

Surge in Pertussis Cases Continues

The Texas Department of Health (TDH) and local health departments are focusing on protecting infants as they continue to battle a surge in the number of whooping cough cases around the state. Last year some 615 cases of whooping cough were reported in 70 Texas counties, the highest number of cases since 1968 when 802 cases were reported.

Pertussis has been on an upward trend in the United States for several years. From January 1 through July 17, 2002, 378 cases of whooping cough, including 4 infant deaths, were recorded in 41 Texas counties: 86 in Burnet; 54, Travis; 41, Dallas; 33, Bexar; 21, Tarrant; 18, Williamson; 15 Hidalgo; 14 Cameron; and 13, Harris. About 30% of all patients have been children under 1 year old.

Pertussis incidence began increasing dramatically in 2000, when 327 confirmed or probable pertussis cases were reported to state health officials from 45 counties throughout Texas, more than doubling the number of cases reported the previous year. (For a full epidemiologic report about this increase in pertussis cases in 2000, see the July 30, 2001, DPN, available at www.tdh.state.tx.us/phpep/dpn/issues/dpn61n16.pdf .

Pertussis, a highly contagious upper respiratory illness caused by the bacterium *Bordetella pertussis*, usually starts with signs and symptoms of the common cold, but as the disease progresses in children, they have a dry nonproductive cough that evolves into severe paroxysms of expiratory burst often followed by a characteristic high-pitched whoop on inspiration. Many persons with pertussis also experience post-tussive vomiting, cyanosis, or apnea. Young infants are at highest risk of complications from pertussis because there is very little transplacental immunity conferred. Complications include seizures, encephalopathy, and conditions such as pneumothorax, epistaxis, subdural hematomas, hernias, and rectal prolapse that can result from pressure effects of severe paroxysmal coughing. Pertussis in adults and adolescents may appear as a mild upper respiratory tract infection with an unusually persistent cough. Although fever is absent or minimal, the coughing associated with pertussis can last for 6 to 10 weeks and sometimes longer.

Since pertussis is such a serious illness in infants, it is important to make sure that infants are vaccinated on schedule. It is of utmost importance that children be completely vaccinated against pertussis to protect very young infants

from the disease. Complete vaccination against pertussis includes a series of four primary doses and a fifth booster dose of DTaP, a combination vaccine that also protects against diphtheria and tetanus. The first dose should be given at 6 weeks to 2 months of age; subsequent doses at 4 months, 6 months, and 15-18 months; and the booster dose at 4 years. Protection increases after each dose. The vaccine is not authorized for people 7 and older.

Parents should keep infants away from people who have coughs or cold-like symptoms, and any infant with a cough or difficulty breathing should be seen by a physician. During the current situation of increased pertussis activity, physicians are advised to consider giving antibiotics immediately to patients with whooping cough symptoms and to their family members. Because vaccine effectiveness is less than 90% and may diminish with time, pertussis should be considered as a possible diagnosis even in fully vaccinated persons.

Laboratory Testing

Test Interpretation. Available diagnostic tests are not highly sensitive. The tests of choice for confirmation of pertussis are isolation from culture or detection of unique DNA patterns by PCR. DFA lacks both sensitivity and specificity and therefore is not considered confirmatory. Antibody tests for IgG and IgA antibodies to fimbria, pertussis toxin, and filamentous haemagglutinin may provide supportive evidence of infection after several weeks of illness.

B. pertussis is more likely to be found during the early stage of infection. By the time a clinical diagnosis is made the organism may have cleared the nasopharyngeal area, especially if any antibiotic therapy has been initiated. Negative tests results should not be used to rule out pertussis. In practice, the diagnosis and treatment should be based on symptoms and the course of illness.

