CENTER FOR DISEASE CONTROL

October 12, 1979 / Vol. 28 / No. 40

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

Pseudo Outbreak of Hepatitis A — Louisiana

On July 9, 1979, a patient who had been hospitalized since April in a rehabilitation medicine unit in a hospital in New Orleans had an abnormal liver function test on routine testing. An initial anti-hepatitis A virus immunoglobulin M (anti-HAV IgM) test was positive.

In order to determine if hepatitis A was spreading in the hospital, 75 close contacts, including roommates, food service workers, and hospital staff, were screened for symptoms of hepatitis. Eight contacts gave a positive history of nausea, vomiting, right upper quadrant tenderness, light-colored stool, dark urine, and/or loss of taste for tobacco. These 8 and 2 other patients who had abnormal liver function tests were screened for anti-HAV IgM antibodies by a local laboratory. All 10 were reported positive. Five of these 10 were food service employees. In a further attempt to define the size of the apparent outbreak, an additional 111 contacts (65 employees and 46 patients) were screened for anti-HAV antibodies. Thirty-eight of these were positive for anti-HAV IgM antibodies. Although some of these contacts had mild, non-specific symptoms, none had clinically apparent hepatitis or significant liver function abnormalities (SGOT >100 IU/l).

Because of the high number of anti-HAV IgM positive tests in asymptomatic individuals, epidemiologists at the hospital and the state health department decided to forward all reported IgM-positive specimens to CDC's Hepatitis Laboratories Division for retesting. Although all 38 were positive for anti-HAV IgG, none were found positive for specific IgM antibodies.

Reported by WL Williams, MD, V Boudreaux, RN, R Gohd, PhD, Charity Hospital of New Orleans; CT Caraway, DVM, MPH, State Epidemiologist, L McFarland, MPH, Louisiana Dept of Health and Human Resources; Field Services Div, Hepatitis Laboratories Div, Bur of Epidemiology, CDC.

Editorial Note: This non-outbreak illustrates the problems with the non-commercial modification of commercially available kits for the detection of IgM antibodies to hepatitis A virus.

Anti-HAV IgM testing is a useful tool for hepatitis A diagnosis. IgM antibodies reflect recent acute infection with HAV, and IgG antibodies reflect infection which occurred months to years before. Anti-HAV IgM testing of acute-phase serum, together with hepatitis B surface antigen testing, can thus differentiate hepatitis A from hepatitis B.

Commercial radioimmunoassay testing kits for measuring the presence of anti-HAV antibody are available, but they do not distinguish between IgM and IgG antibodies. Test kits for distinguishing these antibodies are being developed and will be commercially available in 1980. Until that time, laboratories—such as the Louisiana laboratory described in this situation—are using a modification of the currently available test to distinguish IgM from IgG. The modification is based on *Staphylococcus aureus* protein

Pseudo Hepatitis Outbreak — Continued

A's ability to bind (and thus, remove) IgG (*1*). When performed properly, this modification works well and is useful; however, false-positive tests can occur when the procedure is not followed exactly. Only certain strains of *S. aureus*, such as Cowan I and Newman D_2C, have sufficient protein A for successful absorption testing; strains such as Wood and 566 are not suitable. Furthermore, particular attention must be paid to the mechanics of the test, since false-positive results can be obtained simply by improperly diluting serum. Information for differential testing is available from CDC's Hepatitis Laboratories Division, located in Phoenix.

Reference

1. Bradley DW, Fields HA, McCaustland KA, et al: Serodiagnosis of viral hepatitis A by a modified competitive binding radioimmunoassay for immunoglobulin M anti-hepatitis A virus. J Clin Microbiol 9:120-127, 1978

Epidemiologic Notes and Reports

St. Louis Encephalitis — Mississippi

Following a report of 2 fatal cases of presumptive St. Louis encephalitis (SLE) in residents of Washington County, Mississippi, an investigation was begun. In that county and neighboring Sunflower County, investigators uncovered a total of 6 cases of either encephalitis (5 cases) or aseptic meningitis (1) with laboratory-confirmed or presumptive evidence* of SLE. In addition, 20 recent suspected SLE cases were identified.

The dates of onset for confirmed or presumptive cases were August 10-27, and for suspected cases, June 12-September 24. Of the laboratory-confirmed and presumptive cases, 4 were in males and 2 in females. The age range was from 12 to 90 years (median, 64). Of the suspected cases, 12 were in males and 8 in females; the age range was from 1 to 76 years (median, 30.5).

Within the past 7 years, Washington County has had 1 large outbreak of SLE, in 1975, and 1 smaller outbreak, in 1974. A review of emergency room visits at the Delta Medical Center (the major referral hospital in Washington County) from June through September, 1973-1979, revealed a significantly higher percentage of patients presenting with fever and/or headache—the 2 most common symptoms of SLE—in 1979 than in 1973, 1976, 1977, or 1978—years in which no SLE epidemic had been reported ($p<.05$) (Figure 1). Further investigations of the suspected cases are underway, and young birds in the affected areas will be serologically tested for SLE.

