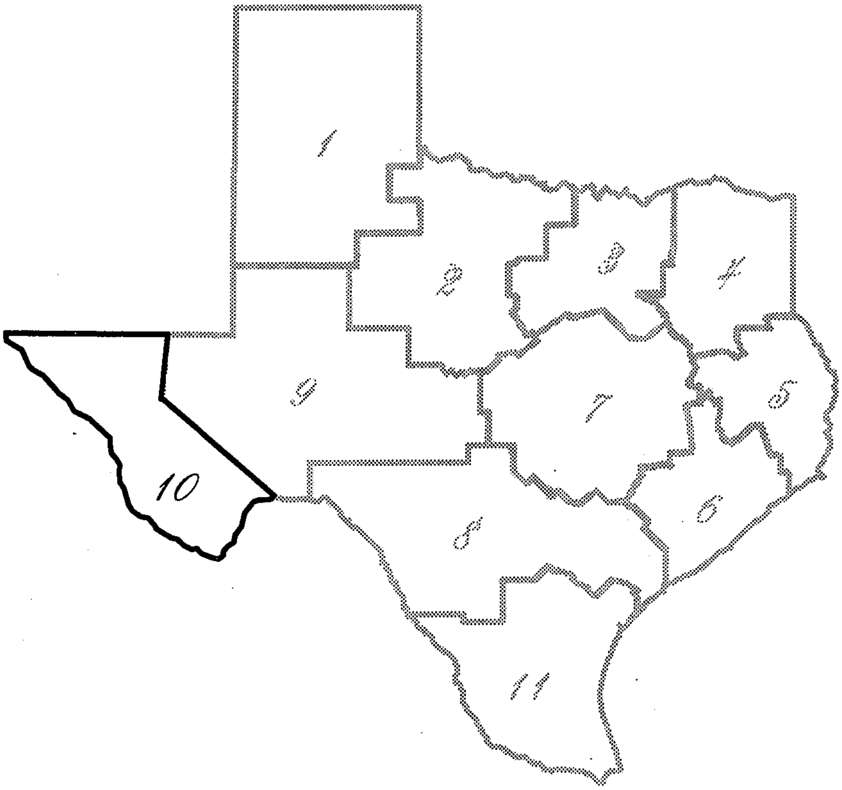
PUBLIC HEALTH REGION 9 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
[illegible]	1997 F	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
,NDREWS	[illegible]	1	6.6	19	124.8	2	13.1	0	0.0
BORDEN	812	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,416	0	0.0	3	87.8	0	0.0	0	0.0
CONCHO	3,241	1	30.9	3	92.6	0	0.0	0	0.0
CRANE	5,004	0	0.0	7	139.9	0	0.0	0	0.0
CROCKETT	4,272	0	0.0	7	163.9	0	0.0	0	0.0
DAWSON	15,475	2	12.9	[illegible]	394.2	11	71.1	0	0.0
ECTOR	125,836	10	7.9	523	415.6	134	106.5	3	2.4
GAINES	[illegible]	0	0.0	23	155.6	2	13.5	0	0.0
GLASSCOCK	[illegible]	0	0.0	0	0.0	0	0.0	0	0.0
HOWARD	31,904	0	0.0	73	228.8	24	75.2	0	0.0
IRION	1,721	0	0.0	0	0.0	0	0.0	0	0.0
KIMBLE	4,106	0	0.0	2	48.7	0	0.0	0	0.0
[illegible]	114	0	0.0	0	0.0	0	0.0	0	0.0
MARTIN	5,311	0	0.0	5	94.1	0	0.0	0	0.0
MASON	[illegible]17	0	0.0	7	211.0	2	60.3	0	0.0
[illegible]	8,828	0	0.0	12	135.9	1	11.3	0	0.0
MENARD	2,288	0	0.0	2	87.4	0	0.0	0	0.0
MIDLAND	122,817	12	9.8	385	313.5	143	116.4	0	0.0
PECOS	17,090	1	5.9	56	327.7	5	29.3	0	0.0
REAGAN	4,979	0	0.0	6	120.5	1	20.1	0	0.0
REEVES	16,793	1	6.0	27	160.8	10	59.5	0	0.0
SCHLEICHER	3,183	1	31.4	4	31.4	0	0.0	0	0.0
S[illegible]LING	1,513	0	0.0	1	0.0	0	0.0	0	0.0
[illegible]	4,421	0	0.0	6	0.0	1	22.6	0	0.0
TERRELL	1,485	0	0.0	0	0.0	0	0.0	0	0.0
[illegible]	107,930	5	4.6	293	4.6	79	73.2	0	0.0
UPTON	4,726	0	0.0	3	0.0	0	0.0	0	0.0
[illegible]RD	[illegible]	0	0.0	23	0.0	1	7.5	0	0.0
WINKLER	8,917	0	0.0	25	0.0	0	0.0	0	0.0
REGIONAL TOTALS	554,506	34	6.1	1,576	284.2	416	75.0	3	0.5
STATEWIDE TOTALS	19,307,376	4,386	22.7	50,119	259.6	26,378	f36.6	648	3.4

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 9 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ANDREWS	15,230	0	0.0	0	0.0	0	0.0	0	0.0
BORDEN	812	0	0.0	0	0.0	0	0.0	0	0.0
COKE	3,416	0	0.0	0	0.0	0	0.0	0	0.0
CONCHO	3,241	0	0.0	0	0.0	0	0.0	0	0.0
CRANE	5,004	0	0.0	0	0.0	0	0.0	0	0.0
CROCKETT	4,272	0	0.0	0	0.0	0	0.0	0	0.0
DAWSON	15,475	0	0.0	0	0.0	0	0.0	0	0.0
ECTOR	125,836	0	0.0	1	0.8	3	2.4	0	0.0
GAINES	14,783	0	0.0	0	0.0	0	0.0	0	0.0
GLASSCOCK	1,577	0	0.0	0	0.0	0	0.0	0	0.0
HOWARD	31,904	0	0.0	0	0.0	0	0.0	0	0.0
IRION	1,721	0	0.0	0	0.0	0	0.0	0	0.0
KIMBLE	4,106	0	0.0	0	0.0	0	0.0	0	0.0
LOVING	114	0	0.0	0	0.0	0	0.0	0	0.0
MARTIN	5,311	0	0.0	0	0.0	0	0.0	0	0.0
MASON	3,317	0	0.0	0	0.0	0	0.0	0	0.0
MCCULLOCH	8,828	0	0.0	0	0.0	0	0.0	0	0.0
MENARD	2,288	0	0.0	0	0.0	0	0.0	0	0.0
MIDLAND	122,817	0	0.0	1	0.8	1	0.8	1	0.8
PECOS	17,090	0	0.0	0	0.0	0	0.0	0	0.0
REAGAN	4,979	0	0.0	0	0.0	0	0.0	0	0.0
REEVES	16,793	0	0.0	1	6.0	0	0.0	0	0.0
SCHLEICHER	3,183	0	0.0	0	0.0	0	0.0	0	0.0
STERLING	1,513	0	0.0	0	0.0	0	0.0	0	0.0
SUTTON	4,421	0	0.0	0	0.0	0	0.0	0	0.0
TERRELL	1,485	0	0.0	0	0.0	0	0.0	0	0.0
TOM GREEN	107,930	0	0.0	0	0.0	4	3.7	0	0.0
UPTON	4,726	0	0.0	0	0.0	0	0.0	0	0.0
WARD	13,417	0	0.0	0	0.0	0	0.0	0	0.0
WINKLER	8,917	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	**554,506**	**0**	**0.0**	**3**	**0.5**	**8**	**1.4**	**1**	**0.2**
STATEWIDE TOTALS	**19,307,376**	**7**	**0.0**	**75**	**0.4**	**233**	**1.2**	**12**	**0.1**



