CENTER FOR DISEASE CONTROL

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MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Surveillance Summary

Hepatitis — United States, 1975-1976

Nationwide, fewer cases of hepatitis A were reported to the MMWR in 1976 than in 1975. For hepatitis B, the upward trend that has been observed for several years is still evident (Table 1). The number of unspecified cases has also risen.

*TABLE 1. Viral hepatitis, reported cases and case rates per 100,000, 1966-1976**

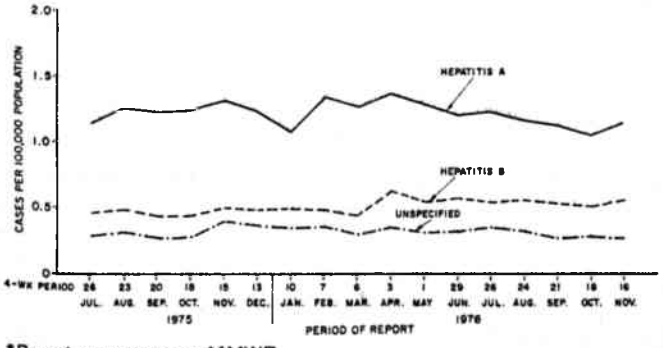
	Hepatitis A		Hepatitis B		Unspecified		Total	
Year	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1966	32,859	16.77	1,497	1.79	—†	—	34,356	18.56
1967	38,909	19.67	2,458	1.28	—	—	41,367	20.95
1968	45,893	22.96	4,829	2.49	—	—	50,722	25.45
1969	48,416	23.98	5,909	3.02	—	—	54,325	27.0
1970	56,797	27.87	8,310	4.08	—	—	65,107	31.95
1971	59,606	28.90	9,556	4.74	—	—	69,162	33.64
1972	54,074	25.97	9,402	4.52	—	—	63,476	30.49
1973	50,749	24.18	8,451	4.03	—	—	59,200	28.21
1974	40,358	19.09	10,631	5.03	8,351	3.95	59,340	28.07
1975	35,855	16.82	13,121	6.16	7,158	3.36	56,134	26.34
1976	33,523	15.62	14,850	6.92	8,422	3.92	56,795	26.46

*Source: MMWR Annual Supplement Summary 1975; figures for 1976 are preliminary
†Not reported nationally until 1974

Reports for the 68-week period July 1, 1975-October 16, 1976, show no seasonal variation (Figure 1). The incidence of type A and of type unspecified occurs in a very narrow band on either side of the central value. There is a small but definite increase in hepatitis B over the same time period. The average weekly incidence of hepatitis B is 0.50 cases/100,000 population.

Long-term morbidity trends for hepatitis A for the period 1966-1976 show a peak in 1971; since then, rates have been going down (Table 1). Since 1974, hepatitis A and hepatitis unspecified have been reported separately. This is reflected by an abrupt downward change in hepatitis A incidence in 1974. However, if type A and type unspecified are combined for 1974-1976 and compared with earlier years, the trend since 1971 is still down. For the 3 years for which figures are available for the unspecified type of hepatitis, the rate has remained nearly constant.

*FIGURE 1. Incidence of viral hepatitis, United States, July 1975-October 1976**



*Based on reports to MMWR

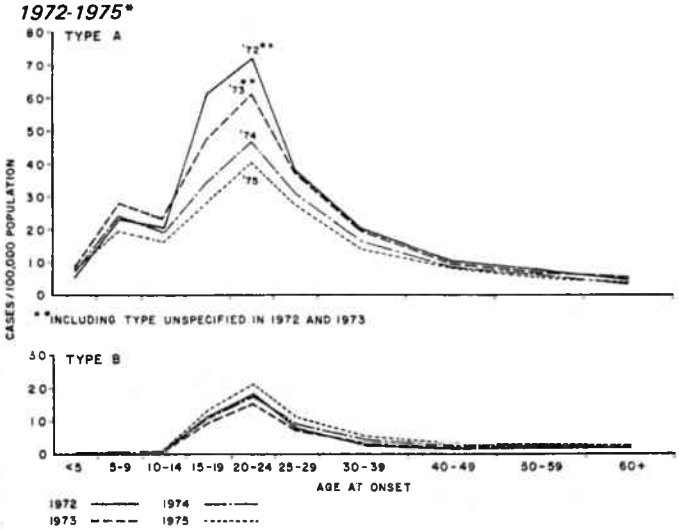
Age-specific rates for 1972-1975 indicate that for all 4 years those most vulnerable to hepatitis A are young adults 20-24 years old (Figure 2). The 15- to 19-year-olds and adults in their late 20s also have relatively high rates, and a preliminary peak in incidence is also evident in the 5- to 9-year-olds. Age-specific attack rates computed for each of the 9 geographic regions are similar to those of the country as a whole.

Hepatitis B shows a definite pattern. Incidence has increased in the last 68-week period, as it has increased over the 11 years since separate reporting began. The case rate doubled between 1969 and 1976, where it stands at 6.9/100,000. No preliminary peak at 5-9 years occurs (Figure 2); in fact, there are few cases in persons less than 15 years old. Again, the peak incidence is in those 20-24 years old, with relatively high rates in those in their upper teens and late 20s. There is a rise in case rates for all ages with each succeeding year.