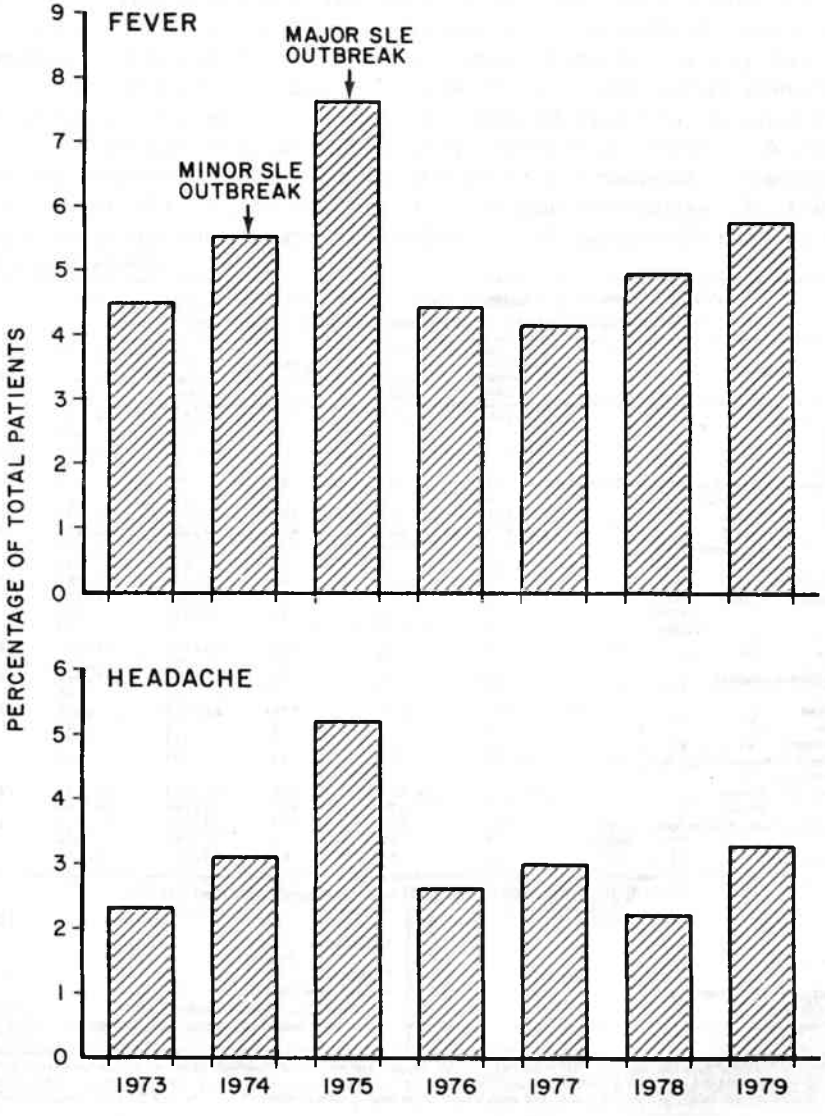
*Presumptive laboratory evidence was defined as a single hemagglutination inhibition (HI) titer to SLE of ≥1:40 in a patient with clinical encephalitis; confirmation was defined as a ≥4-fold rise or fall in HI titer.

Encephalitis – Continued

Surveillance of human arboviral disease in the rest of Mississippi has revealed 1 presumptive case of SLE with onset in August in Yazoo County and 16 other suspected cases scattered in 9 other counties.

Reported by D Blakey, MD, State Epidemiologist, C Davis, Mississippi State Board of Health; Enteric and Neurotropic Viral Diseases Br, Viral Diseases Div, Bur of Epidemiology, CDC.

FIGURE 1. Patients complaining of fever or headache, Delta Medical Center Emergency Room, as percentage of total patients, June through September, 1973-1979



Human Rabies — Oklahoma

On September 26, 1979, CDC was notified of a possible case of human rabies occurring in a man from northeastern Oklahoma.

The 24-year-old man was well until September 15, when he had onset of insomnia, headache, nausea, vomiting, malaise, myalgia, and fever (101 F). Two days later, when symptoms persisted and tremulousness, intermittent confusion, and hallucinations began, he was hospitalized. He became hyperactive, hyper-responsive to environmental stimuli, and diaphoretic, and developed a left seventh cranial nerve palsy. Localized and generalized seizures began on the sixth day of his clinical illness. He was intubated and treated with dopamine for hypotension. On September 22, he was transferred to another hospital. Cerebrospinal fluid (CSF) specimens obtained on September 23 contained 34 lymphocytes and 1 monocyte/mm,^{3} a protein level of 176 mg/dl, and a glucose level of 133 mg/dl. The patient became obtunded on September 22 and progressively comatose over the next 4 days. An electroencephalogram revealed diffuse, slow, non-focal dysrhythmia. Serum rabies virus neutralizing antibody titers were 1:12, 1:10, and 1:42 on September 22, September 23, and September 28, respectively. CSF antibody titers were <1:5. The patient's condition continued to deteriorate, despite intensive support, and he died on October 4. A postmortem brain biopsy contained fluorescing rabies antigen.

The patient's occupation as a woodcutter and his activities before his illness provided the potential for exposure to rabid wild or domestic animals. Thus far, however, no such contact has been documented. Friends and family contacts of the patient and employees

(Continued on page 481)

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

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

DISEASE	40th WEEK ENDING		MEDIAN 1974-1978**	CUMULATIVE, FIRST 40 WEEKS		
	October 6, 1979	October 7, 1978*		October 6, 1979	October 7, 1978*	MEDIAN 1974-1978**
Aseptic meningitis	289	265	130	5,702	4,696	2,922
Brucellosis	2	4	5	121	136	177
Chickenpox	377	415	504	172,380	125,242	125,242
Diphtheria	–	1	1	63	62	127
Encephalitis: Primary (arthropod-borne & unspec.)	31	34	34	753	930	930
Post-infectious	4	6	5	176	185	206
Hepatitis, Viral: Type B	205	281	281	11,034	11,531	11,531
Type A	473	624	624	22,307	22,212	26,159
Type unspecified	195	200	173	8,078	6,430	6,367
Malaria	12	25	14	530	581	364
Measles (rubeola)	71	171	103	12,274	24,288	24,288
Meningococcal infections: Total	31	29	21	2,027	1,905	1,235
Civilian	31	29	21	2,017	1,882	1,218
Military	–	–	–	10	23	23
Mumps	77	102	272	11,442	13,759	33,303
Pertussis	25	33	34	1,053	1,632	1,300
Rubella (German measles)	27	64	64	10,795	17,069	15,025
Tetanus	3	3	3	53	65	65
Tuberculosis	441	527	574	21,519	22,458	23,519
Tularemia	3	3	3	158	97	108
Typhoid fever	10	10	9	377	395	316
Typhus fever, tick-borne (Rky. Mt. spotted)	21	16	13	927	958	797
Venereal diseases:						
Gonorrhea: Civilian	16,312	24,418	22,381	761,813	773,028	773,028
Military	565	676	575	21,166	20,036	21,006
Syphilis, primary & secondary: Civilian	401	512	497	18,738	16,363	16,363
Military	7	10	2	241	236	236
Rabies in animals	94	64	63	3,882	2,450	2,328

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1979		CUM. 1979
Anthrax	–	Poliomyelitis: Total	23
Botulism	19	Paralytic	20
Cholera	1	Psittacosis	78
Congenital rubella syndrome	37	Rabies in man (Okla. 1)	3
Leprosy † (Tex. 1)	133	Trichinosis (Wis. 1, Tex. 2, Alaska 1)	126
Leptospirosis	35	Typhus fever, flea-borne (endemic, murine) (Tex. 3)	51
Plague	10		

*Delayed reports received for calendar year 1978 are used to update last year's weekly and cumulative totals.

