CENTER FOR DISEASE CONTROL

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MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

Viral Hepatitis Outbreaks — Georgia, Alabama

Ten recent cases of probable hepatitis A associated with consumption of raw oysters from Florida have been identified in Albany, Georgia, and Mobile, Alabama.

An investigation of 3 Albany residents in whom hepatitis was diagnosed during the week of October 28 disclosed that 2 had eaten raw oysters on October 13, and the other had eaten raw oysters on October 15. The oysters had all come from a single sack purchased in Florida.

An investigation of 5 Mobile residents with onset of hepatitis from November 5-7 found that their only common exposure was having eaten raw oysters at a club dinner on October 11. Two other Mobile hepatitis patients who had eaten raw oysters purchased from the same store at the same time as the oysters purchased to serve at the club dinner, were also identified.

The Food and Drug Administration, CDC, and state and local health authorities are trying to trace the source of the oysters for both outbreaks. Preliminary results suggest that the oysters came from a single area in Florida. The investigation is continuing.

Reported by D Smith, Georgia Dept of Human Resources; J Cutts, DVM, Mobile County Health Dept; T Chester, MD, State Epidemiologist, Alabama Dept of Public Health; R Gunn, MD, State Epidemiologist, Florida Dept of Health and Rehabilitative Services; U.S. Food and Drug Administration; Enteric Diseases Br, Bacterial Diseases Div, and Epidemiology Section, Hepatitis Laboratories Div, Bur of Epidemiology, CDC.

Editorial Note: Raw oysters have been implicated as the vehicle for transmission of hepatitis in several outbreaks in the United States, most recently in 1973, when 285 people became ill after eating raw oysters harvested in Louisiana (*1*). The number of cases involved in the 2 outbreaks reported here is small compared with such previous outbreaks, although there may be cases which have not yet been identified. Physicians are urged to report all cases of hepatitis to the appropriate public health authorities and to be particularly alert to possible oyster-associated cases.

Reference

1. Portnoy BL, Mackowiak PA, Caraway CT, Walker JA, McKinley TW, Klein CA: Oyster-associated hepatitis. Failure of shellfish certification programs to prevent outbreaks. JAMA 233:1065-1068, 1975

International Notes

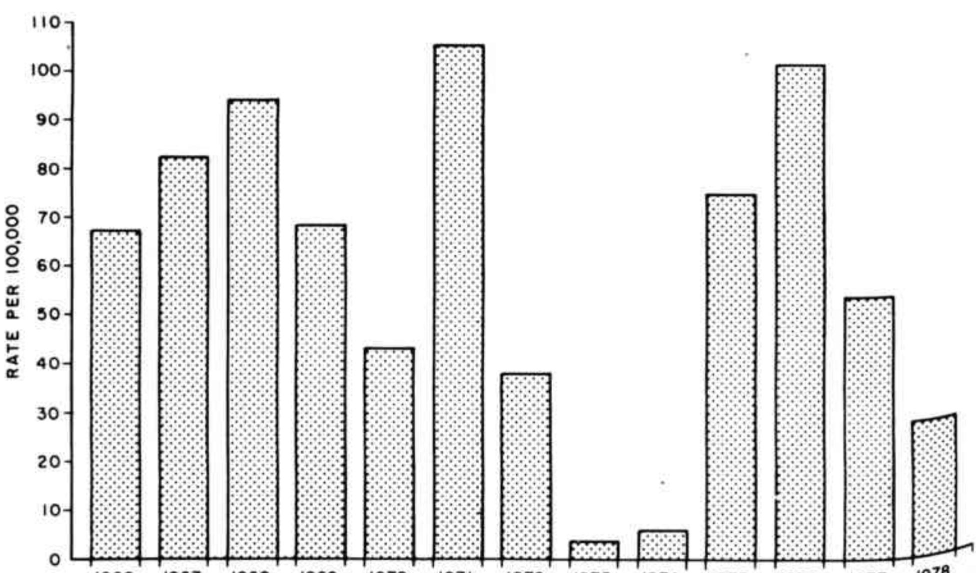
Measles Mortality — Guatemala

From 1963 through 1971, Guatemala reported an average of 3,632 deaths due to measles each year, or 76.2 deaths per 100,000 population.

In 1972, the Ministry of Public Health and Social Assistance began an annual mass immunization campaign, using live, further-attenuated measles vaccine, directed during the first year at children 1 through 4 years of age and subsequently at children 9 months to 2 years. The campaign's goal was to vaccinate 80% of children in the selected age range; the vaccine was given during 1 month each year, usually February. Vaccine coverage was estimated by taking the doses of vaccine that health centers and health posts reported using, and dividing that figure by the target population.

From 1972 through 1974, reported measles deaths declined by 90%, with a low of 3.9 deaths per 100,000 population in 1973 (Figure 1). Estimated vaccine coverage was high, increasing from 82% in 1972 to 94% in 1974. Coverage dropped from 1975 through 1978, and reported measles deaths rose disproportionately, reaching 102.1 per 100,000 in 1976, an incidence above the average for the period before the mass campaigns. The geographic distribution of reported deaths was not uniform: the highest rates occurred in the highland areas, where the majority of the people are Mayan Indians. For example, in 1977 and 1978, the Department of Baja Vera Paz reported an average of 221.3 measles deaths per 100,000, compared with 12.1 in the capital city. Eighty percent of measles deaths occurred in children under 5 years (20% under 1 year), but a number of deaths were reported in neonates 28 days or younger and in adults 25 years or older.