Reported by the Phoenix Laboratories Div, CDC.

▲ A copy of the report from which these data were derived is available on request from: Viral Hepatitis Surveillance Activity, Phoenix Laboratories Division, CDC, 4402 North 7th Street, Phoenix, Arizona 85014.

*FIGURE 2. Age-specific rates for hepatitis cases, United States, 1972-1975**



*Based on reports to MMWR

Current Trends

Fetal Alcohol Syndrome

Maternal alcoholism, long suspected to cause adverse fetal development (*1*), has been shown to cause a pattern of birth defects known as the fetal alcohol syndrome (*2,3*). The clearly affected children have intrauterine growth deficiency (deficiency predominately in length but also in weight, at birth), and postnatal growth deficiency (deficiency in weight leading to failure to thrive). Mental retardation is common as are structural malformations — particularly ones involving the eye, face, extremities, and heart. Animal studies have also shown adverse effects on fetuses from *in utero* exposure to ethanol (*4*).

As is common soon after an environmental agent is linked to a disease outcome, there are many unanswered questions. The proportion of offspring of chronic alcoholics who have the fetal alcohol syndrome is not known. The effect of lesser amounts of alcohol is also unknown. Nevertheless, given the potential for preventing the adverse fetal effects from *in utero* exposure to ethanol, wider attention to this problem is indicated.

Pregnant and potentially pregnant women should be advised that drinking ethanol during pregnancy may have an adverse effect on the fetus. The risk is substantial and serious when the woman chronically drinks 3 or more ounces of absolute ethanol (6 drinks) a day. What effect, if any, lesser amounts of ethanol have on the fetus has not been determined.

Reported by EP Noble, MD, PhD, National Institute on Alcohol Abuse and Alcoholism, Rockville, Maryland.

References

1. Warner RH, Rosett HL: The effects of drinking on offspring. Journal of Studies on Alcohol 36:1395, 1975
2. Jones KL, Smith DW, Ulleland CW, Streissguth AP: Pattern of malformation in offspring of chronic alcoholic mothers. Lancet 1: 1267, 1973
3. Hanson JW, Jones KL, Smith DW: Fetal alcohol syndrome. JAMA 235:1458, 1976
4. Kronick JB: Teratogenic effects of ethyl alcohol administered to pregnant mice. Am J Obstet Gynecol 124:676, 1976

International Notes

Smallpox — Somalia

The outbreak of smallpox detected in September 1976 in Mogadishu (pop: 400,000) (MMWR 25[40], 1977) eventually resulted in 39 cases. The first known case occurred on August 30, the last on January 17, 1977. In February, a month after the last case was recorded, a special house-to-house search failed to detect additional cases.

Because of the possibility of the spread of disease from Mogadishu into the 9 surrounding regions in southern Somalia, National World Health Organization (WHO) teams

(Continued on page 183)

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

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

DISEASE	21st WEEK ENDING		MEDIAN 1972–1976	CUMULATIVE, FIRST 21 WEEKS		MEDIAN 1972–1976
	May 28, 1977	May 29 1976		May 28, 1977	May 29, 1976	
Aseptic meningitis	38	52	44	759	733	752
Brucellosis	3	6	4	71	112	55
Chickenpox	5,491	5,465	---	129,460	120,554	---
Diphtheria	-	1	2	37	101	101
Encephalitis: Primary	3	12	14	235	307	329
Encephalitis: Post-Infectious	6	9	6	72	119	112
Hepatitis, Viral: Type B	204	372	203	6,359	5,868	3,879
Hepatitis, Viral: Type A	410	731	774	12,876	14,354	17,820
Hepatitis, Viral: Type unspecified	162	168		3,705	3,491	
Malaria	2	3	6	142	135	104
Measles (rubeola)	2,122	1,686	1,106	38,853	25,896	18,874
Meningococcal infections, total	29	23	23	911	774	709
Civilian	28	23	23	905	769	692
Military	1	-	-	6	5	17
Mumps	583	1,082	1,723	12,003	26,128	34,731
Pertussis	12	18	---	282	387	---
Rubella (German measles)	635	498	630	14,399	8,376	11,438
Tetanus	-	2	2	16	16	24
Tuberculosis	403	690	---	12,022	13,201	---
Tularemia	1	6	3	34	51	34
Typhoid fever	1	4	8	137	127	127
Typhus, tick-borne (Rky. Mt. spotted fever)	32	25	25	176	124	109
Venereal Diseases:						
Gonorrhea: Civilian	15,313	18,172	---	373,090	388,781	---
Gonorrhea: Military	410	447	---	13,599	12,220	---
Syphilis, primary and secondary: Civilian	287	458	---	8,380	10,226	---
Syphilis, primary and secondary: Military	7	5	---	126	141	---
Rabies in animals	54	59	67	1,096	1,070	1,222

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	-	Poliomyelitis, total:	3
Botulism: Colo. 1	67	Paralytic:	3
Congenital rubella syndrome: Mich. 1	8	Psittacosis:	24
Leprosy: Conn. 1	46	Rabies in man:	-
Leptospirosis:	16	Trichinosis: N. Hamp. 1, Pa. 1	45
Plague:	1	Typhus, murine: *	21

