week no. 46 ending Nov. 19, 1983

Texas Preventable Disease NEWS

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VIRAL HEPATITIS
PART I: RECOGNIZING HEPATITIS A

During the latter half of 1981, a six-part series on viral hepatitis was published in Texas Morbidity This Week (now Texas Preventable Disease News). Due to numerous requests for reprints, the series has been updated and will be published in PDN throughout the following weeks.

Inflammation of the liver (the literal meaning of the word hepatitis) can result from a wide variety of pathologic conditions. Not all types of hepatitis are communicable. There are, for example, instances where liver injury is due to adverse reactions to certain drugs such as analgesics (aspirin, acetaminophen), antibiotics (tetracycline), and antineoplastic agents (6-mercaptopurine). However, most of the hepatitis seen in any given community is caused by infectious agents. These can be bacterial species or viruses from the Herpes family, but the majority of hepatitis cases are due to infection with either hepatitis A virus (HAV) or hepatitis B virus (HBV). Recently, a third classification of hepatitis viruses, "non-A/non-B," has been set forth to document cases where a diagnosis has ruled out other viral etiological agents.

A specific diagnosis of viral hepatitis is important information for the physician, patient, and public health official. For the physician and his or her patient, the type of hepatitis involved has clearly different implications, especially regarding prognosis. For example, hepatitis A is an acute viral illness with a relatively short period of infectivity, and recovery is usually complete. Hepatitis B, however, is generally characterized by a longer period of clinical symptoms, and prognosis is initially difficult to assess. The hepatitis B patient may recover completely. However, 5-10% of those with hepatitis B infections go on to become carriers, a state which may progress to chronic hepatitis over time. The public health professional must know the specific viral etiology of a hepatitis case in order to recommend proper control measures to protect the public. Epidemiologic factors such as modes of transmission and incubation are different for hepatitis A and hepatitis B. An example of this is that patients with hepatitis A may commonly cause foodborne or person-to-person spread of the disease, while those patients with hepatitis B rarely present a problem in restaurant or school settings.

It is, therefore, a good idea to be aware of the distinctive aspects of the two major types of viral hepatitis. In this issue information on hepatitis A is presented; a discussion of hepatitis B will follow in Part II of this series.

Clinical Picture of Hepatitis A

Hepatitis A is generally an acute and self-limited disease. Formerly known as "infectious hepatitis" or "short incubation hepatitis," it is a disease found primarily in children and young adults. In many individuals, especially young children, a subclinical infection with hepatitis A is common. Clinical symptoms,

when they do occur, include abrupt onset of fever, malaise, headache, anorexia (loss of appetite), myalgia, nausea, and abdominal discomfort. Jaundice may or may not develop. If it does, it usually follows within a few days. Mortality due to HAV is quite low (<0.5 percent), with the elderly or debilitated patient at high risk.

Initially, a diagnosis of hepatitis A is based on the characteristic epidemiology of the disease. Briefly, the incubation period is dose-related, ranging from 15 to 50 days, with the average period being 25 to 30 days. Hepatitis A is spread predominantly by the fecal-oral route and is easily transmitted from person-to-person when good personal hygiene is not practiced. Susceptibility is general, and the disease is distributed worldwide. For these reasons, hepatitis A occurs primarily in epidemics or outbreaks in which a source can be identified, eg, in restaurants (where an infectious foodhandler can unknowingly contaminate the food or where shellfish harvested from waters contaminated by hepatitis A virus are prepared) or day care centers, especially those caring for children in diapers (where the virus spreads rapidly among children and staff). Day care centers present the greatest problems mainly because most of the children will experience subclinical infections, and although the children appear healthy, they are nonetheless infectious and can serve as point sources of infection.

Another characteristic of hepatitis A infections is the short period of infectivity compared to that for hepatitis B. HAV is excreted in large quantities in the feces as early as two weeks prior to onset of symptoms and for one week thereafter. The presence of virus in the bloodstream or in other body fluids is transient and does not contribute significantly to the transmission of disease.

The definitive diagnosis of hepatitis A depends solely on specific serological assays for anti-HAV immunoglobulins. As with many viral diseases, infection with HAV results in prolonged immunity that is protective against subsequent reinfection. It is important, therefore, to be able to ascertain the nature of the antibodies present in a patient's serum. Figure 1 shows a typical course of an HAV infection and depicts the period of infectivity, the time of clinical illness, and the resulting antibody responses.

