CENTER FOR DISEASE CONTROL

October 13, 1978 / Vol. 27 / No. 41

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

Goal to Eliminate Measles from the United States

On October 4, 1978, the Secretary of the Department of Health, Education, and Welfare, Joseph A. Califano, Jr., announced that the United States would seek to eliminate indigenous measles from the nation by October 1, 1982. This goal is a possibility because of the decline in incidence of measles in the United States and the major progress that the Nationwide Childhood Immunization Initiative has made in attaining immunization levels of at least 90% in those under 15 years of age by October 1, 1979.

Thus far this year, 24,179 cases of measles have been reported in the United States, a decline of 55% compared to the same period of 1977. From 1950 through 1959 (the decade before vaccine was licensed), 5,487,332 cases of measles and 4,950 related deaths were reported. In addition to death (occurring in approximately 1 out of 1,000 reported cases), the complications of measles include otitis media, pneumonia, measles-encephalitis, and subacute sclerosing panencephalitis (a rare and fatal degenerative disease).

The availability of an effective vaccine, the absence of a non-human host, and the absence of a carrier state indicate that elimination of indigenous measles from the United States is a scientifically valid goal.

The 4 major thrusts of the effort to eliminate measles will be:

1. Increased emphasis on identifying and immunizing susceptible adolescents and young adults, who now represent an important segment of the pool of susceptibles;
2. Increased efforts to broaden school immunization requirements to cover children in all grades (rather than just first entrants) and rigorous enforcement of those requirements;
3. Strengthening of surveillance systems with institution of active surveillance systems where they do not now exist. Active surveillance involves aggressive search for cases that would previously have gone unreported; and
4. Improvements in the efficiency and effectiveness of outbreak-control measures.

Achievement of this goal will depend primarily on the efforts of local and state health departments and on the support they receive from organized medicine and all levels of government. Maintaining this goal, once achieved, will require vigilance and an ability to respond promptly to the importations of measles which are bound to occur.

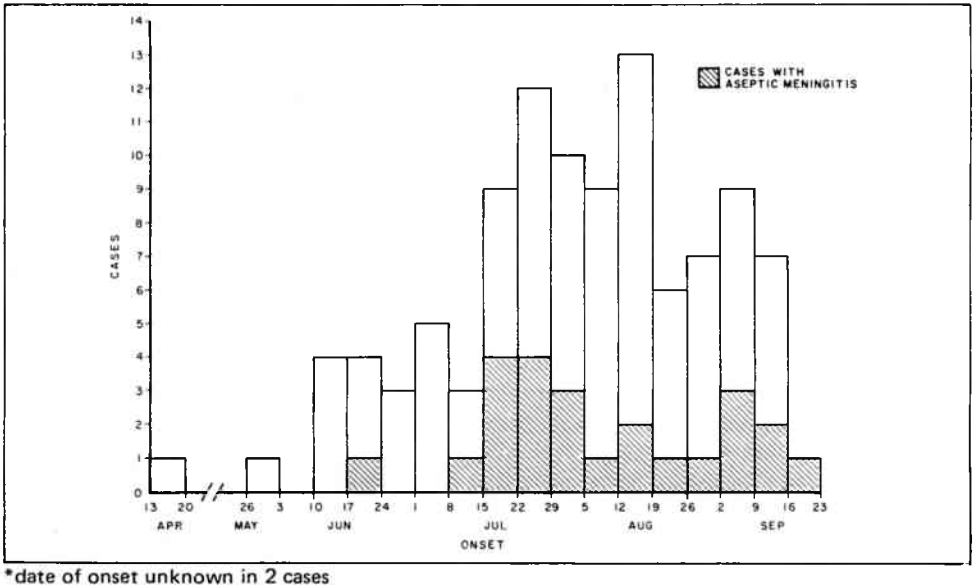
Reported by Immunization Div, Bur of State Services, CDC.

Epidemiologic Notes and Reports

Echovirus Type 9 Outbreak — New York

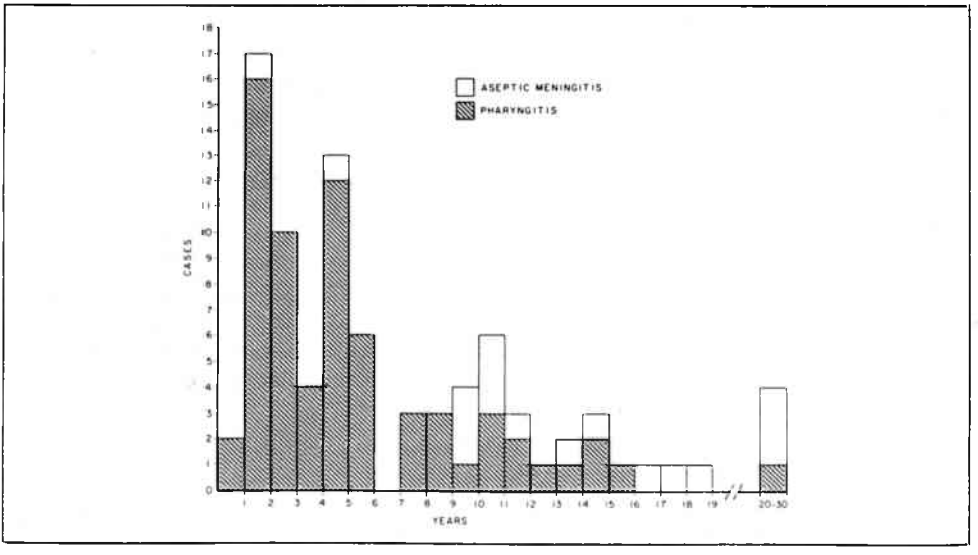
An outbreak of echovirus type 9 infection is occurring on Long Island, New York. Between April 20 and September 23, 1978, 158 viral isolates have been obtained from 106 persons ages 1 day to 30 years (Figures 1 and 2). The outbreak peaked during the summer months and currently appears to be declining.