**Medians for gonorrhea and syphilis are based on data for 1976-1978.

†The following delayed report will be reflected in next week's cumulative total: Leprosy: Minn. +1

TABLE III. Cases of specified notifiable diseases, United States, weeks ending October 6, 1979, and October 7, 1978 (40th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1979	1979	1979	1979	CUM. 1979	1979	1978*	1979	1979	1979	1979	1979	CUM. 1979
UNITED STATES	289	2	377	–	63	31	34	4	205	473	195	12	530
NEW ENGLAND	9	–	43	–	–	2	2	–	12	15	11	1	34
Maine	–	–	13	–	–	–	–	–	1	8	1	–	3
N.H. †	2	–	4	–	–	1	–	–	1	–	–	–	–
Vt.	–	–	–	–	–	–	–	–	–	–	–	–	–
Mass.	3	–	13	–	–	–	2	–	1	3	9	–	9
R.I.	4	–	3	–	–	–	–	–	2	1	–	–	9
Conn.	–	–	10	–	–	1	–	–	7	3	1	1	13
MID. ATLANTIC	76	–	29	–	–	6	3	1	29	46	20	4	75
Upstate N.Y.	22	–	4	–	–	1	3	1	2	7	4	–	12
N.Y. City	10	–	21	–	–	–	–	–	3	10	4	2	35
N.J.	25	–	NN	–	–	–	–	–	8	18	9	–	12
Pa.†	19	–	4	–	–	5	–	–	16	11	3	2	16
E.N. CENTRAL	64	–	134	–	2	4	11	–	30	67	12	–	39
Ohio	–	–	1	–	–	–	6	–	1	9	–	–	7
Ind.†	–	–	31	–	1	–	–	–	9	2	5	–	1
Ill.	8	–	18	–	–	3	1	–	6	19	–	–	18
Mich.	29	–	31	–	–	1	–	–	10	27	7	–	11
Wis.†	27	–	53	–	1	–	4	–	4	10	–	–	2
W.N. CENTRAL	11	–	36	–	1	6	3	1	8	19	5	1	18
Minn.	–	–	–	–	–	–	–	–	5	2	–	1	7
Iowa	8	–	14	–	–	6	2	–	1	1	1	–	2
Mo.	–	–	1	–	1	–	1	–	2	8	3	–	3
N. Dak.†	–	–	4	–	–	–	–	–	–	–	–	–	1
S. Dak.	–	–	–	–	–	–	–	–	–	2	–	–	1
Nebr.	–	–	1	–	–	–	–	–	–	–	–	–	2
Kans.†	3	–	16	–	–	–	–	1	–	6	1	–	2
S. ATLANTIC	63	2	56	–	1	6	3	1	46	65	30	2	64
Del.	2	–	1	–	–	–	–	–	–	–	1	–	1
Md.	15	–	–	–	–	1	1	–	12	7	12	1	11
D.C.	–	–	1	–	–	–	–	–	1	1	–	–	6
Va.	9	1	–	–	1	–	1	–	6	4	5	–	21
W. Va.	3	–	28	–	–	2	1	–	1	4	1	–	2
N.C.	18	–	NN	–	–	3	–	–	8	9	1	–	5
S.C.	5	–	5	–	–	–	–	–	3	5	1	–	1
Ga.	–	–	–	–	–	–	–	–	NA	NA	NA	–	2
Fla.†	11	1	21	–	–	–	–	1	15	35	9	1	15
E.S. CENTRAL	4	–	2	–	–	3	1	–	23	44	15	–	9
Ky.	–	–	2	–	–	–	–	–	9	14	1	–	–
Tenn.	3	–	NN	–	–	2	1	–	10	14	11	–	–
Ala.	1	–	–	–	–	1	–	–	2	10	3	–	3
Miss.	–	–	–	–	–	–	–	–	2	6	–	–	6
W.S. CENTRAL	35	–	26	–	–	–	3	–	27	72	48	2	32
Ark.	1	–	–	–	–	–	–	–	3	2	2	–	–
La.	1	–	NN	–	–	–	–	–	5	10	–	–	3
Okla.	4	–	–	–	–	–	2	–	–	4	4	–	5
Tex.	29	–	26	–	–	–	1	–	19	56	42	2	24
MOUNTAIN	10	–	15	–	1	1	2	1	9	102	48	–	14
Mont.†	–	–	4	–	–	–	–	–	–	–	–	–	2
Idaho	–	–	–	–	–	–	–	–	–	4	–	–	–
Wyo.	–	–	–	–	–	1	–	1	2	–	–	–	1
Colo.	6	–	9	–	–	–	2	–	3	9	4	–	5
N. Mex.	–	–	–	–	–	–	–	–	–	7	–	–	1
Ariz.	–	–	NN	–	1	–	–	–	1	67	37	–	4
Utah	1	–	–	–	–	–	–	–	–	2	1	–	–
Nev.	3	–	2	–	–	–	–	–	3	13	6	–	1
PACIFIC	17	–	36	–	58	3	6	–	21	43	6	2	245
Wash.†	5	–	26	–	56	–	–	–	10	33	1	2	12
Oreg.	5	–	–	–	–	3	–	–	7	10	4	–	10
Calif.	NA	NA	NA	NA	2	NA	6	–	NA	NA	NA	NA	221
Alaska	1	–	3	–	–	–	–	–	1	–	1	–	–
Hawaii	6	–	7	–	–	–	–	–	3	–	–	–	2
Guam	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
P.R.†	3	–	4	–	–	–	–	–	4	2	5	–	1
V.I.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Pac. Trust Terr.†	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–

NN: Not notifiable. NA: Not available.