There are currently two radioimmunoassay (RIA) tests commercially available for the detection of anti-HAV immunoglobulins. One test is specific for IgM antibodies; anti-HAV IgM is synthesized early in infection and can be detected during illness and sometimes for up to two to three months following recovery. The other test available is an RIA test for anti-HAV IgG (immunoglobulin G). IgG is synthesized in increasing amounts as the hepatitis A infection progresses toward recovery and, thus, is the sole indicator of past infection. Both the IgM and IgG results should be considered in determining if and when a hepatitis A infection has occurred (Table 1).

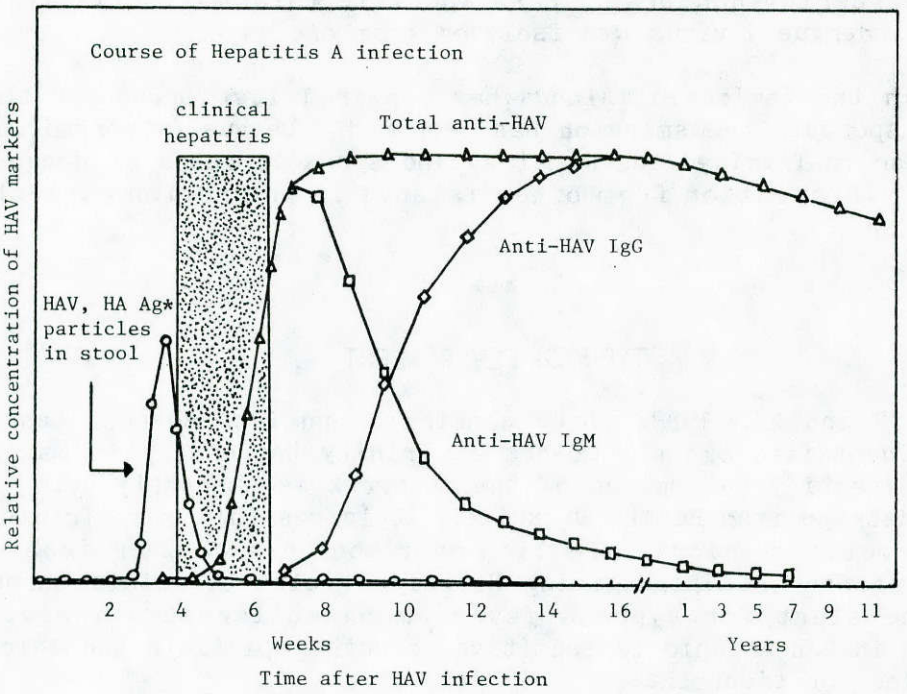
The diagnosis of hepatitis in any patient has certain public health implications. Further investigation to determine its etiology enables health professionals to apply appropriate preventive measures for controlling its spread.

Health professionals are reminded that hepatitis (A, B, or unspecified), is a reportable disease.

For further information on hepatitis, contact the Bureau of Epidemiology, Texas Department of Health at (512)458-7328 or STS 824-9328. For toll-free reporting, call 1-800-252-8239.

This report was prepared by Lynne Sehulster, Ph.D., Staff Epidemiologist/ Microbiologist, Bureau of Epidemiology, Texas Department of Health.

Figure 1.
Hepatitis A Viral Markers in the Blood and Stool During HAV Infection



*HA Ag: Hepatitis A Antigen

Table 1.
Interpretation of RIA of IgM and IgG

Test Results	Interpretation
IgM+, IgG±	Current infection, serum drawn very early in infection before IgG levels rise
IgM+, IgG+	Current infection
IgM−, IgG+	Past infection
IgM−, IgG−	It is extremely unlikely that this patient has hepatitis A

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DENGUE SURVEILLANCE

In the October 1983 Dengue Surveillance Summary distributed by the Centers for Disease Control, there are reports of dengue activity in Central America. Increased numbers of cases were reported in late June and early July in the state of Puebla in Mexico. In subsequent weeks, there were reports of outbreaks of dengue-like illness in widespread areas from the Pacific Coast, Veracruz, and the Yucatan. Three dengue 1 viruses were isolated from patients in Puebla in late July, but the majority of other cases were confirmed serologically and the precise serotype not specified.