*Delayed reports: Typhus, murine: Ga. 2

Table III

Cases of Specified Notifiable Diseases: United States

Weeks Ending May 28, 1977 and May 29, 1976 – 21st Week

AREA REPORTING	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod-borne and Unspecified		Post Infectious	Type B	Type A	Type Unspecified		
	1977	1977	1977	1977	CUM. 1977	1977	1976	1977	1977	1977	1977	1977	CUM. 1977
UNITED STATES	38	3	5,491	–	37	3	12	6	204	410	162	2	142
NEW ENGLAND	1	–	673	–	–	1	1	1	–	18	17	–	7
Maine	–	–	14	–	–	–	–	–	–	3	–	–	–
New Hampshire	–	–	13	–	–	–	–	–	–	2	–	–	–
Vermont	–	–	–	–	–	–	–	–	–	1	2	–	1
Massachusetts	–	–	326	–	–	1	1	1	–	5	15	–	2
Rhode Island	–	–	84	–	–	–	–	–	–	4	–	–	2
Connecticut	1	–	236	–	–	–	–	–	–	3	–	–	2
MIDDLE ATLANTIC	4	1	1,078	–	5	1	1	–	43	53	37	2	35
Upstate New York	–	–	798	–	–	–	1	–	7	13	8	–	8
New York City	–	–	197	–	5	1	–	–	17	19	17	–	18
New Jersey	2	–	NN	–	–	–	–	–	8	17	11	–	4
Pennsylvania	2	1	83	–	–	–	–	–	11	4	1	2	5
EAST NORTH CENTRAL	4	–	2,174	–	–	–	3	2	36	66	9	–	9
Ohio	2	–	185	–	–	–	2	1	7	16	–	–	5
Indiana*	–	–	176	–	–	–	–	–	1	6	4	–	–
Illinois	2	–	333	–	–	–	–	–	7	8	2	–	1
Michigan	–	–	904	–	–	–	1	1	18	30	3	–	2
Wisconsin	–	–	576	–	–	–	–	–	3	6	–	–	1
WEST NORTH CENTRAL	3	1	403	–	1	–	–	–	22	37	8	–	12
Minnesota*	–	1	–	–	–	–	–	–	5	9	–	–	4
Iowa	–	–	145	–	–	–	–	–	2	–	1	–	–
Missouri	1	–	165	–	1	–	–	–	7	17	6	–	5
North Dakota	–	–	–	–	–	–	–	–	–	2	–	–	–
South Dakota	–	–	1	–	–	–	–	–	1	–	–	–	1
Nebraska	1	–	66	–	–	–	–	–	5	2	–	–	–
Kansas	1	–	26	–	–	–	–	–	2	7	1	–	2
SOUTH ATLANTIC	15	–	251	–	–	1	3	2	44	70	21	–	22
Delaware	–	–	5	–	–	–	–	–	–	1	1	–	–
Maryland	–	–	5	–	–	1	3	–	4	12	4	–	6
District of Columbia	–	–	9	–	–	–	–	–	2	3	–	–	1
Virginia*	–	–	24	–	–	–	–	–	5	5	4	–	3
West Virginia	–	–	124	–	–	–	–	–	4	2	–	–	1
North Carolina	–	–	NN	–	–	–	–	–	1	7	3	–	4
South Carolina	1	–	3	–	–	–	–	–	5	1	5	–	–
Georgia	–	–	–	–	–	–	–	–	7	12	–	–	3
Florida	14	–	81	–	–	–	–	2	16	27	4	–	4
EAST SOUTH CENTRAL	2	–	38	–	–	–	1	–	11	48	4	–	3
Kentucky	–	–	21	–	–	–	–	–	–	–	–	–	3
Tennessee	2	–	NN	–	–	–	1	–	7	34	1	–	–
Alabama	–	–	16	–	–	–	–	–	1	3	3	–	–
Mississippi	–	–	1	–	–	–	–	–	3	11	–	–	–
WEST SOUTH CENTRAL	4	1	491	–	1	–	1	–	19	48	46	–	8
Arkansas*	–	–	4	–	–	–	–	–	2	5	–	–	–
Louisiana	1	–	NN	–	–	–	1	–	1	12	8	–	–
Oklahoma	–	–	26	–	–	–	–	–	6	7	2	–	–
Texas	3	1	461	–	1	–	–	–	10	24	36	–	8
MOUNTAIN	1	–	180	–	1	–	–	–	20	50	14	–	6
Montana	–	–	6	–	–	–	–	–	1	3	3	–	–
Idaho	1	–	7	–	–	–	–	–	2	2	–	–	–
Wyoming	–	–	19	–	–	–	–	–	–	–	–	–	1
Colorado	–	–	131	–	–	–	–	–	8	8	5	–	4
New Mexico	–	–	–	–	–	–	–	–	3	10	3	–	–
Arizona	–	–	NN	–	1	–	–	–	6	26	3	–	1
Utah	–	–	3	–	–	–	–	–	–	1	–	–	–
Nevada	–	–	14	–	–	–	–	–	–	–	–	–	–
PACIFIC	4	–	203	–	29	–	2	1	9	20	6	–	40
Washington	–	–	182	–	27	–	–	–	2	5	3	–	–
Oregon*	4	–	3	–	–	–	–	1	5	7	3	–	1
California	NA	NA	NA	NA	1	NA	2	–	NA	NA	NA	NA	34
Alaska	–	–	1	–	1	–	–	–	2	8	–	–	1
Hawaii	–	–	17	–	–	–	–	–	–	–	–	–	4
Guam*	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Puerto Rico	–	–	19	–	–	–	–	–	–	1	4	1	1
Virgin Islands	–	–	3	–	–	–	–	–	–	–	1	–	–