*Delayed reports received for 1978 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.: N.H. +6, Pa. –1, Ind. +14, Kans. –2; Chickenpox: Pac.Tr.Terr. +19; Enceph, pri.: N.H. –1, Ind. +2, Wis. +2, Fla. +1, Mont. –1, Wash. +1; Hep. B: N.H. +1, Pa. +27, Wis. –1; Hep. A: Pa. +22, N.Dak. +1, Pac.Tr.Terr. +7; Hep. unsp.: Pa. +6; Malaria: N.H. +1, P.R. +1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending October 6, 1979, and October 7, 1978 (40th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	1979	1979	CUM. 1979	CUM. 1979
UNITED STATES	71	12,274	24,288	31	2,027	1,905	77	11,442	25	27	10,795	53
NEW ENGLAND	–	287	1,967	1	104	103	9	422	4	3	1,415	5
Maine	–	17	1,314	–	6	7	6	149	4	–	61	1
N.H.	–	32	48	–	9	8	–	5	–	1	123	–
Vt.	–	119	29	–	6	2	–	9	–	–	397	–
Mass.	–	13	241	–	34	43	–	37	–	2	485	3
R.I.	–	102	8	–	7	16	2	40	–	–	93	–
Conn.	–	4	327	1	42	27	1	182	–	–	256	1
MID. ATLANTIC	27	1,492	2,181	7	316	300	13	1,118	3	6	1,912	8
Upstate N.Y.	20	617	1,396	1	105	96	3	161	3	–	1,059	2
N.Y. City	6	772	355	–	77	70	1	122	–	6	266	4
N.J.	–	57	74	2	73	60	4	544	–	–	323	1
Pa.†	1	46	356	4	61	74	5	291	–	–	264	1
E.N. CENTRAL	19	3,198	10,924	2	201	258	25	4,945	2	6	2,514	3
Ohio	4	270	482	–	72	69	–	1,774	–	–	138	2
Ind.	6	211	199	–	41	44	8	288	–	–	730	–
Ill.	1	1,422	1,107	1	15	81	5	877	1	–	183	–
Mich.	2	827	7,663	1	57	53	4	893	1	4	1,202	1
Wis.†	6	468	1,473	–	16	11	8	1,113	–	2	261	–
W.N. CENTRAL	2	1,738	398	–	59	69	3	664	–	1	463	2
Minn.	1	1,218	39	–	11	16	–	12	–	–	41	–
Iowa	–	16	57	–	10	10	1	234	–	–	52	–
Mo.	1	414	11	–	29	26	1	195	–	1	61	1
N. Dak.	–	21	196	–	1	3	–	2	–	–	8	1
S. Dak.	–	2	–	–	2	3	–	7	–	–	5	–
Nebr.	–	–	5	–	–	–	–	7	–	–	202	–
Kans.	–	67	90	–	6	11	1	207	–	–	94	–
S. ATLANTIC	13	1,863	5,171	13	503	456	11	587	4	4	1,227	9
Del.	–	1	7	–	3	2	1	41	–	–	5	–
Md.	–	16	52	3	45	31	1	159	–	–	28	–
D.C.	–	–	48	–	2	2	–	2	–	–	1	–
Va.	–	273	2,828	–	71	55	1	86	–	–	202	1
W. Va.	2	57	1,056	–	8	12	4	102	–	–	106	–
N.C.	1	113	120	2	78	92	1	73	–	1	529	3
S.C.	–	151	198	–	59	30	–	3	–	2	64	–
Ga.	1	467	33	3	74	49	–	7	1	–	11	–
Fla.	9	785	829	5	163	183	3	114	3	1	281	5
E.S. CENTRAL	3	208	1,415	2	152	148	2	1,347	2	1	301	8
Ky.	–	37	119	2	31	28	–	1,108	2	–	68	1
Tenn.	3	63	951	–	44	39	2	101	–	1	98	–
Ala.	–	84	101	–	36	46	–	23	–	–	44	5
Miss.	–	24	244	–	41	35	–	115	–	–	91	2
W.S. CENTRAL	5	924	1,091	4	320	274	5	1,353	6	3	239	16
Ark.	–	9	16	–	27	21	–	481	3	–	6	4
La.	–	250	343	1	118	112	–	36	2	–	28	3
Okla.	–	22	13	2	30	16	–	–	–	–	22	–
Tex.	5	643	719	1	145	125	5	836	1	3	183	9
MOUNTAIN	1	324	252	2	82	42	2	272	3	1	528	–
Mont.	–	57	106	–	8	4	–	10	–	–	69	–
Idaho	–	18	1	–	7	4	–	9	–	–	204	–
Wyo.	–	36	–	–	1	–	–	–	–	–	–	–
Colo.	–	68	31	–	5	3	2	79	3	–	66	–
N. Mex.†	–	39	–	1	6	7	–	12	–	–	11	–
Ariz.	1	77	51	–	35	15	–	54	–	–	139	–
Utah†	–	18	44	–	8	5	–	94	–	1	37	–
Nev.	–	11	19	1	12	4	–	14	–	–	2	–
PACIFIC	1	2,240	889	–	290	255	7	734	1	2	2,196	2
Wash.†	1	1,130	196	–	47	44	1	194	–	2	183	–
Oreg.	–	61	148	–	23	28	4	91	–	–	101	–
Calif.	NA	966	535	–	204	174	NA	339	NA	NA	1,886	2
Alaska	–	17	1	–	6	6	–	9	1	–	3	–
Hawaii	–	66	9	–	10	3	2	101	–	–	23	–
Guam	NA	10	25	–	1	1	NA	11	NA	NA	4	–
P.R.	5	349	258	–	5	7	3	547	–	–	36	9
V.I.	NA	4	6	–	3	1	NA	20	NA	NA	–	–
Pac. Trust Terr.†	NA	8	608	–	1	2	NA	32	NA	NA	1	–

NA: Not available.