Dengue-like illness was also reported from El Salvador in late June and early July. Cases continued to be reported through August with the majority reported since June. Dengue 4 virus has been isolated and serologically confirmed from most of the cases. Cases have been reported from all areas of El Salvador with the majority from the eastern region bordering Honduras. Less specific information is available from Honduras; however, dengue 1 virus was isolated from one case.

Dengue activity in the Caribbean islands has remained low throughout the year. In Puerto Rico only sporadic transmission has occurred. Dengue 4 transmission occurred throughout the year in Trinidad and Jamaica, and sporadic cases of dengue 2 occurred in both islands. Information from other islands in the region suggests low or no activity.

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TYPHOID FEVER ALERT

Between November 7 and 21, 1983, three confirmed and four suspect cases of typhoid fever have been identified among students at Trinity University in San Antonio. An investigation to identify the source of the outbreak is currently being conducted by the San Antonio Metropolitan Health District. It is possible some Trinity University students will develop clinical infection over the next week or two. Since these students went home for the Thanksgiving Holiday, health officials throughout Texas should be on the alert for typhoid fever among college-age individuals. The organism isolated in San Antonio is sensitive to both ampicillin and chloramphenicol, the drugs of choice for treatment.

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VIRAL ISOLATES FOR OCTOBER 1983

Adenovirus	Bell(1), Bexar(2), Willacy (2)
Cytomegalovirus	Bell(1), Coryell(1), Galveston (4), Lubbock(1)
Coxsackie (A16)	Bexar(1)
Coxsackie (B02)	Bexar(1)
Echo (06)	El Paso(1)
Echo (09)	Lubbock(1)
Echo (24)	Bexar(1)
Echo (25)	Bexar(1)
Echo (27)	Bexar(1)
Polio (3)	Bexar(1)
Chlamydia Trach.	Bexar(5), Travis(2)

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RESULTS OF PDN SURVEY

We would like to take this opportunity to thank everyone who returned the PDN readership survey recently. Our mailing system has been revised in conjunction with this survey. Should any subscribers experience problems such as wrong addresses or missed issues due to the change in the mailing system please contact the Bureau of Epidemiology at 1100 West 49th Street, Austin, Texas 78756 or call 512/458-7207 or STS 824-9207. To assist this office in complying with requests for cancellation of a subscription or change of address, please furnish your old address. Other changes in the newsletter will be implemented in the future as a result of suggestions from the readership survey. Thank you for your ideas.

WEEK NO: 46 ENDING: NOVEMBER 19, 1983

	ASEPTIC MENINGITIS	MENINGOCOCCAL INFEC	HEPATITIS: A INFEC	HEPATITIS: B SERUM	HEPATITIS: UNSPEC	IMMUNIZABLE: MEASLES	IMMUNIZABLE: RUBELLA	RICKETTSIAL: ENDEM TYPH	RICKETTSIAL: RMSF	VENEREAL: GC	VENEREAL: P&S SYPH	MISC.: FLU & FLU-LIKE	TUBERCULOSIS
CUMULATIVE FOR THE STATE	POPULATION = 15,345,761												
CASES RPTD THIS WEEK	6	2	45	11	26	0	4	0	0	1,528	153	1,149	29
5-YR MEDIAN 1978-1982	8	2	74	11	35	3	3	1	0	1,446	99	1,300	45
CUMULATIVE 1983	909	159	2,612	1,033	2,099	36	107	28	95	71,069	5,736	81,378	1601
CUM. SAME WEEK 1982	699	207	2,865	924	1,825	127	110	35	59	75,574	5,741	83,104	1704
PUBLIC HEALTH REGION 1	CANYON, TX		PHONE: 806/655-7151			POPULATION = 385,411							
COUNTIES													
BRISCOE												5	
DEAF SMITH												2	
HANSFORD										1		7	
POTTER	2									20	1	109	
WHEELER												8	
CASES THIS WEEK	2									21	1	131	
CUMULATIVE 1983	12	1	41	19	6		2			1,340	31	5,121	15
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 2					OTHER DISEASES ONLY: 0				NOT REPORTING: 18			
PUBLIC HEALTH REGION 2	LUBROCK, TX		PHONE: 806/797-4331			POPULATION = 379,488							
COUNTIES													
CROSBY											1		
GARZA												3	
HALE										11		6	
HOCKLEY										8			
LAMB										1			
LUBBOCK			3		2					34	1		
CASES THIS WEEK			3		2					54	2	9	
CUMULATIVE 1983	14	2	204	11	47		3			1,113	49	4,805	19
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 1					OTHER DISEASES ONLY: 1				NOT REPORTING: 7			
PUBLIC HEALTH REGION 3	EL PASO, TX		PHONE: 915/779-3531			POPULATION = 553,858							
COUNTIES													
BREWSTER										1			
EL PASO										47	2		
CASES THIS WEEK										48	2		
CUMULATIVE 1983	14	4	86	39	67	1	4			2,548	167	34	63
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 0					OTHER DISEASES ONLY: 0				NOT REPORTING: 4			

