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Texas Preventable Disease NEWS

contents:

**Bureau of Disease Control and Epidemiology,
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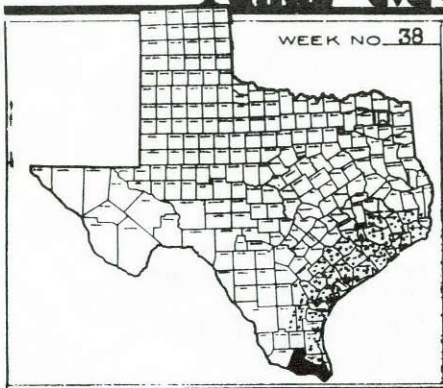
50 Years Ago...

Texas MORBIDITY *this* WEEK



WEEK NO. 38

DENGUE

For the first time since 1922 Dengue is present in epidemic proportions in Texas. The Counties of Cameron and Hidalgo, shown on the map, are now involved. The dotted area shown on the map indicates the most likely area of spread. Dengue is a relatively non-fatal but very distressing disease of high attack rate. The disease is spread by Aedes mosquitoes, principally Aedes Aegypti. It behooves health officials in the dotted area to concentrate on Aedes control between now and the onset of freezing weather if the epidemic is to be limited in its spread. Field investigation has led to the belief that this outbreak is rather mild though otherwise clinically typical. Spread to the upper gulf coast could seriously hamper defense projects particularly in the Houston-Galveston area.

TEXAS STATE DEPARTMENT OF HEALTH WEEK ENDING September 20, 19 41

ACIP: PREVENTION AND CONTROL OF INFLUENZA*

These recommendations from the Immunization Practices Advisory Committee (ACIP) update information on the vaccine and antiviral agents available for controlling influenza during the 1990-1991 influenza season (superseding both the MMWR 1988;37:361-73 on antiviral agents and MMWR 1989;38:297-8, 303-11 on the use of influenza vaccine). Changes include statements about a) the influenza strains in the trivalent vaccine for 1990-1991 and b) revised recommendations for the use of antiviral agents for controlling outbreaks of influenza. ***(See MMWR 1990;39(RR-7), for complete text)***

I. RECOMMENDATIONS FOR USE OF INFLUENZA VACCINE

The trivalent influenza vaccine prepared for the 1990-1991 season will include A/Taiwan/1/86-like(H1N1), A/Shanghai/16/89-like (H3N2), and B/Yamagata/16/88-like hemagglutinin antigens. Recommended doses are listed in Table 1. Annual vaccination with activated influenza vaccine is considered the single most important measure to prevent or to lessen the severity of influenza infection and is strongly recommended for high-risk groups. Guidelines for the use of vaccine in different groups follow.

TARGET GROUPS FOR SPECIAL VACCINATION PROGRAMS

Groups at Increased Risk for Influenza-Related Complications:

1. Persons ≥65 years of age.
2. Residents of nursing homes and other chronic-care facilities housing persons of any age with chronic medical conditions.
3. Adults and children with chronic disorders of the pulmonary or cardiovascular systems, including children with asthma.
4. Adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications).
5. Children and teenagers (6 months-18 years of age) who are receiving long-term aspirin therapy, and therefore may be at risk of developing Reye syndrome after influenza.

* Condensed and adapted from: CDC. MMWR 1990;39(RR-7):1-15.

Table 1.
(Clarification: Vol. 39, No. RR-7)

After publication of the *MMWR Recommendations and Reports* entitled *Prevention and Control of Influenza: Recommendations of the Immunization Practices Advisory Committee (ACIP)* (*1*), Table 1 was modified to clarify that, as in previous years, only split-virus vaccines should be given to children ≤12 years of age. The change from previous ACIP recommendations is that children 9–12 years of age may receive one dose of vaccine rather than the previously recommended two doses.

Reference

1. ACIP. Prevention and control of influenza: recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1990;39(no. RR-7):4.

