

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

- 183 Dengue — Puerto Rico, 1978
- 183 Gastroenteritis Associated with a Sewage Leak — Missouri, Arkansas
- Recommendation of the Public Health Service Advisory Committee on Immunization Practices
- 189 Typhus Vaccine
- Current Trends
- 190 Primary and Secondary Syphilis — United States, March 1978

Epidemiologic Notes and Reports

Dengue — Puerto Rico, 1978

An increase in reports of dengue-like illness has been noted in Puerto Rico. For the week ending May 24, 1978, a total of 78 cases of suspected dengue fever were reported from Bayamon, located in the metropolitan San Juan area, compared with 20 cases for the week ending April 12. This brings the island-wide total of reported cases for 1978 to 1,388, including 830 from the San Juan metropolitan area and 558 from the remainder of the island.

Of 326 paired serum specimens tested, 73% were positive for recent dengue infection. Twenty-six out of 32 isolates were dengue type 1, 3 were dengue type 2, and 3 were dengue type 3.

Larvae of *Aedes aegypti* (the mosquito vector of dengue) were found at 20% of houses surveyed in Ponce, Puerto Rico, in March and April, compared with 11% for the same time period in 1977.

Reported by J Chiriboga, MD, Environmental Health, Puerto Rico Dept of Health; San Juan Laboratories, Bur of Laboratories, Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: In 1977 dengue fever was widespread in the Caribbean (7). Type 1 was responsible for much of

the dengue activity, although types 2 and 3 were found in Puerto Rico, the Dominican Republic, Dominica, and French Guyana. (The first isolation of dengue type 1 in Puerto Rico was in December 1977.) Dengue cases seen in 1977 were generally mild, with a low incidence (2-10%) of hemorrhagic manifestations.

Before 1977, dengue fever in the Caribbean had been caused by 2 of the 4 known dengue virus types: type 2 (in 1968-69) and type 3 (in 1963-64).

A. aegypti are prevalent in the southeastern part of the United States. Thus far in 1978, 7 serologically confirmed cases of dengue have been imported from the Caribbean into the United States. Cases of febrile or influenza-like illness associated with histories of recent travel to the Caribbean or other dengue-endemic and epidemic areas should be reported to local and state health authorities so that appropriate laboratory studies can be performed and epidemiologic information obtained.

Reference

1. MMWR 27:10, 1978

Gastroenteritis Associated with a Sewage Leak — Missouri, Arkansas

In the period May 7-26, 1978, at least 759 cases of gastroenteritis associated with a sewage leak occurred in southern Missouri and adjacent portions of Arkansas.

On May 9, the sanitarian of the West Plains Branch of the Missouri Department of Social Services, Division of Health, notified the state health department of several outbreaks of gastroenteritis in high school teams that had visited West Plains on May 6 for a regional intramural sports day. All of the patients had eaten at a local restaurant approximately 33 hours before onset of the illness, which was characterized by nausea, vomiting, diarrhea, and chills and lasted approximately 24-48 hours. Illness was specifically associated with drinking water and ice-containing beverages.

Subsequent investigation revealed that the municipal sewage lagoon—an open sewage-oxidation pond, 36 acres in size—had leaked approximately 18 million gallons of contents into the ground on May 5-6. Additional leaks developed later. The surrounding rural terrain is hilly and

composed of porous limestone with numerous subterranean streams, permitting rapid movement of ground water. The direction of flow of the ground water is in a southeasterly direction towards Mammoth Spring, Arkansas.

The area has a large number of private wells which serve as individual water sources. When examined, the well supplying the restaurant involved in the common-source outbreak was found to be contaminated. Contamination in other areas was ascertained by sampling wells throughout Howell and Oregon counties, Missouri. This revealed contamination rates of 60% in wells south-southwest of West Plains, 48% in those east of West Plains, 34% in those south-east of West Plains, 33% in those due south of West Plains, and 33% in the wells north-northwest of West Plains.

Intensive surveillance systems to ascertain the extent of gastroenteritis were established by the Missouri and Arkansas departments of health. Physicians, hospitals, and medical personnel in the affected areas were contacted. In addition, an alert to boil water was issued for portions

Gastroenteritis — Continued

of Howell and Oregon counties, and for the 6 counties in northern Arkansas that were potentially involved. All municipal water supplies in the 2 affected counties in Missouri had emergency chlorination increased to a level of 2 parts per million.

To date, cultures of 202 stool specimens from acute cases have been negative for bacterial enteric pathogens. Additional specimens are being obtained for viral studies. As of May 25, the surveillance systems have accumulated information on 759 cases of gastroenteritis in Howell and Oregon counties. Preliminary analysis of symptoms in 579 ill individuals revealed: diarrhea (in 69.8%), nausea (64.4%), vomiting (54.9%), cramps (50.8%), fever (28.8%), chills (16.2%), prostration (11.7%), and headache (8.3%).

Intensive epidemiologic investigations by the Arkansas Department of Health have revealed no increases in gastrointestinal illness associated with the sewage leak. Several cases were uncovered in Mammoth Spring, but all had a history of travel to West Plains before onset of illness.

Although underground streams empty into Mammoth Spring, repeated water samples from that city and others in the potentially affected areas of Arkansas have not shown any increase in coliform or nitrate levels.