	ASEPTIC MENINGITIS	MENINGOCOCCAL INFEC	HEPATITIS: A INFEC	HEPATITIS: B SERUM	HEPATITIS: UNSPEC	IMMUNIZABLE: MEASLES	IMMUNIZABLE: RUBELLA	RICKETTSIAL: ENDEM TYPH	RICKETTSIAL: RMSF	VENEREAL: GC	VENEREAL: P&S SYPH	MISC.: FLU & FLU-LIKE	MISC.: TUBERCULOSIS
PUBLIC HEALTH REGION 4	**ABILENE, TX**		**PHONE: 915/673-5231**				**POPULATION = 678,887**						
COUNTIES													
COTTLE										2			
MONTAGUE										2			
STERLING												5	
TAYLOR		1	3									10	
WICHITA							2			21		95	
WILBARGER												4	
CASES THIS WEEK		1	3				2			25		114	
CUMULATIVE 1983	41	1	174	52	85	1	13	1	1	1,266	34	9,179	28
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 5					OTHER DISEASES ONLY: 3				NOT REPORTING: 30			
PUBLIC HEALTH REGION 5	**ARLINGTON, TX**		**PHONE: 817/460-3032**				**POPULATION = 3,481,003**						
COUNTIES													
COLLIN			1	2						8		1	
COOKE			2									15	
DALLAS			17		2		1			351	54	36	6
DENTON										16	1	12	
ELLIS			1							1			
ERATH												6	
GRAYSON										7			
JOHNSON										1			
KAUFMAN											1		
NAVARRO										6			
PALO PINTO										1			
TARRANT	1		5							127	14	1	1
CASES THIS WEEK	1		26	2	2		1			518	70	71	7
CUMULATIVE 1983	231	53	1,074	340	589	1	10	1	63	20,994	1,653	6,821	310
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 1					OTHER DISEASES ONLY: 0				NOT REPORTING: 6			
PUBLIC HEALTH REGION 6	**TEMPLE, TX**		**PHONE: 817/778-6744**				**POPULATION = 1,451,983**						
COUNTIES													
BELL		1								6			2
BRAZOS										15		3	1
BURLESON										1			
CORYELL										2			
FAYETTE										1			
GRIMES					1								

	ASEPTIC MENINGITIS	MENINGOCOCCAL INFEC	HEPATITIS: A INFEC	HEPATITIS: B SERUM	HEPATITIS: UNSPEC	IMMUNIZABLE: MEASLES	IMMUNIZABLE: RUBELLA	RICKETTSIAL: ENDEM TYPH	RICKETTSIAL: RMSF	VENEREAL: GC	VENEREAL: P&S SYPH	MISC.: FLU & FLU-LIKE	TUBERCULOSIS
PUBLIC HEALTH REGION 6	**TEMPLE, TX**		**PHONE: 817/778-6744**			**POPULATION = 1,451,983**				**(CONTINUED FROM PRIOR PAGE)**			
LEON		*			*	*	*		*	1	*		
LIMESTONE		*			*	*	*		*		3 *	35	
MCLENNAN		*			*	*	*		*	20	2 *		
MILAM		*			*	*	*		*	1	*	8	
ROBERTSON		*			*	*	*		*	2	*		
TRAVIS	1	*	1	1	*	*	*		*		*	8	
CASES THIS WEEK	1	1 *	1	1	1 *	*	*		*	49	5 *	54	3
CUMULATIVE 1983	121	12 *	121	72	102 *	9 *	1	11	*	5,212	569 *	12,086	76

