disease prevention news

DPN

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Occupational Disease Surveillance

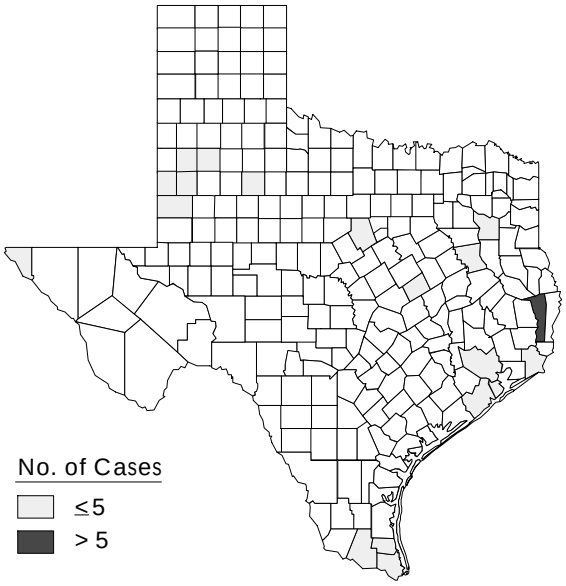
The Texas Occupational Disease Reporting Act, passed by the 69th Legislature in 1985, required physicians and laboratory directors to report adult elevated blood lead levels at or above 40 micrograms per deciliter. This act also required reporting of a diagnosis of suspected or confirmed asbestosis and silicosis and gave the Texas Board of Health the authority to add other preventable occupational diseases to the list. Later that same year, the Board made acute occupational pesticide poisoning a reportable condition in Texas. The National Institute for Occupational Safety and Health (NIOSH) of the Centers for Disease Control and Prevention (CDC) has provided funding for some occupational disease surveillance activities in Texas since 1987.

Acute Occupational Pesticide Poisoning

The Environmental and Occupational Epidemiology Program (EOEP) conducts active surveillance of acute occupational pesticide poisonings throughout the state. The active surveillance uses a sentinel provider system consisting of hospitals, clinics, and individual physicians who consent to be contacted by EOEP staff on a regular basis. Reports of pesticide poisoning cases are solicited from these sentinels. This active surveillance has expanded each year since its inception in 1990, and many agricultural areas of Texas are now included in the effort. Fifty-five health clinics, 51 hospitals, and 25 physicians participated as sentinel providers in 1994. In addition, unsolicited reports of pesticide-related illness are received from health care providers all around the state, the Texas Department of Agriculture, and other state agencies. Data also are obtained during quarterly review of death certificates.

In 1994, 26 incidents of acute pesticide poisoning involving 33 workers were reported to the Texas Department of Health (TDH); one worker died. Persons with reported pesticide illness ranged in age from 18 to 70 years: 17 (52%) were white, non-Hispanic; 9 (27%) were of Hispanic descent; and 7 (21%) were African American. Twenty-three (70%) of the workers were male, and 10 (30%) were female. Reports of acute occupational pesticide poisoning in 1994 are presented geographically in Figure 1.

Figure 1. Distribution by Location of Occurence of Acute Occupational Pesticide Poisoning



Agricultural settings accounted for most (19) of the reported illnesses. Exposed individuals included one crop duster, two workers cleaning pesticide storage areas, three pesticide handlers, three greenhouse workers, three workers loading grain treated with phostoxin,