TABLE 1. Influenza vaccine* dosage, by patient age — United States, 1990–91 season

Age group	Product†	Dosage	No. doses	Route§
6–35 mos.	Split virus only	0.25 mL	1 or 2¶	IM
3–8 yrs.	Split virus only	0.50 mL	1 or 2¶	IM
9–12 yrs.	Split virus only	0.50 mL	1	IM
>12 yrs.	Whole or split virus	0.50 mL	1	IM

*Contains 15 μg each of A/Taiwan/1/86-like (H1N1), A/Shanghai/16/89(H3N2), and B/Yamagata/16/88-like hemagglutinin antigens in each 0.5 mL. Manufacturers include: Connaught Laboratories, Inc. (distributed by E.R. Squibb & Sons, Inc.) (Fluzone® whole or split); Evans Medical Ltd.-Lederle Laboratories (distributed by Lederle Laboratories) (Flu-Imune® purified surface antigen vaccine); Parke-Davis (Fluogen® split); and Wyeth-Ayerst Laboratories (Influenza Virus Vaccine, Trivalent® split). For further product information call Connaught, (800) 822-2463; Lederle, (800) 533-3753; Parke-Davis, (800) 223-0432; Wyeth-Ayerst, (800) 950-5099.

†Because of the lower potential for causing febrile reactions, only split-virus vaccines should be used in children. They may be labeled as "split," "subvirion," or "purified-surface-antigen" vaccine. Immunogenicity and side effects of split- and whole-virus vaccines are similar in adults when vaccines are used at the recommended dosage.

§The recommended site of vaccination is the deltoid muscle for adults and older children. The preferred site for infants and young children is the anterolateral aspect of the thigh.

¶Two doses are recommended for children <9 years of age who are receiving influenza vaccine for the first time.

Groups That Can Transmit Influenza to High-Risk Persons:

Persons who are clinically or subclinically infected and who attend or live with high-risk persons can transmit influenza virus to them. Some high-risk persons (eg, the elderly, transplant recipients, or persons with AIDS) can have low antibody responses to influenza vaccine. Efforts to protect these high-risk persons against influenza may be improved by reducing the chances of exposure to influenza from their care providers. Therefore, the following groups should be vaccinated:

1. Physicians, nurses, and other personnel in both hospital and outpatient-care settings who have contact with high-risk persons in all age groups, including infants.

2. Employees of nursing homes and chronic-care facilities who have contact with patients or residents.

3. Providers of home care to high-risk persons (eg, visiting nurses, volunteer workers).

4. Household members (including children) of high-risk persons.

VACCINATION OF OTHER GROUPS

General Population

Physicians should administer influenza vaccine to any person who wishes to reduce the chance of acquiring influenza infection. Persons who provide essential community services and students or other persons in institutional settings (eg, schools and colleges) may be considered for vaccination to minimize the disruption of routine activities during outbreaks.

Pregnant Women

Pregnant women with other medical conditions that increase their risks for complications from influenza should be vaccinated, as the vaccine is considered safe for pregnant women. Administering the vaccine after the first trimester is a reasonable precaution to minimize any concern over the theoretical risk of teratogenicity. However, it is undesirable to delay vaccination of pregnant women who have high-risk conditions and who will still be in the first trimester of pregnancy when the influenza season begins.

Persons Infected with HIV

Little information exists regarding the frequency and severity of influenza illness in human immunodeficiency virus (HIV)-infected persons, but recent reports suggest that symptoms may be prolonged and the risk of complications increased for this high-risk group. Because influenza may result in serious illness and complications, vaccination is a prudent precaution and will result in protective antibody levels in many recipients. However, the antibody response to vaccine may be low in persons with advanced HIV-related illnesses; a booster dose of vaccine has not improved the immune response for these individuals.

Foreign Travelers

The risk of exposure to influenza during foreign travel varies, depending on season and destination. In the tropics, influenza can occur throughout the year; in the southern hemisphere, the season of greatest activity is April-September. Travelers who were not vaccinated the previous fall/winter should consider influenza vaccination before travel. Persons in the high-risk categories should be especially encouraged to receive the most currently available vaccine. High-risk persons given the previous season's vaccine before travel should be revaccinated in the fall/winter with current vaccine.