FIGURE 1. Onset of illness, by week, in ECHO 9 cases,* Long Island, New York, 1978



*date of onset unknown in 2 cases

FIGURE 2. Clinical presentation of ECHO 9 cases with either pharyngitis or aseptic meningitis, by age, Long Island, New York, April 20-September 23, 1978



Echovirus – Continued

Several patients presented with aseptic meningitis, but the vast majority have had upper respiratory tract involvement, primarily pharyngitis (Table 1). Twenty-eight of the 106 persons were hospitalized. Seventeen patients (16%) presented with meningitis. Of the 89 patients who did not have meningitis, 68 (76%) had clinical pharyngitis. The 21 (24%) without meningitis or apparent pharyngitis had fever or sepsis (8), rash (4),diarrhea (4), or other respiratory findings (5). Nearly half of these (10/21) were younger than 1 year.

TABLE 1. Clinical findings among ECHO 9 patients, Nassau County, 1978 and 1970-1977

Clinical finding	Percent with finding	
	1978 (n=106)	1970-1977 (n=86)
Fever	83	77
Pharyngitis (total)	67	33
Pharyngitis with exudate	20	0
Nausea/vomiting	39	26
Headache	34	32
Rash	24	25
Nasal congestion	22	22
Diarrhea	16	3
Otitis media	16	4
Cough	13	15
Nuchal rigidity	6	22
Photophobia	6	4

Of the 17 patients with aseptic meningitis, 88% were age 9 or older. Significantly more males (15/17) than females had aseptic meningitis ($p<0.05$). The clinical presentation was typical of that generally seen with meningitis; rash and/or pharyngitis were also found in several patients. Echovirus type 9 was isolated from all 17 aseptic meningitis cases, 60% from throat swabs, 60% from cerebrospinal fluids. Virus was isolated from both sources in only 2 patients.

Ninety-two percent of the patients this year were children under 15 years of age. A comparison of the age distributions of ECHO 9 cases from this outbreak with cases from 1970-1977 on Long Island and with cases from 1967-1970 among 20 nations (*1*) reveals that patients were generally older in previous outbreaks.

Reported by SW Klein, MD, J McPhee, MS, Nassau County Medical Center, New York; DO Lyman, MD, State Epidemiologist, New York Dept of Health; Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: ECHO 9 is classically associated with infection of the central nervous system (CNS) (*2,3*); it is primarily seen in older children and adolescents. In this outbreak only 16% of patients had CNS infection, in comparison with 79% of patients in the 20-nation study by the World Health Organization (*1*).

The Nassau County Medical Center actively encouraged specimen collection for purposes of virus isolation of all febrile pediatric patients and all patients suspected of having an illness of viral etiology. Because of this, several cases of pharyngitis or upper respiratory tract infection were identified as probably due to ECHO 9.

Whereas pharyngitis without evidence of Group A β-hemolytic *Streptococcus* is often presumed to be "viral"—without further definition—active surveillance and laboratory evaluation, in this instance, identified ECHO 9 as one such viral agent that can cause pharyngitis in children.

References

1. Assaad F, Cockburn WC: Four-year study of WHO virus reports on enteroviruses other than poliovirus. Bull WHO 46:329-336, 1972

Echovirus – Continued

2. Wilfert CM, Buckley RH, Mohanakumar T, et al: Persistent and fatal central-nervous-system echovirus infections in patients with agammaglobulinemia. N Engl J Med 296:1485-1489, 1977
3. Rothenberg R, Murphy W, O'Brien CL, White PC Jr: Aseptic meningitis associated with ECHO virus, type 9: An outbreak in Norfolk, Virginia. South Med J 63:280-285, 1970

Legionnaires' Disease – Los Angeles, California

Forty-three confirmed Legionnaires' disease (LD) cases occurred from May 1, 1977, through July 31, 1978, in patients and employees of the Wadsworth Veterans Administration Hospital in Los Angeles, California. Forty-one cases had pneumonia (*1,2*), and 10 patients died.

The LD patients ranged in age from 39 to 84 years with a median age of 57. Thirty-three cases were confirmed by ⩾4-fold rise in the serum indirect fluorescent antibody titer, 6 by direct fluorescent antibody examination of lung tissue, and 4 by both methods. An isolate of the LD bacterium was obtained in July 1978 from the lung tissue of a fatal case.

All of the LD patients had been inside the hospital before onset of LD: 30 had been inpatients at the time of onset, 7 had been discharged within 2 weeks prior to onset, 3 had been seen as outpatients, and 3 cases were hospital employees. For inpatients the median interval from admission to onset of pneumonia was 18 days (range: 6-276 days).

(Continued on page 399)

TABLE I. Summary – cases of specified notifiable diseases, United States

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

DISEASE	43rd WEEK ENDING		MEDIAN	CUMULATIVE, FIRST 40 WEEKS		
	October 7, 1978	October 8, 1977*	1973-1977**	October 7, 1978	October 8, 1977*	MEDIAN 1973-1977**
Aseptic meningitis	212	130	127	4,266	3,515	2,922
Brucellosis	5	4	5	119	177	177
Chickenpox	405	480	504	124,862	162,181	146,086
Diphtheria	1	–	3	62	72	146
Encephalitis: Primary (arthropod-borne & unspec.)	24	29	43	717	802	1,112
Post-infectious	4	3	5	160	167	215
Hepatitis, Viral: Type B	218	310	201	11,367	12,683	8,864
Type A	519	610	636	22,178	23,695	26,798
Type unspecified	191	173		6,773	6,796	
Malaria	19	10	12	556	426	330
Measles (rubeola)	167	103	72	24,179	53,192	24,440
Meningococcal infections: Total	23	18	18	1,856	1,377	1,143
Civilian	23	18	18	1,832	1,368	1,118
Military	–	–	–	24	9	25
Mumps	89	188	356	13,744	16,576	45,486
Pertussis	24	48	---	1,586	1,300	---
Rubella (German measles)	48	81	81	16,660	18,851	15,025
Tetanus	2	1	4	64	56	70
Tuberculosis	474	669	610	23,035	23,250	24,199
Tularemia	3	5	2	98	131	120
Typhoid fever	7	12	9	381	296	316
Typhus fever, tick-borne (Rky. Mt. spotted)	17	11	12	929	1,036	744
Venereal diseases:						
Gonorrhea: Civilian	19,916	20,421	21,401	768,579	762,899	762,899
Military	527	506	506	19,441	21,006	22,895
Syphilis, primary & secondary: Civilian	500	402	426	16,338	15,841	18,641
Military	9	2	2	235	236	263
Rabies in animals	55	52	56	2,382	2,391	2,328