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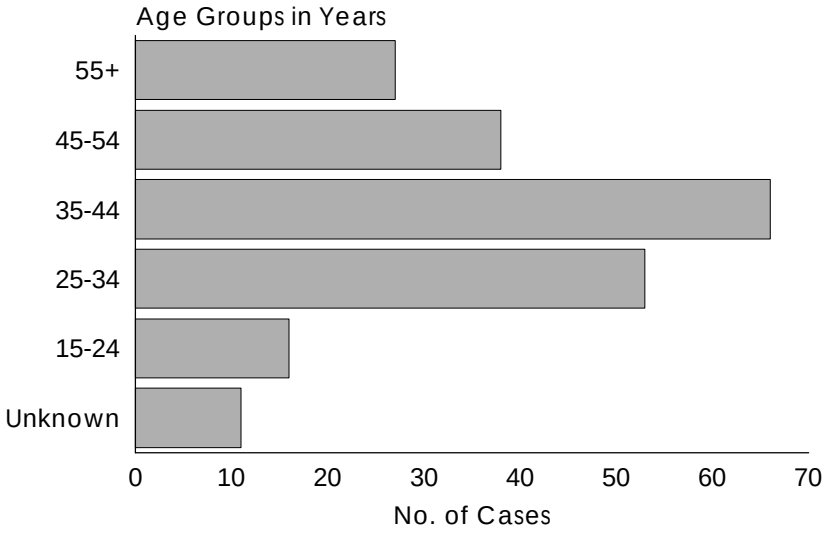
and seven workers caught in aerial or ground drift during pesticide application. Fourteen workers became ill due to pesticide exposure in nonagricultural work settings. Two incidents involved 10 workers becoming ill due to a structural pest control application. Other workers included a veterinary assistant who was dipping dogs in flea dip, a worker exposed to chlorpyrifos while digging in dirt previously treated for termites, and a housecleaner exposed to carbamate while vacuuming.

Figure 2. Distribution of Elevated Blood Lead Levels by Age



The fatal incident, identified during routine death certificate review, involved a warehouse supervisor. The death certificate stated he died of "inhalation of toxic DDT metabolite." Further investigation by TDH failed to identify a specific exposure compatible with the statement on the death certificate. Several weeks prior to his death, however, he was exposed to glyphosate (a common herbicide), which spilled on him while he was moving a container in the warehouse. At the time, no one was notified, and he did not seek medical care. Several weeks later he developed breathing difficulties, pneumonia, pulmonary fibrosis, and pulmonary embolus.

Adult Elevated Blood Lead Levels

Physicians, laboratorians, and other responsible parties are required to report to TDH all blood lead levels at or above 40 mcg/dL of blood in persons 15 years of age or older. All reports are confirmed laboratory blood lead reports. EOEP received 748 reports in 1994 of 211 individuals with elevated blood lead levels. Because the Occupational Safety and Health Administration (OSHA) requires that employees be tested at two-month intervals if their blood lead levels exceed 40 mcg/dL, multiple reports were received for many individuals.

As in previous years, the majority of individuals with reported elevated blood lead levels were male (206 [98%]), and 5 (2%) were female. Based on follow-up of all reported individuals, 82 (39%) were of Hispanic descent, 65 (31%) were non-Hispanic whites, and 35 (16%) were African American. Race and ethnicity could not be obtained for 29 (14%) of the workers reported. Figure 2 identifies the distribution of workers with elevated blood lead levels by age group. Table 1 shows elevated blood lead levels by type of industry.

One of the US Public Health Service's Healthy People 2000 Objectives is the elimination of occupational exposures that result in blood lead levels over 25 mcg/dL. Increasing awareness by em-

Table 1. Distribution of Elevated Blood Lead Levels by Type of Industry

141	Battery Manufacturing
33	Foundry, Smelting and Refining
12	Construction
6	Bronze Valves Manufacturing
6	Unknown
5	Radiator Repair
2	Vehicle Parts and Accessories Manufacturing
2	X-ray Protection Materials Manufacturing
1	Employment Contractor
1	Farm Machinery Manufacturing
1	Gun Club
1	Scrap and Waste Materials

n=211

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ployers and employees of the sources of lead exposure in the workplace and methods for reducing worker exposure is essential for the future prevention of occupational lead poisoning. To assist employers in meeting these goals, TDH provides free worksite consultation. Reports of elevated blood lead levels are prioritized on the basis of the blood lead level and the presence of symptoms. If any of the following conditions are present, the worksite is considered high priority and is inspected by local or state health department staff to identify the source of lead exposures on the job:

- An employee's blood lead level is greater than 60 mcg/dL.
- An employee's blood lead level averages 50 mcg/dL over a six-month period.
- The individual exhibits symptoms of lead poisoning.

Industrial hygiene inspections measure lead levels in the air and examine work practices to assess additional opportunities for worker exposure. Based on these inspections, interventions to reduce worker exposure are suggested (changing work practices, worker education, etc.) and assistance in implementing interventions is offered.