Public Health Region 10

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 10 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BREWSTER	10,321	0	0.0	1	9.7	0	0.0	0	0.0
CULBERSON	3,939	0	0.0	0	0.0	0	0.0	0	0.0
EL PASO	718,454	7	1.0	37	5.1	141	19.6	108	15.0
HUDSPETH	3,252	0	0.0	1	30.8	0	0.0	0	0.0
JEFF DAVIS	2,128	0	0.0	0	0.0	0	0.0	0	0.0
PRESIDIO	8,069	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	746,163	7	0.9	39	5.2	141	18.9	108	14.5
STATEWIDE TOTALS	19,307,376	153	0.8	981	5.1	2,793	14.5	3,504	18.1

REPORTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 10 - 1997

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BREWSTER	10,321	1	9.7	1	9.7	0	0.0	0	0.0
CULBERSON	3,939	0	0.0	1	25.4	0	0.0	0	0.0
EL PASO	718,454	165	23.0	7	1.0	19	2.6	0	0.0
HUDSPETH	3,252	0	0.0	0	0.0	0	0.0	0	0.0
JEFF DAVIS	2,128	0	0.0	0	0.0	0	0.0	0	0.0
PRESIDIO	8,069	1	12.4	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	746,163	167	22.4	9	1.2	19	2.5	0	0.0
STATEWIDE TOTALS	19,307,376	4,511	23.4	1,245	6.4	376	1.9	31	0.2

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 10 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1997 P[illegible]	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BREWSTER	10,321	0	0.0	52	503.8	0	0.0	0	0.0
CULBERSON	3,939	0	0.0	0	0.0	0	0.0	0	0.0
EL PASO	71[illegible]	91	12.7	1,460	203.2	2	0.3	76	10.6
HUDSPETH	[illegible]	0	0.0	0	0.0	0	0.0	0	0.0
[illegible] DAVIS	[illegible]	0	0.0	0	0.0	0	0.0	1	47.0
PRESIDIO	8,069	0	0.0	5	62.0	0	0.0	4	49.6
REGIONAL TOTALS	746,163	91	12.2	1,517	203.3	2	0.3	81	10.9
STATEWIDE TOTALS	19,307,376	1,018	5.3	26,688	138.2	44	0.2	1,992	10.3

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

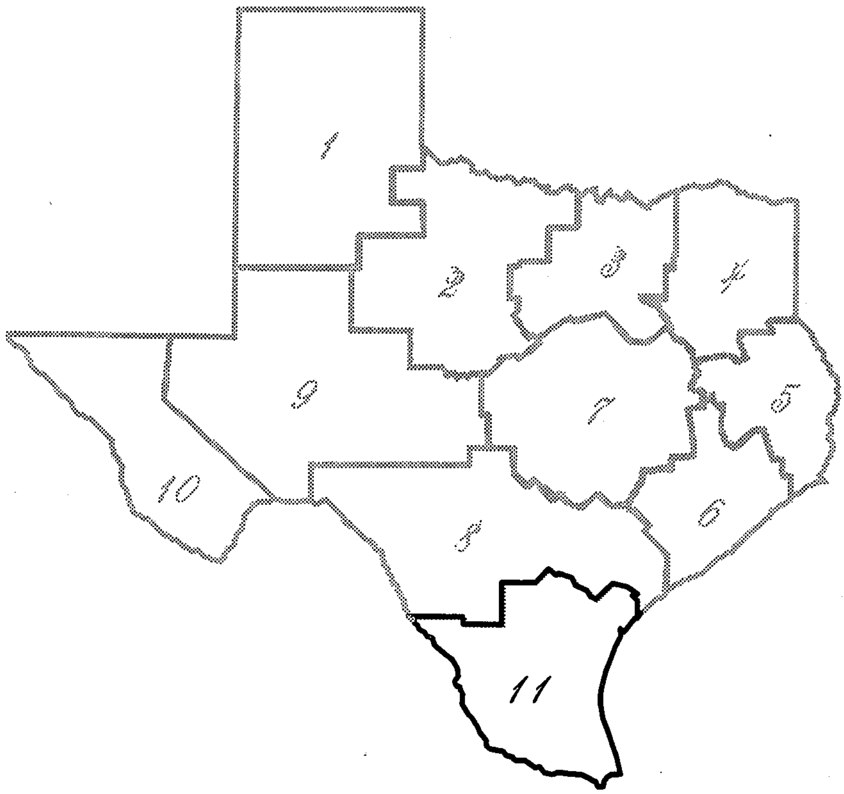
PUBLIC HEALTH REGION 10 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BREWSTER	10,321	0	0.0	16	155.0	6	58.1	0	0.0
CULBERSON	3,939	0	0.0	3	76.2	1	25.4	0	0.0
EL PASO	718,454	9	1.3	1,443	200.8	156	21.7	0	0.0
HUDSPETH	3,252	0	0.0	8	246.0	0	0.0	0	0.0
JEFF DAVIS	2,128	0	0.0	4	188.0	0	0.0	0	0.0
PRESIDIO	8,069	0	0.0	11	136.3	5	62.0	0	0.0
REGIONAL TOTALS	746,163	9	1.2	1,485	199.0	168	22.5	0	0.0
STATEWIDE TOTALS	19,307,376	4,386	22.7	50,119	259.6	26,378	136.6	648	3.a

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 10 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
BREWSTER	10,321	0	0.0	0	0.0	0	0.0	0	0.0
CULBERSON	3,939	0	0.0	0	0.0	0	0.0	0	0.0
EL PASO	718,454	0	0.0	1	0.1	4	0.6	0	0.0
HUDSPETH	3,252	0	0.0	0	0.0	0	0.0	0	0.0
JEFF DAVIS	2,128	0	0.0	0	0.0	0	0.0	0	0.0
PRESIDIO	8,069	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	746,163	0	0.0	1	0.1	4	0.5	0	0.0
STATEWIDE TOTALS	19,307,376	7	0.0	75	0.4	233	1.2	12	0.1



Public Health Region 11

REPORTED SELECTED GASTROINTESTINAL DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 11 - 1997

		AMEBIASIS		CAMPYLOBACTERIOSIS		SALMONELLOSIS		SHIGELLOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARANSAS	19,256	0	0.0	0	0.0	9	46.7	0	0.0
BEE	32,208	0	0.0	1	3.1	2	6.2	1	3.1
BROOKS	8,800	0	0.0	0	0.0	3	34.1	9	102.3
CAMERON	312,473	24	7.7	13	4.2	41	13.1	59	18.9
DUVAL	13,906	0	0.0	2	14.4	0	0.0	1	7.2
HIDALGO	493,569	3	0.6	36	7.3	81	16.4	106	21.5
JIM HOGG	6,020	0	0.0	0	0.0	0	0.0	0	0.0
JIM WELLS	39,343	0	0.0	0	0.0	6	15.3	2	5.1
KENEDY	507	0	0.0	0	0.0	0	0.0	1	197.2
KLEBERG	33,160	0	0.0	3	9.0	20	60.3	8	24.1
LIVE OAK	9,921	0	0.0	0	0.0	1	10.1	0	0.0
MCMULLEN	864	0	0.0	0	0.0	0	0.0	0	0.0
NUECES	314,258	1	0.3	26	8.3	65	20.7	124	39.5
REFUGIO	8,106	0	0.0	1	12.3	2	24.7	0	0.0
SAN PATRICIO	65,868	0	0.0	2	3.0	14	21.3	17	25.8
STARR	56,265	0	0.0	0	0.0	4	7.1	2	3.6
WEBB	170,031	0	0.0	12	7.1	43	25.3	32	18.8
WILLACY	19,405	0	0.0	1	5.2	1	5.2	9	46.4
ZAPATA	11,938	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	**1,615,898**	**28**	**1.7**	**97**	**6.0**	**292**	**18.1**	**371**	**23.0**
STATEWIDE TOTALS	**19,307,376**	**153**	**0.8**	**981**	**5.1**	**2,793**	**14.5**	**3,504**	**18.1**

REPQRTED HEPATITIS RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 11 - 1997