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1978		CUM. 1978
Anthrax	5	Poliomyelitis: Total	2
Botulism	61	Paralytic	1
Cholera	9	Psittacosis	83
Congenital rubella syndrome	23	Rabies in man	–
Leprosy	122	Trichinosis	43
Leptospirosis (Tex. 1)	47	Typhus fever, flea-borne (endemic, murine)	33
Plague	7		

*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 October 7, 1978, and October 8, 1977 (40th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1978	1978	1978	1978	CUM. 1978	1978	1977*	1978	1978	1978	1978	1978	CUM. 1978
UNITED STATES	212	5	405	1	62	24	29	4	218	519	191	19	556
NEW ENGLAND	11	–	72	–	–	2	2	–	6	10	17	–	28
Maine	–	–	24	–	–	–	–	–	1	3	–	–	1
N.H.†	–	–	–	–	–	–	–	–	–	–	–	–	4
Vt.	–	–	1	–	–	–	–	–	–	1	–	–	–
Mass.	5	–	26	–	–	2	1	–	–	2	17	–	7
R.I.	1	–	7	–	–	–	–	–	3	2	–	–	5
Conn.	5	–	14	–	–	–	1	–	2	2	–	–	11
MID. ATLANTIC	49	–	34	–	1	3	4	1	37	36	19	5	117
Upstate N.Y.	10	–	6	–	–	3	2	–	1	11	5	1	18
N.Y. City	19	–	12	–	1	–	1	–	15	8	5	3	52
N.J.	15	–	NN	–	–	–	–	–	12	10	9	–	22
Pa.	5	–	16	–	–	–	1	1	9	7	–	1	25
E.N. CENTRAL	32	–	165	–	–	7	5	–	47	102	17	2	39
Ohio	11	–	10	–	–	5	2	–	5	27	–	–	5
Ind.†	–	–	39	–	–	–	1	–	5	5	8	–	3
Ill.	1	–	38	–	–	–	–	–	12	29	6	2	14
Mich.	16	–	34	–	–	–	2	–	20	31	2	–	15
Wis.	4	–	44	–	–	2	–	–	5	10	1	–	2
W.N. CENTRAL	15	1	21	–	2	3	3	–	8	36	1	1	22
Minn.	–	–	–	–	–	–	1	–	5	19	–	–	4
Iowa	1	1	14	–	–	2	–	–	1	–	–	–	–
Mo.	8	–	–	–	1	1	1	–	1	7	1	1	8
N. Dak.	2	–	3	–	–	–	–	–	1	3	–	–	–
S. Dak.	–	–	–	–	–	–	1	–	–	3	–	–	1
Nebr.	1	–	2	–	1	–	–	–	–	1	–	–	4
Kans.	3	–	2	–	–	–	–	–	–	3	–	–	5
S. ATLANTIC	43	–	27	–	–	3	6	3	51	78	45	2	96
Del.†	1	–	3	–	–	–	–	–	1	1	–	–	1
Md.	14	–	1	–	–	1	–	–	9	3	–	–	21
D.C.	–	–	–	–	–	–	–	–	1	1	–	–	2
Va.†	10	–	2	–	–	1	2	–	12	5	8	–	20
W. Va.	1	–	8	–	–	1	1	–	–	3	–	–	1
N.C.†	5	–	NN	–	–	–	–	–	8	17	4	1	10
S.C.	1	–	1	–	–	–	–	–	4	2	6	–	4
Ga.	–	–	–	–	–	–	–	–	–	–	–	–	7
Fla.	11	–	12	–	–	–	3	3	16	46	27	1	30
E.S. CENTRAL	28	–	8	–	–	1	3	–	24	68	4	–	6
Ky.	16	–	6	–	–	–	2	–	8	16	1	–	2
Tenn.	11	–	NN	–	–	1	–	–	14	36	3	–	1
Ala.	–	–	2	–	–	–	–	–	1	3	–	–	1
Miss.	1	–	–	–	–	–	1	–	1	13	–	–	2
W.S. CENTRAL	26	4	19	–	1	4	3	–	17	96	47	–	26
Ark.	1	1	–	–	1	1	–	–	2	–	9	–	1
La.	1	–	NN	–	–	–	1	–	2	18	4	–	3
Okla.	5	–	–	–	–	2	–	–	6	14	5	–	–
Tex.†	19	3	19	–	–	1	2	–	7	64	29	–	22
MOUNTAIN	5	–	11	–	4	1	–	–	16	68	35	3	7
Mont.†	1	–	1	–	–	–	–	–	1	–	–	–	–
Idaho	–	–	–	–	–	–	–	–	–	2	–	–	–
Wyo.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Colo.	1	–	8	–	2	1	–	–	8	6	3	3	4
N. Mex.	2	–	1	–	–	–	–	–	1	12	2	–	1
Ariz.	–	–	NN	–	1	–	–	–	4	30	22	–	1
Utah	1	–	1	–	–	–	–	–	2	17	8	–	–
Nev.	–	–	–	–	1	–	–	–	–	1	–	–	1
PACIFIC	3	–	48	1	54	–	3	–	12	25	6	6	215
Wash.†	–	–	39	1	50	–	–	–	2	17	3	–	7
Oreg.†	2	–	–	–	–	–	–	–	4	5	2	4	9
Calif.	NA	NA	NA	NA	1	NA	3	–	NA	NA	NA	NA	175
Alaska	–	–	5	–	3	–	–	–	2	1	–	–	4
Hawaii	1	–	4	–	–	–	–	–	4	2	1	2	20
Guam†	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Pac. Trust Terr.	NA	NA	NA	NA	–	NA	–	NA	NA	NA	NA	NA	–
P.R.	–	–	7	–	–	–	–	–	–	5	–	–	4
V.I.	–	–	–	–	–	–	–	–	–	–	–	–	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: Asep. meng.: Ind. +10, Oreg. +4; Chickenpox: N.H. +2; Diph.: Wash. +1; Enceph.: Ind. +3, Va. +1, Wash. +1; Hep. B: Va. −1, Guam +1; Hep.A: Del. −5, Va. −1, N.C. −1, Tex. −1, Oreg. −11; Hep. unsp.: Tex. −1, Mont. +3, Guam +1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending October 7, 1978, and October 8, 1977 (40th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1978	CUM. 1978	CUM. 1977*	1978	CUM. 1978	CUM. 1977*	1978	CUM. 1978	1978	1978	CUM. 1978	CUM. 1978