*Delayed reports received for 1978 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: Wis. –2, Wash. –2, Pac.Tr.Terr. +1; Men. inf.: Pa. –3, Wash. +3; Mumps: Utah +2, Pac.Tr.Terr. +2; Pertussis: N.Mex. +1, Pac.Tr.Terr. +1; Rubella: Utah –1,

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending October 6, 1979, and October 7, 1978 (40th week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1979	CUM. 1979	CUM. 1979	1979	CUM. 1979	1979	CUM. 1979	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	CUM. 1978*	CUM. 1979
UNITED STATES	441	21,519	158	10	377	21	927	16,312	761,813	773,028	401	18,738	16,363	3,882
NEW ENGLAND	15	611	3	–	16	1	9	456	18,897	20,046	4	366	457	43
Maine	3	46	–	–	1	–	–	18	1,297	1,603	–	10	7	27
N.H.†	1	14	–	–	–	–	–	20	702	923	–	18	5	3
Vt.	–	25	–	–	–	1	1	19	457	493	–	1	3	–
Mass.	7	322	3	–	9	–	4	187	7,507	8,796	1	203	279	10
R.I.	2	53	–	–	2	–	–	38	1,540	1,432	–	13	20	2
Conn.†	2	151	–	–	4	–	4	174	7,394	6,799	3	121	143	1
MID. ATLANTIC	107	3,393	1	2	65	–	38	1,981	83,286	83,476	79	2,834	2,123	65
Upstate N.Y.	12	610	1	1	13	–	22	551	14,398	14,055	6	213	153	46
N.Y. City	56	1,263	–	–	28	–	1	NA	31,964	31,819	56	1,906	1,469	–
N.J.	19	629	–	–	15	–	5	809	14,817	15,631	5	370	258	5
Pa.	20	891	–	1	9	–	10	621	22,107	21,971	12	345	243	14
E.N. CENTRAL	69	3,171	–	–	26	–	57	1,835	118,618	118,896	39	2,418	1,843	341
Ohio	14	565	–	–	3	–	20	614	32,553	30,796	15	472	324	30
Ind.	14	411	–	–	–	–	2	102	10,219	12,399	–	174	125	63
Ill.	27	1,261	–	–	7	–	31	335	37,178	37,450	5	1,342	1,170	157
Mich.†	9	790	–	–	12	–	3	784	28,023	27,613	19	362	174	13
Wis.†	5	144	–	–	4	–	1	NA	10,645	10,638	–	68	50	78
W.N. CENTRAL	14	733	24	1	16	6	52	1,279	38,070	39,234	8	248	341	761
Minn.	–	115	–	–	3	–	2	230	6,330	6,636	4	68	133	139
Iowa†	1	59	1	–	4	–	13	217	4,562	4,351	–	28	29	143
Mo.	10	391	20	–	6	6	25	529	16,429	17,367	2	113	107	235
N. Dak.	–	15	–	–	–	–	–	33	637	705	–	2	2	59
S. Dak.†	1	43	2	–	–	–	–	40	1,277	1,345	–	2	3	78
Nebr.†	–	22	1	–	1	–	4	84	2,664	2,747	–	4	11	–
Kans.	2	88	–	1	2	–	8	146	6,171	6,083	2	31	56	107
S. ATLANTIC	93	4,860	8	2	40	9	532	4,785	184,865	188,076	120	4,469	4,326	552
Del.	–	38	–	–	–	–	3	83	3,072	2,666	2	23	9	–
Md.†	21	623	–	–	7	–	60	595	22,520	24,258	4	288	330	37
D.C.	3	223	2	–	1	–	2	311	12,181	12,566	15	352	327	–
Va.	10	573	1	–	4	3	89	490	17,794	18,136	7	371	362	18
W. Va.	2	187	–	–	4	–	9	46	2,495	2,587	1	44	16	–
N.C.†	16	768	–	–	2	4	212	757	26,627	26,643	9	358	454	16
S.C.	12	376	1	–	3	2	73	544	17,356	18,480	7	230	229	157
Ga.	NA	747	4	–	2	–	77	1,001	35,144	36,462	45	1,250	1,083	278
Fla.†	29	1,325	–	2	17	–	7	958	47,676	46,278	30	1,553	1,516	46
E.S. CENTRAL	42	1,964	14	1	19	1	125	1,418	64,972	66,187	36	1,238	865	266
Ky.	11	514	2	–	5	–	19	315	8,694	8,726	2	134	109	109
Tenn.	8	556	12	–	3	1	73	615	23,423	24,298	19	535	302	91
Ala.	15	470	–	–	8	–	17	156	19,224	18,884	11	226	147	65
Miss.	8	424	–	1	3	–	16	332	13,631	14,279	4	343	307	1
W.S. CENTRAL	68	2,610	67	3	64	4	93	2,741	98,614	104,094	100	3,477	2,633	1,461
Ark.	4	226	42	–	5	2	22	168	7,634	7,515	6	115	59	277
La.	8	522	5	–	5	1	2	492	17,569	16,946	17	882	552	24
Okla.	8	282	13	–	–	–	53	258	9,680	9,833	–	70	77	223
Tex.	48	1,580	7	3	54	1	16	1,823	63,731	69,800	77	2,410	1,945	937
MOUNTAIN	16	650	36	–	24	–	16	970	30,912	29,451	10	385	343	132
Mont.	–	29	8	–	–	–	5	41	1,515	1,676	–	8	7	8
Idaho	2	12	1	–	1	–	2	29	1,384	1,218	3	24	13	7
Wyo.†	–	6	–	–	1	–	–	30	896	705	–	8	8	–
Colo.	8	97	12	–	13	–	4	224	8,142	8,070	1	75	94	49
N. Mex.	–	112	4	–	4	–	1	121	3,784	4,208	–	68	73	38
Ariz.	5	321	–	–	3	–	–	311	8,719	7,706	–	114	81	23
Utah†	1	26	9	–	–	–	1	43	1,571	1,592	–	3	11	7
Nev.	–	47	2	–	2	–	3	171	4,901	4,276	6	85	56	–
PACIFIC	17	3,527	5	1	107	–	5	847	123,579	123,568	5	3,303	3,432	261
Wash.†	6	201	3	–	5	–	–	404	11,003	9,982	NA	153	185	–
Oreg.	8	148	–	1	2	–	–	236	8,024	8,439	2	140	123	13
Calif.	NA	2,868	2	NA	91	NA	5	NA	98,229	99,120	NA	2,915	3,081	246
Alaska†	–	59	–	–	2	–	–	145	3,947	3,847	–	21	9	2
Hawaii	3	251	–	–	7	–	–	62	2,376	2,180	3	74	34	–
Guam	NA	49	–	NA	–	NA	–	NA	73	100	NA	–	–	–
P.R.	5	233	–	–	4	–	–	65	1,695	1,701	8	429	384	17
V.I.	NA	4	–	NA	1	NA	–	NA	125	151	NA	7	14	–
Pac. Trust Terr.†	NA	25	–	NA	–	NA	–	NA	312	379	NA	1	–	–

NA: Not available.
*Delayed reports received for 1978 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. –2, N.C. –4, Fla. –4, Alaska +4, Pac.Tr.Terr. +4; GC: N.H. +6 mil.; Wis. –6 civ., Nebr. –1 civ., Md. +291 civ., Wyo. +1 mil., Utah –1 civ., Pac.Tr.Terr. +32 civ.; Syphilis: Md. +3 civ., Wash. +13 civ.; An. rabies: Conn. +1, Iowa –1, S. Dak. +10.