Reported by PE Phillips, DVM, B Poor, RN, J Wooldridge, BS, West Plains Br, HD Donnell, Jr, MD, State Epidemiologist, W Raithe, DVM, Missouri State Dept of Social Services, Div of Health; T Skinner, PC White, Jr, MD, State Epidemiologist, Arkansas State Dept of Health; Field Services Div, Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: This outbreak illustrates a major multiple-county outbreak of acute gastroenteritis associated with a sewage-lagoon leak. The terrain of the area involved combined with the numerous unchlorinated private wells appears to be responsible for the magnitude of the outbreak. The sewage lagoon involved has had a history of leakage on 3 previous occasions in the past 15 years, but this is the first time that related illness has been recognized. The fact that the stool cultures were negative when tested for bacterial enteric pathogens suggests a possible viral etiology.

Table I. Summary—Cases of Specified Notifiable Diseases: United States

[Cumulative totals include revised and delayed reports through previous weeks]

DISEASE	21st WEEK ENDING		MEDIAN 1973-1977††	CUMULATIVE, FIRST 21 WEEKS		
	May 27, 1978	May 28, 1977†		May 27, 1978	May 28, 1977†	MEDIAN 1973-1977††
Aseptic meningitis	31	54	52	791	801	769
Brucellosis	6	3	4	55	75	74
Chickenpox	5,103	6,104	5,280	93,063	132,477	120,554
Diphtheria	3	5	3	33	44	101
Encephalitis	Primary	4	12	218	245	307
	Post-Infectious	5	6	70	74	111
Hepatitis, Viral	Type B	165	248	5,869	6,556	4,469
	Type A	394	494	11,242	12,952	14,563
	Type unspecified	114	218	3,466	3,613	—
Malaria	4	10	6	182	159	104
Measles (rubeola)	993	2,514	1,136	15,304	39,767	18,874
Meningococcal infections, total	47	32	25	1,158	911	716
Civilian	46	31	25	1,144	906	699
Military	1	1	—	14	5	17
Mumps	517	644	1,355	9,442	12,425	34,546
Pertussis	26	14	—	740	326	—
Rubella (German measles)	863	707	630	9,781	14,563	11,438
Tetanus	—	—	2	21	18	22
Tuberculosis	527	567	680	11,636	12,090	12,771
Tularemia	1	5	4	31	45	34
Typhoid fever	4	2	7	166	134	129
Typhus, tick-borne (Rky. Mt. spotted fever)	10	33	33	119	180	110
Venereal Diseases:						
Gonorrhea	15,269	18,426	18,426	370,515	376,561	377,442
Civilian	387	451	451	9,623	10,745	11,850
Military	313	386	458	8,290	8,400	10,226
Syphilis, primary and secondary	12	7	5	127	124	140
Civilian	—	—	—	—	—	—
Military	12	7	5	127	124	140
Rabies in animals	57	64	64	1,172	1,167	1,167

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	3	Poliomyelitis, total:	—
Botulism:	49	Paralytic:	—
Congenital rubella syndrome: Ups. N.Y. 1	12	Psittacosis: Mass. 1	44
Leprosy: Hawaii 2	41	Rabies in man:	—
Leptospirosis: Conn. 1, Hawaii 1	17	Trichinosis: Conn. 1	18
Plague:	1	Typhus, murine:	14

† Delayed reports received for calendar year 1977 are used to update last year's weekly and cumulative totals.

†† Medians for Gonorrhea and Syphilis are based on data for 1975-1977.

Table III
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 27, 1978 and May 28, 1977 — 21st Week