UNITED STATES	167	24,179	53,192	23	1,856	1,377	89	13,744	24	48	16,660	64
NEW ENGLAND	2	1,967	2,491	1	102	57	9	745	3	3	746	2
Maine	–	1,314	170	–	8	3	6	492	–	2	153	–
N.H.	–	46	511	–	7	3	–	15	–	–	101	–
Vt.	2	29	253	–	2	6	–	5	–	–	27	2
Mass.	–	243	623	–	40	17	–	88	2	1	219	–
R.I.	–	8	64	1	18	1	–	38	–	–	42	–
Conn.	–	327	830	–	27	27	3	107	1	–	204	–
MID. ATLANTIC	4	2,184	8,353	5	313	180	7	634	2	7	3,004	4
Upstate N.Y.	3	1,399	3,816	3	100	43	–	206	1	2	525	1
N.Y. City	1	355	728	1	73	48	1	151	1	2	133	–
N.J.	–	74	195	–	58	41	2	137	–	1	1,606	–
Pa.	–	356	3,614	1	82	48	4	140	–	2	740	3
E.N. CENTRAL	39	10,969	11,316	6	196	153	44	5,593	4	19	8,399	3
Ohio	3	487	1,852	2	68	56	21	958	1	2	1,370	1
Ind.†	3	201	4,328	2	34	9	2	321	1	1	593	1
Ill.	4	1,140	1,751	–	30	36	5	1,867	1	2	1,711	1
Mich.	25	7,666	961	2	53	38	14	1,385	1	12	3,183	–
Wis.	4	1,475	2,424	–	11	14	2	1,062	–	2	1,542	–
W.N. CENTRAL	7	395	9,464	1	61	58	4	1,930	1	4	671	6
Minn.	3	37	2,622	–	14	19	–	21	–	–	128	1
Iowa	–	53	4,282	–	5	8	2	126	1	4	59	–
Mo.	1	14	1,044	1	25	19	1	1,169	–	–	105	–
N. Dak.	3	196	24	–	3	1	–	15	–	–	81	–
S. Dak.	–	–	67	–	3	4	–	7	–	–	111	1
Nebr.	–	5	214	–	–	2	1	25	–	–	34	–
Kans.	–	90	1,211	–	11	5	–	567	–	–	153	4
S. ATLANTIC	69	5,051	4,631	9	462	304	1	812	3	4	1,026	16
Del.	–	7	22	–	16	21	–	56	–	–	35	–
Md.	–	51	372	1	31	20	1	70	–	–	7	2
D.C.	–	–	14	1	2	–	–	2	–	–	1	–
Va.†	1	2,828	2,726	1	55	26	–	167	–	–	245	1
W. Va.	8	1,054	248	–	13	9	–	174	–	4	321	–
N.C.	–	120	65	3	92	62	–	69	1	–	180	3
S.C.	–	198	152	1	27	29	–	17	–	–	28	3
Ga.	–	31	768	–	48	47	–	68	–	–	26	–
Fla.	60	762	264	2	178	90	–	189	2	–	183	7
E.S. CENTRAL	1	1,385	2,033	1	149	140	4	1,145	5	1	504	3
Ky.	–	119	1,190	–	28	26	1	191	1	–	130	2
Tenn.	1	951	727	1	39	35	–	451	3	1	202	–
Ala.	–	89	78	–	45	52	2	422	–	–	22	–
Miss.	–	226	38	–	37	27	1	81	1	–	150	1
W.S. CENTRAL	21	1,091	2,059	–	276	275	6	1,702	–	6	936	14
Ark.	–	16	29	–	22	15	–	600	–	–	58	1
La.	–	343	74	–	113	126	–	65	–	–	486	1
Okla.	–	13	59	–	16	11	–	4	–	–	12	3
Tex.	21	719	1,937	–	125	123	6	1,033	–	6	380	9
MOUNTAIN	–	250	2,529	–	41	33	4	414	4	1	204	3
Mont.	–	105	1,162	–	3	2	–	143	–	–	18	–
Idaho	–	1	161	–	4	5	–	20	–	–	2	1
Wyo.	NA	–	19	–	–	2	NA	1	NA	NA	–	–
Colo.	–	30	503	–	3	1	2	94	–	–	47	1
N. Mex.	–	–	256	–	7	9	–	16	–	–	3	–
Ariz.	–	51	317	–	15	10	2	17	2	–	93	–
Utah	–	44	18	–	5	3	–	116	2	1	30	1
Nev.	–	19	93	–	4	1	–	7	–	–	11	–
PACIFIC	24	887	10,276	–	256	177	10	769	2	3	1,170	13
Wash.†	19	196	542	–	41	22	5	182	–	1	109	1
Oreg.†	2	150	366	–	28	18	4	96	1	–	117	–
Calif.	NA	528	9,273	–	178	106	NA	456	NA	NA	925	12
Alaska	–	1	60	–	6	29	1	9	–	–	7	–
Hawaii	3	12	35	–	3	2	–	26	1	2	12	–
Guam†	NA	24	5	–	–	1	NA	37	NA	NA	4	1
Pac. Trust Terr.	NA	13	NA	NA	–	NA	NA	1	NA	NA	2	–
P.R.	6	255	981	–	7	1	11	1,263	1	–	16	6
V.I.	–	6	14	–	1	–	–	1	–	–	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: Ind. –2, Oreg. –2: Men. Inf.: Wash. +3; Mumps: Va. +1, Guam +1; Pertussis: Ind. –4; Rubella: Va. +1, Oreg. +3.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending October 7, 1978, and October 8, 1977 (40th week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1978	CUM. 1978	CUM. 1978	1978	CUM. 1978	1978	CUM. 1978	1978	CUM. 1978	CUM. 1977*	1978	CUM. 1978	CUM. 1977*	CUM. 1978
UNITED STATES	474	23,035	98	7	381	17	929	19,916	768,579	762,899	500	16,338	15,841	2,382
NEW ENGLAND	19	762	2	1	76	–	13	505	20,045	20,554	13	458	636	87
Maine	2	57	–	–	–	–	–	68	1,603	1,538	–	7	20	71