		HEPATITIS A		HEPATITIS B		HEPATITIS C		HEPATITIS UNSPECIFIED	
COUNTY	**1997 POP.**	**CASE**	**RATE**	**CASE**	**RATE**	**CASE**	**RATE**	**CASE**	**RATE**
ARANSAS	19,256	0	0.0	5	26.0	0	0.0	0	0.0
BEE	32,208	6	18.6	3	9.3	1	3.1	0	0.0
BROOKS	8,800	7	79.5	0	0.0	0	0.0	0	0.0
CAMERON	312,473	273	87.4	26	8.3	4	1.3	4	1.3
DUVAL	13,906	0	0.0	0	0.0	0	0.0	0	0.0
HIDALGO	493,569	567	114.9	14	2.8	3	0.6	3	0.6
JIM HOGG	6,020	0	0.0	0	0.0	0	0.0	0	0.0
JIM WELLS	39,343	1	2.5	1	2.5	0	0.0	0	0.0
KENEDY	507	0	0.0	0	0.0	0	0.0	0	0.0
KLEBERG	33,160	6	18.1	0	0.0	1	3.0	0	0.0
LIVE OAK	9,921	0	0.0	1	10.1	0	0.0	0	0.0
MCMULLEN	864	0	0.0	0	0.0	0	0.0	0	0.0
NUECES	314,258	97	30.9	76	24.2	27	8.6	0	0.0
REFUGIO	8,106	2	24.7	0	0.0	1	12.3	0	0.0
SAN PATRICIO	65,868	1	1.5	15	22.8	2	3.0	0	0.0
STARR	56,265	96	170.6	4	7.1	0	0.0	0	0.0
WEBB	170,031	180	105.9	12	7.1	49	28.8	0	0.0
WILLACY	19,405	25	128.8	0	0.0	1	5.2	0	0.0
ZAPATA	11,938	23	192.7	1	8.4	0	0.0	0	0.0
REGIONAL TOTALS	**1,615,898**	**1,284**	**79.5**	**158**	**9.8**	**89**	**5.5**	**7**	**0.4**
[illegible]	**[illegible]76**	**4,511**	**23.4**	**[illegible]45**	**6.4**	**376**	**1.9**	**[illegible]1**	**0.2**

REPORTED OTHER SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 11 - 1997

		ASEPTIC MENINGITIS		CHICKENPOX		ENCEPHALITIS		TUBERCULOSIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARANSAS	19,256	0	0.0	0	0.0	0	0.0	2	10.4
BEE	32,208	0	0.0	30	93.1	0	0.0	2	6.2
BROOKS	8,800	0	0.0	3	34.1	0	0.0	4	45.5
CAMERON	312,473	6	1.9	773	247.4	1	0.3	62	19.8
DUVAL	13,906	0	0.0	0	0.0	0	0.0	2	14.4
HIDALGO	493,569	2	0.4	628	127.2	0	0.0	78	15.8
JIM HOGG	6,020	0	0.0	0	0.0	0	0.0	1	16.6
JIM WELLS	39,343	0	0.0	46	116.9	0	0.0	3	7.6
KENEDY	507	0	0.0	0	0.0	0	0.0	0	0.0
KLEBERG	33,160	0	0.0	114	343.8	0	0.0	4	12.1
LIVE OAK	9,921	0	0.0	0	0.0	0	0.0	2	20.2
MCMULLEN	864	0	0.0	0	0.0	0	0.0	0	0.0
NUECES	314,258	13	4.1	725	230.7	0	0.0	43	13.7
REFUGIO	8,106	0	0.0	2	24.7	0	0.0	0	0.0
SAN PATRICIO	65,868	0	0.0	67	101.7	0	0.0	4	6.1
STARR	56,265	0	0.0	78	138.6	0	0.0	6	10.7
WEBB	170,031	0	0.0	145	85.3	0	0.0	32	18.8
WILLACY	19,405	0	0.0	81	417.4	0	0.0	1	5.2
ZAPATA	11,938	0	0.0	0	0.0	0	0.0	5	41.9
REGIONAL TOTALS	1,615,898	21	1.3	2,692	166.6	1	0.1	251	15.5
STATEWIDE TOTALS	19,307,376	1,018	5.3	26,688	138.2	44	0.2	1,992	10.3

REPORTED SEXUALLY TRANSMITTED DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 11 - 1997

		AIDS		CHLAMYDIA		GONORRHEA		P & S SYPHILIS	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARANSAS	19,256	5	26.0	24	124.6	3	15.6	1	5.2
BEE	32,208	3	9.3	66	204.9	9	27.9	2	6.2
BROOKS	8,800	0	0.0	31	352.3	5	56.8	0	0.0
CAMERON	312,473	59	18.9	859	274.9	97	31.0	3	1.0
DUVAL	13,906	0	0.0	18	129.4	2	14.4	0	0.0
HIDALGO	493,569	36	7.3	1,114	225.7	72	14.6	3	0.6
JIM HOGG	6,020	0	0.0	19	315.6	2	33.2	0	0.0
JIM WELLS	39,343	1	2.5	61	155.0	1	2.5	1	2.5
KENEDY	507	0	0.0	0	0.0	0	0.0	0	0.0
KLEBERG	33,160	3	9.0	67	202.1	21	63.3	0	0.0
LIVE OAK	9,921	0	0.0	18	181.4	2	20.2	0	0.0
MCMULLEN	864	1	115.7	0	0.0	0	0.0	0	0.0
NUECES	314,258	44	14.0	982	312.5	351	111.7	2	0.6
REFUGIO	8,106	0	0.0	6	74.0	6	74.0	0	0.0
SAN PATRICIO	65,868	2	3.0	93	141.2	22	33.4	0	0.0
STARR	56,265	4	7.1	109	193.7	8	14.2	0	0.0
WEBB	170,031	25	14.7	332	195.3	28	16.5	1	0.6
WILLACY	19,405	1	5.2	70	360.7	6	30.9	0	0.0
ZAPATA	11,938	0	0.0	27	226.2	2	16.8	0	0.0
REGIONAL TOTALS	**1,615,898**	**184**	**11.4**	**3,896**	**241.1**	**637**	**39.4**	**13**	**0.8**
STATEWIDE TOTALS	**19,307,376**	**4,386**	**22.7**	**50,119**	**259.6**	**26,378**	**136.6**	**648**	**3.4**

REPORTED VACCINE PREVENTABLE DISEASE RATES
(CASES PER 100,000 POPULATION)

PUBLIC HEALTH REGION 11 - 1997

		MEASLES		MUMPS		PERTUSSIS		RUBELLA	
COUNTY	1997 POP.	CASE	RATE	CASE	RATE	CASE	RATE	CASE	RATE
ARANSAS	19,256	0	0.0	0	0.0	0	0.0	0	0.0
BEE	32,208	0	0.0	0	0.0	0	0.0	0	0.0
BROOKS	8,800	0	0.0	0	0.0	0	0.0	0	0.0
CAMERON	312,473	0	0.0	1	0.3	4	1.3	7	2.2
DUVAL	13,906	0	0.0	0	0.0	0	0.0	0	0.0
HIDALGO	493,569	0	0.0	0	0.0	8	1.6	0	0.0
JIM HOGG	6,020	0	0.0	0	0.0	0	0.0	0	0.0
JIM WELLS	39,343	0	0.0	0	0.0	3	7.6	0	0.0
KENEDY	507	0	0.0	0	0.0	0	0.0	0	0.0
KLEBERG	33,160	0	0.0	1	3.0	0	0.0	0	0.0
LIVE OAK	9,921	0	0.0	0	0.0	0	0.0	0	0.0
MCMULLEN	864	0	0.0	0	0.0	0	0.0	0	0.0
NUECES	314,258	0	0.0	1	0.3	3	1.0	0	0.0
REFUGIO	8,106	0	0.0	0	0.0	0	0.0	0	0.0
SAN PATRICIO	65,868	0	0.0	0	0.0	3	4.6	0	0.0
STARR	56,265	0	0.0	0	0.0	1	1.8	0	0.0
WEBB	170,031	0	0.0	1	0.6	0	0.0	0	0.0
WILLACY	19,405	0	0.0	1	5.2	1	5.2	0	0.0
ZAPATA	11,938	0	0.0	0	0.0	0	0.0	0	0.0
REGIONAL TOTALS	1,615,898	0	0.0	5	0.3	23	1.4	7	0.4
STATEWIDE TOTALS	19,307,376	7	0.0	75	0.4	233	1.21	12	0.1