AREA REPORTING	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
	1978	1978	1978	1978	CUM. 1978	Primary: Arthropod- borne and Unspecified		Post In- fectious	Type B	Type A	Type Unspecified	1978	CUM. 1978
						1978	1977†						
UNITED STATES	31	6	5,103	3	33	4	9	5	165	374	114	4	182
NEW ENGLAND	1	-	507	-	-	-	2	1	9	11	12	-	7
Maine	-	-	130	-	-	-	-	-	-	-	-	-	1
New Hampshire	-	-	2	-	-	-	-	-	-	-	-	-	1
Vermont	-	-	-	-	-	-	-	-	-	1	-	-	-
Massachusetts	1	-	207	-	-	-	2	1	1	5	17	-	1
Rhode Island	-	-	76	-	-	-	-	-	1	-	-	-	-
Connecticut	-	-	92	-	-	-	-	-	7	5	-	-	4
MIDDLE ATLANTIC	4	-	381	-	1	1	1	-	18	31	9	1	40
Upstate New York	3	-	271	-	-	-	-	-	3	7	1	1	6
New York City	NA	NA	NA	NA	1	NA	1	-	NA	NA	NA	NA	17
New Jersey	-	-	NN	-	-	-	-	-	15	24	8	-	6
Pennsylvania	1	-	110	-	-	1	-	-	NA	NA	NA	-	11
EAST NORTH CENTRAL	-	-	2,520	-	-	-	3	-	24	73	8	2	11
Ohio	-	-	407	-	-	-	-	-	5	30	-	-	-
Indiana	NA	NA	NA	NA	-	NA	3	-	NA	NA	NA	NA	3
Illinois	-	-	910	-	-	-	-	-	2	11	4	-	2
Michigan	-	-	728	-	-	-	-	-	12	27	4	2	5
Wisconsin	-	-	475	-	-	-	-	-	5	5	-	-	1
WEST NORTH CENTRAL	1	-	439	1	1	-	-	-	8	39	4	-	12
Minnesota	-	-	5	-	-	-	-	-	-	-	-	-	3
Iowa	-	-	150	-	-	-	-	-	3	-	3	-	-
Missouri	1	-	6	1	1	-	-	-	2	13	1	-	5
North Dakota	-	-	2	-	-	-	-	-	-	4	-	-	-
South Dakota	-	-	44	-	-	-	-	-	1	16	-	-	-
Nebraska	-	-	42	-	-	-	-	-	2	-	-	-	3
Kansas	-	-	190	-	-	-	-	-	-	5	-	-	1
SOUTH ATLANTIC	5	2	355	-	-	1	1	3	53	48	19	-	36
Delaware	-	-	8	-	-	-	-	-	-	-	3	-	1
Maryland	-	-	56	-	-	-	1	-	20	4	1	-	9
District of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-
Virginia	-	-	9	-	-	-	-	2	3	1	1	-	8
West Virginia	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	1
North Carolina	-	2	NN	-	-	1	-	-	-	1	-	-	1
South Carolina	-	-	9	-	-	-	-	-	2	-	2	-	2
Georgia	-	-	-	-	-	-	-	-	10	2	-	-	3
Florida	5	-	273	-	-	-	-	1	18	40	12	-	11
EAST SOUTH CENTRAL	1	4	136	-	-	-	-	1	16	32	1	-	3
Kentucky	-	-	101	-	-	-	-	-	3	3	-	-	1
Tennessee	-	2	NN	-	-	-	-	-	9	21	1	-	1
Alabama	1	1	29	-	-	-	-	-	3	-	-	-	1
Mississippi	-	1	6	-	-	-	-	1	1	8	-	-	-
WEST SOUTH CENTRAL	10	-	196	-	1	2	-	-	22	79	37	-	9
Arkansas	-	-	6	-	1	2	-	-	4	8	3	-	-
Louisiana	-	-	NN	-	-	-	-	-	6	15	3	-	3
Oklahoma	-	-	-	-	-	-	-	-	3	10	4	-	-
Texas	10	-	190	-	-	-	-	-	9	46	27	-	6
MOUNTAIN	6	-	262	-	3	-	-	-	9	41	15	-	3
Montana	-	-	19	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	32	-	-	-	-	-	-	9	1	-	-
Wyoming	-	-	3	-	-	-	-	-	-	-	-	-	-
Colorado	6	-	130	-	2	-	-	-	5	17	8	-	1
New Mexico	-	-	2	-	-	-	-	-	2	8	-	-	-
Arizona	NA	NA	NN	NA	-	NA	-	-	NA	NA	NA	NA	1
Utah	-	-	72	-	-	-	-	-	-	3	5	-	-
Nevada	-	-	4	-	1	-	-	-	1	4	1	-	1
PACIFIC	3	-	307	2	27	-	2	-	7	41	9	1	61
Washington	-	-	295	2	27	-	-	-	1	19	6	-	3
Oregon	2	-	3	-	-	-	-	-	4	15	2	-	3
California	NA	NA	NA	NA	-	NA	2	-	NA	NA	NA	NA	44
Alaska	-	-	3	-	-	-	-	-	-	1	-	-	1
Hawaii	1	-	16	-	-	-	-	-	2	6	1	1	10
Guam	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
Puerto Rico	-	-	6	-	-	-	-	-	2	2	-	1	4
Virgin Islands	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	1

NN: Not notifiable

NA: Not available

†Delayed reports received for 1977 are not shown below but are used to update last year's weekly and cumulative totals.