N.H.	–	14	–	–	5	–	–	28	922	834	–	5	4	3
Vt.	1	31	–	–	1	–	–	17	493	510	–	3	6	2
Mass.	10	446	–	–	57	–	5	247	8,796	8,782	6	280	449	6
R.I.	2	53	–	–	4	–	1	5	1,432	1,628	1	20	8	–
Conn.	4	161	2	1	9	–	7	140	6,799	7,262	6	143	149	5
MID. ATLANTIC	78	3,955	5	–	45	–	50	3,020	83,451	79,788	69	2,123	2,205	90
Upstate N.Y.†	19	601	4	–	6	–	28	566	14,030	13,503	2	153	210	58
N.Y. City	24	1,390	1	–	31	–	3	1,039	31,819	31,156	49	1,469	1,389	–
N.J.	23	952	–	–	5	–	11	675	15,631	14,378	8	258	282	13
Pa.†	12	1,012	–	–	3	–	8	740	21,971	20,751	10	243	324	19
E.N. CENTRAL	87	3,604	1	3	35	–	44	4,198	118,351	120,291	135	1,856	1,673	132
Ohio	3	644	1	–	6	–	20	1,155	30,796	31,642	4	324	386	11
Ind.	17	419	–	–	1	–	1	NA	11,850	11,330	NA	118	132	13
Ill.	47	1,368	–	2	15	–	23	1,762	37,450	38,873	115	1,191	874	41
Mich.†	20	1,007	–	1	13	–	–	907	27,613	27,759	16	174	194	7
Wis.	–	166	–	–	–	–	–	374	10,642	10,687	–	49	87	60
W.N. CENTRAL	10	731	19	–	16	1	40	1,424	39,249	39,957	8	355	359	488
Minn.	4	132	–	–	7	–	–	200	6,636	7,321	–	133	115	149
Iowa	–	87	–	–	3	–	1	206	4,351	4,663	–	38	34	102
Mo.	5	305	16	–	4	–	20	628	17,370	16,432	3	112	135	64
N. Dak.	–	31	–	–	–	–	1	18	713	748	–	2	3	82
S. Dak.†	1	61	–	–	–	1	6	39	1,346	1,175	–	3	9	58
Nebr.	–	18	–	–	–	–	7	19	2,750	3,494	–	11	25	6
Kans.†	–	97	3	–	2	–	5	314	6,083	6,124	5	56	38	27
S. ATLANTIC	134	4,917	9	2	53	10	507	4,513	188,078	187,900	134	4,338	4,371	356
Del.	1	41	–	–	3	–	5	96	2,666	2,576	1	9	19	3
Md.†	16	737	5	1	11	1	105	790	24,258	23,438	5	330	275	–
D.C.	NA	244	–	–	1	–	1	326	12,566	12,320	15	333	456	–
Va.	23	514	4	–	5	3	106	517	18,136	19,784	NA	360	431	12
W. Va.	7	187	–	–	5	1	11	44	2,587	2,491	1	16	3	10
N.C.†	22	765	–	–	2	2	183	510	26,643	28,081	20	454	596	11
S.C.†	15	430	–	–	5	3	54	479	18,480	17,615	6	229	194	81
Ga.	19	683	–	–	4	–	42	923	36,462	36,113	36	1,083	975	225
Fla.†	31	1,316	–	1	17	–	–	828	46,280	45,482	50	1,524	1,422	14
E.S. CENTRAL	53	2,185	6	–	8	2	171	2,156	66,161	67,808	33	870	602	115
Ky.	12	493	2	–	2	–	40	349	8,726	9,283	2	109	80	60
Tenn.	20	677	3	–	3	2	110	474	24,298	27,418	18	307	189	24
Ala.	12	529	1	–	2	–	11	803	18,884	18,064	9	147	131	31
Miss.	9	486	–	–	1	–	10	530	14,253	13,043	4	307	202	–
W.S. CENTRAL	49	2,697	46	–	34	3	90	2,604	104,184	95,397	70	2,649	2,266	726
Ark.†	11	307	33	–	5	1	14	264	7,531	7,358	3	60	54	115
La.	9	469	6	–	3	–	1	467	17,020	14,014	6	567	540	18
Okla.	7	266	4	–	2	2	53	249	9,833	9,180	1	77	63	152
Tex.	22	1,655	3	–	24	–	22	1,624	69,800	64,845	60	1,945	1,609	441
MOUNTAIN	27	668	7	–	19	1	10	895	29,290	30,951	30	358	336	87
Mont.	–	48	–	–	3	–	2	62	1,650	1,622	–	8	4	12
Idaho	2	27	2	–	5	–	3	53	1,218	1,432	1	13	11	–
Wyo.	NA	14	2	NA	–	NA	1	NA	677	742	NA	8	2	–
Colo.	1	74	–	–	4	–	2	233	8,056	8,123	5	110	103	33
N. Mex.	6	111	–	–	2	–	–	129	4,115	4,543	–	71	71	15
Ariz.	14	304	1	–	3	1	1	230	7,706	8,576	–	81	123	20
Utah	2	32	2	–	1	–	–	45	1,592	1,826	–	11	8	7
Nev.	2	58	–	–	1	–	1	143	4,276	4,087	24	56	14	–
PACIFIC	17	3,516	3	1	95	–	4	601	119,770	120,253	8	3,331	3,393	301
Wash.†	NA	221	–	–	6	–	1	293	9,982	9,143	NA	151	194	2
Oreg.†	1	144	–	–	1	–	2	157	8,440	8,325	7	120	110	11
Calif.	NA	2,666	3	NA	80	NA	1	NA	95,322	96,391	NA	3,017	3,034	280
Alaska†	–	56	–	–	–	–	–	115	3,846	3,904	–	9	23	8
Hawaii	16	429	–	1	8	–	–	36	2,180	2,490	1	34	32	–
Guam†	NA	47	–	NA	–	NA	–	NA	170	169	NA	–	2	–
Pac. Trust Terr.	NA	2	–	NA	–	NA	–	NA	29	NA	NA	–	NA	–
P.R.	1	299	–	–	3	–	–	35	1,701	2,460	16	384	424	30
V.I.	–	4	–	–	2	–	–	3	151	164	–	14	8	–