Another TDH prevention strategy is health care provider education. Workers with elevated blood lead levels can experience irritability, memory loss, headache, lassitude, arthralgia, decreased libido, myalgia, insomnia, paresthesia, abdominal pain, anorexia, nausea, and constipation. Acute encephalopathy may occur in adults with blood lead levels in excess of 150 mcg/dL. Many signs of lead toxicity are nonspecific, highlighting the importance of including occupational information in the medical history. Following is a report of an event showing the importance of prompt case reporting.

On April 26, 1994, a hospital emergency department physician notified a local health department (LHD) of an adult male patient with a blood lead level of 111 mcg/dL. The LHD promptly contacted TDH. The patient, admitted to the hospital for possible lead poisoning on April 2, complained of abdominal pain, vomiting, weight loss, severe constipation, and a headache. He also experienced memory loss, ringing in his ears, metallic taste in his mouth, stuttering, arthralgia, and discoloration of his gums. The LHD immediately conducted a patient interview. During the interview, the patient described a job in which he and seven other men sandblasted most of the interior surfaces of a 100-year-old five-story building between February 15 and March 30. He reported that tremendous quantities of dust were created during the sandblasting.

Over the next week, the LHD located and interviewed the other seven

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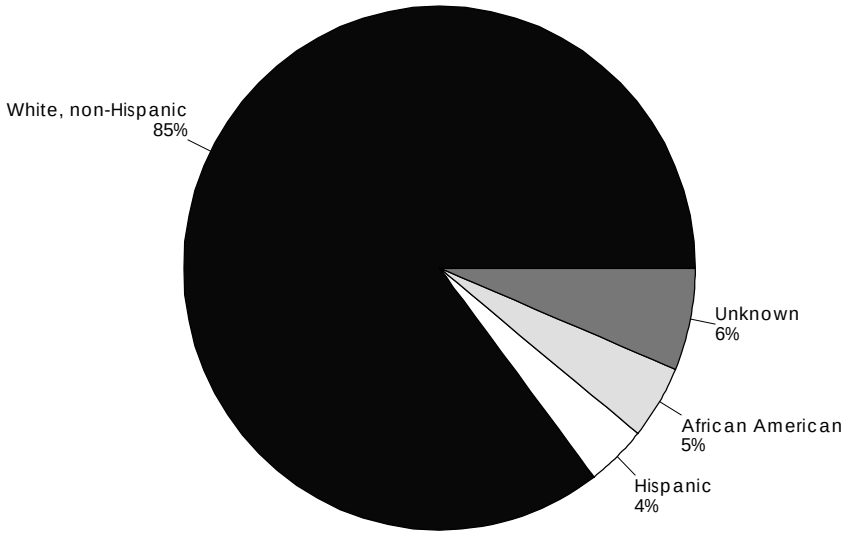
Figure 3. Distribution of Asbestosis by Race and Ethnicity



workers. One worker had visited an emergency room on March 23 but refused to be admitted. He returned to the same hospital on March 25 and stayed three days. A blood sample drawn on March 29 revealed a blood lead level of 245 mcg/dL. The patient was readmitted April 6. His primary complaint was constant epigastric abdominal pain that radiated to his back and worsened when he ate. His symptoms also included vomiting, weight loss, constipation, headache, fatigue, shortness of breath, and loose teeth. During the April 6 admission he had an elevated amylase level and was discharged April 10 with diagnoses of acute pancreatitis, acute gastroenteritis, and alcohol hepatitis. This patient was neither treated for nor advised that he had lead poisoning until he was contacted by the LHD in May.

Prior to LHD intervention, none of the other six workers had sought medical care. All were referred for diagnostic tests in early May. One worker, at the site for only a few days, had a blood lead level within the normal range. By May, the other five workers whose on-the-job exposures ranged from 4 to 6 weeks, had blood lead levels ranging from 47 to 93 mcg/dL. Because workers were not tested until five to six weeks after their exposure ended, their blood lead levels during and after the acute exposures may have been higher. All eight workers were referred to a university hospital for evaluation and follow up. The seven workers with blood lead levels in excess of 40 mcg/dL subsequently underwent chelation therapy.