PERSONS WHO SHOULD NOT BE VACCINATED

Inactivated influenza vaccine should not be given to persons known to have anaphylactic hypersensitivity to eggs. The protocol for influenza vaccination developed by Murphy and Strunk may be considered for patients who have egg allergies and medical conditions that place them at increased risk for influenza infection or its complications (See Murphy and Strunk, 1985).

Persons with acute febrile illnesses usually should not be vaccinated until their symptoms have abated.

SIDE EFFECTS AND ADVERSE REACTIONS

Because influenza vaccine contains only noninfectious viruses, it cannot cause influenza. Respiratory disease after vaccination represents coincidental illness unrelated to influenza vaccination. The most frequent side effect of vaccination is soreness at the vaccination site that lasts for up to 2 days; this is reported for less than one-third of vaccinees.

In addition, two types of systemic reactions have occurred:

1. Fever, malaise, myalgia, and other systemic symptoms occur infrequently and most often affect persons who have had no exposure to the influenza virus antigens in the vaccine (eg, young children). These reactions begin 6-12 hours after vaccination and can persist for 1 or 2 days.
2. Immediate--presumably allergic--reactions (such as hives, angioedema, allergic asthma, or systemic anaphylaxis) occur rarely after influenza vaccination. These reactions probably result from hypersensitivity to some vaccine component--most likely residual egg protein.

SIMULTANEOUS ADMINISTRATION OF OTHER VACCINES, INCLUDING CHILDHOOD VACCINES

The target groups for influenza and pneumococcal vaccination overlap considerably. Both vaccines can be given at the same time at different sites without increasing side effects. However, influenza vaccine must be given each year; with few exceptions, pneumococcal vaccine should be given only once.

High-risk children may receive influenza vaccine at the same time as measles-mumps-rubella, Haemophilus b, pneumococcal, and oral polio vaccines. Vaccines should be given at different sites. Influenza vaccine should not be given within 3 days of vaccination with pertussis vaccine.

II. ANTIVIRAL AGENTS FOR INFLUENZA A

The two antiviral agents with specific activity against influenza A viruses are amantadine hydrochloride and rimantadine hydrochloride. Only amantadine is licensed for use in the United States. These chemically related drugs interfere with the replication cycle of type A (but not type B) influenza viruses, although the specific mechanisms of their antiviral activity are not completely understood. When given prophylactically to healthy young adults or children in advance of and throughout the epidemic period, amantadine is approximately 70%-90% effective in preventing illnesses caused by naturally occurring strains of type A influenza viruses. When administered to otherwise healthy young adults and children for symptomatic treatment within 48 hours after the onset of influenza illness, amantadine has been shown to reduce the duration of fever and other systemic symptoms and may permit a more rapid return to routine daily activities. Since antiviral agents taken prophylactically may prevent illness but not subclinical infection, some persons who take these drugs may still develop immune responses that will protect them when exposed to antigenically related viruses in later years.

As with all drugs, symptoms may occur that are side effects of amantadine in a small proportion of persons. Such symptoms are rarely severe, but may be important for some categories of patients.

RECOMMENDATIONS FOR THE USE OF AMANTADINE

Outbreak Control in Institutions

When outbreaks of influenza A occur in institutions that house high-risk persons, chemoprophylaxis should begin as early as possible to reduce the spread of the infection. Contingency planning is needed to ensure rapid administration of amantadine to residents and employees. This should include preapproved medication orders or plans to obtain physicians' orders on short notice. When amantadine is used for outbreak control, it should be administered to all residents of the affected institution regardless of whether they received influenza vaccine the previous fall. The dose for each resident should be determined after consulting the dosage recommendations and precautions that follow in this document and those listed in the manufacturer's package insert.

To reduce spread of virus and to minimize disruption of patient care, chemoprophylaxis should also be offered to unvaccinated staff who provide care to high-risk patients. To be fully effective as prophylaxis, the antiviral drug must be taken each day for the duration of influenza activity in the community.