FIGURE 1. Measles mortality, Guatemala, 1966-1978



Measles Mortality — Continued

Immunization levels and measles cases were evaluated in Santiago Sacatapequez, a town which had experienced measles outbreaks during the past 2 years in spite of presumably good vaccine coverage. Of the 486 households in 25 randomly selected blocks, a responsible adult was interviewed in 335 (69%). Only 101 of 231 (44%) children 1 to 4 years old had a record of measles immunization; the records of 39 children had been lost, and 91 children had not received measles vaccine. Of 73 measles cases that occurred between January 1977 and May 1979, 48 were in children 1 to 4 years old; 10 of these had a documented record of measles immunization. Vaccine efficacy was calculated using person months at risk, that is, the number of months in which a child 12 through 59 months old had been unvaccinated or vaccinated. Children were excluded from either the vaccinated or the unvaccinated group after they had had measles. Since all vaccinated children who developed measles had received vaccine either in 1976 or 1978, vaccine efficacy was calculated specifically for each of these years. Vaccine efficacy was low in both years, and remained low for all years combined (Table 1).

The vaccine cold chain (i.e., the process of shipping and storing vaccine at various points from its manufacture to its ultimate destination) was evaluated in several areas in Guatemala. Storage of vaccine in the capital and in the regional health departments was generally satisfactory, as was shipment from the capital. However, vaccine was shipped from the health departments to rural health centers in poorly insulated containers that could not adequately protect the vaccine. Kerosene refrigerators in health centers often lacked replacement parts or fuel, and electricity for electric refrigerators was sometimes unreliable. Personnel were often inadequately trained in vaccine handling or refrigerator maintenance. No errors in vaccine storage or handling were identified at the health center in Santiago Sacatapequez, but the center accounted for only 1 point in an extended cold chain for the measles vaccine given in 1976 and 1978.

Reported by A Paz Cojulún, MD, Director General of Health Services; O Zeissig, MD, Director, Division of Epidemiology, Ministry of Public Health and Social Assistance, Guatemala; A Romero, MD, Pan American Health Organization; Bur of Smallpox Eradication, Immunization Div, Bur of State Services, and Bur of Tropical Diseases, CDC.

Editorial Note: Measles death rates vary widely from country to country. In Guatemala measles was reported to be the third ranked cause of death for all ages in 1975, accounting for 6% of all deaths.

There are several possible explanations for Guatemala's high measles mortality rates. First, there is some uncertainty about the reliability of the diagnosis of causes of death, as 80% of deaths are reported by town officials without medical training. The reporting

TABLE 1. Measles vaccine efficacy, by person months at risk, for vaccinated and unvaccinated children, January 1977-May 1979

	Years of vaccination		
	All years	1976	1978
Unvaccinated children			
Months at risk	1,569	870	524
Measles cases	37	13	33
Vaccinated children			
Months at risk	1,327	580	334
Measles cases	10	4	6
Vaccine efficacy (%)	68	54	72

Measles Mortality – Continued

of measles deaths in neonates and in adults 25 and older suggests that some of the deaths may be incorrectly attributed to measles.

Secondly, it is difficult to maintain the momentum of a mass vaccination campaign, as illustrated by the resurgence of measles mortality in Guatemala after 1974, despite dramatic reductions in 1972 and 1973. Improper handling of vaccine along the cold chain is also a factor, as the low measles vaccine efficacy in Santiago Sacatapequez points out.

Inadequate vaccine coverage is the major problem, however. Guatemala is building new health centers and training additional rural health workers to extend health services to more Guatemalans. For the present, health personnel and facilities are most effective in a twice-a-year campaign. Guatemala is also actively participating in the Pan American Health Organization's Expanded Program on Immunization, which is addressing such immunization problems throughout the Western Hemisphere.

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

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

DISEASE	49th WEEK ENDING		MEDIAN 1974-1978**	CUMULATIVE, FIRST 49 WEEKS		
	December 8, 1979	December 9, 1978*		December 8, 1979	December 9, 1978*	MEDIAN 1974-1978**
Aseptic meningitis	164	105	75	7,882	6,179	3,939
Brucellosis	10	5	4	162	161	213
Chickenpox	2,920	4,160	2,961	185,757	141,378	141,378
Diphtheria	–	–	2	65	71	145
Encephalitis: Primary (arthropod-borne & unspec.)	27	25	25	999	1,138	1,138
Post-infectious	1	5	5	212	222	240
Hepatitis, Viral: Type B	320	289	289	13,812	14,066	14,066
Type A	576	657	666	27,495	27,641	31,415
Type unspecified	279	243	194	10,211	8,122	7,783
Malaria	34	9	9	741	700	436
Measles (rubeola)	129	292	233	13,122	26,151	26,151
Meningococcal infections: Total	51	55	32	2,380	2,286	1,448
Civilian	51	55	31	2,367	2,259	1,428
Military	–	–	–	13	27	27
Mumps	285	362	532	13,119	15,677	36,681
Pertussis	24	41	30	1,262	1,974	1,638
Rubella (German measles)	137	143	123	11,427	17,895	15,883
Tetanus	4	–	1	71	75	77
Tuberculosis	610	577	577	26,152	27,380	28,641
Tularemia	1	3	2	187	127	130
Typhoid fever	12	7	7	485	497	385
Typhus fever, tick-borne (Rky. Mt. spotted)	3	6	4	1,031	1,035	884
Venereal diseases:						
Gonorrhea: Civilian	21,692	22,088	19,453	944,429	957,663	950,309
Military	657	706	682	25,951	24,639	25,325
Syphilis, primary & secondary: Civilian	510	459	397	23,547	20,441	20,441
Military	16	6	6	307	288	292
Rabies in animals	68	54	46	4,681	3,011	2,783