OTHER COUNTIES: NO COMMUNICABLE DISEASES: 5 OTHER DISEASES ONLY: 0 NOT REPORTING: 13

PUBLIC HEALTH REGION 7	**TYLER, TX**		**PHONE: 214/595-3585**			**POPULATION = 866,604**							
COUNTIES													
		*			*	*	*		*		*		
ANDERSON		*			*	*	*		*	1	*		
BOWIE		*			*	*	*		*	30	*		
CASS		*			*	*	*		*	4	*		
CHEROKEE		*			*	*	*		*	1	*		
GREGG		*			*	*	*		*	10	*		
HARRISON		*			*	*	*		*	1	2 *		
HENDERSON		*			*	*	*		*		*	29	
MARION		*			*	*	*		*	1	*		
MORRIS		*			*	*	*		*	1	*	12	
PANOLA		*			*	*	*		*	2	*		
RAINS		*			*	*	*		*	1	*		
SMITH		*			*	*	*		*	16	*	39	
UPSHUR		*			*	*	*		*	5	*		
WOOD		*			*	*	*		*	1	*		
CASES THIS WEEK		*			*	*	*		*	74	2 *	80	
CUMULATIVE 1983	27	9 *	35	22	73 *	13 *		10	*	2,679	223 *	4,525	70

OTHER COUNTIES: NO COMMUNICABLE DISEASES: 1 OTHER DISEASES ONLY: 0 NOT REPORTING: 8

PUBLIC HEALTH REGION 8	**HARLINGEN, TX**		**PHONE: 512/423-0130**			**POPULATION = 1,413,993**							
COUNTIES													
		*			*	*	*		*		*		
CAMERON		*		2	*	*	*		*	10	*	105	
HIDALGO		*			*	*	*		*	4	1 *		1
KLEBERG		*			*	*	*		*	3	*		
LAVACA		*			*	*	*		*	3	*		
NUECES		*	1	2	2 *	*	*		*	31	3 *	83	
REFUGIO		*			*	*	*		*	2	*		
SAN PATRICIO		*		1	1 *	*	*		*		*		
VICTORIA		*	1		*	*	*		*	5	*	5	1
WEBB		*			*	*	*		*	3	*	13	

	ASEPTIC MENINGITIS	MENINGOCOCCAL INFEC	HEPATITIS: A INFEC	HEPATITIS: B SERUM	HEPATITIS: UNSPEC	IMMUNIZABLE: MEASLES	IMMUNIZABLE: RUBELLA	RICKETTSIAL: ENDEM TYPH	RICKETTSIAL: RMSF	VENEREAL: GC	VENEREAL: P&S SYPH	MISC.: FLU & FLU-LIKE	MISC.: TUBERCULOSIS
PUBLIC HEALTH REGION 8	HARLINGEN, TX		PHONE: 512/423-0130			POPULATION = 1,413,993				(CONTINUED FROM PRIOR PAGE)			
WILLACY		*			*	*		*		1	*		
CASES THIS WEEK		*	2	3	5 *	*		*		62	4 *	206	2
CUMULATIVE 1983	59	10 *	209	109	561 *	1	27 *	23	1 *	2,159	202 *	19,868	191
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 2					OTHER DISEASES ONLY: 2				NOT REPORTING: 12			
PUBLIC HEALTH REGION 9	UVALDE, TX		PHONE: 512/278-7173			POPULATION = 1,443,279							
COUNTIES													
		*			*	*		*			*		
BEXAR		*			*	*		*		73	4 *	14	6
GILLESPIE		*			*	*		*		1	*		1
GUADALUPE		*			*	*		*			1 *		
KARNES		*			*	*		*			*	5	
KERR		*			*	*		*			*		2
MAVERICK		*	2		*	*		*			*		
UVALDE		*			*	1 *		*		1	*		
VAL VERDE		*			*	*		*		1	*		
ZAVALA		*			1 *	*		*			*		
CASES THIS WEEK		*	2		1 *	1 *		*		76	5 *	19	9
CUMULATIVE 1983	169	7 *	304	45	65 *	3 *		3 *		3,576	290 *	5,592	167
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 2					OTHER DISEASES ONLY: 1				NOT REPORTING: 9			
PUBLIC HEALTH REGION 10	TYLER, TX		PHONE: 214/595-3585			POPULATION = 683,950							
COUNTIES													
		*			*	*		*			*		
ANGELINA		*	1		1 *	*		*		5	1 *	89	
HOUSTON		*			*	*		*		3	3 *		
JASPER		*			*	*		*		1	1 *		
JEFFERSON		*	2	2	*	*		*		28	3 *		
NACOGDOCHES		*			*	*		*		4	1 *		
ORANGE		*	2		1 *	*		*			*		
SAN AUGUSTINE		*			*	*		*		4	1 *		
TYLER		*			*	*		*			1 *		
CASES THIS WEEK		*	5	2	2 *	*		*		45	11 *	89	
CUMULATIVE 1983	20	13 *	59	38	39 *	13 *	1	1 *		2,694	193 *	2,063	55
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 0					OTHER DISEASES ONLY: 0				NOT REPORTING: 7			