TABLE IV. Deaths in 121 U.S. cities,* week ending October 6, 1979 (40th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	<1	
NEW ENGLAND	649	423	160	23	26	33
Boston, Mass.	150	83	44	10	5	10
Bridgeport, Conn.	52	37	11	–	4	2
Cambridge, Mass.	27	19	6	2	–	3
Fall River, Mass.	32	23	6	3	–	1
Hartford, Conn.	69	46	16	1	2	1
Lowell, Mass.	41	26	13	1	–	2
Lynn, Mass.	30	23	6	1	–	–
New Bedford, Mass.	19	13	4	2	–	–
New Haven, Conn.	52	38	9	1	3	–
Providence, R.I.	63	43	17	1	1	5
Somerville, Mass.	4	2	2	–	–	–
Springfield, Mass.	31	20	8	–	3	1
Waterbury, Conn.	30	24	6	–	–	5
Worcester, Mass.	49	26	12	1	8	3
MID. ATLANTIC	2,318	1,497	532	159	62	83
Albany, N.Y.	53	36	8	3	2	–
Allentown, Pa.	21	12	9	–	–	–
Buffalo, N.Y.	73	47	21	2	2	8
Camden, N.J.	32	18	9	5	–	–
Elizabeth, N.J.	22	8	12	–	1	–
Erie, Pa.†	50	32	14	1	2	2
Jersey City, N.J.	44	22	14	6	–	–
Newark, N.J.	63	34	17	7	5	–
N.Y. City, N.Y.	1,372	900	308	92	29	45
Paterson, N.J.	27	16	3	7	1	–
Philadelphia, Pa.†	171	105	37	14	8	9
Pittsburgh, Pa.†	59	34	20	2	1	4
Reading, Pa.	23	17	5	1	–	1
Rochester, N.Y.	110	77	22	4	3	8
Schenectady, N.Y.	17	10	5	1	1	–
Scranton, Pa.†	25	17	6	2	–	2
Syracuse, N.Y.	61	38	13	4	5	1
Trenton, N.J.	50	41	4	3	2	1
Utica, N.Y.	17	10	5	–	–	–
Yonkers, N.Y.	28	23	–	5	–	2
E.N. CENTRAL	2,198	1,273	590	153	96	56
Akron, Ohio	60	42	13	3	1	–
Canton, Ohio	44	30	10	3	1	–
Chicago, Ill.	585	328	149	49	30	12
Cincinnati, Ohio	161	83	56	9	7	1
Cleveland, Ohio	124	69	38	10	6	3
Columbus, Ohio	85	47	27	4	2	6
Dayton, Ohio	92	55	24	4	5	2
Detroit, Mich.	251	142	70	24	9	3
Evansville, Ind.	45	26	13	2	2	1
Fort Wayne, Ind.	41	20	8	5	2	1
Gary, Ind.	21	6	9	3	1	2
Grand Rapids, Mich.	56	35	15	3	2	6
Indianapolis, Ind.	151	91	41	9	5	2
Madison, Wis.	41	22	12	3	3	3
Milwaukee, Wis.	149	104	33	4	7	5
Peoria, Ill.	27	14	9	2	1	3
Rockford, Ill.	34	21	9	2	2	–
South Bend, Ind.	32	24	4	1	–	3
Toledo, Ohio	128	74	30	8	6	1
Youngstown, Ohio	71	40	20	5	4	2
W.N. CENTRAL	706	452	151	52	24	35
Des Moines, Iowa	63	43	12	5	–	3
Duluth, Minn.	13	8	3	–	–	3
Kansas City, Kans.	21	14	5	–	2	3
Kansas City, Mo.	131	81	27	9	8	5
Lincoln, Nebr.	15	12	2	–	1	1
Minneapolis, Minn.	84	60	14	3	4	2
Omaha, Nebr.	86	54	19	9	1	–
St. Louis, Mo.	160	95	36	20	3	6
St. Paul, Minn.	71	50	13	5	2	5
Wichita, Kans.	62	35	20	1	3	7