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1979		CUM. 1979
Anthrax	–	Poliomyelitis: Total † (Kans. 1 non-para.)	26
Botulism (Calif. 1, Alaska 1)	31	Paralytic	22
Cholera	1	Psittacosis (Ohio 2)	93
Congenital rubella syndrome (Calif. 1)	42	Rabies in man	3
Leprosy † (Calif. 3, Hawaii 3)	163	Trichinosis † (Ariz. 1)	130
Leptospirosis † (Fla. 1, Hawaii 2)	51	Typhus fever, flea-borne (endemic, murine) (Md. 1, Calif. 1)	57
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 reports will be reflected in next week's cumulative totals: Leprosy: Md. –1, Pac. Tr. Terr. +1; Lepto.: Fla. +1; Polio, unsp.: Md. –1; Trichinosis: N.J. +2, W. Va. +1.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending December 8, 1979, and December 9, 1978 (49th 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	164	10	2,920	-	65	27	25	1	320	576	279	34	741
NEW ENGLAND	11	1	351	-	-	1	1	-	14	12	18	-	41
Maine	1	-	101	-	-	-	-	-	1	-	2	-	3
N.H.†	-	-	9	-	-	-	-	-	-	-	-	-	1
Vt.	-	-	19	-	-	-	-	-	-	-	-	-	-
Mass.	3	1	102	-	-	-	-	-	2	3	13	-	12
R.I.	-	-	9	-	-	-	-	-	1	3	-	-	10
Conn.	7	-	111	-	-	1	1	-	10	6	3	-	15
MID. ATLANTIC	24	-	308	-	-	1	3	-	37	47	20	1	95
Upstate N.Y.	4	-	185	-	-	-	3	-	14	20	7	-	14
N.Y. City	3	-	29	-	-	1	-	-	10	10	2	1	44
N.J.†	14	-	NN	-	-	-	-	-	13	17	11	-	16
Pa.†	3	-	94	-	-	-	-	-	NA	NA	NA	-	21
E.N. CENTRAL	9	2	1,206	-	2	-	3	-	35	69	13	-	47
Ohio†	-	2	42	-	-	-	2	-	12	18	-	-	12
Ind.†	-	-	166	-	1	-	-	-	1	6	7	-	1
Ill.	2	-	271	-	-	-	-	-	5	22	2	-	20
Mich.	7	-	413	-	-	-	1	-	14	15	3	-	12
Wis.†	-	-	314	-	1	-	-	-	3	8	1	-	2
W.N. CENTRAL	8	-	357	-	1	1	3	-	17	24	10	11	45
Minn.†	-	-	1	-	-	-	-	-	7	6	-	10	23
Iowa	2	-	228	-	-	1	3	-	2	-	1	-	2
Mo.	-	-	1	-	1	-	-	-	8	5	9	-	4
N. Dak.†	1	-	7	-	-	-	-	-	-	-	-	-	7
S. Dak.	3	-	9	-	-	-	-	-	-	12	-	-	1
Nebr.	-	-	1	-	-	-	-	-	-	-	-	-	2
Kans.†	2	-	110	-	-	-	-	-	-	1	-	1	6
S. ATLANTIC	42	1	338	-	1	3	3	1	65	74	42	6	94
Del.	-	-	4	-	-	-	-	-	1	-	-	-	1
Md.†	17	-	5	-	-	2	1	-	9	6	6	1	21
D.C.	-	-	2	-	-	-	-	-	-	-	2	-	6
Va.	5	-	3	-	1	-	-	-	16	8	4	-	27
W. Va.†	1	-	186	-	-	-	-	-	2	1	-	-	3
N.C.	13	-	NN	-	-	1	2	-	7	9	4	-	6
S.C.	-	1	2	-	-	-	-	-	4	3	2	-	1
Ga.	-	-	-	-	-	-	-	-	5	10	-	2	6
Fla.†	6	-	136	-	-	-	-	1	21	37	24	3	23
E.S. CENTRAL	11	-	15	-	-	16	5	-	18	32	1	-	12
Ky.	2	-	6	-	-	-	-	-	1	5	-	-	-
Tenn.	4	-	NN	-	-	-	-	-	7	3	-	-	-
Ala.	2	-	3	-	-	2	2	-	7	7	1	-	4
Miss.	3	-	6	-	-	14	3	-	3	17	-	-	8
W.S. CENTRAL	10	3	114	-	-	1	1	-	41	96	78	1	52
Ark.	1	-	4	-	-	-	-	-	3	6	2	1	2
La.	-	3	NN	-	-	-	-	-	5	15	4	-	5
Okla.†	2	-	-	-	-	-	-	-	3	3	6	-	8
Tex.	7	-	110	-	-	1	1	-	30	72	66	-	37
MOUNTAIN	14	-	57	-	1	1	-	-	8	68	40	3	21
Mont.†	-	-	24	-	-	-	-	-	-	2	-	-	2
Idaho	-	-	-	-	-	-	-	-	1	-	1	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-	1
Colo.	6	-	29	-	-	-	-	-	-	10	-	1	9
N. Mex.	7	-	-	-	-	1	-	-	-	-	-	-	1
Ariz.	-	-	NN	-	1	-	-	-	6	39	36	2	7
Utah	1	-	-	-	-	-	-	-	-	-	3	-	-
Nev.	-	-	4	-	-	-	-	-	1	17	-	-	1
PACIFIC	35	3	174	-	60	3	6	-	85	154	57	12	334
Wash.†	3	2	135	-	56	-	3	-	6	13	7	-	18
Oreg.†	3	-	1	-	-	-	1	-	7	22	1	4	18
Calif.†	26	1	-	-	4	2	2	-	66	115	46	8	292
Alaska	3	-	29	-	-	1	-	-	-	1	3	-	-
Hawaii	-	-	9	-	-	-	-	-	6	3	-	-	6
Guam	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
P.R.	3	-	10	-	-	-	-	-	1	1	5	-	4
V.I.	-	-	-	-	-	-	-	-	-	-	-	-	-
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.J. +3, Pa. –1, Ohio +12, Ind. +2, Wis. +1, Md. +2, Fla. +14, Okla. –5, Mont. +1, Pac. Tr. Terr. +2; Brucellosis: Md. +1; Chickenpox: N.H. +12, Md. +169, Fla. +33, Wash. +11, Calif. +1; Enceph., prim.: Ohio +9, Wis. +2; Enceph., post: N.J. –1, Fla. +7; Hep. B: N.J. –5, Pa. +42, Minn. +1, Kans. –1, Md. +6, Fla. +70, Okla. –2, Oreg. –1; Hep. A: N.H. +1, N.J. +17, Pa. +35, Wis. +1, Minn. –1, N.Dak. +1, Md. +4, W. Va. –1, Fla. +109, Okla. –6; Hep. unsp.: N.J. –5, Pa. +7, Md. +2, Fla. +46, Wash. –1; Malaria: N.J. - 1, Ind. +1, Minn. +2, Fla. +1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending December 8, 1979, and December 9, 1978 (49th 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	129	13,122	26,151	51	2,380	2,286	285	13,119	24	137	11,427	71
NEW ENGLAND	-	292	2,042	3	127	130	32	669	1	1	1,441	5
Maine	-	19	1,320	-	9	9	9	261	-	1	67	1
N.H.	-	33	78	1	15	10	-	6	-	-	129	-
Vt.	-	119	55	1	9	3	-	9	-	-	407	-
Mass.	-	15	253	1	40	49	16	149	-	-	489	3
R.I.	-	102	8	-	9	18	-	47	-	-	93	-
Conn.	-	4	328	-	45	41	7	197	1	-	256	1
MID. ATLANTIC	29	1,584	2,252	11	389	349	74	1,297	-	62	2,056	10
Upstate N.Y.	1	637	1,423	3	128	109	2	184	-	54	1,168	2
N.Y. City	27	841	394	2	87	82	1	144	-	4	280	5
N.J. †	-	58	74	3	97	75	4	591	-	4	342	1
Pa. †	1	48	361	3	77	83	67	378	-	-	266	2
E.N. CENTRAL	28	3,411	11,355	13	264	332	112	5,432	3	17	2,703	5
Ohio †	-	294	489	8	97	86	47	1,918	-	-	140	4
Ind.	2	227	218	-	46	53	5	335	2	3	776	-
Ill.	-	1,495	1,266	2	27	99	15	973	1	1	246	-
Mich.	16	862	7,893	3	77	76	15	999	-	9	1,251	1
Wis. †	10	533	1,489	-	17	18	30	1,207	-	4	290	-
W.N. CENTRAL	1	1,831	498	1	71	91	10	718	3	1	497	2
Minn.	-	1,218	42	1	18	25	-	23	3	-	43	-
Iowa	-	16	61	-	13	10	2	241	-	-	53	-
Mo.	1	425	85	-	29	38	-	198	-	-	69	1
N. Dak.	-	21	211	-	1	3	-	2	-	-	8	1
S. Dak.	-	2	-	-	2	3	4	11	-	-	5	-
Nebr.	-	74	5	-	-	-	-	7	-	-	202	-
Kans. †	-	75	94	-	8	12	4	236	-	1	117	-
S. ATLANTIC	28	2,102	5,510	8	582	548	27	748	6	17	1,274	13
Del.	-	1	7	-	3	2	2	72	-	-	7	-
Md. †	-	16	52	-	58	38	7	183	-	-	28	1
D.C.	-	-	48	-	2	2	-	2	-	-	1	-
Va.	11	290	2,835	-	80	69	2	97	-	1	205	2
W. Va. †	3	65	1,066	2	15	17	4	130	-	2	112	-
N.C.	-	114	122	2	92	103	-	85	1	2	535	3
S.C.	-	182	199	1	64	40	-	3	-	8	74	-
Ga.	12	582	36	1	87	64	-	7	2	-	14	-
Fla. †	2	852	1,145	2	181	213	12	169	3	4	298	7
E.S. CENTRAL	27	268	1,431	1	168	183	6	1,549	-	2	310	8
Ky.	-	39	122	-	35	31	5	1,296	-	1	72	1
Tenn.	-	76	962	1	49	49	-	105	-	1	102	-
Ala.	27	129	101	-	39	50	-	26	-	-	44	5
Miss.	-	24	246	-	45	53	1	122	-	-	92	2
W.S. CENTRAL	6	958	1,297	5	349	304	4	1,450	2	4	269	23
Ark.	-	9	16	1	30	23	1	532	1	-	7	4
La.	-	257	351	-	121	122	-	36	-	-	30	3
Okla. †	-	22	19	1	36	20	-	-	-	-	24	2
Tex.	6	670	911	3	162	139	3	882	1	4	208	14
MOUNTAIN	1	334	273	1	98	53	3	324	9	6	551	-
Mont.	-	60	107	-	14	7	-	13	-	-	71	-
Idaho †	-	18	1	-	10	4	-	9	-	-	206	-
Wyo.	-	36	-	-	1	-	-	-	-	-	-	-
Colo. †	1	71	44	-	8	3	3	117	-	-	67	-
N. Mex.	-	38	-	1	6	12	-	13	5	-	11	-
Ariz.	-	80	57	-	36	15	-	62	4	3	149	-
Utah	-	19	44	-	10	6	-	96	-	3	44	-
Nev.	-	12	20	-	13	6	-	14	-	-	3	-
PACIFIC	9	2,342	1,493	8	332	296	17	932	-	27	2,326	5
Wash. †	1	1,154	391	5	65	50	-	238	-	17	218	-
Oreg.	-	66	470	2	26	33	2	112	-	-	112	-
Calif.	8	1,037	622	1	225	199	14	452	-	10	1,973	5
Alaska	-	17	1	-	6	10	-	13	-	-	4	-
Hawaii	-	68	9	-	10	4	1	117	-	-	19	-
Guam	NA	12	26	-	1	2	NA	12	NA	NA	4	-
P.R.	5	379	300	-	7	10	7	599	-	-	39	11
V.I.	1	6	6	-	3	1	-	20	-	-	-	-
Pac. Trust Terr. †	NA	9	645	-	1	3	NA	45	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. −3, Fla. +24, Pac. Tr. Terr. −1; Men. Inf.: Pa. −1, Ohio +1, Md. −1, Fla. +7, Okla. +4, Idaho +1, Wash. +1 civ. −1 mil.; Mumps: Kans. −1, Md. +9, W. Va. +1, Fla. +4, Colo. −1; Pertussis: N.J. +1, Md. +7, Wash. −1, Pac. Tr. Terr. +3; Rubella: N.J. −1, Fla. +2.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending December 8, 1979, and December 9, 1978 (49th week)