NN: Not notifiable
NA: Not available
*Delayed reports: Chickenpox: Minn. delete 1, Guam add 1; Enceph., prim.: Ark. add 1; Enceph, post: Ark. add 1; Hep. A: Va. add 9, Oreg. delete 4; Hep. unsp.: Ind. delete 1, Oreg. delete 5, Guam add 1

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 28, 1977 and May 29, 1976 — 21st Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1977	CUMULATIVE		1977	CUMULATIVE		1977	CUM. 1977	1977	1977	CUM. 1977	CUM. 1977
		1977	1976		1977	1976						
UNITED STATES	2,122	38,853	25,896	29	911	774	583	12,003	12	635	14,399	16
NEW ENGLAND	94	1,841	259	–	39	35	13	508	1	36	1,000	–
Maine	22	35	3	–	3	–	–	35	–	–	66	–
New Hampshire*	2	429	5	–	3	2	–	86	–	2	209	–
Vermont	2	260	–	–	4	3	–	5	–	1	62	–
Massachusetts*	53	531	20	–	10	10	7	91	–	18	307	–
Rhode Island	8	26	14	–	–	4	1	40	–	4	120	–
Connecticut	7	560	217	–	18	16	5	251	1	11	236	–
MIDDLE ATLANTIC	534	5,376	5,457	5	130	106	65	820	4	313	4,303	–
Upstate New York	324	1,967	2,225	1	34	39	9	143	1	213	2,306	–
New York City	30	266	295	–	25	28	29	335	2	21	234	–
New Jersey*	14	117	524	1	27	16	26	223	–	68	1,462	–
Pennsylvania	166	3,026	2,413	3	44	23	1	119	1	11	301	–
EAST NORTH CENTRAL	569	8,256	10,825	4	90	98	187	4,189	2	134	3,038	1
Ohio	51	795	380	1	32	41	15	566	2	48	976	–
Indiana	228	3,855	2,258	–	7	4	21	236	–	33	830	–
Illinois	97	1,074	1,121	3	17	10	56	656	–	19	217	–
Michigan	30	748	4,371	–	24	35	51	1,416	–	14	698	1
Wisconsin	163	1,784	2,695	–	10	8	44	1,315	–	20	317	–
WEST NORTH CENTRAL	316	7,517	829	2	62	59	173	2,926	–	5	420	2
Minnesota	110	1,681	237	–	21	13	1	4	–	1	11	–
Iowa	59	3,785	25	–	5	8	12	1,215	–	3	142	–
Missouri	60	727	10	1	26	17	137	784	–	–	32	1
North Dakota	4	12	2	–	1	3	–	9	–	1	8	–
South Dakota	–	50	2	–	4	2	–	58	–	–	5	–
Nebraska	2	180	40	1	1	3	12	47	–	–	2	–
Kansas	81	1,082	513	–	4	13	11	809	–	–	220	1
SOUTH ATLANTIC	226	2,961	1,596	7	189	153	18	489	–	52	1,370	4
Delaware	–	22	118	–	3	2	–	87	–	1	22	–
Maryland	–	279	643	–	13	14	10	37	–	–	3	–
District of Columbia	–	1	4	–	–	2	–	5	–	–	–	–
Virginia	197	1,594	378	–	11	19	2	60	–	41	525	1
West Virginia	22	154	141	–	8	4	2	126	–	5	79	–
North Carolina	5	40	–	2	51	29	2	29	–	2	398	–
South Carolina	–	118	3	2	19	28	–	9	–	3	165	–
Georgia	2	643	–	–	33	13	–	8	–	–	45	–
Florida	–	110	309	3	51	42	1	128	–	–	133	3
EAST SOUTH CENTRAL	284	1,572	552	3	107	62	35	638	1	62	1,770	2
Kentucky	256	922	532	–	19	12	3	78	–	8	63	1
Tennessee	19	553	5	2	27	26	15	362	–	28	1,602	1
Alabama	9	72	–	1	40	17	16	175	–	26	99	–
Mississippi	–	25	15	–	21	7	1	23	1	–	6	–
WEST SOUTH CENTRAL	51	1,763	570	7	164	124	53	1,011	2	27	641	3
Arkansas	–	1	–	–	8	5	5	25	1	–	1	–
Louisiana	2	71	157	3	60	17	1	30	–	2	23	1
Oklahoma	3	50	266	1	6	18	16	371	–	1	25	–
Texas	46	1,641	147	3	90	84	31	585	1	24	592	2
MOUNTAIN	27	1,872	4,318	1	33	20	21	517	2	2	300	1
Montana	17	1,021	168	–	2	2	–	3	–	–	8	–
Idaho	–	72	1,905	1	3	2	2	115	–	–	4	–
Wyoming	1	3	3	–	1	–	–	–	–	–	2	1
Colorado	–	436	198	–	1	4	13	237	–	–	220	–
New Mexico	–	14	13	–	16	1	6	93	2	–	8	–
Arizona	9	241	218	–	9	7	–	–	–	–	10	–
Utah	–	5	1,753	–	1	4	–	62	–	2	44	–
Nevada	–	80	60	–	1	–	–	7	–	–	4	–
PACIFIC	21	7,695	1,490	–	98	117	18	905	–	4	1,557	3
Washington	21	407	95	–	13	19	5	211	–	4	384	–
Oregon*	–	222	93	–	10	9	12	174	–	–	76	–
California	NA	6,992	1,300	–	56	81	NA	481	NA	NA	1,090	3
Alaska	–	55	–	–	17	6	–	24	–	–	1	–
Hawaii	–	19	2	–	2	2	1	15	–	–	6	–
Guam	NA	3	8	–	–	–	NA	1	NA	NA	4	–
Puerto Rico	42	558	119	–	–	2	62	389	–	1	20	5
Virgin Islands	–	10	5	–	–	–	10	171	–	–	–	–