*The following delayed reports will be reflected in next week's cumulative totals: A-sp. Mening. Mo. +5; Hawaii -1; Brucellosis: P. R. +2; Chickenpox: N.H. +21, Mo. +105; Enceph., post: P. R. +1; Hep. B: N.J. +1, Alaska +1; Hep. A: N.J. -1, Mo. +1, N. Dak. -1, Wash. -1; Hawaii -1, Hep. unsp.: N.H. -1, Mo. -1; Malaria: Mo. -1.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 27, 1978 and May 28, 1977 - 21st Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1978	CUMULATIVE		1978	CUMULATIVE		1978	CUM. 1978	1978	1978	CUM. 1978	CUM. 1978
		1978	1977 †		1978	1977 †						
UNITED STATES	993	15,304	39,767	47	1,158	911	517	9,442	26	863	9,781	21
NEW ENGLAND	88	1,712	1,863	2	57	41	22	615	2	90	539	-
Maine	67	1,176	35	-	5	3	7	452	-	-	138	-
New Hampshire *	1	26	469	-	6	3	-	8	-	-	84	-
Vermont	-	24	258	-	2	4	-	5	-	-	25	-
Massachusetts *	11	171	492	-	14	13	9	58	-	58	126	-
Rhode Island	-	4	26	1	13	-	1	20	-	8	28	-
Connecticut	9	311	583	1	17	18	5	72	2	24	138	-
MIDDLE ATLANTIC	45	1,269	5,373	11	179	117	21	371	3	199	1,858	1
Upstate New York	33	834	1,963	4	61	29	6	127	2	35	315	-
New York City	NA	145	266	-	40	25	NA	92	NA	NA	43	-
New Jersey *	11	38	117	3	37	27	9	78	-	140	1,194	-
Pennsylvania	1	252	3,027	4	41	36	6	74	1	24	306	1
EAST NORTH CENTRAL	676	6,136	8,401	5	94	101	259	3,440	8	430	4,277	1
Ohio	21	294	795	-	21	32	31	418	5	137	718	-
Indiana	NA	100	3,855	-	19	7	NA	152	NA	NA	335	1
Illinois	1	426	1,074	-	6	27	72	1,190	-	2	270	-
Michigan	521	4,217	748	5	40	24	102	1,025	1	175	1,721	-
Wisconsin *	133	1,099	1,929	-	8	11	54	655	2	116	1,233	-
WEST NORTH CENTRAL	17	300	7,522	2	42	50	68	1,734	-	62	411	1
Minnesota	5	27	1,681	2	8	19	-	12	-	7	41	-
Iowa	-	47	3,763	-	5	7	2	106	-	-	29	-
Missouri *	-	7	820	-	19	14	3	1,041	-	10	65	-
North Dakota *	12	174	14	-	3	1	2	9	-	25	66	-
South Dakota	-	-	65	-	2	4	1	6	-	5	80	-
Nebraska	-	3	180	-	-	1	1	15	-	-	34	-
Kansas	-	42	999	-	5	4	59	545	-	15	96	1
SOUTH ATLANTIC	55	3,367	2,971	12	310	203	8	518	3	40	762	3
Delaware	-	5	22	-	10	17	3	33	-	10	32	-
Maryland	-	3	279	-	13	13	-	51	-	-	2	1
District of Columbia	-	-	7	-	1	-	-	1	-	-	1	-
Virginia *	21	2,139	1,598	-	40	14	-	86	-	10	205	-
West Virginia	NA	709	154	-	5	8	NA	131	NA	NA	237	-
North Carolina	1	83	40	-	60	51	-	45	-	2	159	-
South Carolina	1	167	117	2	20	19	2	13	-	9	19	-
Georgia	-	12	643	1	38	31	-	56	3	-	1	-
Florida	32	249	111	9	123	50	3	102	-	9	106	2
EAST SOUTH CENTRAL	74	955	1,590	4	100	104	62	749	2	4	288	1
Kentucky	1	81	922	-	16	19	7	98	-	-	43	1
Tennessee	49	705	572	-	26	24	14	365	1	3	113	-
Alabama	16	49	72	-	30	40	39	246	1	-	9	-
Mississippi	8	120	24	4	28	21	2	40	-	1	123	-
WEST SOUTH CENTRAL	31	902	1,822	8	176	163	27	1,309	5	32	715	10
Arkansas	-	10	26	-	14	9	11	555	1	-	57	1
Louisiana *	3	370	71	4	66	57	5	48	-	19	417	1
Oklahoma	1	12	50	1	16	6	-	4	-	-	9	1
Texas *	27	510	1,675	3	80	91	11	702	4	13	232	7
MOUNTAIN	4	167	2,137	-	25	23	31	174	-	3	99	-
Montana	-	95	1,021	-	1	2	-	9	-	-	11	-
Idaho *	-	1	105	-	2	3	-	18	-	-	3	-
Wyoming	-	-	3	-	-	1	-	-	-	-	-	-
Colorado *	-	13	436	-	2	1	11	55	-	-	17	-
New Mexico	-	-	246	-	4	6	8	15	-	-	3	-
Arizona	NA	15	241	-	9	8	NA	5	NA	NA	40	-
Utah	-	31	5	-	4	1	12	69	-	3	22	-
Nevada	4	12	80	-	3	1	-	3	-	-	3	-
PACIFIC	3	496	8,088	3	175	109	19	532	3	3	832	4
Washington	3	46	408	2	31	12	5	152	1	3	88	-
Oregon	-	128	231	-	9	14	14	61	2	-	66	-
California	NA	314	7,375	-	128	60	NA	291	NA	NA	675	4
Alaska	-	1	55	-	5	21	-	5	-	-	1	-
Hawaii *	-	7	19	1	2	2	-	23	-	-	2	-
Guam	NA	1	4	-	-	-	NA	15	NA	NA	-	-
Puerto Rico	12	118	570	-	2	-	78	780	-	-	11	3
Virgin Islands	NA	6	10	-	-	-	NA	1	NA	NA	1	-

NA: Not available

† Delayed reports received for 1977 are not shown below but are used to update last year's weekly and cumulative totals.

* The following delayed reports will be reflected in next week's cumulative totals: Measles: N.H. +2, Mass. -3, Wis. +47, N. Dak. -6, Va. -1, La. -30, Tex. -23, Colo. +7, Hawaii -4; Men. Inf.: N.J. +1; Mumps: N. H. +1, Mo. +57, Idaho +2; Pertussis: Mo. +1; Rubella: N.J. -6, Wis. -55, Mo. +16, N. Dak. -1, La. -1, Tex. +23, Colo. +14, Hawaii -1.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 27, 1978 and May 28, 1977 - 21st Week