Use as Prophylaxis

High-risk individuals vaccinated after influenza A activity has begun

High-risk individuals can still be vaccinated after an outbreak of influenza A has begun in a community. However, the development of antibodies in adults after vaccination usually takes 2 weeks, during which time amantadine should be given. Children who receive influenza vaccine for the first time may require up to 6 weeks of prophylaxis, or until 2 weeks after the second dose of vaccine has been received. Amantadine does not interfere with the antibody response to the vaccine.

Persons providing care to high-risk persons

To reduce the spread of virus and to maintain care for high-risk persons in the home, hospital, or institutional setting, chemoprophylaxis should be considered for unvaccinated persons who have frequent contact with high-risk persons in the home setting (eg, household members, visiting nurses, volunteer workers) and unvaccinated employees of hospitals, clinics, and chronic-care facilities. For employees who cannot be vaccinated, chemoprophylaxis should be continued for the entire period influenza A virus is circulating in the community; for those who are vaccinated at a time when influenza A is present in the community, chemoprophylaxis should be given for 2 weeks after vaccination. Prophylaxis should be considered for all employees, regardless of their vaccination status, if the outbreak is caused by a variant strain of influenza A that is not covered by the vaccine.

Immunodeficient persons

Chemoprophylaxis may be indicated for high-risk patients who are expected to have a poor antibody response to influenza vaccine. This includes many persons with HIV infection, especially those with advanced disease. No data are available on possible interactions with other drugs used in the management of patients with HIV infection. Such patients must be monitored closely if amantadine is used.

Persons for whom influenza vaccine is contraindicated

Chemoprophylaxis throughout the influenza season may be appropriate for high-risk persons for whom influenza vaccine is contraindicated because of anaphylactic hypersensitivity to egg protein.

Other persons

Amantadine can also be used prophylactically by anyone who wishes to avoid influenza A illness. This decision should be made by the physician and patient on an individual basis.

Use as Therapy

Although amantadine can reduce the severity and shorten the duration of influenza A illness in healthy adults, there are no data on the efficacy of amantadine therapy in preventing complications of influenza A in high-risk persons. Therefore, no specific recommendations can be made regarding the therapeutic use of amantadine for these patients. This does not preclude physicians from using amantadine in high-risk patients who develop illness compatible with influenza during a period of known or suspected influenza A activity in the community. Whether amantadine is effective when treatment begins beyond the first 48 hours of illness is not known.

OTHER CONSIDERATIONS FOR THE SELECTION OF AMANTADINE FOR PROPHYLAXIS OR TREATMENT

Side Effects/Toxicity

When amantadine is administered to healthy young adults at a dose of 200 mg/day, minor central nervous system (CNS) side effects (nervousness, anxiety, insomnia, difficulty concentrating, and lightheadedness) and/or gastrointestinal side effects (anorexia and nausea) occur in approximately 5%-10% of patients. Side effects diminish or cease soon after discontinuing use of the drug. With prolonged use, side effects may also diminish or disappear after the first week of use.

More serious but less frequent CNS-related side effects (seizures, confusion) associated with use of amantadine have usually affected only elderly persons, those with renal disease, and those with seizure disorders or other altered mental/behavioral conditions. Reducing the dosage to ≤100 mg/day appears to reduce the frequency of these side effects in such persons without compromising the prophylactic effectiveness of amantadine.

The package insert should be consulted before use of amantadine for any patient. The patient's age, weight, renal function, presence of other medical conditions, and indications for use of amantadine (prophylaxis or therapy) must be considered, and the dosage and duration of treatment adjusted appropriately. Modifications in dosage may be required for persons with impaired renal function, the elderly, children, persons who have neuropsychiatric disorders or who take psychotropic drugs, and persons with a history of seizures.

Development of Drug-Resistant Viruses

Amantadine-resistant influenza viruses can emerge when amantadine is used for treatment. The frequency with which resistant isolates emerge and the extent of their transmission are unknown, but there is no evidence that amantadine-resistant viruses are more virulent or more transmissible than amantadine-sensitive viruses. Thus the use of amantadine remains an appropriate outbreak control measure. In closed populations such as nursing homes, persons with influenza who are treated with amantadine should be separated, if possible, from asymptomatic persons who are given amantadine as prophylaxis. Because of possible induction of amantadine resistance, it is advisable to discontinue amantadine treatment of persons who have influenza-like illness as soon as clinically warranted, generally within 3-5 days.