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Bimonthly Statistical Summary
Vaccine Preventable Disease Update
Central Texas Floods, Part II

Vaccine-Preventable Disease Update
Reported Cases with Onset From 5/01/02 Thru 6/30/02

Condition	County	Number of Cases	Date of Onset	Condition	County	Date of Cases	Date of Onset
Mumps	Denton	1	5/18	Pertussis	Dallas	1	5/16
Pertussis	Bexar	1	5/02			2	5/18
		1	5/14			2	5/19
		2	5/22			1	5/20
		1	5/31			1	6/20
		1	6/04		Erath	1	5/08
		2	6/06			1	5/12
		1	6/16			1	5/14
	Brazoria	1	5/20			1	5/16
	Burnet	1	5/01		Fannin	1	5/28
		2	5/02			1	6/15
		1	5/03		Galveston	1	5/01
		3	5/04			1	5/02
		4	5/06			1	5/04
		1	5/07		Harris	1	5/10
		5	5/08			1	5/13
		3	5/09			1	5/15
		3	5/10			1	6/01
		1	5/11		Hidalgo	1	5/01
		1	5/12			2	5/10
		3	5/13			1	5/14
		3	5/14			1	5/24
		6	5/15		Jefferson	1	5/21
		1	5/16			1	5/28
		1	5/17		Kaufman	1	5/15
		1	5/18		Llano	1	5/12
		4	5/22			1	5/21
		2	5/24			1	5/25
		3	5/25		Montgomery	1	5/29
		1	5/26		Tarrant	2	5/1
		1	5/29			1	5/05
		1	6/3			1	5/06
		1	6/13			1	5/7
		1	6/17			1	5/12
		2	6/24			1	5/15
	Caldwell	1	5/28			1	5/20
	Collin	1	5/30			1	5/28
	Dallas	1	5/3			1	6/03
		2	5/06		Travis	2	5/14
		2	5/07		Victoria	1	5/10
		1	5/12		Burnet	1	5/05
		1	5/13				

YTD	Measles	Mumps	Pertussis	Rubella	Tetanus
	0	9	377	1	1

Bimonthly Statistical Summary of Selected Reportable Diseases: Provisional Cumulative Data

Jan-Jun 2002

Selected Diseases/Conditions	HHSC Region											Selected Texas Counties								Cumulative[1]	
	1	2	3	4	5	6	7	8	9	10	11	Bexar	Dallas	El Paso	Harris	Hidalgo	Nueces	Tarrant	Travis	2001	2002
Sexually Transmitted Diseases[2]																					
Syphilis, primary and secondary	20	2	142	3	3	46	30	34	0	9	7	34	96	7	39	2	2	42	12	219	296
Congenital Syphilis	0	0	9	0	0	18	3	0	0	0	3	0	6	0	17	2	0	1	3	36	33
Resistant Neisseria gonorrhoeae	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Enteric Diseases																					
Salmonellosis	29	7	49	9	0	105	46	54	11	13	11	29	21	13	87	1	6	8	11	809	334
Shigellosis	3	25	11	0	2	17	18	19	11	1	13	14	10	1	9	2	8	0	1	661	120
Hepatitis A	12	2	24	2	1	29	21	16	2	8	10	9	14	8	15	5	4	0	2	462	127
Campylobacteriosis	6	0	2	0	0	1	23	10	3	0	4	5	2	0	0	0	1	0	0	457	49
Bacterial Infections																					
H. influenzae type b, invasive	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	2
Meningococcal, invasive	3	2	12	1	1	25	7	5	0	0	4	3	8	0	16	1	2	0	4	38	60
Lyme disease	1	6	24	3	3	24	4	6	2	0	2	4	8	0	16	0	1	4	3	10	75
Vibrio species	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1
Other Conditions																					
AIDS[4]	23	9	451	27	39	473	93	101	14	41	86	78	332	38	420	20	15	77	55	1536	1385
Hepatitis B	2	4	19	10	2	21	28	7	5	2	9	2	10	2	17	0	2	5	21	427	109
Adult elevated blood lead levels	0	3	190	6	32	12	3	0	2	0	1	0	5	0	10	0	0	3	1	442	249
Animal rabies - total	17	36	209	35	28	50	162	13	31	2	9	2	9	2	7	0	1	20	6	662	592
Animal rabies - dogs and cats	2	2	6	0	0	0	6	0	2	1	0	0	0	1	0	0	0	1	0	19	19
Tuberculosis Disease (2) (4)																					
Children (0-14 years)	2	0	20	0	1	19	10	2	0	1	14	2	12	1	17	5	0	8	8	48	69
Adults (>14 years)	9	11	190	20	10	236	79	54	7	33	103	40	126	32	206	30	11	49	41	653	765
Injuries[2]																					
Spinal Cord Injuries (5)	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0