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: Mich. –4, Md. –3, N.C. –2, Fla. –1, Ark. –1, Wash. +23, Oreg. +1, Alaska +3, Guam +3; T. Fever: Pa. +1, Wash, +1, GC: Kans. +160 mil., Wash. +115 mil., Oreg. –1 civ. +1 mil., Guam +3; Syphilis: Wash. +25, Oreg. +3; An. rabies: Ups. N.Y. –1, S. Dak. +6, S.C. +1.

TABLE IV. Deaths in 121 U.S. cities,* week ending October 7, 1978 (40th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
NEW ENGLAND	622	442	120	30	14	32
Boston, Mass.	164	114	28	10	5	9
Bridgeport, Conn.	41	32	6	3	–	–
Cambridge, Mass.	24	17	5	1	1	6
Fall River, Mass.	27	22	3	2	–	–
Hartford, Conn.	62	38	17	3	2	5
Lowell, Mass.	25	17	6	2	–	1
Lynn, Mass.	18	16	2	–	–	–
New Bedford, Mass.	24	18	5	1	–	–
New Haven, Conn.	34	27	3	1	1	2
Providence, R.I.	55	33	13	3	2	3
Somerville, Mass.	9	8	1	–	–	–
Springfield, Mass.	51	35	11	2	2	1
Waterbury, Conn.	27	21	6	–	–	5
Worcester, Mass.	61	44	14	2	1	–
MID. ATLANTIC	2,504	1,551	631	192	62	105
Albany, N.Y.	64	38	16	2	4	2
Allentown, Pa.	20	9	5	4	–	–
Buffalo, N.Y.	106	58	37	8	2	10
Camden, N.J.	35	22	8	3	1	2
Elizabeth, N.J.	28	22	3	3	–	2
Erie, Pa.	29	15	11	–	2	1
Jersey City, N.J.	64	43	15	3	1	1
Newark, N.J.	77	37	19	11	6	4
N.Y. City, N.Y.	1,324	835	320	108	25	41
Paterson, N.J.	42	27	10	2	3	3
Philadelphia, Pa.	321	184	97	24	9	13
Pittsburgh, Pa.	65	34	26	4	1	3
Reading, Pa.	44	34	9	1	–	2
Rochester, N.Y.	133	96	23	6	4	14
Schenectady, N.Y.	22	17	1	2	–	1
Scranton, Pa.	21	15	4	1	1	1
Syracuse, N.Y.	39	23	7	3	3	–
Trenton, N.J.	23	11	6	5	–	1
Utica, N.Y.	21	16	5	–	–	1
Yonkers, N.Y.	26	15	9	2	–	3
E.N. CENTRAL	2,099	1,231	565	123	96	62
Akron, Ohio	76	45	21	5	3	–
Canton, Ohio	39	21	13	2	–	–
Chicago, Ill.	479	262	132	43	23	11
Cincinnati, Ohio	139	77	42	7	9	3
Cleveland, Ohio	181	84	59	10	19	4
Columbus, Ohio	96	54	26	8	4	6
Dayton, Ohio	85	54	22	3	3	4
Detroit, Mich.	253	144	68	13	17	5
Evansville, Ind.	32	22	9	1	–	1
Fort Wayne, Ind.	49	34	11	4	–	2
Gary, Ind.	19	7	9	–	1	–
Grand Rapids, Mich.	60	42	14	2	1	8
Indianapolis, Ind.	168	104	40	9	8	1
Madison, Wis.	17	12	3	1	–	1
Milwaukee, Wis.	125	89	26	4	2	3
Peoria, Ill.	35	22	7	1	3	4
Rockford, Ill.	51	31	14	2	1	4
South Bend, Ind.	44	32	11	1	–	2
Toledo, Ohio	92	59	25	4	1	1
Youngstown, Ohio	59	36	17	3	1	2
W.N. CENTRAL	651	411	127	42	42	27
Des Moines, Iowa	53	37	10	1	2	1
Duluth, Minn.	27	19	7	–	1	4
Kansas City, Kans.	41	23	10	3	3	2
Kansas City, Mo.	111	76	19	8	3	3
Lincoln, Nebr.	22	14	6	–	1	1
Minneapolis, Minn.	98	66	17	8	7	7
Omaha, Nebr.	66	48	10	6	2	2
St. Louis, Mo.	144	73	35	8	18	7
St. Paul, Minn.	73	48	9	6	4	–
Wichita, Kans.	16	7	4	2	1	–

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
S. ATLANTIC	969	569	258	73	31	40
Atlanta, Ga.	95	48	28	12	5	3
Baltimore, Md.	211	124	51	21	7	3
Charlotte, N.C.	48	24	14	3	3	4
Jacksonville, Fla.	61	34	14	9	1	2
Miami, Fla.	72	41	24	1	3	1
Norfolk, Va.	58	39	15	1	1	3
Richmond, Va.	84	54	23	4	2	7
Savannah, Ga.	51	32	14	3	–	1
St. Petersburg, Fla.	85	65	15	–	3	5
Tampa, Fla.	58	37	9	5	4	4
Washington, D.C.	98	41	37	13	–	5
Wilmington, Del.	48	30	14	1	2	2
E.S. CENTRAL	653	374	155	43	50	24
Birmingham, Ala.	103	51	30	12	8	6
Chattanooga, Tenn.	36	27	5	2	–	1
Knoxville, Tenn.	41	27	12	–	1	–
Louisville, Ky.	123	66	39	7	4	8
Memphis, Tenn.	167	82	40	10	26	–
Mobile, Ala.	48	31	7	2	1	3
Montgomery, Ala.	32	20	6	2	4	3
Nashville, Tenn.	103	70	16	8	6	3
W.S. CENTRAL	1,069	580	285	89	59	31
Austin, Tex.	39	22	10	5	1	2
Baton Rouge, La.	44	26	14	1	3	–
Corpus Christi, Tex.	53	30	8	3	5	2
Dallas, Tex.	171	89	42	18	12	4
El Paso, Tex.	37	23	7	3	2	3
Fort Worth, Tex.	64	34	19	3	6	–
Houston, Tex.	218	95	69	28	10	2
Little Rock, Ark.	46	31	11	3	–	2
New Orleans, La.	138	78	35	10	6	–
San Antonio, Tex.	150	79	49	10	7	4
Shreveport, La.	45	29	8	2	4	5
Tulsa, Okla.	64	44	13	3	3	7
MOUNTAIN	603	334	155	44	37	11
Albuquerque, N. Mex.	60	34	15	9	1	–
Colo. Springs, Colo.	39	18	10	5	1	2
Denver, Colo.	127	71	28	8	12	3
Las Vegas, Nev.	60	30	20	4	1	5
Ogden, Utah	23	13	7	1	2	–
Phoenix, Ariz.	156	85	43	8	12	–
Pueblo, Colo.	18	12	3	2	–	1
Salt Lake City, Utah	55	26	14	5	7	–
Tucson, Ariz.	65	45	15	2	1	–
PACIFIC	1,682	1,005	360	186	59	39
Berkeley, Calif.	11	4	6	–	–	–
Fresno, Calif.	53	29	11	6	4	4
Glendale, Calif.	17	10	5	2	–	–
Honolulu, Hawaii	40	20	12	5	2	–
Long Beach, Calif.	104	60	26	7	5	1
Los Angeles, Calif.	468	305	91	39	15	19
Oakland, Calif.	72	45	15	7	4	–
Pasadena, Calif.	32	24	4	1	2	–
Portland, Oreg.	111	81	15	7	7	2
Sacramento, Calif.	76	49	17	6	3	–
San Diego, Calif.	225	86	40	69	3	2
San Francisco, Calif.	164	98	44	16	2	–
San Jose, Calif.	74	46	21	3	1	2
Seattle, Wash.	151	88	36	15	9	7
Spokane, Wash.	44	30	12	1	1	–
Tacoma, Wash.	40	30	5	2	1	2
TOTAL	10,852	6,497	2,660	822	450	371
Expected Number	10,787	6,557	2,768	685	423	372