REPORTING AREA	TUBERCULOSIS		TULA- REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS	
								GONORRHEA			SYPHILIS (Pri. & Sec.)				
	1978	CUM. 1978	CUM. 1978	1978	CUM. 1978	1978	CUM. 1978	1978	CUMULATIVE		1978	CUMULATIVE			CUM. 1978
									1978	1977 †		1978	1977 †		
UNITED STATES	527	11,636	31	4	166	10	119	15,269	370,515	376,561	313	8,290	8,400	1,172	
NEW ENGLAND	21	385	-	1	34	2	2	482	9,588	9,788	14	263	334	48	
Maine	2	23	-	-	-	-	-	43	733	721	-	6	8	45	
New Hampshire	-	8	-	-	5	-	-	22	431	389	3	4	2	-	
Vermont	2	16	-	-	1	-	-	3	245	258	-	1	4	-	
Massachusetts	11	223	-	1	19	-	-	215	4,196	4,257	8	170	248	1	
Rhode Island	1	25	-	-	4	-	-	33	685	771	1	10	4	-	
Connecticut	5	90	-	-	5	2	2	166	3,298	3,392	2	72	68	2	
MIDDLE ATLANTIC	129	1,969	1	-	18	-	5	853	40,136	39,285	6	1,095	1,190	21	
Upstate New York	16	295	1	-	6	-	3	267	6,586	6,124	-	80	109	19	
New York City	NA	657	-	NA	8	NA	-	NA	15,382	16,680	NA	770	744	-	
New Jersey	24	519	-	-	2	-	-	177	7,343	6,326	4	123	154	1	
Pennsylvania	89	458	-	-	2	-	2	409	10,825	10,155	2	122	183	1	
EAST NORTH CENTRAL ..	106	1,791	-	-	7	-	-	2,474	54,237	57,016	49	904	913	42	
Ohio	10	322	-	-	2	-	-	498	14,183	14,681	13	188	234	3	
Indiana	NA	209	-	NA	-	NA	-	NA	5,399	5,120	NA	48	65	4	
Illinois	68	659	-	-	1	-	-	1,133	16,898	19,029	28	555	475	6	
Michigan	21	522	-	-	4	-	-	607	12,662	12,791	7	85	99	1	
Wisconsin	7	79	-	-	-	-	-	236	5,095	5,395	1	28	40	28	
WEST NORTH CENTRAL ..	15	410	8	-	10	-	5	1,032	18,498	19,599	7	206	203	262	
Minnesota	6	86	-	-	4	-	-	236	3,313	3,532	-	90	61	86	
Iowa	1	46	-	-	2	-	-	96	2,138	2,261	2	23	18	55	
Missouri	4	171	7	-	2	-	4	411	7,579	8,309	4	55	71	30	
North Dakota	1	19	-	-	-	-	-	9	362	349	-	2	2	40	
South Dakota	-	36	-	-	-	-	-	41	684	519	-	1	1	37	
Nebraska	-	5	-	-	-	-	-	94	1,388	1,694	-	5	21	1	
Kansas	3	47	1	-	2	-	1	145	3,034	2,935	1	30	29	13	
SOUTH ATLANTIC	129	2,513	3	2	19	3	64	4,352	90,192	91,324	132	2,234	2,405	136	
Delaware	1	19	-	-	-	-	-	44	1,298	1,202	1	4	16	1	
Maryland	13	403	3	-	1	-	7	445	11,672	11,563	7	176	157	-	
District of Columbia ..	9	135	-	-	1	-	-	301	6,140	5,985	5	172	255	-	
Virginia	10	272	-	-	4	-	21	435	8,296	9,422	9	196	238	2	
West Virginia	NA	89	-	NA	1	NA	4	NA	1,309	1,328	NA	8	1	-	
North Carolina	15	358	-	-	1	3	18	362	12,666	13,814	15	199	359	3	
South Carolina	19	209	-	-	1	-	8	569	8,446	8,448	7	99	105	17	
Georgia	18	338	-	-	2	-	6	1,030	17,113	17,798	27	547	452	103	
Florida	44	650	-	2	8	-	-	1,166	23,252	21,764	61	833	822	10	
EAST SOUTH CENTRAL ..	45	1,130	4	-	1	3	19	2,318	32,632	33,774	18	409	286	65	
Kentucky	-	232	1	-	1	-	1	351	3,799	4,578	3	49	33	37	
Tennessee	13	359	3	-	-	3	18	713	11,875	13,776	8	156	89	13	
Alabama	26	283	-	-	-	-	-	773	9,743	9,223	3	56	49	15	
Mississippi	6	256	-	-	-	-	-	481	7,215	6,197	4	148	115	-	
WEST SOUTH CENTRAL ..	66	1,336	12	1	16	2	23	2,611	52,446	48,829	73	1,271	1,117	412	
Arkansas	1	145	11	-	-	-	9	45	3,846	3,811	-	35	27	63	
Louisiana	22	254	1	-	1	-	-	443	8,748	7,279	25	257	257	7	
Oklahoma	6	142	-	1	1	1	8	244	4,737	4,503	-	38	32	98	
Texas	37	795	-	-	14	1	6	1,879	35,115	33,236	48	941	801	244	
MOUNTAIN	5	324	2	-	10	-	-	552	13,500	15,354	11	163	176	14	
Montana	-	24	-	-	-	-	-	19	828	749	1	7	1	2	
Idaho	-	10	2	-	5	-	-	32	494	748	-	2	4	-	
Wyoming	1	7	-	-	-	-	-	26	315	380	1	4	2	-	
Colorado	-	22	-	-	2	-	-	185	3,814	3,960	4	51	54	-	
New Mexico	2	59	-	-	-	-	-	101	1,938	2,196	4	48	34	5	
Arizona	NA	155	-	NA	1	NA	-	NA	3,238	4,445	NA	28	71	7	
Utah	1	19	-	-	1	-	-	52	796	878	-	6	4	-	
Nevada	1	28	-	-	1	-	-	137	2,077	1,998	1	17	6	-	
PACIFIC	11	1,778	1	-	51	-	1	595	59,286	61,592	3	1,745	1,776	172	
Washington	NA	56	-	-	3	-	-	189	4,690	4,710	NA	59	76	-	
Oregon	4	74	-	-	1	-	-	262	4,270	4,325	2	62	56	1	
California	NA	1,370	1	NA	45	NA	1	NA	47,099	49,210	NA	1,602	1,612	169	
Alaska	-	25	-	-	-	-	-	98	2,004	2,025	-	5	13	2	
Hawaii	7	253	-	-	2	-	-	46	1,223	1,322	1	17	19	-	
Guam	NA	30	-	NA	-	NA	-	NA	71	102	NA	-	1	-	
Puerto Rico	18	185	-	1	1	-	-	28	1,005	1,242	10	184	233	10	
Virgin Islands	NA	2	-	NA	2	NA	-	NA	81	75	NA	6	3	-	

NA: Not available

† Delayed reports received for 1977 are not shown below but are used to update last year's weekly and cumulative totals.