NA: Not available

*Delayed reports: Measles: N. Hamp. add 5, Mass. delete 4, Oreg. add 10; Men. inf.: Oreg. add 1 civ. delete 1 mil.; Mumps: Oreg. add 2; Pertussis: Oreg. add 3; Rubella: N. Hamp. add 1, N.J. add 27

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 28, 1977 and May 29, 1976 — 21st Week

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1977	CUM. 1977	CUM. 1977	1977	CUM. 1977	1977	CUM. 1977	1977	CUMULATIVE 1977	CUMULATIVE 1976	1977	CUMULATIVE 1977	CUMULATIVE 1976	CUM. 1977
UNITED STATES	403	12,022	34	1	137	32	176	15,313	373,090	388,781	287	8,380	10,226	1,096
NEW ENGLAND	19	444	1	–	8	1	2	465	9,790	10,388	15	334	315	18
Maine	5	34	–	–	–	–	–	27	721	891	–	8	8	16
New Hampshire*	–	11	–	–	–	–	–	24	391	278	–	2	4	1
Vermont	4	21	–	–	–	–	–	17	258	246	–	4	2	–
Massachusetts	5	238	1	–	5	–	–	191	4,257	4,940	13	248	227	–
Rhode Island	3	33	–	–	2	1	1	28	771	691	–	4	11	–
Connecticut	2	107	–	–	1	–	1	178	3,392	3,342	2	68	63	1
MIDDLE ATLANTIC	75	1,946	–	–	26	5	8	777	38,775	42,303	14	1,163	1,737	22
Upstate New York	19	318	–	–	4	–	2	395	6,158	6,553	6	107	113	10
New York City	–	631	–	–	11	–	–	NA	16,136	18,819	NA	719	1,118	–
New Jersey*	11	488	–	–	9	–	–	83	6,326	6,593	4	154	221	11
Pennsylvania	45	509	–	–	2	5	6	299	10,155	10,338	4	183	285	1
EAST NORTH CENTRAL	72	1,934	3	–	13	–	–	2,387	57,016	62,047	43	913	927	40
Ohio	9	292	1	–	5	–	–	476	14,681	14,868	11	234	219	–
Indiana	8	220	–	–	–	–	–	107	5,120	5,673	2	65	50	1
Illinois	33	767	–	–	1	–	–	827	19,029	23,390	23	475	493	10
Michigan	22	566	–	–	7	–	–	728	12,791	12,866	5	99	117	3
Wisconsin	–	89	2	–	–	–	–	249	5,395	5,250	2	40	48	26
WEST NORTH CENTRAL	25	418	5	–	11	2	6	923	19,700	19,885	22	211	183	248
Minnesota	–	87	–	–	1	–	–	219	3,532	3,549	3	61	39	81
Iowa	6	43	–	–	–	–	–	34	2,271	2,483	1	26	19	50
Missouri	13	176	4	–	5	1	4	367	8,395	7,967	5	73	77	20
North Dakota	1	12	–	–	–	–	–	14	349	281	–	–	–	32
South Dakota	–	17	1	–	–	–	–	25	519	555	–	1	2	47
Nebraska	–	17	–	–	1	–	–	151	1,699	1,742	4	21	13	–
Kansas*	5	66	–	–	4	1	2	113	2,935	3,308	9	29	33	18
SOUTH ATLANTIC	117	2,720	8	1	19	17	96	4,668	91,326	94,729	96	2,417	3,077	115
Delaware	4	25	–	–	–	–	1	30	1,202	1,267	1	16	34	1
Maryland	19	399	1	–	–	–	9	532	11,563	12,921	9	157	247	–
District of Columbia	9	132	–	–	–	–	–	185	5,985	6,569	6	255	252	–
Virginia*	10	275	–	1	6	6	29	410	9,422	10,097	8	238	266	2
West Virginia	7	105	–	–	3	–	1	47	1,328	1,222	–	1	16	4
North Carolina	22	486	2	–	1	6	35	884	13,814	14,030	23	359	592	3
South Carolina	11	267	2	–	–	1	6	528	8,450	9,344	2	105	159	1
Georgia*	NA	291	3	–	2	4	15	1,041	17,798	17,208	22	452	422	79
Florida	35	740	–	–	7	–	–	1,011	21,764	22,071	25	834	1,089	25
EAST SOUTH CENTRAL	39	1,066	1	–	3	4	23	1,931	33,272	34,905	16	287	412	38
Kentucky	–	246	1	–	–	–	1	260	4,578	4,420	–	33	63	12
Tennessee	13	356	–	–	1	4	21	738	13,274	13,680	8	89	166	20
Alabama	22	287	–	–	1	–	1	653	9,223	9,930	1	49	79	6
Mississippi	4	177	–	–	1	–	–	280	6,197	6,875	7	116	104	–
WEST SOUTH CENTRAL	26	1,380	12	–	6	3	40	3,030	48,864	51,949	64	1,196	1,143	391
Arkansas*	9	159	8	–	–	–	5	278	3,811	4,781	1	26	39	48
Louisiana	12	286	–	–	–	–	–	615	7,314	7,301	25	264	233	4
Oklahoma	5	123	1	–	–	3	26	253	4,503	4,791	2	32	44	141
Texas*	–	812	3	–	6	–	9	1,884	33,236	35,076	36	874	827	198
MOUNTAIN	16	324	3	–	14	–	1	620	15,156	15,584	13	186	290	40
Montana	1	18	1	–	–	–	1	16	749	747	–	–	3	18
Idaho	–	16	–	–	–	–	–	42	748	822	–	4	12	–
Wyoming	–	5	–	–	–	–	–	16	380	336	–	13	6	–
Colorado	–	50	2	–	7	–	–	199	3,960	3,818	4	54	71	3
New Mexico	–	48	–	–	–	–	–	106	2,188	3,018	4	34	78	–
Arizona*	12	155	–	–	3	–	–	65	4,255	4,640	5	71	87	19
Utah	3	15	–	–	4	–	–	37	878	800	–	4	15	–
Nevada	–	17	–	–	–	–	–	139	1,998	1,403	–	6	18	–
PACIFIC	14	1,790	1	–	37	–	–	512	59,191	56,991	4	1,673	2,142	184
Washington*	NA	92	–	–	1	–	–	246	4,710	4,782	–	56	62	–
Oregon*	6	86	–	–	2	–	–	126	4,334	4,271	3	56	53	–
California	NA	1,332	1	NA	33	NA	–	NA	46,820	45,332	NA	1,532	1,983	174
Alaska	–	22	–	–	–	–	–	92	2,005	1,556	–	10	9	10
Hawaii	8	258	–	–	1	–	–	48	1,322	1,050	1	19	35	–
Guam*	NA	29	–	NA	1	NA	–	NA	91	158	NA	1	1	–
Puerto Rico	9	134	–	–	3	–	–	52	1,242	1,071	5	233	229	22
Virgin Islands	–	1	–	–	–	–	–	–	68	111	–	3	32	–