Reported Cases of Selected Diseases

TABLE I
REPORTED SELECTED DISEASES
1988 - 1997

DISEASE	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988
AIDS*	4,720	4,932	4,598	5,513	7,555	3,249	3,035	3,182	2,597	2,026
AMEBIASIS	153	130	118	110	86	108	86	139	159	252
BOTULISM	10	9	0	27	2	1	4	7	4	4
BRUCELLOSIS	19	23	19	29	34	27	36	18	23	22
CAMPYLOBACTERIOSIS	981	897	993	997	849	996	810	739	625	745
CHICKENPOX	26,688	20,332	22,568	16,159	14,291	20,554	19,409	26,636	23,722	20,085
CHLAMYDIA*	50,675	43,003	44,738	46,046	43,874	¶40,791	¶32,560	20,575	-	-
CHOLERA	1	0	2	4	2	5	3	0	0	1
CRYPTOSPORIDIOSIS	43	-	-	-	-	-	-	-	-	-
DENGUE	10	5	29	1	2	0	2	0	2	0
EHRLICHIOSIS	4	-	-	-	-	-	-	-	-	-
ENCEPHALITIS	44	31	71	54	61	89	121	74	60	74
ESCHERICHIA COLI O157:H7	42	53	38	72	-	-	-	-	-	-
GONORRHEA*	26,611	23,124	¶30,892	29,757	30,122	¶36,172	¶44,181	43,231	45,786	45,639
HAEMOPHILUS INFLUENZAE INF†	5	6	40	20	51	42	152	625	797	843
HANSEN'S DISEASE	24	29	36	31	31	52	38	37	25	35
HANTAVIRUS INFECTIONS	4	3	2	1	-	-	-	-	-	-
HEMOLYTIC UREMIC SYNDROME	7	7	8	11	-	-	-	-	-	-
HEPATITIS A	4,511	3,460	3,001	2,877	2,798	1,828	2,663	2,722	3,211	2,739
HEPATITIS B	1,245	1,258	1,211	1,422	1,354	1,528	1,958	1,789	1,853	1,654
HEPATITIS C‡	376	205	340	305	384	255				
HEPATITIS D‡	0	3	2	4	1	5				
HEPATITIS NANB	3	3	7	9	28	26	144	130	236	149
HEPATITIS UNSPECIFIED	31	40	67	86	157	191	260	287	530	576
LEGIONELLOSIS	32	32	13	15	22	24	23	25	50	20
LISTERIOSIS	37	47	41	64	28	26	52	32	40	45
LYME DISEASE	60	97	77	56	48	113	57	44	82	25
MALARIA	111	141	89	93	48	45	75	80	79	73
MEASLES	7	49	14	17	10	1,097	294	4,409	3,313	286
MENINGITIS, ASEPTIC	1,018	927	1,566	970	1,329	1,242	1,275	811	836	675
MENINGITIS, BACTERIAL/OTHER	458	510	409	360	262	380	337	345	371	385
MENINGOCOCCAL INFECTIONS	195	218	253	237	157	111	100	93	93	98
MUMPS	75	44	43	234	231	388	363	470	551	327
PERTUSSIS	233	151	217	160	121	161	143	158	366	158
RABIES, HUMAN	0	0	0	1	1	0	1	1	0	0
RELAPSING FEVER	2	1	1	3	0	0	0	0	0	0
RMSF	4	5	6	7	7	1	2	6	19	22
RUBELLA	12	8	8	9	22	10	16	99	64	30
SALMONELLOSIS	2,793	2,800	2,363	1,983	1,924	1,933	2,317	2,315	2,277	2,334
SHIGELLOSIS	3,504	2,757	3,017	2,410	4,581	3,568	2,178	3,550	1,654	2,826
STREPTOCOCCAL DSEASE GROUP A	167	65	95	82	-	-	-	-	-	-
SYPHILIS, PRIMARY & SECONDARY*	676	890	1,557	1,913	2,530	¶3,343	¶5,012	5,165	4,267	3,124
TETANUS	6	3	3	12	7	5	10	7	5	6
TUBERCULOSIS	1,992	2,103	2,369	2,542	¶2,392	2,510	2,525	2,242	1,915	1,901
TYPHOID FEVER	20	17	21	10	15	23	31	28	20	3
TYPHUS MURINE	72	41	53	9	12	18	22	36	30	30
VIBRIO INFECTIONS	36	24	24	31	17	15	25	25	17	27

*Statewide totals differ from the sum of the Regional totals since not all cases were assigned a Region number.

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

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

¶Statistics revised based on review of past data.

TABLE II
REPORTED SELECTED DISEASE RATES
(CASES PER 100,000 POPULATION)
1988 - 1997

DISEASE	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988
AIDS*	24.4	26.0	24.6	30.0	41.9	18.4	17.5	18.7	15.5	12.2
AMEBIASIS	0.8	0.7	0.6	0.6	0.5	0.6	0.5	0.8	0.9	1.5
BOTULISM	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
BRUCELLOSIS	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
CAMPYLOBACTERIOSIS	5.1	4.7	5.3	5.5	4.8	5.7	4.7	4.4	3.6	4.3
CHICKENPOX	138.2	107.2	121.2	88.4	81.3	116.7	112.5	156.8	135.8	116.3
CHLAMYDIA*	262.5	226.7	240.3	251.8	244.0	231.0	187.7	121.1	-	-
CHOLERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CRYPTOSPORIDIOSIS	0.2	-	-	-	-	-	-	-	-	-
DENGUE	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EHRLICHIOSIS	0.0									
ENCEPHALITIS	0.2	0.2	0.4	0.3	0.3	0.5	0.7	0.4	0.3	0.4
ESCHERICHIA COLI O157:H7	0.2	0.3	0.2	0.4	-	-	-	-	-	-
GONORRHEA*	137.8	127.2	165.0	162.7	171.3	204.9	254.7	254.5	262.1	264.3
HAEMOPHILUS INFLUENZAE INF†	0.0	0.0	0.2	0.1	0.3	0.2	0.9	3.7	4.6	4.9
HANSEN'S DISEASE	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2
HANTAVIRUS INFECTIONS	0.0	0.0	0.0	0.0	-	-	-	-	-	-
HEMOLYTIC UREMIC SYNDROME	0.0	0.0	0.0	0.1	-	-	-	-	-	-
HEPATITIS A	23.4	18.2	16.1	15.7	15.9	10.4	15.4	16.0	18.4	15.9
HEPATITIS B	6.4	6.6	6.5	7.8	7.7	8.7	11.3	10.5	10.6	9.6
HEPATITIS C‡	1.9	1.1	1.8	1.7	2.2	1.5	-	-	-	-
HEPATITIS D‡	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-	-
HEPATITIS NANB	0.0	0.0	0.0	0.0	0.1	0.1	0.8	0.8	1.4	0.9
HEPATITIS UNSPECIFIED	0.2	0.2	0.4	0.5	0.9	1.1	1.5	1.7	3.0	3.3
LEGIONELLOSIS	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1
LISTERIOSIS	0.2	0.2	0.2	0.4	0.2	0.1	0.3	0.2	0.2	0.3
LYME DISEASE	0.3	0.5	0.4	0.3	0.3	0.6	0.3	0.3	0.5	0.1
MALARIA	0.6	0.7	0.5	0.5	0.3	0.3	0.4	-	-	-
MEASLES	0.0	0.3	0.1	0.1	0.1	6.2	1.7	26.0	19.0	1.7
MENINGITIS, ASEPTIC	5.3	4.9	8.4	5.3	7.6	7.1	7.4	4.8	4.8	3.9
MENINGITIS, BACTERIAL/OTHER	2.4	2.7	2.2	2.0	1.5	2.2	2.0	2.0	2.1	2.2
MENINGOCOCCAL INFECTIONS	1.0	1.1	1.4	1.3	0.9	0.6	0.6	0.5	0.5	0.6
MUMPS	0.4	0.2	0.2	1.3	1.3	2.2	2.1	2.8	3.2	1.9
PERTUSSIS	1.2	0.8	1.2	0.9	0.7	0.9	0.8	0.9	2.1	0.9
RABIES, HUMAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RELAPSING FEVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RMSF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
RUBELLA	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.6	0.4	0.2
SALMONELLOSIS	14.5	14.8	12.7	10.8	10.9	11.0	13.4	13.6	13.0	13.5
SHIGELLOSIS	18.1	14.5	16.2	13.2	26.0	20.3	12.6	20.9	9.5	16.4
STREPTOCOCCAL DSEASE GROUP A	0.9	0.3	0.5	0.5	-	-	-	-	-	-
SYPHILIS, PRIMARY & SECONDARY*	3.5	4.7	8.4	10.5	14.1	18.9	28.9	30.4	24.4	18.1
TETANUS	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
TUBERCULOSIS	10.3	11.1	12.7	13.9	13.3	14.2	14.6	13.2	11.0	11.0
TYPHOID FEVER	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2
TYPHUS MURINE	0.4	0.2	0.3	0.0	0.1	0.1	0.1	0.2	0.2	0.2
VIBRIO INFECTIONS	0.2	0.1	0.1	0.2	0.1	0.1	01	0.1	0.1	0.2