* The following delayed reports will be reflected in next week's cumulative totals: TB: Pa. +28, Mich. -3, N.C. -1, Fla. -1; Typhoid fever: Oreg. -1; RMSF: Mo. -1, Va. -1, GC: Mont. -1.

Table IV
Deaths in 121 United States Cities*
Week Ending May 27, 1978 — 21st Week

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza ALL AGES	REPORTING AREA	ALL CAUSES					Pneumonia and Influenza ALL AGES
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year			ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	
NEW ENGLAND	651	421	159	25	25	41	SOUTH ATLANTIC	1,002	595	241	75	46	52
Boston, Mass.	175	110	33	11	14	11	Atlanta, Ga.	122	76	26	13	1	4
Bridgport, Conn.	53	34	14	1	—	1	Baltimore, Md.	226	140	55	12	4	7
Cambridge, Mass.	30	24	5	—	—	4	Charlotte, N. C.	54	19	15	7	10	2
Fall River, Mass.	22	13	7	—	—	—	Jacksonville, Fla.	89	50	25	9	3	4
Hartford, Conn.	62	39	18	2	1	4	Miami, Fla.	112	65	32	11	3	4
Lowell, Mass.	24	17	6	—	1	4	Norfolk, Va.	56	23	19	5	4	5
Lynn, Mass.	21	16	4	1	—	1	Richmond, Va.	73	43	20	4	3	7
New Bedford, Mass.	21	15	5	1	—	1	Savannah, Ga.	33	20	8	—	3	3
New Haven, Conn.	33	24	6	1	1	1	St. Petersburg, Fla.	77	65	7	2	2	4
Providence, R.I.	69	36	30	1	1	4	Tampa, Fla.	82	51	18	6	3	9
Somerville, Mass.	9	7	2	—	—	—	Washington, D. C.	29	12	8	5	2	1
Springfield, Mass.	53	31	12	3	5	2	Wilmington, Del.	49	31	8	1	8	2
Waterbury, Conn.	29	22	5	2	—	3							
Worcester, Mass.	50	33	12	2	2	5							
MIDDLE ATLANTIC	2,518	1,640	612	152	56	111	EAST SOUTH CENTRAL	680	393	169	37	49	32
† Albany, N. Y.	45	30	10	2	2	1	Birmingham, Ala.	99	54	26	6	10	3
Allentown, Pa.	21	15	6	—	—	—	Chattanooga, Tenn.	40	25	10	2	3	5
Buffalo, N. Y.	125	83	30	3	2	12	Knoxville, Tenn.	45	31	11	2	—	1
Camden, N. J.	33	19	12	2	—	1	Louisville, Ky.	106	61	32	8	2	12
Elizabeth, N. J.	19	14	4	—	—	—	Memphis, Tenn.	162	79	35	8	24	4
Erie, Pa.	43	31	10	1	1	3	Mobile, Ala.	73	47	16	1	6	1
Jersey City, N. J.	47	25	13	5	2	1	Montgomery, Ala.	39	26	8	3	1	1
Newark, N. J.	67	36	23	4	3	5	Nashville, Tenn.	116	70	31	7	3	5
New York City, N. Y.	1,346	880	313	92	27	42	WEST SOUTH CENTRAL	1,028	553	291	92	39	22
Paterson, N. J.	34	23	7	3	—	1	Austin, Tex.	41	26	8	3	2	4
Philadelphia, Pa.	308	182	89	24	8	11	Baton Rouge, La.	27	18	4	1	1	1
Pittsburgh, Pa.	66	37	23	3	2	3	Corpus Christi, Tex.	39	21	10	1	6	1
Reading, Pa.	38	29	7	—	1	1	Dallas, Tex.	189	89	63	20	10	3
Rochester, N. Y.	118	87	19	8	3	12	El Paso, Tex.	40	26	7	3	1	4
Schenectady, N. Y.	22	13	8	1	—	1	Fort Worth, Tex.	57	32	17	4	3	2
Scranton, Pa.	25	18	6	1	—	3	Houston, Tex.	214	94	74	20	5	2
Syracuse, N. Y.	76	56	14	2	2	4	Little Rock, Ark.	55	29	18	4	2	1
Trenton, N. J.	35	21	10	1	2	5	New Orleans, La.	136	72	36	18	3	—
Utica, N. Y.	23	20	3	—	—	3	San Antonio, Tex.	116	71	30	8	3	3
Yonkers, N. Y.	27	21	5	—	1	2	Shreveport, La.	64	42	15	2	3	—
							Tulsa, Okla.	50	33	9	8	—	1
EAST NORTH CENTRAL	2,349	1,411	599	146	113	59	MOUNTAIN	598	334	154	36	37	23
Akron, Ohio	70	44	19	3	4	—	Albuquerque, N. Mex.	54	33	10	5	3	5
Canton, Ohio	36	28	5	—	—	3	Colorado Springs, Colo.	25	11	10	1	—	1
Chicago, Ill.	607	321	182	36	36	7	Denver, Colo.	136	76	35	10	7	8
Cincinnati, Ohio	153	89	47	7	6	1	Las Vegas, Nev.	69	27	26	7	4	2
Cleveland, Ohio	163	99	36	13	13	5	Ogden, Utah	26	22	3	—	1	4
Columbus, Ohio	134	80	36	5	8	8	Phoenix, Ariz.	149	84	38	7	12	2
Dayton, Ohio	105	61	36	2	6	1	Pueblo, Colo.	14	8	5	—	1	—
Detroit, Mich.	285	167	79	25	7	7	Salt Lake City, Utah	52	31	11	2	3	1
Evansville, Ind.	41	26	9	2	3	3	Tucson, Ariz.	73	42	16	4	6	—
Fort Wayne, Ind.	47	32	7	6	—	2							
Gary, Ind.	24	15	6	2	1	1	PACIFIC	1,634	1,034	389	94	54	46
Grand Rapids, Mich.	60	40	12	3	4	3	Berkeley, Calif.	23	17	1	3	2	1
Indianapolis, Ind.	168	97	38	14	11	1	Fresno, Calif.	60	30	14	5	5	3
Madison, Wis.	20	12	5	—	1	5	Glendale, Calif.	27	20	6	1	—	—
Milwaukee, Wis.	129	89	24	8	4	4	Honolulu, Hawaii	60	25	22	5	2	1
Peoria, Ill.	37	25	6	3	2	3	Long Beach, Calif.	97	60	25	6	2	3
Rockford, Ill.	50	33	8	6	2	3	Los Angeles, Calif.	476	304	115	28	16	16
South Bend, Ind.	39	26	10	2	—	—	Oakland, Calif.	69	46	15	2	1	1
Toledo, Ohio	110	79	18	8	3	1	Pasadena, Calif.	30	23	3	1	1	—
Youngstown, Ohio	71	48	16	1	2	1	Portland, Oreg.	135	95	28	1	5	5
WEST NORTH CENTRAL	734	463	154	52	33	30	Sacramento, Calif.	69	41	14	9	1	3
Des Moines, Iowa	62	36	15	5	2	2	San Diego, Calif.	126	78	27	10	7	2
Duluth, Minn.	12	10	1	1	—	1	San Francisco, Calif.	171	109	37	13	5	—
Kansas City, Kans.	45	30	6	3	2	1	San Jose, Calif.	53	36	14	—	1	1
Kansas City, Mo.	127	72	35	9	5	6	Seattle, Wash.	143	88	43	5	4	5
Lincoln, Nebr.	20	14	3	—	—	2	Spokane, Wash.	65	44	18	3	—	4
Minneapolis, Minn.	87	53	14	9	7	2	Tacoma, Wash.	30	18	7	2	2	1
Omaha, Nebr.	83	52	18	7	3	2							
St. Louis, Mo.	156	99	36	9	9	7	TOTAL	11,194	6,844	2,768	709	452	416
St. Paul, Minn.	76	53	13	6	1	4	Expected Number	10,885	6,578	2,817	684	413	367
Wichita, Kans.	66	44	13	3	4	3							