NA: Not available
*Delayed reports: TB: Kans. add 2, Va. add 9, Guam add 1; Typhoid fever: Ga. delete 2, RMSF: Va. delete 1, Ark. add 1; GC: N. Hamp. delete 2, Oreg. delete 9, Guam add 3; Syphilis: Ark. add 1, Wash. add 20; An. rabies: N.J. delete 2, Tex. add 14, Ariz. add 3

Table IV
Deaths in 121 United States Cities*
Week Ending May 28, 1977 – 21st Week

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	ALL AGES
NEW ENGLAND	650	410	161	34	27	24
Boston, Mass.	203	118	49	17	14	9
Bridgeport, Conn.	36	28	7	1	-	2
Cambridge, Mass.	30	22	6	1	-	3
Fall River, Mass.	35	27	6	1	1	-
Hartford, Conn.	53	30	17	2	1	2
Lowell, Mass.	29	18	10	1	-	1
Lynn, Mass.	20	14	3	-	2	-
New Bedford, Mass.	22	18	2	-	2	-
New Haven, Conn.	45	27	10	3	4	2
Providence, R.I.	67	39	20	5	-	4
Somerville, Mass.	12	4	8	-	-	-
Springfield, Mass.	24	18	4	1	1	1
Waterbury, Conn.	28	19	7	-	-	-
Worcester, Mass.	46	28	12	2	2	-
MIDDLE ATLANTIC	3,100	1,907	786	189	123	119
Albany, N. Y.	48	28	8	2	8	2
Allentown, Pa.	14	10	4	-	-	1
Buffalo, N. Y.	146	88	36	5	13	14
Camden, N. J.	41	22	10	7	2	1
Elizabeth, N. J.	17	12	3	1	-	-
Erie, Pa.	28	16	9	-	2	-
Jersey City, N. J.	43	23	17	2	-	-
Newark, N. J.	64	27	25	5	4	1
New York City, N. Y.	1,531	971	360	105	46	44
Paterson, N. J.	36	14	13	2	5	1
Philadelphia, Pa.	538	292	164	40	23	19
Pittsburgh, Pa.	215	127	64	9	10	15
Reading, Pa.	32	24	7	-	-	-
Rochester, N. Y.	117	84	19	6	6	10
Schenectady, N. Y.	29	18	7	2	1	2
Scranton, Pa.	46	33	11	1	-	1
Syracuse, N. Y.	66	48	12	2	1	2
Trenton, N. J.	35	32	2	-	1	4
Utica, N. Y.	27	21	6	-	-	1
Yonkers, N. Y.	27	17	9	-	1	1
EAST NORTH CENTRAL	2,213	1,318	582	159	76	64
Akron, Ohio	75	56	14	2	2	-
Canton, Ohio	49	31	13	4	1	1
Chicago, Ill.	555	315	149	46	26	13
Cincinnati, Ohio	121	77	31	4	-	3
Cleveland, Ohio	179	95	62	13	4	-
Columbus, Ohio	94	56	20	12	4	8
Dayton, Ohio	99	59	28	7	2	4
Detroit, Mich.	286	160	80	28	10	2
Evansville, Ind.	41	29	8	4	-	4
Fort Wayne, Ind.	46	25	14	4	1	5
Gary, Ind.	16	8	4	3	-	-
Grand Rapids, Mich.	56	35	10	2	4	4
Indianapolis, Ind.	132	82	34	6	4	4
Madison, Wis.	43	22	11	4	1	6
Milwaukee, Wis.	119	74	33	6	4	2
Peoria, Ill.	31	19	3	2	6	1
Rockford, Ill.	46	34	9	1	1	1
South Bend, Ind.	46	30	11	2	-	2
Toledo, Ohio	111	65	31	6	5	1
Youngstown, Ohio	68	46	17	3	1	3
WEST NORTH CENTRAL	796	509	172	34	38	19
Des Moines, Iowa	70	49	15	2	3	2
Duluth, Minn.	37	21	9	1	1	4
Kansas City, Kans.	47	24	9	4	5	-