'Statewide rates differ from the sum of the Regional rates since not all cases were assigned a Region number.

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

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

TABLE III
REPORTED SELECTED DISEASES BY MONTH OF ONSET*
1997

DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AIDS	347	428	432	409	403	419	361	349	404	336	389	443
AMEBIASIS	13	13	18	21	13	10	23	9	16	12	1	4
BOTULISM	0	1	0	1	2	1	0	0	1	2	0	2
BRUCELLOSIS	1	3	1	1	0	0	3	2	3	0	4	1
CAMPYLOBACTERIOSIS	70	41	64	69	128	138	122	88	58	67	67	69
CHICKENPOX	1,618	4,634	3,318	4,713	4,726	870	1,015	181	548	1,010	1,624	2,431
CHLAMYDIA	3,028	3,419	3,562	3,732	5,832	4,201	3,935	4,293	5,375	4,916	3,612	4,756
CHOLERA	0	0	0	0	0	0	0	0	0	1	0	0
CRYPTOSPORIDIOSIS	3	3	4	2	2	1	2	9	8	6	3	0
DENGUE	3	0	0	0	0	0	0	1	0	5	1	0
EHRLICHIOSIS	0	0	1	0	1	1	0	0	0	0	1	0
ENCEPHALITIS	2	2	4	8	5	4	3	4	4	4	2	2
ESCHERICHIA COLI O157:H7	5	4	3	5	3	4	4	4	6	3	1	0
GONORRHEA	1,712	1,912	1,915	1,885	2,445	2,076	2,283	2,627	2,515	2,768	1,976	2,503
HAEMOPHILUS INFLUENZAE INF	2	0	0	0	0	0	0	1	0	2	0	0
HANSEN'S DISEASE	2	1	1	2	2	0	5	2	3	3	1	2
HANTAVIRUS INFECTIONS	1	0	0	0	1	0	1	0	1	0	0	0
HEMOLYTIC UREMIC SYNDROME	0	2	0	2	0	1	1	1	0	0	0	0
HEPATITIS A	392	420	402	393	379	370	302	440	401	383	310	319
HEPATITIS B	119	104	119	141	103	93	79	100	87	112	87	101
HEPATITIS C	38	34	27	30	28	29	23	34	41	27	16	49
HEPATITIS D	0	0	0	0	0	0	0	0	0	0	0	0
HEPATITIS NANB	0	2	0	0	0	0	1	0	0	0	0	0
HEPATITIS UNSPECIFIED	4	5	1	3	0	1	2	2	8	3	1	1
LEGIONELLOSIS	1	2	3	4	3	0	2	7	4	5	0	1
LISTERIOSIS	1	3	5	3	1	2	6	4	7	2	1	2
LYME DISEASE	3	7	1	5	15	4	6	4	8	3	0	4
MALARIA	11	7	8	8	8	10	16	15	10	6	5	7
MEASLES	0	0	0	4	0	0	3	0	0	0	0	0
MENINGITIS, ASEPTIC	58	36	63	51	84	106	132	124	132	109	64	59
MENINGITIS, BACTERIAL/OTHER	69	48	48	31	36	36	23	19	34	30	33	51
MENINGOCOCCAL INFECTIONS	30	28	25	23	13	7	8	5	13	9	14	20
MUMPS	5	5	6	6	7	3	0	7	24	9	0	3
PERTUSSIS	14	7	11	21	21	21	43	16	11	14	25	29
RABIES, HUMAN	0	0	0	0	0	0	0	0	0	0	0	0
RELAPSING FEVER	1	0	0	0	0	0	1	0	0	0	0	0
RMSF	0	0	0	0	0	0	2	0	1	1	0	0
RUBELLA	0	0	0	3	0	0	0	1	0	0	1	7
SALMONELLOSIS	164	102	158	166	230	232	275	356	359	319	229	203
SHIGELLOSIS	189	152	162	179	219	263	361	300	325	481	483	390
STREPTOCOCCAL DSEASE GROUP A	11	12	8	11	16	5	12	6	6	11	19	50
SYPHILIS, PRIMARY & SECONDARY	57	45	57	39	81	51	66	71	70	65	40	41
TETANUS	0	1	0	1	0	0	1	0	1	1	0	1
TUBERCULOSIS	91	128	138	187	205	150	233	119	159	194	129	259
TYPHOID FEVER	3	2	1	2	0	4	3	3	1	0	0	1
TYPHUS MURINE	3	3	0	7	13	20	5	5	5	5	4	2
VIBRIO INFECTIONS	0	1	1	1	6	6	3	8	6	4	0	0

'Some totals are **by** month of report rather than **by** month of onset.