All the workers reported that the sandblasting operation generated so much dust that workers in the same room were unable to see each other. Paint and dust samples collected on May 4 showed lead content in the paint and sandblasting residue was 1,900 mcg/g and 25,000 mcg/g, respectively. Dust from the floor and the interior surface of a window pane had lead contents of 75,000 mcg/ft^2 and 145,000 mcg/ft^2, respectively. By comparison, US Environmental Protection Agency-recommended acceptable levels after residential lead abatement are 100 mcg/ft^2 for uncarpeted floors and 500 mcg/ft^2 for window sills.

Because of unusual circumstances, the US Occupational Safety and Health Administration (OSHA) was notified. Several violations were found during the OSHA investigation, including the lack of worksite air monitoring. The workers had not received adequate training or protective equipment, nor did they have proper facilities for washing, changing clothes, or eating. Some workers wore only dust masks during the sandblasting process, and the employer had instructed workers to keep the windows closed. A Texas Workers' Compensation Commission investigation resulted in medical benefits paid to the workers.

This incident demonstrates that the potential for adult lead poisoning still exists and highlights gaps in knowledge of lead exposure and poisoning by employers, employees, and health care providers. The employer was either unaware of, or deliberately disregarded, the health hazards of sandblasting old buildings. The employees apparently did not know or question the potential for lead exposure given the working conditions. Although the index case for this cluster was eventually reported to

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Figure 4. Distribution of Asbestosis by Age at Diagnosis

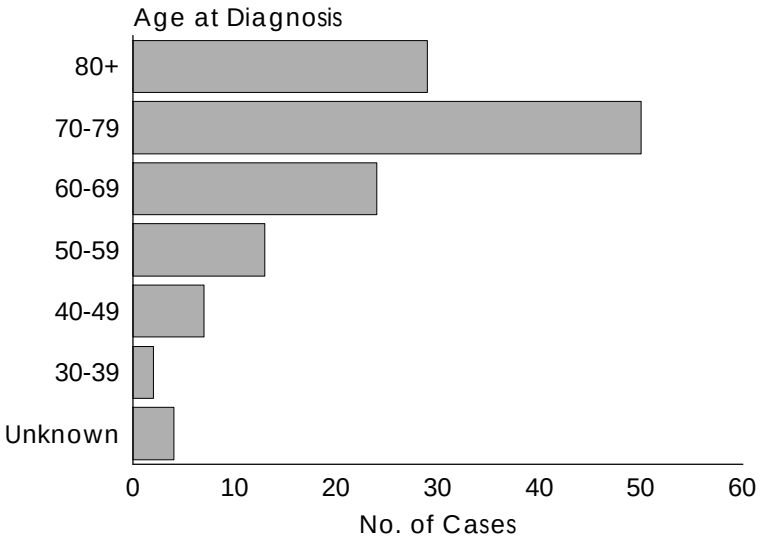


Table 2. Occupations Associated with Silicosis

Farmer
Laborer
Mechanic
Painter
Rock Breaker/Drill Operator
Sand Blaster
Stone Polisher

the local health authorities, several earlier opportunities to report the index patient's case were missed. Earlier reporting would have resulted in quicker identification of the cluster of cases and prompt treatment of the other poisoned individuals.