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza

Legionnaires' Disease — Continued

A serologic survey of employees at the hospital and at an office building one-half mile away revealed a significantly higher prevalence of positive titers (≥1:128) in the hospital employees (4.2% vs. 15.8%) ($p=0.004$). The highest prevalence was in groundskeepers; 6 of 12 had positive titers ($p<0.02$ vs. all hospital employees).

In a study comparing inpatient cases with inpatient controls matched only for day of admission, more of the cases were immunosuppressed ($p<.01$) and cases had longer hospitalizations before developing pneumonia ($p=.0005$). There were no significant differences in sex, age, race, history of smoking, place of residence, location in the hospital, medications (other than immunosuppressives), or use of respiratory therapy.

In 1977 the incidence of nosocomial pneumonia was not increased over the preceding year in the hospital as a whole. However, 50% (6/12) of the renal homograft recipients acquired pneumonias in 1977 (all LD) compared to 14% (3/22) from any other single etiology for the preceding 3 years ($p=0.031$). There was no increase in pneumonia among leukemia and lymphoma patients during the same time periods. The renai transplant program has been suspended until the risk of infection can be reduced in the hospital.

In a survey from February through April 1978 of 1,500 consecutive admissions, 13% of patients had a titer ≥1:128 to the LD bacterium on admission to the hospital and 3.2% of 900 patients who provided paired serum specimens developed a ≥4-fold rise in titer to the LD bacterium in the 6-week period following their hospitalization. Seventy-two cases of nosocomial pneumonia occurred in these 1,500 patients (4.8%); 5 of these 72 had LD.

Attempts to recover the LD bacterium from the environment by cultures of air conditioning filters and condensate, exposure of guinea-pigs to the air inside the hospital, and cultures of soil, dust, and bird droppings, were unsuccessful.

Reported by PH Edelstein, MD, SM Finegold, MD, J Halter, RN, BD Kirby, MD, RD Meyer, MD, Wadsworth Veterans Administration Hospital, UCLA School of Medicine, Los Angeles; Infectious Diseases Section, California Dept of Health; Field Services Div, Bacterial Diseases Div, Bur of Epidemiology, CDC.

References

1. Kirby BD, Snyder KM, Meyer RD, Finegold SM: Legionnaires' disease: Clinical features of 24 cases. Ann Intern Med 89:297-309, 1978

2. Bock BV, Kirby BD, Edelstein PH, et al: Legionnaires' disease in renal-transplant recipients. Lancet 1:410-413, 1978

Rabies in a Pet Skunk — Arizona

Twenty-three persons in Arizona were exposed recently to a rabid skunk that had been captured in the wild and sold by a pet store.

The rabid animal was one of 50 descented skunks that a Cross Plains, Texas, supplier had sent on July 31 to a wholesale pet dealer in Phoenix, Arizona. By August 2, the dealer had distributed them to 8 pet shops in the Phoenix area and Tucson. All but 4 of these skunks have since been accounted for.

On August 12, one of the skunks was sold to a family from near Show Low, Arizona. The owners returned it to the store on August 13 and were given another because the original animal was vicious and had bitten them. The skunk was resold to a Phoenix resident on August 14, this time at a discount because of its aggressive behavior. It was taken to Yuma and left with another family where, on approximately August 24, the animal had onset of excessive salivation and screaming and began viciously biting at its cage.

Rabies – Continued

The skunk died on August 27 and was submitted to the state health laboratory on September 1, where it was found to be positive for rabies. A total of 23 persons including owners and store employees were exposed to the rabid skunk. One person was bitten more than 35 times by the animal. All are undergoing anti-rabies treatment.

Investigation by the Arizona Department of Health Services indicated that 1 other skunk in the shipment of 50 had been dead on arrival at a pet store and that subsequently 6 more had died in the stores. It was assumed by the pet dealers that all had died from complications of descenting—primarily rectal prolapse.

In tracking down the 50 animals from the shipment, the Arizona Department of Health Services found 2 in the neighboring states of Colorado and New Mexico; both were found to be negative for rabies. A total of 31 well skunks from Arizona (only 6 of which had not been sold) were sacrificed and examined for rabies by the state health laboratory; all were negative both by fluorescent antibody and mouse inoculation tests. The 7 animals that had died in the pet stores had been discarded before examination of the rabies-positive skunk. Four of the purchased skunks had escaped, and 1 had been killed in an accident.

The Texas Department of Health reported that the supplier did not have sufficient facilities to pen, breed, and raise enough skunks to meet the demand, so he was accustomed to trapping and selling young skunks or trapping pregnant females and selling their offspring. He also purchased skunks from local trappers. In 1977 he had distributed over 200 raccoons and approximately 500 skunks to several states including Arizona, Missouri, Michigan, Illinois, and Texas. The Texas Department of Health has notified the states that have received shipments of skunks from this particular distributor. The area of Texas from which these animals were obtained has had epizootic skunk rabies for a number of years.