TABLE IV
REPORTED SELECTED DISEASES BY AGE GROUP
1997

DISEASE	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+	UNK
AIDS	124	138	53	62	256	9,907	21,296	9,527	2,609	978	0
AMEBIASIS	2	14	16	13	10	30	26	17	8	15	2
BOTULISM	8	1	0	0	0	0	1	0	0	0	0
BRUCELLOSIS	0	2	3	1	1	5	2	2	1	2	0
CAMPYLOBACTERIOSIS	85	176	69	45	49	163	143	98	54	81	18
CHLAMYDIA	0	23	34	982	17,456	19,728	3,266	611	112	54	8,395
CHOLERA	0	0	0	0	0	0	0	0	0	1	0
CRYPTOSPORIDIOSIS	2	11	2	0	1	2	13	4	4	0	4
DENGUE	1	0	0	0	0	2	3	4	0	0	0
EHRLICHIOSIS	0	0	0	0	0	0	0	1	0	3	0
ENCEPHALITIS	4	2	7	4	5	5	3	6	2	5	1
ESCHERICHIA COLI O157:H7	5	6	3	4	2	4	2	6	1	8	1
GONORRHEA	0	21	29	429	7,126	9,761	2,901	879	191	74	5,206
HAEMOPHILUS INFLUENZAE INF	2	2	0	0	0	0	0	0	1	0	0
HANSEN'S DISEASE	0	0	0	0	0	1	2	6	9	6	0
HANTAVIRUS INFECTIONS	0	0	0	0	1	1	0	0	2	0	0
HEMOLYTIC UREMIC SYNDROME	0	5	1	0	0	0	0	0	0	1	0
HEPATITIS A	29	477	1,298	560	353	666	575	259	114	113	67
HEPATITIS B	2	11	16	12	72	272	375	260	112	95	18
HEPATITIS C	0	2	2	2	13	48	122	125	32	30	0
HEPATITIS D	0	0	0	0	0	0	0	0	0	0	0
HEPATITIS NANB	0	0	0	0	1	2	0	0	0	0	0
HEPATITIS UNSPECIFIED	0	3	5	3	3	3	7	4	2	1	0
LEGIONELLOSIS	1	1	0	1	0	0	2	7	10	9	1
LISTERIOSIS	7	0	0	0	0	6	2	2	4	16	0
LYME DISEASE	0	0	3	2	4	6	9	21	11	4	0
MALARIA	0	4	11	5	8	24	21	20	9	2	7
MEASLES	2	2	0	0	0	3	0	0	0	0	0
MENINGITIS, ASEPTIC	258	72	118	86	68	133	144	60	36	33	10
MENINGITIS, BACTERIAL/OTHER	103	26	19	13	11	45	60	56	40	84	1
MENINGOCOCCAL INFECTIONS	42	28	15	9	24	9	9	15	16	26	2
MUMPS	1	13	11	8	3	13	15	9	2	0	0
PERTUSSIS	134	22	17	17	7	15	13	4	3	1	0
RABIES, HUMAN	0	0	0	0	0	0	0	0	0	0	0
RELAPSING FEVER	0	0	0	2	0	0	0	0	0	0	0
RMSF	0	1	1	1	0	0	0	1	0	0	0
RUBELLA	0	0	0	0	2	7	2	0	1	0	0
SALMONELLOSIS	627	571	257	124	92	215	230	194	123	275	85
SHIGELLOSIS	113	1,275	922	208	103	312	246	129	55	82	59
STREPTOCOCCAL DSEASE GROUP A	10	9	13	2	2	10	19	28	16	57	1
SYPHILIS, PRIMARY & SECONDARY	0	0	0	7	95	232	187	89	25	12	36
TETANUS	0	0	0	0	0	0	1	1	1	3	0
TYPHOID FEVER	1	0	7	3	1	3	3	2	0	0	0
TYPHUS MURINE	0	1	9	8	2	5	11	11	9	15	1
VIBRIO INFECTIONS	0	2	0	0	1	4	5	14	2	8	0
TUBERCULOSIS AGE GROUPS	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-34**	**35-44**	**45-54**	**55-64**	**65+**	**UNK**
TUBERCULOSIS*	85	33	14	78	115	341	434	290	245	357	0

"Tuberculosistotals do not include cases from the Texas Department of Criminal Justice. These cases are included in the statewide totals.

TABLE V
REPORTED SELECTED DISEASE RATES BY AGE GROUP
(CASES PER 100,000 POPULATION)
1997

DISEASE	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+	UNK
AIDS	38.2	10.7	3.5	4.2	17.6	343.0	657.3	342.1	147.7	37.8	0.0
AMEBIASIS	0.6	1.1	1.1	0.9	0.7	1.0	0.8	0.6	0.5	0.6	0.1
BOTULISM	2.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BRUCELLOSIS	0.0	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0
CAMPYLOBACTERIOSIS	26.2	13.7	4.6	3.1	3.4	5.6	4.4	3.5	3.1	3.1	0.7
CHLAMYDIA	0.0	1.8	2.3	66.7	1,197.8	683.0	100.8	21.9	6.3	2.1	324.3
CHOLERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CRYPTOSPORIDIOSIS	0.6	0.9	0.1	0.0	0.1	0.1	0.4	0.1	0.2	0.0	0.2
DENGUE	0.3	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
EHRLICHIOSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
ENCEPHALITIS	1.2	0.2	0.5	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.0
ESCHERICHIA COLI O157:H7	1.5	0.5	0.2	0.3	0.1	0.1	0.1	0.2	0.1	0.3	0.0
GONORRHEA	0.0	1.6	1.9	29.1	489.0	338.0	89.5	31.6	10.8	2.9	201.1
HAEMOPHILUS INFLUENZAE INF	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
HANSEN'S DISEASE	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.5	0.2	0.0
HANTAVIRUS INFECTIONS	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
HEMOLYTIC UREMIC SYNDROME	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEPATITIS A	8.9	37.1	86.5	38.0	24.2	23.1	17.7	9.3	6.5	4.4	2.6
HEPATITIS B	0.6	0.9	1.1	0.8	4.9	9.4	11.6	9.3	6.3	3.7	0.7
HEPATITIS C	0.0	0.2	0.1	0.1	0.9	1.7	3.8	4.5	1.8	1.2	0.0
HEPATITIS D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEPATITIS NANB	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
HEPATITIS UNSPECIFIED	0.0	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.0
LEGIONELLOSIS	0.3	0.1	0.0	0.1	0.0	0.0	0.1	0.3	0.6	0.3	0.0
LISTERIOSIS	2.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.6	0.0
LYME DISEASE	0.0	0.0	0.2	0.1	0.3	0.2	0.3	0.8	0.6	0.2	0.0
MALARIA	0.0	0.3	0.7	0.3	0.5	0.8	0.6	0.7	0.5	0.1	0.3
MEASLES	0.6	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
MENINGITIS, ASEPTIC	79.4	5.6	7.9	5.8	4.7	4.6	4.4	2.2	2.0	1.3	0.4
MENINGITIS, BACTERIAL/OTHER	31.7	2.0	1.3	0.9	0.8	1.6	1.9	2.0	2.3	3.2	0.0
MENINGOCOCCAL INFECTIONS	12.9	2.2	1.0	0.6	1.6	0.3	0.3	0.5	0.9	1.0	0.1
MUMPS	0.3	1.0	0.7	0.5	0.2	0.5	0.5	0.3	0.1	0.0	0.0
PERTUSSIS	41.2	1.7	1.1	1.2	0.5	0.5	0.4	0.1	0.2	0.0	0.0
RABIES, HUMAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RELAPSING FEVER	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RMSF	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBELLA	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.1	0.0	0.0
SALMONELLOSIS	193.0	44.4	17.1	8.4	6.3	7.4	7.1	7.0	7.0	10.6	3.3
SHIGELLOSIS	34.8	99.2	61.5	14.1	7.1	10.8	7.6	4.6	3.1	3.2	2.3
STREPTOCOCCAL DSEASE GROUP A	3.1	0.7	0.9	0.1	0.1	0.3	0.6	1.0	0.9	2.2	0.0
SYPHILIS, PRIMARY & SECONDARY	0.0	0.0	0.0	0.5	6.5	8.0	5.8	3.2	1.4	0.5	1.4
TETANUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
TYPHOID FEVER	0.3	0.0	0.5	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0
TYPHUS MURINE	0.0	0.1	0.6	0.5	0.1	0.2	0.3	0.4	0.5	0.6	0.0
VIBRIO INFECTIONS	0.0	0.2	0.0	0.0	0.1	0.1	0.2	0.5	0.1	0.3	0.0
TUBERCULOSIS AGE GROUPS	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-34**	**35-44**	**45-54**	**55-64**	**65+**	**UNK**
TUBERCULOSIS*	5.3	2.2	1.0	5.4	8.3	11.0	13.7	12.7	17.4	18.4	0.0

Case rates are based on the 1997 population estimates for each age group from State Health Data and Texas A&M university.