REPORTING AREA	TUBERCULOSIS		TULA-REMIA	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	610	26,152	187	12	485	3	1,031	21,692	944,429	957,663	510	23,547	20,441	4,681
NEW ENGLAND	26	780	3	-	22	-	9	528	23,198	24,450	28	484	559	49
Maine	-	53	-	-	1	-	-	48	1,636	2,009	-	10	9	29
N.H.	-	24	-	-	-	-	-	21	863	1,117	-	21	5	5
Vt.	-	28	-	-	-	-	1	18	613	587	1	3	3	1
Mass	22	412	3	-	14	-	4	238	9,128	10,748	6	267	347	10
R.I.	4	73	-	-	2	-	-	26	1,879	1,823	-	20	24	2
Conn.†	-	190	-	-	5	-	4	177	9,079	8,166	21	163	171	2
MID. ATLANTIC	102	4,026	1	10	93	-	45	2,900	104,893	103,687	104	3,611	2,777	69
Upstate N.Y.	16	714	1	3	21	-	28	435	18,298	17,230	14	274	200	48
N.Y. City	26	1,471	-	2	37	-	1	870	40,899	39,313	75	2,456	1,930	-
N.J.†	25	786	-	4	22	-	5	1,084	18,785	19,371	8	463	343	5
Pa.	35	1,055	-	1	13	-	11	511	26,911	27,773	7	418	304	16
E.N. CENTRAL	107	3,898	-	-	28	-	58	3,393	147,895	149,684	66	2,921	2,326	436
Ohio	27	708	-	-	3	-	21	1,099	40,862	38,926	11	575	432	38
Ind.	6	483	-	-	1	-	2	554	12,810	15,074	8	200	164	67
Ill.	37	1,571	-	-	8	-	31	882	46,792	47,989	26	1,641	1,446	212
Mich.	32	948	-	-	12	-	3	858	34,684	34,585	21	430	220	14
Wis.†	5	188	-	-	4	-	1	NA	12,747	13,110	NA	75	64	105
W.N. CENTRAL	10	879	27	-	23	-	59	1,019	47,021	48,048	2	294	407	951
Minn.	3	137	1	-	5	-	2	142	7,685	8,060	1	83	148	160
Iowa	3	68	1	-	5	-	14	107	5,559	5,328	-	30	35	186
Mo.	4	479	22	-	8	-	30	393	20,370	21,295	1	133	134	284
N. Dak.	-	21	-	-	-	-	-	31	832	828	-	2	3	85
S. Dak.†	-	51	2	-	-	-	-	46	1,534	1,634	-	2	3	106
Nebr.	-	22	1	-	1	-	5	85	3,368	3,438	-	7	14	3
Kans.	-	101	-	-	4	-	8	215	7,673	7,465	-	37	70	127
S. ATLANTIC	138	5,827	12	-	46	1	591	5,026	227,544	232,431	122	5,602	5,361	640
Del.	3	56	-	-	-	-	3	93	3,736	3,338	2	29	13	-
Md.†	16	707	-	-	9	-	75	519	27,616	29,946	12	379	406	37
D.C.	12	280	2	-	1	-	2	418	15,208	15,689	7	436	402	-
Va.	11	684	2	-	5	-	90	521	21,906	22,595	7	454	448	20
W. Va.	4	224	-	-	5	-	12	92	3,099	3,200	-	50	30	13
N.C.†	33	939	1	-	2	1	241	727	33,230	32,832	11	417	569	26
S.C.†	20	455	1	-	4	-	79	460	21,212	22,814	5	293	271	170
Ga.	19	942	6	-	2	-	81	1,233	43,084	45,099	38	1,540	1,348	327
Fla.†	20	1,540	-	-	18	-	8	963	58,453	56,918	40	2,004	1,874	47
E.S. CENTRAL	56	2,367	14	-	22	1	140	1,816	79,911	80,943	51	1,565	1,075	308
Ky.	11	600	2	-	7	-	20	252	10,818	10,842	-	151	142	134
Tenn.	9	697	12	-	3	-	77	390	28,753	29,493	3	634	365	101
Ala.	13	569	-	-	8	1	21	810	23,503	23,326	17	290	190	72
Miss.	23	501	-	-	4	-	22	364	16,837	17,282	31	490	378	1
W.S. CENTRAL	68	3,148	75	-	76	1	105	2,415	121,125	126,999	78	4,265	3,307	1,724
Ark.	6	291	48	-	5	-	22	288	9,666	9,389	4	154	69	323
La.	-	604	5	-	5	-	3	479	21,715	20,767	-	1,069	681	35
Okla.	-	322	14	-	-	-	62	237	12,022	12,059	2	83	89	270
Tex.	62	1,931	8	-	66	1	18	1,411	77,722	84,784	72	2,959	2,468	1,096
MOUNTAIN	17	805	45	-	30	-	17	781	37,958	36,772	8	494	425	159
Mont.	-	35	14	-	-	-	5	40	1,884	2,075	-	9	8	8
Idaho †	2	18	1	-	4	-	3	30	1,668	1,508	-	26	13	8
Wyo.	-	9	-	-	1	-	-	10	1,067	915	-	8	9	11
Colo.†	-	124	12	-	15	-	4	135	10,117	10,162	3	103	118	51
N. Mex.	2	141	4	-	4	-	1	67	4,665	5,250	1	91	83	48
Ariz.	12	393	-	-	3	-	-	338	10,593	9,529	-	147	105	23
Utah	-	33	12	-	1	-	1	25	1,928	2,010	-	5	13	10
Nev.	1	52	2	-	2	-	3	136	6,036	5,323	4	105	76	-
PACIFIC	86	4,422	10	2	145	-	7	3,814	154,884	154,649	51	4,311	4,204	345
Wash.†	6	270	5	-	8	-	-	221	13,435	12,538	NA	186	250	-
Oreg.†	2	180	2	-	5	-	-	269	9,867	10,490	3	161	161	15
Calif.	65	3,590	3	2	123	-	7	3,234	123,882	124,129	44	3,848	3,740	328
Alaska	-	76	-	-	2	-	-	58	4,716	4,795	-	25	12	2
Hawaii	13	306	-	-	7	-	-	32	2,984	2,697	4	91	41	-
Guam	NA	55	-	NA	-	NA	-	NA	96	141	NA	1	1	-
P.R.	-	273	-	-	6	-	-	15	2,054	2,075	10	547	476	23
V.I.	-	4	-	-	1	-	-	2	149	199	2	11	17	-
Pac. Trust Terr.†	NA	41	-	NA	-	NA	-	NA	429	413	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: Conn. –9, Md. –42, N.C. –4, S.C. –1, Fla. –10, Colo. –1, Oreg. –4, Pac. Tr. Terr. –2; Tularemia: Idaho +1; T. Fever: N.J. +2, Wis. –1, Md. –3, Fla. +1; RMSF: W. Va. +3, Fla. +1; GC: Wis. +323 civ., Md. +447 civ. +4 mil, S.C. +126 mil., Fla. –4 civ., Wash. +275 civ. +81 mil., Pac. Tr. Terr. +1 civ.; Syphilis: Md. –16 civ. Wash. +9 civ. +3 mil.; An. rabies: S. Dak. +14, Md. –4, Fla. +14.