Isolation of influenza viruses from persons who are receiving amantadine should be reported through state health departments to CDC and the isolates saved for antiviral sensitivity testing.

* * *

VACCINE-PREVENTABLE DISEASE UPDATE

Provisional Data

Weeks 34-38*

CONFIRMED AND SUSPECTED MEASLES

County	Latest Rash Onset	# Cases	Affected Population
Bandera	09/04/90	2	Pre-school
Bastrop	09/05/90	1	Pre-school
Bell	08/22/90	45	All age groups
Dallas	08/20/90	2,353	All age groups
Jefferson	08/20/90	18	All age groups
Williamson	08/30/90	4	All age groups
Yoakum	09/07/90	3	All age groups
Young	08/22/90	10	All age groups
Total	YTD	4,930	

PERTUSSIS

County	Latest Onset	# Cases	Affected Population
Brazos	09/10/90	4	Pre-school, Adult
Bell	09/11/90	1	Pre-school
Lamar	09/07/90	1	Pre-school
Lubbock	08/27/90	1	Pre-school
Smith	08/27/90	2	Pre-school
Swisher	08/20/90	1	Pre-school
Travis	09/20/90	5	All age groups
Waller	09/18/90	1	Unknown
Wilbarger	07/23/90	1	Unknown
Total		17	

** Cumulative data for counties with onbreaks (ie, latest rash onset within last 31 days).*

TIPS FOR HALLOWEEN SAFETY

The US Consumer Product Safety Commission offers these safety tips for parents and guardians of children who plan to go trick-or-treating this Halloween:

- Look for costumes, masks, beards, and wigs labeled "Flame Resistant." Although this does not mean these items won't catch fire, such labeling indicates that they will resist burning and should extinguish quickly once removed from the ignition source. Flimsy materials and outfits with big, baggy sleeves or billowing skirts should be avoided to minimize the contact with candles or other sources of ignition.

- Make or buy costumes light and bright enough to be clearly visible to motorists. For greater visibility in dusk or darkness, costumes can be decorated or trimmed with reflective tape which will glow in the beam of a car's headlights. Bags or sacks also should be light colored or decorated with reflective tape. Reflective tape is usually available in hardware, bicycle, and sporting goods stores. Children also should carry flashlights to see and be seen more easily.

- Costumes should be short enough to prevent children from tripping and falling. Children should wear well-fitting, sturdy shoes; mother's high heels are not a good idea for safe walking.

- Hats and scarves should be tied securely to prevent them from slipping over children's eyes.

- Apply a natural mask of cosmetics rather than have a child wear a mask which might restrict breathing or obscure vision. If a mask is used, make sure it fits securely and has eye holes large enough to allow full vision.

- Swords, knives, and similar costume accessories should be of soft or flexible material.

- Warn children not to eat any of their treats before they get home. Examine all treats carefully for evidence of tampering before allowing children to eat them.

- Smaller children should always be accompanied by an older, responsible child or an adult. All children should use the sidewalk rather than walk in the street, and they should walk, not run from house to house. Children should be cautioned against running out from between parked cars, or across lawns and yards where ornaments, furniture, or clotheslines present dangers.

- Children should go only to homes where residents have outside lights on as a sign of welcome. Children should not enter homes or apartments unless accompanied by an adult.

- Those receiving trick-or-treaters should remove anything that could be an obstacle from steps, lawns, and porches. Candlelit jack-o'-lanterns should be kept away from landings and doorsteps where costumes could brush against the flame. Indoor jack-o'-lanterns should be kept away from curtains, decorations, or other furnishings that could be ignited.

MONTHLY SUMMARY OF REPORTABLE DISEASES IN TEXAS

(Counties listed below reflect only those with populations of 190,000 or more, based on 1989 population estimates.)