Asbestosis

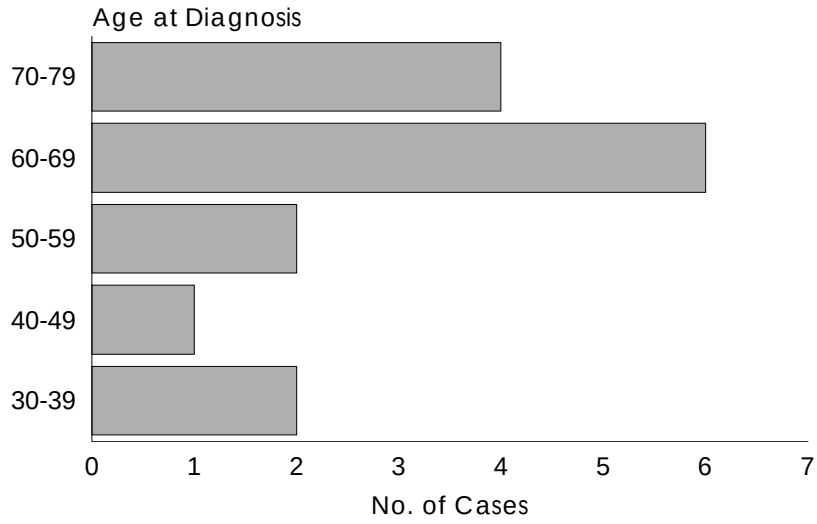
Of the 129 cases of asbestosis reported to TDH during 1994, 101 (78.0%) were identified by reviewing death certificates filed with the TDH Bureau of Vital Statistics. An additional 25 (19%) were reported by physicians, hospitals, and clinics. Three were obtained during hospital medical records review. Of the 129 reported individuals, 125 (97%) were male, and 4 (3%) were female. The distribution of patients by race/ethnicity is shown in Figure 3 and by age at diagnosis in Figure 4.

Silicosis

Fifteen cases of silicosis were reported in Texas during 1994. One individual was diagnosed with both silicosis and asbestosis. Another individual was diagnosed with silicosis and tuberculosis. As in past years, most reports of silicosis in Texas were identified during reviews of death certificates. Nine of the 15 (60%) individuals were identified from this review. Two (13%) reports were obtained from TDH medical records review at hospitals; four (26%) were reported by physicians directly to TDH or through the LHD.

Occupational information was available for 10 of the individuals. Table 2 lists the distribution types of occupations reported. Six (40%) workers with silicosis were white, non-Hispanic; six (40%) were white Hispanic; and three (20%) were of African American descent. Figure 5 shows the distribution by age at diagnosis.

Figure 5. Distribution of Silicosis by Age at Diagnosis



Prepared by
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Meningococcal Infections - Slide Show

Winter is here and with it the increased risk for meningococcal infection. As of mid-January, 228 cases of meningococcal infection have been reported throughout Texas during 1995. From October through December 1995, 25 cases were reported.

A slide show for the general public, *Meningococcal Infections in Texas*, is now available through each regional TDH office and the TDH Film Library (512/458-7260). This slide show contains information about the spread, treatment, and prevention of meningococcal infections.

Influenza Epidemic in Russia and Ukraine

Recent media coverage of influenza outbreaks in Russia and Ukraine has included reports of millions of people becoming ill and speculation that the strains responsible for the epidemic are not included in this year's international vaccine formulation. However, according to a December 29 communication from the Influenza Branch of the Centers for Disease Control and Prevention (CDC), both types of human influenza virus identified in Russia are also circulating elsewhere in the world, including the US.

CDC epidemiologists report that there is evidence for circulation of influenza B, influenza A(H1N1), and influenza A(H3N2) in Russia. Reports from Moscow indicate that the A/H1N1 strains isolated there are similar to the vaccine strain currently being used in Europe: A/Singapore. Reports from Finland (which would be expected to have the same viruses circulating as does Russia) state that A/Johannesburg-like strains, A(H3N2), have been isolated. The components of this season's World Health Organization (WHO) vaccine for Europe include A/Singapore (H1N1), A/Johannesburg (H3N2), and B/Bejing. A/Texas (The H1N1 component in the US vaccine) and A/Singapore are antigenically similar.

Influenza experts are not surprised that a severe influenza season is occurring in Russia this year because that region has had relatively light seasons over the past two or three years.

CDC receives weekly facsimile reports during the winter months from virology institutes in Moscow and St. Petersburg. As of December 29, no reports suggested any new strains of influenza circulating in these two cities. CDC will inform TDH of any new information that indicates a change in the situation described above, and these changes will be publicized in *DPN*.