TABLE VI
REPORTED SELECTED DISEASES BY PUBLIC HEALTH REGION
1997

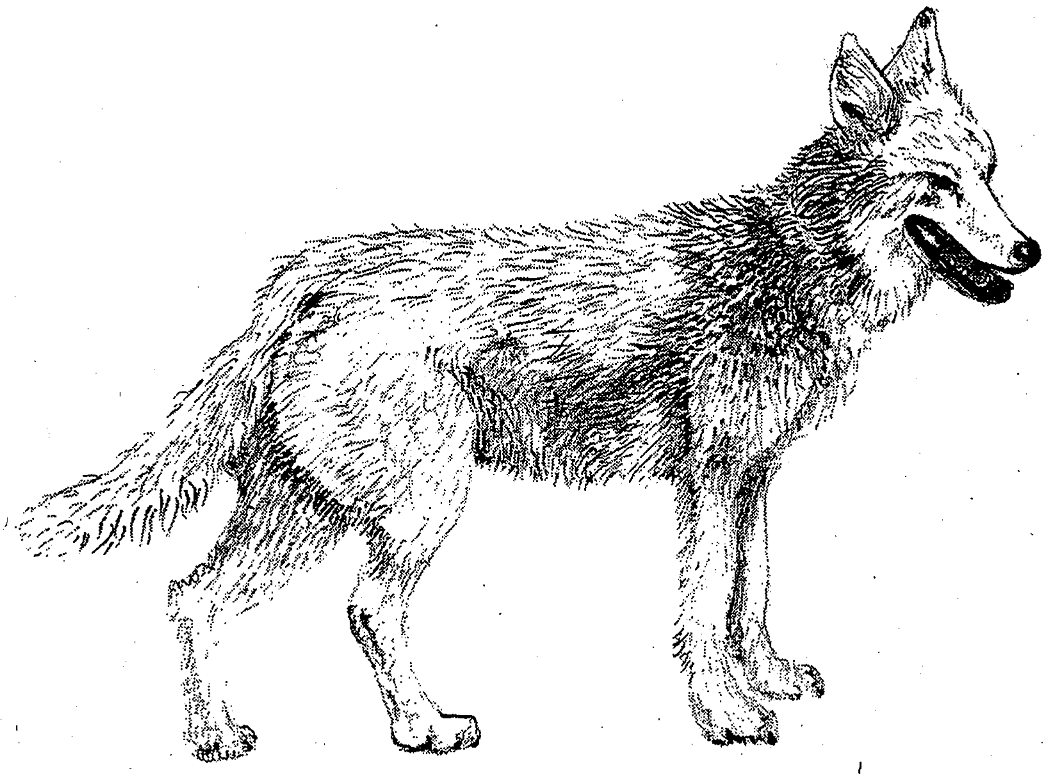
DISEASE	PHR 1	PHR 2	PHR 3	PHR 4	PHR 5	PHR 6	PHR 7	PHR 8	PHR 9	PHR 10	PHR 11
AIDS	58	36	1,313	141	90	1,886	308	327	34	9	184
AMEBIASIS	1	0	60	2	0	29	22	4	0	7	28
BOTULISM	0	0	0	2	0	1	0	0	2	2	3
BRUCELLOSIS	0	0	8	0	0	1	3	5	0	0	2
CAMPYLOBACTERIOSIS	136	13	152	25	25	111	223	141	19	39	97
CHICKENPOX	1,798	268	3,172	740	1,101	6,855	6,106	1,843	596	1,517	2,692
CHLAMYDIA	2,447	1,076	12,638	1,423	1,461	12,346	6,015	5,756	1,576	1,485	3,896
CHOLERA	0	0	0	0	0	0	0	0	0	0	1
CRYPTOSPORIDIOSIS	0	3	7	0	0	16	15	0	1	0	1
DENGUE	0	0	2	0	0	2	1	0	0	0	5
EHRLICHIOSIS	0	0	0	2	1	0	0	1	0	0	0
ENCEPHALITIS	5	6	9	2	1	12	2	3	1	2	1
ESCHERICHIA COLI O157:H7	3	7	8	2	0	10	0	7	0	0	5
GONORRHEA	927	501	9,217	631	1,310	7,578	2,968	2,025	416	168	637
HAEMOPHILUS INFLUENZAE INF	0	0	0	0	0	2	1	1	0	0	1
HANSEN'S DISEASE	0	1	3	1	1	5	1	6	0	0	6
HANTAVIRUS INFECTIONS	1	1	1	0	0	0	0	0	0	1	0
HEMOLYTIC UREMIC SYNDROME	0	1	3	0	0	1	2	0	0	0	0
HEPATITIS A	142	43	914	167	78	696	243	675	102	167	1,284
HEPATITIS B	76	19	455	60	56	181	94	108	29	9	158
HEPATITIS C	19	11	100	32	9	51	10	24	12	19	89
HEPATITIS D	0	0	0	0	0	0	0	0	0	0	0
HEPATITIS NANB	0	0	1	0	0	2	0	0	0	0	0
HEPATITIS UNSPECIFIED	0	0	2	0	0	19	0	1	2	0	7
LEGIONELLOSIS	0	0	9	0	1	13	3	5	0	1	0
LISTERIOSIS	1	1	12	1	1	8	2	9	0	1	1
LYME DISEASE	0	2	41	1	2	3	9	0	0	1	1
MALARIA	2	2	27	2	4	51	15	7	0	0	1
MEASLES	0	0	1	0	0	2	4	0	0	0	0
MENINGITIS, ASEPTIC	38	29	254	35	9	253	113	132	43	91	21
MENINGITIS, BACTERIAL/OTHER	15	10	127	41	7	113	70	37	10	8	20
MENINGOCOCCAL INFECTIONS	8	3	62	17	6	37	25	18	2	4	13
MUMPS	4	0	15	24	2	10	6	5	3	1	5
PERTUSSIS	10	2	61	15	0	37	18	55	8	4	23
RABIES, HUMAN	0	0	0	0	0	0	0	0	0	0	0
RELAPSING FEVER	0	0	0	0	0	1	0	1	0	0	0
RMSF	1	1	2	0	0	0	0	0	0	0	0
RUBELLA	0	0	2	0	0	2	0	0	1	0	7
SALMONELLOSIS	218	96	374	149	77	678	371	329	68	141	292
SHIGELLOSIS	700	34	441	60	55	638	496	552	49	108	371
STREPTOCOCCAL DSEASE GROUP A	4	0	33	35	5	43	19	20	1	1	6
SYPHILIS, PRIMARY & SECONDARY	5	3	198	88	50	223	34	31	3	0	13
TETANUS	0	0	1	1	0	0	1	1	0	1	1
TUBERCULOSIS*	15	32	432	57	49	717	131	162	29	81	251
TYPHOID FEVER	0	0	4	0	0	10	3	0	0	1	2
TYPHUS MURINE	0	0	0	0	0	1	0	2	0	0	69
VIBRIO INFECTIONS	2	0	6	1	0	19	5	2	0	0	1

*Tuberculosis totals from Region 6 do not include cases from the Texas Department of Criminal Justice (cases = 36, rate = 25.6 per 100,000). These cases are included in the statewide totals.