Cumulative through: AUGUST, 1990

County	Amebiasis	Campylobacteriosis	Chickenpox	Encephalitis	H. influenzae Infections	Hepatitis A	Hepatitis B	Hepatitis NA-NB	Influenza	Measles	Meningococcal Infections	Aseptic Meningitis	Mumps	Pertussis	Rubella	Salmonella	Shigella
BEXAR	1	57	602	0	20	91	111	2	856	15	0	39	0	1	8	76	308
BRAZORIA	0	3	21	0	0	5	4	0	3595	0	3	1	2	0	0	5	17
CAMERON	28	2	306	0	15	28	5	0	1318	57	1	0	8	0	2	17	36
COLLIN	0	3	587	0	6	9	8	2	6438	59	1	7	5	1	2	7	0
DALLAS	13	83	22	5	46	205	166	2	14	1766	11	136	22	4	3	123	95
DENTON	1	3	173	0	8	6	6	0	156	154	2	5	2	0	0	14	6
EL PASO	1	9	1420	0	7	94	87	1	41	283	0	5	17	0	3	41	37
FORT BEND	1	7	113	0	4	6	5	0	40	8	0	0	0	0	0	21	39
GALVESTON	1	6	459	0	8	36	29	1	176	0	2	8	5	0	0	7	22
HARRIS	3	36	5938	3	32	106	80	1	161858	111	9	67	37	0	2	129	132
HIDALGO	4	8	156	0	5	4	1	0	49	62	0	1	1	0	1	20	42
JEFFERSON	0	10	980	0	13	4	27	1	3749	17	0	8	7	0	0	14	5
LUBBOCK	1	17	504	1	29	14	21	0	2027	5	3	5	8	0	1	26	238
MCLENNAN	0	2	276	0	3	21	5	1	5665	21	0	1	3	1	0	19	10
MONTGOMERY	0	0	5	1	3	4	3	1	0	1	1	0	4	1	0	9	2
NUECES	0	4	574	0	4	34	31	3	3139	6	0	3	3	0	2	27	59
TARRANT	0	21	2225	2	26	77	65	2	2817	261	5	22	33	1	9	52	75
TRAVIS	7	37	341	1	4	50	36	0	3378	330	3	12	4	0	0	38	24
All Other Counties	36	95	6527	9	186	400	393	19	43909	915	24	85	106	22	29	431	415
Cumulative TX 1990	97	403	21229	22	419	1194	1083	36	239225	4071	65	405	267	31	62	1076	1562
Cumulative TX 1989	111	475	20082	45	524	2237	1261	173	74789	3155	70	626	432	272	48	1458	1098

1990 CUMULATIVE TOTALS FOR OTHER REPORTABLE DISEASES:

Acute Occ. Pesticide Poisoning	46	Coccidioidomycosis	36	Histoplasmosis	40	Psittacosis	0	Toxic Shock Syndrom	3
Anthrax	0	Dengue	0	Legionellosis	7	Q Fever	1	Trichinosis	0
Asbestosis	32	Diphtheria	0	Leptospirosis	0	Rabies	1	Tuberculosis	1342
Botulism	5	+ Elevated Blood Lead Levels	598	Listeria Infections	18	Reye Syndrome	0	Tularemia	0
Brucellosis	6	Gonorrhea	20714	Lyme Disease	20	Rocky Mt Spotted Fever	5	Typhoid	9
Chlamydia trachomatis	12919	Hansen's Disease	30	Malaria	31	Silicosis	2	Typhus, Murine	21
Cholera	0	Hepatitis D (Delta Agent)	0	Plague	0	Syphilis (P&S)	3304	Vibrio Infections	9
		Hepatitis type unspecified	150	Poliomyelitis	0	Tetanus	6	Yellow Fever	0

+ Blood lead level >40ug/dl in persons 15 years of age or older; summarized by date of blood lead test.