*By place of occurrence and week of filing certificate. Excludes fetal deaths.

†Data not available. Figures are estimates based on average percent of regional total.

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The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Send reports to: Center for Disease Control, Attn.: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

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*Recommendation of the Public Health Service
Advisory Committee on Immunization Practices*

Typhus Vaccine

INTRODUCTION

The United States has not experienced an outbreak of louse-borne (epidemic) typhus since 1922. The last reported case, in 1950, did not result from an indigenous source of infection.

Louse-borne typhus was widespread in many countries affected by World War II. Since 1945, reported cases have declined steadily. Effective insecticides and generally improved standards of living have permitted many populations to free themselves of louse infestation. A human reservoir of latent infections persists in many parts of the world, and resurgence of the disease might occur under conditions of war or disaster. Vaccination of any civilian population in the United States, however, is unwarranted.

TYPHUS VACCINE

Typhus vaccines* of the type available today were first widely used in World War II. Although no controlled studies of typhus vaccine have been carried out in human populations, field and laboratory experience suggests that the incidence and the severity of typhus cases are diminished among the vaccinated, especially if booster doses have been received.

Typhus vaccine is prepared from formaldehyde inactivated *Rickettsia prowazekii* grown in embryonated eggs. This vaccine provides protection against only louse-borne (epidemic) typhus; it does not protect against murine or scrub typhus.

VACCINE USAGE

General Recommendations

The rarity of epidemic typhus minimizes the need for vaccination. Typhus is currently no threat to U.S. residents visiting most other countries. This is true even in places still reporting large numbers of cases if travel is limited to urban areas with modern hotel accommodations. Only in mountainous highlands or in areas where a cold climate and other local conditions favor louse infestation does a potential threat exist.

Vaccination may be indicated for travelers to rural or remote highland areas of Ethiopia, Rwanda, Burundi, Mexico, Guatemala, Ecuador, Bolivia, and Peru, and to mountainous areas of Asia. Even in these places, however, the risk of typhus for U.S. travelers is extremely low. No typhus case in an American traveler is known to have occurred in recent years. Vaccination against typhus is not required by any country as a condition for entry.

Vaccine Recipients

Typhus vaccination is suggested only for the following special-risk groups:

1. Such persons as scientific investigators (for example, anthropologists, archaeologists, or geologists), oil field and

construction workers, missionaries, and some government workers who live in or visit areas where typhus cases actually occur and who will be in close contact with the indigenous population;

2. Medical personnel, including nurses and attendants, who provide care for patients in areas in which louse-borne (epidemic) typhus occurs; and

3. Laboratory personnel who work with *R. prowazekii*.

Primary Immunization

Two subcutaneous injections of vaccine should be given 4 or more weeks apart using the dosage indicated by the manufacturer for adults or for children.