TABLE VII
REPORTED SELECTED DISEASE RATES BY PUBLIC HEALTH REGION
(CASES PER 100,000 POPULATION)
1997

DISEASE	PHR 1	PHR 2	PHR 3	PHR 4	PHR 5	PHR 6	PHR 7	PHR 8	PHR 9	PHR 10	PHR 11
AIDS	7.6	6.7	25.7	14.7	13.1	42.8	16.0	16.3	6.1	1.2	11.4
AMEBIASIS	0.1	0.0	1.2	0.2	0.0	0.7	1.1	0.2	0.0	0.9	1.7
BOTULISM	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.4	0.3	0.2
BRUCELLOSIS	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.1
CAMPYLOBACTERIOSIS	17.7	2.4	3.0	2.6	3.6	2.5	11.6	7.0	3.4	5.2	6.0
CHICKENPOX	234.6	50.2	62.1	77.4	160.4	155.6	317.2	91.7	107.5	203.3	166.6
CHLAMYDIA	319.2	201.5	247.5	148.8	212.8	280.2	312.5	286.4	284.2	199.0	241.1
CHOLERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
CRYPTOSPORIDIOSIS	0.0	0.6	0.1	0.0	0.0	0.4	0.8	0.0	0.2	0.0	0.1
DENGUE	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3
EHRLICHIOSIS	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
ENCEPHALITIS	0.7	1.1	0.2	0.2	0.1	0.3	0.1	0.1	0.2	0.3	0.1
ESCHERICHIA COLI O157:H7	0.4	1.3	0.2	0.2	0.0	0.2	0.0	0.3	0.0	0.0	0.3
GONORRHEA	120.9	93.8	180.5	66.0	190.8	172.0	154.2	100.8	75.0	22.5	39.4
HAEMOPHILUS INFLUENZAE INF	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
HANSEN'S DISEASE	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.4
HANTAVIRUS INFECTIONS	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
HEMOLYTIC UREMIC SYNDROME	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
HEPATITIS A	18.5	8.1	17.9	17.5	11.4	15.8	12.6	33.6	18.4	22.4	79.5
HEPATITIS B	9.9	3.6	8.9	6.3	8.2	4.1	4.9	5.4	5.2	1.2	9.8
HEPATITIS C	2.5	2.1	2.0	3.3	1.3	1.2	0.5	1.2	2.2	2.5	5.5
HEPATITIS D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEPATITIS NANB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEPATITIS UNSPECIFIED	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.4
LEGIONELLOSIS	0.0	0.0	0.2	0.0	0.1	0.3	0.2	0.2	0.0	0.1	0.0
LISTERIOSIS	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.4	0.0	0.1	0.1
LYME DISEASE	0.0	0.4	0.8	0.1	0.3	0.1	0.5	0.0	0.0	0.1	0.1
MALARIA	0.3	0.4	0.5	0.2	0.6	1.2	0.8	0.3	0.0	0.0	0.1
MEASLES	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
MENINGITIS, ASEPTIC	5.0	5.4	5.0	3.7	1.3	5.7	5.9	6.6	7.8	12.2	1.3
MENINGITIS, BACTERIAL/OTHER	2.0	1.9	2.5	4.3	1.0	2.6	3.6	1.8	1.8	1.1	1.2
MENINGOCOCCAL INFECTIONS	1.0	0.6	1.2	1.8	0.9	0.8	1.3	0.9	0.4	0.5	0.8
MUMPS	0.5	0.0	0.3	2.5	0.3	0.2	0.3	0.2	0.5	0.1	0.3
PERTUSSIS	1.3	0.4	1.2	1.6	0.0	0.8	0.9	2.7	1.4	0.5	1.4
RABIES, HUMAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RELAPSING FEVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RMSF	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBELLA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.4
SALMONELLOSIS	28.4	18.0	7.3	15.6	11.2	15.4	19.3	16.4	12.3	18.9	18.1
SHIGELLOSIS	91.3	6.4	8.6	6.3	8.0	14.5	25.8	27.5	8.8	14.5	23.0
STREPTOCOCCAL DSEASE GROUP A	0.5	0.0	0.6	3.7	0.7	1.0	1.0	1.0	0.2	0.1	0.4
SYPHILIS, PRIMARY & SECONDARY	0.7	0.6	3.9	9.2	7.3	5.1	1.8	1.5	0.5	0.0	0.8
TETANUS	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1
TUBERCULOSIS*	2.0	6.0	8.5	6.0	7.1	16.3	6.8	8.1	5.2	10.9	15.5
TYPHOID FEVER	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.1	0.1
TYPHUS MURINE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	4.3
VIBRIO INFECTIONS	0.3	0.0	0.1	0.1	0.0	0.4	0.3	0.1	0.0	0.0	0.1

"Tuberculosis totals from Region 6 do not include cases from the Texas Department of Criminal Justice (cases = 36, rate = 25.6 per 100,000).



Appendix

Reportable Conditions in Texas

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

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

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

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

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

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

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

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

Acquired immunodeficiency syndrome (AIDS)'
Amebiasis
Anthrax
Asbestosis[4]
Botulism (infant)
Brucellosis
Campylobacteriosis
Chancroid[5]
Chlamydia trachomatis infection[5]
Cryptosporidiosis
Dengue
Ehrilichiosis
Encephalitis (specify etiology)
Eschericia coli 0157:H7 infection
Gonorrhea[S]
Hansen's disease (leprosy)
Hantavirus infection
Hemolytic uremic syndrome (HUS)
Hepatitis, acute viral (specify type)[6]
Injuries (specify type)'
  Spinal cord injury
  Near drowning
Lead, adult elevated blood[4]
Lead, childhood elevated blood[4]
Legionellosis
Listeriosis
Lyme disease
Malaria
Meningitis (specify type)[8]
Mumps
Pesticide poisoning, acute occupational[4]
Relapsing fever
Rocky Mountain spotted fever
Rubella
Salmonellosis, including typhoid
Shigellosis
Silicosis[4]
Streptococcal disease, invasive Group A
Syphilis[5]
Tetanus
Trichinosis
Tuberculosis[g]
Tuberculosis infection in persons less than 15 years of age[9]
Typhus
Vibrio infections

By number **only:** Chickenpox

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

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

'Includes meningitis, septicemia. cellulitis. epiglottitis. osteomyelitis. pericarditis. and septic arthritis.
[2]The local or regional health depamnent shall collect reports of diseases and transmit them at weekly intervals to TDH.
[3]Reported by physician only once per case. following initial physician diagnosis.
[4]The Occupational Disease Reporting Act (Health & Safety Code. Chapter 84) requires physicians and directors of laboratories to report these occupationally related diseases to the Texas Department of Health at 5121458-7269.
'Syphilis, gonorrhea. chancroid, and laboratory-confirmed *Chlamydia trachomatis* infections are reportable in accordance with Sections 97.132. 97.134, and 97.135 of TAC. Form STD-27. "Confidential Report of Sexually Transmitted Disease." shall be used to report these sexually transmitted diseases. Questions may be directed to 512/490-2505.
[6]Includes types: A: B: C: D (Delta); E; non-A, non-B: and unspecified.
'The Injury Prevention and Control Act (Health & Safety Code. Chapter 87) requires physicians. medical examiners. and Justices of the Peace to report these injuries to local health departments or to the Texas Department of Health 5121458-7266.
'Includes aseptic/viral. bacterial (specify etiology). fungal. and other.
[9]Report tuberculosis on Form TB-400, "Report of Case and Patient Services." Questions may be directed to 5121458-7448.

Disease Reporting

Initial reporting of any reportable disease may be made by calling (800) 705-8868. An EPI-1 form may also be used to initially report notifiable conditions except:

- Foodborne botulism, cholera, invasive meningococcal infection, plague, rabies in humans, viral hemorrhagic fevers, and yellow fever. Call (800) 252-8239 immediately to report these diseases.
- Diphtheria, invasive *Haemophilus infuenzae* type b infection, measles, pertussis, and acute paralytic poliomyelitis. Call (800) 252-9152 immediately to report these diseases.
- Rubella. Call (800) 252-9152 within one work day.
- Chancroid, *Chlamydia trachomatis* infections, gonorrhea, and syphilis. Use form STD-27 to report these sexually transmitted diseases. Call your regional office to order forms.
- HIV/AIDS. Use form HIV-1 to report HIV in persons $>$ 13 years of age and form CDC 50.42A to report AIDS in persons $>$13 years of age. To report HIV or AIDS in persons $\leq$ 13 years of age, use form CDC 50.42B. Call your regional office to order forms.
- TB and tuberculosis infection in persons $<$ 15 years of age. Use TB-400 forms to report. Call your regional office to order forms.

Disease Investigation Forms

In addition to an initial report, many reportable diseases require further investigation for confinnation.

A) Call the Infectious Disease Epidemiology and Surveillance Division at (800) 252-8239 to request investigation forms for the following diseases:

Arboviral infections (mosquito-borne illness)
Botulism (infant and foodborne)
Brucellosis
Dengue
Ehrlichiosis
Encephalitis (specify etiology)
Escherichia coli O157:H7
Hantavirus infection
Hepatitis (viral)
Legionellosis
Lyme disease
Malaria
Meningitis (specify type)
Relapsing fever
Rocky Mountain spotted fever
Trichinosis
Typhoid fever
Typhus
Vibrio infections (except Cholera)

B) Call the Immunization Division at (800) 252-9152 to request investigation forms for the following diseases:

Mumps
Tetanus

C) Call the Bureau of Epidemiology at (512) 458-7268 to request investigation forms for the following conditions:

Elevated blood lead levels
Near drowning
Occupationally acquired diseases
Spinal cord injuries

To report outbreaks, exotic diseases, and unusual group expressions of illness which may be of public health concern, call the Infectious Disease Epidemiology and Surveillance division at (800) 705-8868 or (512) 458-7218. Forms are available and required for foodborne and waterborne outbreaks.

TDH

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Texas Department of Health
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