Nov/Dec 1995

Bimonthly Statistical Summary of Selected Reportable Diseases

	HHSC Region											Selected Texas Counties								This Period		Cumulative[1]	
Selected Diseases/Conditions	1	2	3	4	5	6	7	8	9	10	11	Bexar	Dallas	El Paso	Harris	Hidalgo	Nueces	Tarrant	Travis	1994	1995	1994	1995
Sexually Transmitted Diseases[2]																							
Syphilis, primary and secondary	0	0	70	32	44	*61	21	16	1	0	3	5	51	0	*26	3	0	16	3	187	257	1779	1574
Congenital Syphilis	0	0	2	0	0	*5	0	1	0	0	2	1	2	0	*5	0	1	0	0	18	10	207	191
Resistant Neisseria gonorrhoeae	0	16	0	3	1	*0	1	0	3	0	0	0	0	0	*0	0	0	0	0	30	24	234	197
Enteric Diseases																							
Salmonellosis	16	5	14	3	7	7	17	17	1	7	15	9	3	7	4	3	12	3	6	226	109	1983	2084
Shigellosis	13	29	16	5	11	8	28	26	9	15	49	10	3	15	1	12	10	11	14	300	209	2410	2578
Hepatitis A	8	2	42	9	3	38	2	9	1	38	22	5	5	38	35	4	3	15	0	356	174	2877	2742
Campylobacteriosis	3	3	5	0	1	8	16	4	2	10	5	4	3	10	3	1	3	1	11	116	57	997	923
Bacterial Infections																							
H. influenzae, invasive	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	**2	20	**34
Meningococcal, invasive	0	1	9	3	3	0	9	0	0	0	0	0	4	0	0	0	0	1	8	42	25	237	240
Lyme disease	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	3	1	56	57
Vibrio species	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	31	22
Other Conditions																							
AIDS[4]	15	2	168	15	24	147	105	58	5	18	23	52	113	18	136	0	10	35	67	932	580	5584	4560
Hepatitis B	6	2	15	3	2	10	6	3	3	2	7	2	3	2	5	0	3	6	5	192	59	1422	1086
Adult elevated blood lead levels	0	0	5	7	0	0	0	34	0	0	0	34	0	0	0	0	0	2	0	61	46	737	458
Animal rabies - total	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Animal rabies - dogs and cats	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Tuberculosis Disease[2]																							
Children (0-14 years)	2	0	5	3	0	16	2	3	0	0	5	3	4	0	15	2	0	1	0	38	36	205	186
Adults (>14 years)	2	5	55	15	4	150	31	31	4	19	47	24	25	19	117	12	3	29	17	312	363	2033	2053
Injuries[2]																							
Spinal Cord Injuries	0	0	12	3	0	0	2	0	0	0	0	0	12	0	1	0	0	0	1	49	17	348	270

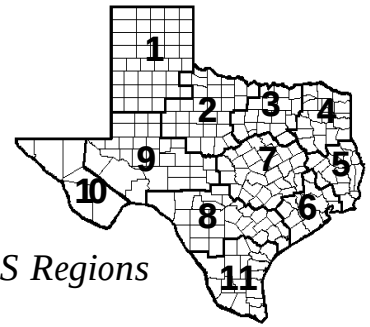
1. Cumulative to this month. 2. Data for the STD's, Tuberculosis, and spinal cord injuries are provided by date of report, rather than date of onset. 3. Voluntary reporting. 4. AIDS totals include reported cases from Texas Department of Corrections, which are not included in the regional and county totals. * December data unavailable. **YTD totals not conclusive. *** Data unavailable.

Call 1-800-705-8868 to report

1992 POPULATION ESTIMATES

HHSC REGIONS			
1	749,158	7	1,785,214
2	530,279	8	1,849,649
3	4,457,134	9	528,345
4	919,677	10	647,298
5	676,718	11	1,416,866
6	4,055,407		

SELECTED TEXAS COUNTIES			
Bexar	1,225,595	Hidalgo	408,450
Dallas	1,923,031	Nueces	300,700
El Paso	622,966	Tarrant	1,277,625
Harris	2,931,867	Travis	593,536



DHHS Regions

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Vaccine Preventable Disease Update
Confirmed cases with onset from 11/1/95-12/31/95

Condition	County	Number of cases	Date of Onset
Measles	Bexar	1	11/2
Rubella	Castro	1	11/11
Pertussis	El Paso	1	11/2
Pertussis	Terry	1	11/3
	Gaines	1	11/6
	Harris	1	11/7
	Lubbock	1	11/29

Year to Date Totals: Measles (*14) Rubella (*8) Pertussis (*209)

*** Totals not conclusive**