TABLE IV. Deaths in 121 U.S. cities,* week ending December 8, 1979 (49th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS) ALL AGES	≥65	45-64	25-44	<1	P & I** TOTAL
NEW ENGLAND	649	435	144	29	23	47
Boston, Mass.	174	101	46	11	10	14
Bridgeport, Conn.	43	37	2	2	1	3
Cambridge, Mass.	23	15	8	-	-	1
Fall River, Mass.††	28	22	5	1	-	1
Hartford, Conn.	61	35	20	4	2	2
Lowell, Mass.	16	13	1	1	-	-
Lynn, Mass.	21	17	3	1	-	2
New Bedford, Mass.	30	21	5	-	2	2
New Haven, Conn.	40	25	8	3	3	1
Providence, R.I.	70	39	22	2	2	4
Somerville, Mass.	11	9	2	-	-	-
Springfield, Mass.	50	37	11	-	2	3
Waterbury, Conn.	34	27	6	1	-	2
Worcester, Mass.	48	37	5	3	1	12
MID. ATLANTIC	2,684	1,747	623	168	77	114
Albany, N.Y.	56	30	14	4	6	-
Allentown, Pa.	21	16	5	-	-	1
Buffalo, N.Y.	130	71	48	6	3	2
Camden, N.J.	38	24	8	5	1	3
Elizabeth, N.J.	32	19	9	4	-	1
Erie, Pa.†	63	43	15	1	4	-
Jersey City, N.J.	66	44	9	9	1	2
Newark, N.J.	49	23	14	6	6	1
N.Y. City, N.Y.	1,500	992	327	96	39	59
Paterson, N.J.	16	10	5	1	-	3
Philadelphia, Pa.†	305	187	84	19	8	21
Pittsburgh, Pa.†	31	21	8	1	1	-
Reading, Pa.	35	27	6	-	-	2
Rochester, N.Y.	110	72	26	5	3	7
Schenectady, N.Y.	25	19	6	-	-	1
Scranton, Pa.†	32	25	5	-	2	-
Syracuse, N.Y.	90	58	20	8	1	2
Trenton, N.J.	34	22	7	3	2	3
Utica, N.Y.	31	25	6	-	-	4
Yonkers, N.Y.	20	19	1	-	-	2
E.N. CENTRAL	2,384	1,486	581	141	93	55
Akron, Ohio	87	56	21	3	6	-
Canton, Ohio	43	28	9	3	2	2
Chicago, Ill.	568	342	142	34	25	8
Cincinnati, Ohio	134	79	40	8	3	1
Cleveland, Ohio	180	109	45	12	6	2
Columbus, Ohio	132	81	36	6	5	8
Dayton, Ohio	99	57	34	4	1	3
Detroit, Mich.	289	172	69	24	15	6
Evansville, Ind.	50	36	9	3	2	4
Fort Wayne, Ind.	48	32	12	4	-	1
Gary, Ind.	19	10	4	1	-	-
Grand Rapids, Mich.	62	36	19	4	2	4
Indianapolis, Ind.	183	124	40	5	9	3
Madison, Wis.	36	20	12	-	-	3
Milwaukee, Wis.	148	99	30	8	6	2
Peoria, Ill.	34	24	7	2	1	2
Rockford, Ill.	44	33	6	3	-	2
South Bend, Ind.	51	40	6	3	2	2
Toledo, Ohio	116	68	27	12	3	1
Youngstown, Ohio	61	40	13	2	5	1
W.N. CENTRAL	734	481	159	31	39	26
Des Moines, Iowa	40	32	5	2	-	2
Duluth, Minn.	27	16	8	1	-	1
Kansas City, Kans.	29	15	10	1	3	2
Kansas City, Mo.††	126	82	27	5	9	4
Lincoln, Nebr.	30	24	4	2	-	2
Minneapolis, Minn.	96	65	17	5	8	5
Omaha, Nebr.	82	52	19	2	7	1
St. Louis, Mo.	170	101	48	9	7	4
St. Paul, Minn.	80	57	13	3	3	2
Wichita, Kans.	54	37	8	1	2	3