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	<1	
S. ATLANTIC	1,150	684	282	91	58	44
Atlanta, Ga.	127	70	32	18	6	4
Baltimore, Md.	170	96	49	10	9	1
Charlotte, N.C.	70	39	21	5	4	6
Jacksonville, Fla.	92	56	23	7	1	4
Miami, Fla.	199	125	37	14	15	3
Norfolk, Va.	40	17	7	6	7	3
Richmond, Va.	77	45	22	7	1	4
Savannah, Ga.	50	27	13	4	5	1
St. Petersburg, Fla.	86	77	6	1	2	6
Tampa, Fla.	67	37	21	4	2	5
Washington, D.C.	136	74	40	13	5	7
Wilmington, Del.	36	21	11	2	1	–
E.S. CENTRAL	659	388	178	44	29	24
Birmingham, Ala.	106	62	29	6	7	2
Chattanooga, Tenn.	29	19	6	1	2	2
Knoxville, Tenn.	32	21	8	1	1	–
Louisville, Ky.	117	65	34	6	8	8
Memphis, Tenn.	146	81	43	13	5	3
Mobile, Ala.	75	47	19	6	1	5
Montgomery, Ala.	49	30	11	3	2	1
Nashville, Tenn.	105	63	28	8	3	5
W.S. CENTRAL	1,139	599	310	111	50	19
Austin, Tex.	25	18	4	1	1	1
Baton Rouge, La.	37	20	12	1	4	–
Corpus Christi, Tex.	35	24	2	3	3	3
Dallas, Tex.	173	90	40	24	9	2
El Paso, Tex.	60	28	23	3	2	3
Fort Worth, Tex.	80	42	21	6	7	4
Houston, Tex.	331	153	94	47	7	1
Little Rock, Ark.	52	32	15	2	2	1
New Orleans, La.	100	50	35	6	4	–
San Antonio, Tex.	148	80	41	12	7	3
Shreveport, La.	25	15	6	1	3	–
Tulsa, Okla.	73	47	17	5	1	1
MOUNTAIN	523	304	109	45	32	11
Albuquerque, N.Mex.	53	27	15	5	2	1
Colo. Springs, Colo.	22	15	4	3	–	2
Denver, Colo.	94	58	15	9	6	4
Las Vegas, Nev.	60	33	15	6	–	1
Ogden, Utah	25	14	5	1	2	1
Phoenix, Ariz.	122	77	26	6	9	1
Pueblo, Colo.	17	11	3	2	–	–
Salt Lake City, Utah	52	24	12	4	9	–
Tucson, Ariz.	78	45	14	9	4	–
PACIFIC	1,740	1,094	393	118	61	52
Berkeley, Calif.	25	18	4	1	1	1
Fresno, Calif.	57	36	12	2	4	3
Glendale, Calif.	28	21	3	1	2	2
Honolulu, Hawaii	58	32	15	4	4	1
Long Beach, Calif.	116	73	30	6	3	2
Los Angeles, Calif.	508	306	114	51	13	17
Oakland, Calif.	46	30	13	2	–	–
Pasadena, Calif.	34	22	7	–	1	2
Portland, Oreg.	121	76	27	7	8	2
Sacramento, Calif.	72	48	19	2	2	4
San Diego, Calif.	128	80	25	10	3	2
San Francisco, Calif.	150	90	38	11	5	5
San Jose, Calif.	161	103	32	12	8	2
Seattle, Wash.	136	91	30	7	4	5
Spokane, Wash.	57	34	17	1	2	2
Tacoma, Wash.	43	34	7	1	1	2
TOTAL	11,082	6,714	2,705	796	438	357

*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

†Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

Human Rabies – Continued

of the 2 hospitals at which he was treated are being investigated to determine the degree of their exposure to the patient. As of October 5, 18 family/friend contacts and 34 hospital employees have been identified as having a possibly significant exposure. These persons are beginning a course of postexposure prophylaxis.

Reported by L Kerton, RN, S Schwartz, MD, Tulsa, Oklahoma; EM Cleaver, MD, FA Reynolds, MD, Tulsa City County Health Dept; J Grim, RN, MA Roberts, MPH, Acting State Epidemiologist, M Ward, MD, Oklahoma State Dept of Health; Field Services Div, Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: The patient's clinical course, the rising neutralizing antibody titers in the absence of any antirabies therapy, and the presence of rabies virus in the brain, identified by fluorescence, provide strong evidence to support a diagnosis of rabies. Although a corneal impression fluorescently stained for rabies virus antigen was strongly positive, CDC is not currently using this as a diagnostic test because of several false-positive tests in human non-rabies cases. The corneal impression test appears to be a very reliable diagnostic test in animal models (*1*) and is sometimes positive in man (*2,3*), but its diagnostic capabilities have not been fully evaluated in human rabies.

If a likely exposure to rabies is not found, this man will be the fourth of 8 cases of human rabies reported to CDC since January 1978 in which no source of rabies was discovered. The most probable explanation for this was the inability of the patients to communicate at the time rabies was entertained as a diagnosis. Thus, rabies should be considered as a possible cause of encephalopathic illness of undetermined etiology, despite a negative contact history.

With the exception of a corneal transplant recipient (*4*), no human-to-human transmission of rabies has been documented. However, because of the theoretical possibility of human-to-human transmission in limited circumstances, CDC currently recommends treating contacts of human rabies cases who have possible risk exposure. Risk exposure is considered to be the contamination of open wounds or mucous membranes with saliva or other potentially infectious materials such as neural tissue, autopsy tissue, or spinal fluid. Although any risk of acquiring rabies under these circumstances is unlikely, CDC recommends postexposure prophylaxis for contacts with these exposures.

References

1. Larghi CP, Gonzalez L, Held JR: Evaluation of the corneal test as a laboratory method for rabies diagnosis. Appl Microbiol 25:187-189, 1973
2. Cifuentes E, Calderon E, Bijlengn G: Rabies in a child diagnosed by a new intravitam method-the corneal test. J Trop Med Hyg 74:23-25, 1971
3. Koch FJ, Sagartz JW, Davidson DE, Lawhaswasdi K: Diagnosis of human rabies by the cornea test. Am J Clin Pathol 63:509-515, 1975
4. MMWR 28:109-111, 1979

Rabies in Pet Skunks – Oregon

The Oregon Department of Human Resources recently reported laboratory-confirmed rabies in 2 pet skunks among approximately 161 shipped to the state in June and July of this year from a Minnesota animal dealer. The dealer's operation is licensed and inspected by the U.S. Department of Agriculture (USDA), and all distributed skunks were reported as being pen-bred.

The 2 positive skunks were among a shipment of 30 received at a north Portland, Oregon, pet store on June 28. The first infected animal was purchased on July 21 by a Washington resident. It had onset of illness on July 29. Four persons were exposed and underwent anti-rabies prophylaxis.

Rabies – Continued

The second skunk had been purchased from the same pet shop on July 24; onset of illness occurred on September 20. One person underwent anti-rabies treatment for exposure to this animal.

Both animals exhibited irritability and aggressive behavior during their illnesses. One animal had a voracious appetite until near death. Neither animal had been vaccinated against rabies, nor had either been in direct contact with other domestic or wild animals since arriving in Oregon.

The Oregon Department of Human Resources found that skunks from the animal dealer had been sent to 3 pet shops in the metropolitan Portland area and 6 additional locations throughout the state of Oregon. A list of persons who had purchased skunks was obtained from the involved pet shops. Several skunks had been bought by Washington residents, although the ownership of pet skunks has been illegal in that state since 1971. Local and state health officials contacted and apprised all identified owners of the risk.