TEXAS DEPARTMENT OF HEALTH
TEXAS AIDS CASES: SURVEILLANCE REPORT
Case Count by Residence and Year of Diagnosis
September 21, 1990

	1980-1985		1986		1987		1988		1989		1990		Cumulative	
COUNTY	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Angelina	1	1	2	2	2	1	1	1	4	2	1	0	11	7
Bell	3	3	4	2	4	2	2	2	6	1	3	0	22	10
Bexar	53	50	57	51	115	92	178	106	214	70	136	27	753	396
Bowie	1	1	2	2	6	4	10	9	5	4	2	1	26	21
Brazoria	8	8	10	9	11	7	13	6	15	5	9	2	66	37
Brazos	10	10	5	5	6	6	6	6	6	3	3	1	36	31
Cameron	1	1	5	3	3	3	17	10	16	10	17	3	59	30
Collin	1	1	2	2	5	5	4	4	5	4	2	0	19	16
Dallas	252	245	309	272	507	425	544	355	601	248	327	50	2540	1595
Denton	2	2	6	6	16	15	10	5	13	4	9	1	56	33
Ector	1	1	4	4	4	4	7	6	3	2	4	1	23	18
Ellis	0	0	1	1	7	6	6	6	4	2	0	0	18	15
El Paso	6	6	10	9	19	13	18	11	33	17	11	5	97	61
Fort Bend	10	10	10	9	16	11	6	5	20	9	9	1	71	45
Galveston	11	11	17	16	28	22	26	16	33	15	23	5	138	85
Grayson	0	0	0	0	3	1	0	0	5	0	3	0	11	1
Gregg	2	2	4	3	7	4	2	2	3	1	2	1	20	13
Harris	626	577	643	573	867	692	923	578	910	350	362	51	4331	2821
Hays	3	3	4	4	2	2	2	1	1	1	5	2	17	13
Hidalgo	6	6	0	0	7	5	7	5	18	4	14	4	52	24
Howard	2	2	3	3	1	1	3	3	3	3	0	0	12	12
Hunt	1	1	1	1	4	4	3	0	1	0	1	0	11	6
Jefferson	7	6	8	6	21	16	25	19	20	10	15	4	96	61
Johnson	1	1	1	1	3	1	7	3	2	1	3	1	17	8
Kaufman	3	3	0	0	2	1	3	2	1	0	1	0	10	6
Liberty	3	2	3	3	1	1	1	0	5	2	1	0	14	8
Lubbock	4	4	5	4	15	12	7	3	17	6	10	5	58	34
McLennan	2	2	6	5	7	5	3	3	8	4	2	1	28	20
Midland	1	1	0	0	6	5	4	2	3	0	0	0	14	8
Montgomery	6	5	3	2	9	7	13	11	13	8	9	2	53	35
Nueces	6	4	11	9	20	15	14	9	22	14	20	4	93	55
Orange	3	3	4	2	4	4	3	3	3	3	1	0	18	15
Potter	1	0	4	3	5	3	6	6	10	2	3	0	29	14
Smith	3	3	4	1	4	2	4	1	6	5	3	1	24	13
**TDC	8	8	18	13	18	10	26	11	54	18	34	5	158	65
Tarrant	44	38	53	39	131	105	114	68	132	52	91	29	565	331
Taylor	3	3	3	2	2	2	11	7	6	3	0	0	25	17
Tom Green	1	1	2	2	3	3	0	0	5	1	0	0	11	7
Travis	63	53	56	42	108	94	139	89	177	75	103	23	646	376
Victoria	0	0	3	2	3	3	2	2	2	2	1	0	11	9
Walker	3	3	1	1	3	2	2	1	2	0	1	0	12	7
Webb	1	1	4	4	5	3	5	4	4	1	7	2	26	15
Wichita	2	2	2	1	6	6	16	5	13	1	4	0	43	15
Williamson	0	0	3	3	4	4	1	1	7	2	1	0	16	10
All Others	34	29	42	37	87	71	91	63	63	24	50	13	367	237
STATEWIDE	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Case Fatality	1199	1113	1335	1159	2107	1700	2285	1450	2494	989	1303	245	10723	6656
Ratio (%)	CFR%	93	CFR %	87	CFR%	81	CFR%	63	CFR%	40	CFR%	19	CFR%	62

* COUNTIES LISTED INDIVIDUALLY ARE THOSE WITH A CUMULATIVE TOTAL OF 10+
** CASES DIAGNOSED WHILE INCARCERATED WITHIN STATEWIDE TEXAS DEPARTMENT OF CORRECTION FACILITIES

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