REPORTING AREA	ALL CAUSES, BY AGE (YEARS) ALL AGES	≥65	45-64	25-44	<1	P & I** TOTAL
S. ATLANTIC	1,397	838	363	101	47	40
Atlanta, Ga.	157	77	49	21	2	6
Baltimore, Md.	335	206	88	18	12	6
Charlotte, N.C.	49	26	16	2	4	-
Jacksonville, Fla.	98	55	24	9	4	4
Miami, Fla.	162	104	39	8	6	2
Norfolk, Va.	43	20	12	5	4	3
Richmond, Va.	85	56	20	7	2	3
Savannah, Ga.	43	26	13	2	1	4
St. Petersburg, Fla.	89	75	8	3	3	1
Tampa, Fla.	79	56	18	3	2	5
Washington, D.C.	204	102	63	23	5	6
Wilmington, Del.	53	35	13	-	2	-
E.S. CENTRAL	775	455	209	46	33	31
Birmingham, Ala.	106	51	36	5	9	2
Chattanooga, Tenn.	63	40	14	4	3	3
Knoxville, Tenn.	56	34	13	3	1	-
Louisville, Ky.	135	82	36	7	5	8
Memphis, Tenn.	141	93	33	6	4	2
Mobile, Ala.	85	50	22	8	3	5
Montgomery, Ala.	46	31	7	3	3	2
Nashville, Tenn.	143	74	48	10	5	9
W.S. CENTRAL	1,660	916	420	163	66	61
Austin, Tex.	67	42	13	6	-	6
Baton Rouge, La.	38	17	11	6	1	2
Corpus Christi, Tex.	40	16	13	7	4	-
Dallas, Tex.	210	119	55	19	7	6
El Paso, Tex.	117	62	28	10	12	9
Fort Worth, Tex.	104	68	26	6	1	5
Houston, Tex.	553	265	136	77	23	13
Little Rock, Ark.	53	33	17	1	1	5
New Orleans, La.	153	93	39	8	5	2
San Antonio, Tex.	187	112	47	19	5	5
Shreveport, La.	30	18	9	1	2	-
Tulsa, Okla.	108	71	26	3	5	8
MOUNTAIN	642	385	163	45	24	23
Albuquerque, N.Mex.	60	31	16	7	2	7
Colo. Springs, Colo.	39	23	8	3	1	3
Denver, Colo.	101	67	20	7	2	4
Las Vegas, Nev.	50	26	18	4	1	1
Ogden, Utah	24	15	7	1	-	2
Phoenix, Ariz.	210	119	61	13	11	3
Pueblo, Colo.	25	16	7	2	-	3
Salt Lake City, Utah	49	32	9	3	5	-
Tucson, Ariz.	84	56	17	5	2	-
PACIFIC	1,830	1,182	414	112	56	66
Berkeley, Calif.	19	13	5	-	1	1
Fresno, Calif.	66	45	14	3	3	3
Glendale, Calif.	25	16	6	1	1	1
Honolulu, Hawaii	57	32	16	5	1	4
Long Beach, Calif.	129	77	34	10	2	6
Los Angeles, Calif.	459	298	101	34	8	24
Oakland, Calif.	88	55	21	4	3	5
Pasadena, Calif.	37	32	4	-	1	-
Portland, Oreg.	143	99	29	4	5	-
Sacramento, Calif.	60	38	17	2	2	3
San Diego, Calif.	156	86	46	14	5	-
San Francisco, Calif.	170	99	45	15	4	3
San Jose, Calif.	149	98	32	7	6	7
Seattle, Wash.	184	124	36	11	8	6
Spokane, Wash.	49	39	5	-	3	2
Tacoma, Wash.	39	31	3	2	3	1
TOTAL	12,755	7,925	3,076	836	458	463