Since the first skunk was reported positive, state laboratories have examined approximately 100 other pet skunks—approximately 75 from the Minnesota animal dealer and the rest from various other sources. None of these was positive for rabies.

Eight persons that had been exposed to skunks that escaped or had died but were not tested for the cause of death elected to undergo anti-rabies treatment.

The Oregon State Department of Agriculture has temporarily banned the importation of skunks as pets. On July 1, 1980, a new state statute banning the sale, distribution, and keeping of skunks becomes effective.

Investigations of the distributor's facilities were undertaken by USDA and University of Minnesota personnel. Records indicate that approximately 3,000 young skunks were distributed to 30 states this year. Although the skunk-breeding operation was considered satisfactory, approximately 40 recently trapped skunks were noted in a separated area of the operation. These animals were to be introduced into the breeding colonies next year as a fresh "bloodline."

Reported by JF Schilke, MD, Clackamas County (Oregon) Health Dept; CP Shade, MD, MPH, Multnomah County (Oregon) Health Dept; MT Daly, DVM, MPH, Oregon Dept of Agriculture; LR Foster, MD, MPH, Deputy State Epidemiologist, R Sokolow, BM Thomas, LP Williams, Jr, DVM, DrPH, Public Health Veterinarian, Oregon Dept of Human Resources; JW Taylor, MD, State Epidemiologist, Washington State Dept of Social and Health Services; RA Robinson, MPH, PhD, University of Minnesota; J Flint, DVM, Minnesota Livestock Sanitary Board, St. Paul; AG Dean, MD, State Epidemiologist, Minnesota State Dept of Health; B Ward, DVM, USDA, St. Paul; 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 3 pet skunks from different areas of the state were found positive in a 5-week period. At least 50 persons were exposed to the infected animals. An additional 29 persons were exposed to another rabid pet skunk in Oklahoma in June 1978. Montana reported that in late summer 1977 a rabid pet skunk exposed 10 persons. An incident in Indiana during July 1978, in which 26 persons were exposed to a rabid pet skunk, and another similar incident in Arizona in August 1978, in which 23 persons were exposed, emphasize the problem of keeping wild animals as pets (*1*).

CDC strongly urges that wild animals not be kept as pets and encourages states to make it unlawful to retain as pets wild animals such as skunks and raccoons, especially those captured from the wild, because they are potential sources of rabies.

Reference

1. MMWR 27:399-401, 1978

Surveillance Summary

Poliomyelitis — United States, 1978-1979

1979—In 1979, the United States experienced the first epidemic of poliomyelitis since 1972. Through September 21, there were 15 epidemic-associated cases (13 paralytic; 2 nonparalytic) in the United States and 2 additional epidemic cases (both paralytic) in Canada. All paralytic cases occurred in unvaccinated Amish persons.

In addition, there have been 8 reported endemic cases—i.e., non-epidemic-associated cases that were indigenous to the United States. All 8 were paralytic and have been epidemiologically classified as vaccine associated. Five occurred in recent recipients of trivalent oral poliovirus vaccine (OPV) and 3 in contacts of such recipients.

1978—In 1978, there were 9 cases of paralytic poliomyelitis, including 1 death, reported in the United States. None were epidemic associated: 1 was imported, and 8 were endemic. The imported case was in an unimmunized woman who had traveled to Mexico before onset of illness. Six of the 8 endemic cases met the standard epidemiologic criteria for vaccine association. Four were in vaccine recipients, 2 in contacts. In 1 of the other 2 endemic cases, OPV was also implicated, as the patient's child had received OPV 3 days and 70 days before onset of disease, and there was no known exposure to wild poliovirus.

The last endemic case occurred in an 11-year-old boy who had received 4 doses of OPV as an infant. Following a 2-week catarrhal illness in late July, he developed difficulty with swallowing and speaking on August 5 and suffered a respiratory arrest (presumably from choking) that same day. He died 18 days later of neurologic sequelae of the arrest. Poliovirus type 1 was isolated from a throat swab obtained on August 7. Using the Wecker serologic test and a new method developed in the Netherlands by Dr. A. van Wezel (*1*), CDC characterized the virus as nonvaccine-like. A monotypic rise in neutralizing antibody titer in serum was demonstrated to type 1 poliovirus. The clinical and laboratory data in this case suggest that the patient died of bulbar poliomyelitis due to a wild type 1 poliovirus. This case is the first known OPV failure in an otherwise normal patient who had received, in the United States, ≥3 vaccine doses.

Reported by T Halpin, MD, MPH, State Epidemiologist, Ohio State Dept of Health; Enteric Virology Br, Virology Div, Bur of Laboratories, Enteric and Neurotropic Viral Diseases Br, Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: From January 1, 1969 through September 21, 1979, there were a total of 185 cases of paralytic poliomyelitis reported to CDC through the National Poliomyelitis Surveillance System. Of these, 43 were epidemic associated; 73 endemic, vaccine associated (23 in recipients; 50 in contacts); 39 endemic, nonvaccine associated; 19 imported; and 11 in immunodeficient persons. The number of paralytic cases per year from 1969 through 1978 ranged from 5 to 32. There have been 21 paralytic cases reported to date in 1979.

The Morbidity and Mortality Weekly Report, circulation 87,803, 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.

Poliomyelitis – Continued

Vaccines against poliomyelitis (injectable [inactivated poliomyelitis vaccine] and oral [OPV]) have been largely responsible for the dramatic decline in the incidence of the disease in this country over the past 25 years. Since 1964, there have been less than 100 paralytic cases reported per year, except in 1966, when 102 cases occurred. With the widespread use of oral poliovirus vaccines since the early 1960s, naturally occurring polioviruses have been virtually replaced in the United States by attenuated vaccine viruses. Thus, in the 1970s, epidemics caused by wild polioviruses have become rare and have been almost completely confined to communities of inadequately vaccinated persons. Most of the few cases that have continued to occur each year can be attributed either to the vaccine viruses themselves or, occasionally, to sporadic imported wild viruses.

Reference

1. MMWR 28:345, 1979

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

HEW Publication No. (CDC) 80-8017