Kansas City, Mo.	109	72	27	5	3	2
Lincoln, Nebr.	29	22	4	-	1	1
Minneapolis, Minn.	121	79	24	3	6	4
Omaha, Nebr.	99	61	26	2	5	-
St. Louis, Mo.	161	92	40	11	11	4
St. Paul, Minn.	83	62	13	2	3	1
Wichita, Kans.	40	27	5	4	-	1

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	ALL AGES
SOUTH ATLANTIC	1,084	627	292	83	29	53
Atlanta, Ga.	124	70	33	13	4	5
Baltimore, Md.	162	94	39	17	3	1
Charlotte, N. C.	62	35	15	4	4	2
Jacksonville, Fla.	90	54	21	7	4	4
Miami, Fla.	98	58	29	6	2	4
Norfolk, Va.	63	36	16	5	-	3
Richmond, Va.	86	47	32	4	1	11
Savannah, Ga.	33	20	10	1	-	1
St. Petersburg, Fla.	91	75	12	2	-	5
Tampa, Fla.	86	45	23	6	5	8
Washington, D. C.	158	76	53	15	6	6
Wilmington, Del.	31	17	9	3	-	3
EAST SOUTH CENTRAL	676	380	210	30	25	31
Birmingham, Ala.	119	65	37	5	5	1
Chattanooga, Tenn.	68	39	25	2	-	13
Knoxville, Tenn.	47	37	9	1	-	1
Louisville, Ky.	110	67	29	5	4	4
Memphis, Tenn.	158	87	51	7	7	1
Mobile, Ala.	45	28	10	2	2	2
Montgomery, Ala.	33	15	9	1	5	1
Nashville, Tenn.	96	42	40	7	2	8
WEST SOUTH CENTRAL	1,172	595	359	99	61	25
Austin, Tex.	40	22	7	4	4	2
Baton Rouge, La.	56	27	18	8	1	1
Corpus Christi, Tex.	29	13	10	3	1	1
Dallas, Tex.	183	90	61	19	4	1
El Paso, Tex.	46	28	9	1	5	3
Fort Worth, Tex.	75	45	21	6	-	2
Houston, Tex.	326	142	117	30	18	4
Little Rock, Ark.	45	18	15	3	6	-
New Orleans, La.	121	71	33	6	8	-
San Antonio, Tex.	119	62	33	13	5	3
Shreveport, La.	58	35	15	3	2	3
Tulsa, Okla.	74	42	20	3	7	5
MOUNTAIN	526	319	129	33	22	22
Albuquerque, N. Mex.	69	40	14	6	2	11
Colorado Springs, Colo.	35	20	10	1	2	4
Denver, Colo.	106	63	32	6	3	3
Las Vegas, Nev.	21	14	6	1	-	-
Ogden, Utah	21	14	4	1	1	3
Phoenix, Ariz.	128	82	29	7	6	1
Pueblo, Colo.	23	18	2	1	2	-
Salt Lake City, Utah	52	31	14	3	4	-
Tucson, Ariz.	71	37	18	7	2	-
PACIFIC	1,638	1,008	403	106	63	44
Berkeley, Calif.	15	13	2	-	-	2
Fresno, Calif.	68	46	10	3	6	2
Glendale, Calif.	16	12	2	1	-	-
Honolulu, Hawaii	63	28	25	5	3	1
Long Beach, Calif.	105	68	27	4	4	2
Los Angeles, Calif.	508	311	129	35	19	23
Oakland, Calif.	74	46	17	5	6	-
Pasadena, Calif.	35	22	8	3	1	1
Portland, Oreg.	112	72	23	10	1	-
Sacramento, Calif.	68	34	19	5	6	1
San Diego, Calif.	133	83	35	6	1	2
San Francisco, Calif.	176	107	43	14	6	1
San Jose, Calif.	67	50	15	1	-	1
Seattle, Wash.	132	75	33	11	8	7
Spokane, Wash.	37	26	8	-	-	1
Tacoma, Wash.	29	15	7	3	2	-
TOTAL	11,855	7,073	3,094	767	464	401
Expected Number	11,285	6,825	2,931	728	371	377