*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.

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

Current Trends

Varicella-Zoster Immune Globulin

Varicella-Zoster Immune Globulin (VZIG) continues to be available for immunodeficient children exposed to chickenpox. It is being released at no cost through the Division of Clinical Microbiology, Sidney Farber Cancer Institute (SFCI), 44 Binney Street, Boston, Massachusetts (617-732-3121). The Immunization Division, CDC (404-329-3747), the SFCI, and former VZIG consultants are available for consultation regarding alternative modes of therapy.

Since VZIG is still an investigational drug and its supply is limited, several criteria for release apply. These 5 criteria have been previously published in the MMWR in tabular form (*1*), but this year several clarifications are needed.

First, the term "newborn contact" (See Table 2, II-D) was previously described as a "newborn whose mother contracted varicella *within 4 days* before delivery or within 48 hours after delivery." In the revised table, the italicized term has been changed to "less than 5 days" because an appropriate newborn contact includes infants whose mothers develop the varicella rash up to but not including the fifth day before delivery. (Such infants have a 30% mortality rate [*2,3*].) No mortality has been associated with infants whose mothers contract varicella 5 or more days before delivery.

Second, the criterion concerning the age of patients, as listed on the table (item IV), is for patients less than 15 years old. However, on an *individual* basis, VZIG will be made available for certain patients between 15 and 21 years old.

Finally, the fifth criterion indicates that the request for treatment must be initiated within 72 hours of exposure. While any request for treatment must be initiated within this time period, treatment may be expected to modify or even prevent disease if started within 96 hours of exposure.