	ASEPTIC MENINGITIS	MENINGOCOCCAL INFEC	HEPATITIS: A INFEC	HEPATITIS: B SERUM	HEPATITIS: UNSPEC	IMMUNIZABLE: MEASLES	IMMUNIZABLE: RUBELLA	RICKETTSIAL: ENDEM TYPH	RICKETTSIAL: RMSF	VENEREAL: GC	VENEREAL: P&S SYPH	MISC.: FLU & FLU-LIKE	TUBERCULOSIS
PUBLIC HEALTH REGION 11	ROSENBERG, TX	PHONE: 713/342-8685				POPULATION = 3,642,976							
COUNTIES													
BRAZORIA													
FORT BEND	1			1						6	2		
GALVESTON										3	2		
HARRIS	1		2	1	11					40			
MONTGOMERY					1					442	42	39	8
WALLER					1							11	
CASES THIS WEEK	2		2	2	13					491	46	50	8
CUMULATIVE 1983	188	44	225	243	355	32	2	5		24,434	2,101	2,545	587
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 2					OTHER DISEASES ONLY: 1				NOT REPORTING: 4			
PUBLIC HEALTH REGION 12	LUBBOCK, TX	PHONE: 806/797-4331				POPULATION = 364,329							
COUNTIES													
ANDREWS										2			
DAWSON										1			
ECTOR										11	4		
HOWARD										1		8	
MIDLAND										14	1	25	
REEVES												15	
WINKLER												7	
CASES THIS WEEK										29	5	55	
CUMULATIVE 1983	7	1	57	17	83	7	1			791	104	2,687	20
OTHER COUNTIES:	NO COMMUNICABLE DISEASES: 1					OTHER DISEASES ONLY: 0				NOT REPORTING: 9			
OTHER REPORTING SOURCES													
ARMED FORCES			1	1						36		271	
V.A. HOSPITALS													
CASES THIS WEEK			1	1						36		271	
CUMULATIVE 1983	6	2	23	26	27	1				2,263	121	6,052	

OTHER REPORTABLE DISEASES	REPORTED THIS WEEK 1982	REPORTED THIS WEEK 1983	CUMULATIVE 1982	CUMULATIVE 1983
ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)		5		59
AMEBIASIS	4	3	440	353
ANTHRAX	0	0	0	0
BOTULISM	0	0	0	2
BRUCELLOSIS	0	3	24	67
CHICKENPOX	57	101	10087	14056
CHOLERA	0	0	0	0
DIPHTHERIA	0	0	1	0
ENCEPHALITIS, ST. LOUIS	3	0	18	1
ENCEPHALITIS, WESTERN EQUINE	0	1	4	1
ENCEPHALITIS, VENEZUELAN EQUINE	0	0	0	0
ENCEPHALITIS, ALL OTHER	3	3	138	101
LEPROSY (HANSENS DISEASE)	0	3	27	32
LEPTOSPIROSIS	0	0	13	0
MALARIA	0	0	0	0
MALARIA ACQUIRED OUTSIDE USA	2	3	48	44
MUMPS	3	6	204	202
PERTUSSIS	4	0	71	87
PLAGUE	0	0	1	0
POLIOMYELITIS, PARALYTIC	0	0	0	0
PSITTACOSIS	0	0	7	5
Q FEVER	0	0	1	0
RABIES IN MAN	0	0	0	0
RELAPSING FEVER	0	0	3	0
RHEUMATIC FEVER	1	0	9	12
RUBELLA CONGENITAL SYNDROME	0	0	0	0
SALMONELLOSIS	53	46	2133	2123
SHIGELLOSIS	43	55	1952	1707
STREP THROAT & SCARLET FEVER	828	636	41880	33094
REYE SYNDROME		1		17
TETANUS	0	0	6	6
TRICHINOSIS	0	0	2	1
TULAREMIA	1	1	10	9
TYPHOID FEVER	1	1	27	46
TYPHUS, EPIDEMIC	0	0	0	0
YELLOW FEVER	0	0	0	0
RABIES IN ANIMALS	15	15	705	674