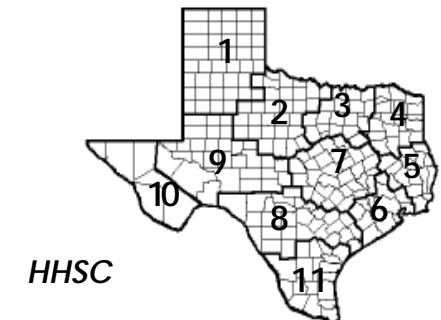
1. Cumulative to this month. 2. Data for the STD's, Tuberculosis, and spinal cord injuries are provided by date of report, rather than date of onset. 3. Voluntary reporting. 4. AIDS + TB totals include reported cases from Texas Department of Corrections, which are not included in the regional and county totals. 5. 6 reports were missing PHR identification. * Data Incomplete

Call 1-800-705-8868 to report

1999 POPULATION ESTIMATES

HHSC REGIONS			
1	770,440	4	971,877
2	533,633	5	690,501
3	5,366,008	6	4,557,450
7	1,989,767	10	784,287
8	2,076,931	11	1,687,473
9	567,058		
STATEWIDE TOTAL			
19,995,428			

SELECTED COUNTIES	
Bexar	1,360,411
Dallas	2,172,486
El Paso	755,339
Harris	3,268,099
Hidalgo	528,300
Nueces	315,965
Tarrant	1,506,790
Travis	647,366





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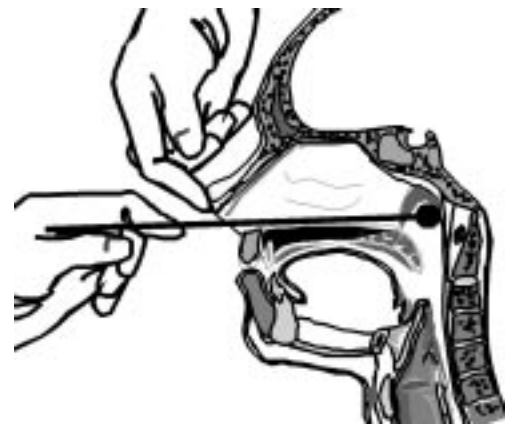
Specimen Collection.

Either a nasopharyngeal (NP) swab or an NP aspirate is the specimen of choice for culture, polymerase chain reaction (PCR), or direct fluorescent antibody tests. Throat swabs and anterior nasal swabs are not acceptable.

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Nasopharyngeal Swab



Central Texas Floods, Part II: the Mosquito Onslaught

The July 15, 2002, *DPN* provided information on key public health concerns associated with recent Central Texas flooding. Another concern is the dramatic increase in mosquito populations. Flood-water mosquitoes, which include some species of the *Psorophora*, *Ochlerotatus*, and *Aedes*, lay eggs in ditches, ponds, tanks, and other places where water collects. When the water level rises due to extended rainfall, the eggs hatch and in a few days produce swarms of hungry, aggressive mosquitoes. Although they are a major annoyance, the mosquito species involved are not likely to carry disease-causing viruses. However, floodwater mosquitoes could be involved in the transmission of the virus that causes eastern equine encephalitis in horses and, rarely, in humans. As floodwaters begin to recede, remaining pools of water can become stagnated, providing an ideal environment for several *Culex* species, which are potential vectors of viruses that can cause West Nile and St. Louis encephalitis in humans. The primary vector of western equine encephalitis virus is a *Culex* species that prefers clear water, such as that found during irrigation. The ever-present *Aedes aegypti* transmits the virus that causes dengue. TDH will continue its mosquito monitoring.

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