Reported by the Sidney Farber Cancer Institute, Boston, Massachusetts; and the Immunization Div, Bur of State Services, CDC.

References

1. MMWR 27:508, 1978
2. Meyers JD: Congenital varicella in term infants: Risk reconsidered. J Infect Dis 129:215-217, 1974
3. Gershon AA: Varicella in mother and infant: Problems old and new, in Drugman S, Gershon AA (eds): Symposium on Infections of the Fetus and the Newborn Infant. New York, Alan R. Liss, Inc., 1975, pp 88-89

TABLE 2. Five criteria for release of Varicella-Zoster Immune Globulin (VZIG) for the prophylaxis of varicella

I. **One of the following underlying illnesses or conditions**
   - A. Leukemia or lymphoma
   - B. Congenital or acquired immunodeficiency
   - C. Under immunosuppressive medication
   - D. Newly born of mother with varicella

II. **One of the following types of exposure to varicella or zoster patient**
   - A. Household contact
   - B. Playmate contact (>1 hour play indoors)
   - C. Hospital contact (in same 2- to 4-room bedroom or adjacent beds in a large ward)
   - D. Newborn contact (newborn whose mother contracted varicella less than 5 days before delivery or within 48 hours after delivery)

III. **Negative or unknown prior disease history**

IV. **Age of less than 15 years**

V. **The request for treatment must be initiated within 72 hours of exposure.**

Epidemiologic Notes and Reports

Human Rabies — Kentucky

On December 6, 1979, the diagnosis of rabies was made by fluorescent antibody (FA) staining of a brain tissue specimen from a 45-year-old man from Frankfort, who died on November 30. This is the fifth case of human rabies in the United States in 1979—the most cases in any year since 1959.

The man had been in good health until November 20, when dizziness, vomiting, diaphoresis, and an unstable gait developed. Over the next 2 days dysarthria, difficulty swallowing, diplopia, and spasms in his extremities also developed, and he was admitted to a hospital in Frankfort with the presumptive diagnosis of tetanus. There he was noted to be alert, with a temperature of 38.7 C, tremors, and generalized spasms of the muscles of his extremities. The spasms were precipitated by noise, change in lighting, or passive movement of his body. The patient was treated with human immune tetanus globulin and penicillin.

Late on November 23, he was transferred to a hospital in Lexington, where he was intubated and treated with dopamine for hypotension. He then had mild renal failure and was treated for presumed tetanus with a muscle relaxant and a neuromuscular blocking agent. On November 26, then off medication, he was found to be comatose and have a flaccid paralysis. He remained comatose and developed diabetes insipidus, pulmonary infiltrates, and raised intracerebral pressures. He died on November 30.

Cerebral spinal fluid (CSF) obtained on November 22 was normal, and a repeat study 5 days later showed 23 white blood cells/mm^3 (95% lymphocytes) and a protein level of 146 mg/dl. Serum and CSF specimens, a neck skin biopsy, and buccal mucosal, nasal mucosal, and tongue scrapings, all taken on November 28, were negative. A corneal impression test from November 28, however, was positive.

When he was lucid, the patient gave no history of a potential rabies exposure, and his family and friends have similarly been unable to recall any bites by animals. He worked as a mechanic in a distillery near Frankfort, raised tobacco, and hunted deer occasionally. His next-door neighbor had a dog that died of rabies 5 years ago, to which the patient presumably was not exposed, and he killed an ill-appearing groundhog in the spring of 1979. He had not been outside his county of residence (Franklin) in the last 2 years. In that county, no animals have been reported rabid in 1979, although 11 skunks have been reported rabid in the 6 surrounding counties.

Reported by HJ Cowherd, MD, Frankfort; S Reeves, RN, S Riegler, MD, PD Walzen, MD, University of Kentucky Medical Center; C Hernandez, MD, State Epidemiologist, JW Skaggs, DVM, Kentucky State Dept for Human Resources; Viral Zoonoses Br, Virology Div, Bur of Laboratories; Respiratory and Special Pathogens Br, Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: The increase in cases of human rabies in the United States this year parallels an increase in reports of rabies in animals.

The case reported here is the second one this year—and the fourth in 2 years—in which no potential bite exposure could be identified, despite intensive questioning of families and friends. There are 3 possible explanations: these patients knew of, but did not relate to others, an animal bite; the patients were unaware of a bite exposure (e.g., a bat bite while sleeping); or the patients had a nonbite exposure to rabies.

Although this patient's clinical symptoms were not classic for rabies and he had no exposure history, the diagnosis was suspected. The staff, therefore, took extra precautions to avoid contact with his respiratory secretions, and a laboratory confirmation of a diagnosis was sought. Because of the extra precautions, few hospital personnel were exposed or needed postexposure prophylaxis. The diagnostic studies performed while

Rabies — Continued

the patient was alive were negative except for the corneal impression test, which has given frequent false-positive and false-negative results in possible human rabies cases investigated by CDC, making the results difficult to interpret. Thus, in this instance the diagnosis of rabies could not be made until after the patient died.

Serum and CSF specimens can be negative as late as 2 weeks after onset of symptoms (*1*). Laboratory confirmation of clinical rabies may be difficult during the early stages of illness because of the lack of diagnostic changes in body tissues or fluid or the unreliability of diagnostic tests.

Reference

1. Hattwick MAW, Gregg MB: The disease in man, in Baer GM (ed): The Natural History of Rabies. New York, Academic Press, 1975, pp 281-304

Erratum, Vol. 28, No. 48

p570 In the article, "Malaria—United States, 1978," the second line of the first paragraph should have read: "The number of infected civilians was *585*, a *24.5%* increase over 1977 and a 4-fold increase over 1970."

The Morbidity and Mortality Weekly Report, circulation 92,800, 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.

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