Reported by T Kelly, DVM, Maricopa County Rabies Animal Control, Phoenix; W Bilderback, DVM, JM Counts, DrPH, P Hotchkiss, DVM, A Kelter, MD, State Epidemiologist, Arizona Dept of Health Services; F Marks, BS; C Webb, MD, State Epidemiologist, D Woodall, BS, Texas Dept of Health; Respiratory and Special Pathogens Br, Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: An increasing number of cases of rabies in wild pets, especially skunks, are being reported to CDC. In 1977 Oklahoma reported that in a 5-week period 3 pet skunks from different areas of the state were found rabies-positive (*1*). At least 50 persons were exposed to the infected animals. Montana reported, late in the summer of that year, that a rabid pet skunk had exposed 10 persons (*2*). In June 1978, 29 other persons were exposed to a rabid pet skunk in Oklahoma (*3*). And Indiana reported a similar incident, in which 26 persons were exposed, in July of this year. All of these incidents emphasize the need for more stringent control of wildlife that have been captured and kept as pets.

More persons come in contact with animals in captivity than would be the case if they were left in the wild. When rabies develops in captive wild animals, many persons may be exposed and need anti-rabies treatment.

CDC strongly urges that exotic or wild animals not be kept as pets and that states consider legislation against selling or keeping captured wild animals. Few states presently have the necessary laws to control the capture, distribution, and sale of such animals. Long and variable rabies-incubation periods in some wild animals kept as pets have been reported. In addition, rabies has been induced occasionally by modified, live virus vaccines given to wild animals. Finally, none of the vaccines currently available are known to be effective in immunizing wildlife against rabies. Recently the U.S. Animal Health Association promulgated a recommendation against interstate shipment or private ownership of wild animals that may have been collected in rabies-enzootic areas.

Rabies — Continued

References

1. CDC: Oklahoma makes it illegal to descent and vaccinate skunks against rabies. Veterinary Public Health Notes. October-November, 1977
2. CDC: Rabid skunk exposes 10 persons in Montana. Veterinary Public Health Notes. October-November, 1977
3. CDC: 29 persons exposed to rabid pet skunk in Oklahoma. Veterinary Public Health Notes. July 1978

Measles — Maryland

During the first half of 1978, 46 cases of measles were reported in Maryland, the lowest reported incidence since 1974. These cases were distributed in 11 of 24 counties.

Further epidemiologic data and vaccine histories were available for analysis from all cases. Cases in children under 5 accounted for 22% of the total, and persons ≥10 for 59%. Twenty-three (50%) of the cases occurred in unvaccinated persons; 22 cases (48%) occurred in persons who had documented histories of vaccination; vaccine history was unknown in the other person (Table 1). Twelve cases (26%) occurred in children with religious exemptions to vaccination; 11 of these children were exposed to a patient at a religious meeting.

TABLE 1. Vaccination status of 46 reported measles cases, January 1, 1978, through June 30, 1978, Maryland

Vaccination status		Number of cases	Percent of total
Vaccinated		22	47.8
Killed virus only	1		
Vaccine <12 months	3		
Vaccine ≥12 months	18		
Not vaccinated		23	50.0
Religious objection	12		
Less than 15 months old	3		
At least 15 months old	6		
Egg allergy	1		
History of disease	1		
Unknown status		1	2.2

Reported by CH Acree, MDCM, Maryland State Dept of Health & Mental Hygiene; Immunization Div, Bur of State Services, CDC.

Editorial Note: Twenty-four (52%) of these 46 cases occurred in children who were old enough for routine measles vaccination or who should have been revaccinated. Many of these inadequately immunized children could have been identified prior to their exposure to measles by careful immunization record-review. The observation that 26% of the cases occurred in children with religious exemptions to vaccination is of interest. A

The Morbidity and Mortality Weekly Report, circulation 78,750, is published by the Center for Disease Control, Atlanta, Georgia. The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

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.

Send mailing list additions, deletions, and address changes to: Center for Disease Control, Attn: Distribution Services, GSO, 1-SB-36, Atlanta, Georgia 30333. When requesting changes be sure to give your former address, including zip code and mailing list code number, or send an old address label.

Measles — Continued

recent survey has demonstrated that fewer than 1% of Maryland school children have such religious exemptions. During the periods when measles is known to be in the community, effective control of the disease may require that children with religious, medical, or other exemptions to immunization be excluded from school.

Follow-up on *Vibrio cholerae* serotype Inaba Infection — Louisiana

Vibrio cholerae serotype Inaba organisms have been isolated from canal water near White Lake, Louisiana, that had been sampled using a Moore swab (*1*) on October 2-3. Crabs caught in the vicinity on September 22 caused 6 known human infections with the organism (*2*). *V. cholerae* serotype Inaba also has been isolated from sewage from the town of Gueydan in Vermilion Parish. However, no cases have been reported from that town, nor have any additional cases been found elsewhere in the state.

The state of Louisiana is continuing surveillance of the commercial processing of crabs and of seafood. The public is also being urged to boil crabs at least 15 minutes before eating.

A reduced volume of unprocessed refrigerated and/or frozen crabs continue to be shipped from Louisiana. State and territorial public health officials have been notified of the investigation in Louisiana and, as part of its monitoring system of crabs, the U.S. Food and Drug Administration (FDA) is culturing appropriate specimens for *V. cholerae*.

No cases of cholera have been reported in states other than Louisiana, and none of the Louisiana cases have been associated with commercially prepared crabs. Close monitoring of specific commercial processing and cooking practices ensures a more uniform standard of quality than in home-prepared crabs.

Reported by HB Bradford, PhD, Director, Bur of Laboratories, CT Caraway, DVM, State Epidemiologist, Louisiana Dept of Health and Human Recources; FDA; Enteric Diseases Br, Epidemiologic Investigations Laboratory Br, Bacterial Diseases Div, Quarantine Div, Field Services Div, Bur of Epidemiology, CDC.

References

1. Moore B: Detection of paratyphoid carriers in towns by means of sewage examination. Monthly Bull Ministry Health 7:241-248, 1948
2. MMWR 27:388, 1978

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE / CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333 OFFICIAL BUSINESS

Postage and Fees Paid
U.S. Department of HEW
HEW 396

Director, Center for Disease Control
William H. Foege, M.D.
Director, Bureau of Epidemiology
Philip S. Brachman, M.D.
Editor
Michael B. Gregg, M.D.
Managing Editor
Anne D. Mather, M.A.
Chief, MMWR Statistical Activity
Dennis J. Bregman, M.S.

HEW Publication No. (CDC) 79-8017