Booster Doses

A single subcutaneous injection of vaccine should be given at intervals of 6-12 months for as long as opportunity for exposure exists. The dosage is that indicated by the manufacturer for adults or for children. The primary series need never be repeated for booster doses to be effective.

PRECAUTIONS AND CONTRAINDICATIONS

Reactions

A day or more of pain, tenderness, induration, and erythema at the site of vaccine injection is relatively common. Severe systemic reactions are infrequent, but transient fever and malaise may occur.

Contraindications

As is the case for all vaccines propagated in eggs, typhus vaccine should not be administered to anyone who is hypersensitive to egg proteins.

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Published in MMWR 17:191, 1968; revised 18(43 Suppl):27, 1968; revised 21(25 Suppl):40-41, 1972

*Official name: Typhus Vaccine

Current Trends

Primary and Secondary Syphilis — United States, March 1978

Reported cases of primary and secondary syphilis numbered 1,749 in March 1978, an increase of 4.5% over the 1,673 cases reported in March 1977 (provisional data, Table 1). Twenty-seven areas reported more cases in March 1978 than in March 1977, while 7 areas reported the same number of cases and 25 areas reported fewer cases. The 4,998 cases of primary and secondary syphilis reported in the first 3 months (January-March) of 1978 represent a

5.4% decline from the number reported in the same time period of 1977. Reported early latent (less than 1 year's duration) syphilis cases numbered 4,088 from January 31 through March 31, 1978, representing a decline in reported cases of 7.4% from the number reported during the same time period of 1977.

Reported by the Venereal Disease Control Div, Bur of State Services, CDC.

TABLE 1. Summary of reported primary and secondary syphilis cases by reporting area, March 1978 and March 1977 — provisional data

Reporting Area by HEW Regions	March		Calendar Year Cumulative January - March		Reporting Area by HEW Regions	March		Calendar Year Cumulative January - March		Reporting Area by HEW Regions	March		Calendar Year Cumulative January - March	
	1978	1977	1978	1977		1978	1977	1978	1977		1978	1977	1978	1977
Connecticut	14	9	39	41	Illinois (Excl. Chicago)	4	14	27	52	Arizona	3	24	23	45
Maine	2	1	3	7	Chicago	100	89	314	245	California (Excl. LA & SF)	129	123	461	428
Massachusetts	37	59	91	143	Indiana (Excl. Indianapolis)	7	13	15	24	Los Angeles*	125	107	398	332
New Hampshire	0	0	1	0	Michigan*	5	5	15	13	San Francisco*	72	78	179	246
Rhode Island	0	0	3	3	Minnesota	22	23	56	69	Hawaii	5	3	12	9
Vermont	0	0	0	3	Missouri	20	15	43	40	Nevada	3	1	10	3
REGION I TOTAL	54	69	137	197	Ohio	40	45	94	157	REGION IX TOTAL	337	336	1,083	1,063
New Jersey	26	34	76	97	Wisconsin	5	9	16	25	Alaska	1	3	5	7
New York (Excl. NYC)	23	20	58	65	REGION V TOTAL	203	213	580	624	Idaho	0	0	0	2
New York City	151	150	434	484	Arkansas	4	5	28	16	Oregon	16	14	32	43
REGION II TOTAL	200	204	568	646	Louisiana	54	41	158	144	Washington	23	25	49	46
Delaware	0	2	3	11	New Mexico	14	10	31	24	REGION X TOTAL	40	42	86	98
District of Columbia	40	47	115	159	Oklahoma	6	7	28	19	UNITED STATES TOTAL	1,749	1,673	4,998	5,282
Maryland (Excl. Baltimore)	14	21	46	52	Texas	185	127	526	476	Puerto Rico	32	32	125	138
Baltimore	29	26	69	69	REGION VI TOTAL	263	180	771	679	Virgin Islands	2	2	6	6
Pennsylvania (Excl. Phila.)	11	16	32	43	Iowa	4	3	10	11	United States, including				
Philadelphia	14	19	38	70	Kansas	9	8	25	22	Outlying Areas	1,783	1,707	5,129	5,426
Virginia	39	52	122	143	Missouri	8	14	27	36					
West Virginia	3	0	4	1	Nebraska	2	3	3	15					
REGION III TOTAL	150	183	429	548	REGION VII TOTAL	23	28	65	84					
Alabama	11	14	29	33	Colorado	10	9	32	33					
Florida	211	145	519	522	Montana	0	0	6	0					
Georgia (Excl. Atlanta)	76	57	190	177	North Dakota	2	0	2	1					
Atlanta*	31	30	122	102	South Dakota	0	0	1	1					
Kentucky	11	6	25	19	Utah	1	2	3	4					
Mississippi	37	26	92	74	Wyoming	0	0	3	2					
North Carolina	29	75	109	252	REGION VIII TOTAL	13	11	47	41					
South Carolina	25	34	66	77										
Tennessee	35	10	80	46										
REGION IV TOTAL	466	397	1,232	1,302										

*County Data

Erratum, Vol. 27, No. 5

p 33 In the article, "Nosocomial Outbreak of *Rhizopus* Infections Associated with Elastoplast Wound Dressings—Minnesota," the Food and Drug Administration's plant investigation did not include environmental sampling, as stated. Also, although the members of the order Mucorales (one of which is *R. oryzae*) isolated from patients with mucormycosis are said to be ubiquitous (1), the distribution of *R. oryzae* has not been defined in the hospital environment.

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