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

The Morbidity and Mortality Weekly Report, circulation 66,000, 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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Smallpox – continued

searched 6 regions from October through February. Limited resources, however, precluded a complete search of these areas. In mid-March, the search operation was further intensified with the participation of 8 WHO epidemiologists. In each of the regions and in Mogadishu, itself, a smallpox surveillance team of 6-10 members was established; their work was coordinated by 6 zonal campaign offices. On March 25, it was decided to have repeat searches of the entire population once every 6 weeks.

This special search operation soon detected smallpox cases in 9 regions in the southern part of Somalia during March and April. To date, 192 outbreaks with 602 cases have been discovered. No deaths have occurred. Many affected localities are situated along 3 major roads – Mogadishu/Belet Huen, Mogadishu/Baidoa, and Mogadishu/Merca. In Mogadishu, 6 single case importations occurred from known outbreaks. Although heavy rains are hampering communication between Mogadishu and the field, detailed information is available for 54 outbreaks. Seventeen were detected within 1 week after the date of onset of rash of the first case; 11 were traced to other known outbreaks.

While the planned search operation is continuing, additional special containment measures have been instituted. Two assessment teams, consisting of national supervisors and WHO epidemiologists, are continuously evaluating the effectiveness of containment measures as well as the coverage of the search operation.

Reported by the Smallpox Eradication Program, World Health Organization, and the Weekly Epidemiological Record 52(18): 154-155, 1977.

Epidemiologic Notes and Reports

Rabies in a Laboratory Worker – New York

New York has recently reported a case of rabies in a pre-immunized laboratory technician, possibly infected with an attenuated strain of rabies virus by the inhalation route. The technician appears to be improving.

On April 14, 1977, the patient, a 32-year-old male technician who worked in the rabies laboratory of the New York State Department of Health, developed malaise and headache and was sent home from work. Over the next 4 days he felt well in the morning but by afternoon had chills, fever, and nausea. On April 18, he felt weak and was febrile. On April 19, the patient was lethargic and intermittently delirious.

After referral to the Albany Medical Center on April 20, he was found to be lethargic and to have an expressive aphasia, increased deep tendon reflexes, bilateral ankle clonus, and snout and suck reflexes. Motor function and cranial nerve function were normal. A lumbar puncture revealed: protein 117 mg%, glucose 80 mg%, and white blood cells 230/mm^3 (95% lymphocytes).

On April 21, the patient fell into deep coma. EEG revealed diffuse slow waves and delta wave activity. Brain scan echoencephalogram and computer-assisted tomography of the brain were normal. Laboratory serologic tests were negative for listeriosis, lymphocytic choriomeningitis, measles, herpes type 1 and 2, leptospirosis, and 6 arboviruses. Between April 22 and May 3, the patient remained in deep coma with little change. He was treated with anticonvulsants and provided with intravenous fluids, mechanical respiratory assistance, and intensive medical care. Since May 4, the patient has shown gradual but noticeable improvement. Although he is unable to respond to verbal command or to communicate with those caring for him, he no longer requires respiratory assistance and is demonstrating purposeful movements.

The diagnosis of rabies was made on the basis of antibody level rise. Serum antibody rabies titers by tissue culture neutralization test were, on April 21 – 1:16, April 25 – 1:32, and May 5 – 1:64,000. Cerebrospinal fluid rabies antibody titer on May 12 was 1:16,225. Corneal impressions and neck skin biopsy collected on May 17 were negative for rabies by fluorescent antibody examination.

This patient had been pre-immunized against rabies beginning with primary immunization series in 1968. After that series he had an antibody titer of >1:50. He had received annual boosters since that time and demonstrated antibody response to these vaccinations. The most recent booster was given in November 1976; 2 weeks later he had an antibody titer of 1:32.

The patient's family and coworkers were unaware that any animal bites had occurred in the last year either in the laboratory or elsewhere. No accidental exposure to rabies virus is known or suspected to have occurred in the laboratory with one exception. During the 3-day period March 30-April 1, the patient was engaged in research which involved spraying suspensions of modified live rabies virus in a pharmaceutical manufacturing machine. It is known that some leakage occurred during the operation of the machine and that the patient probably inhaled an unknown quantity of the virus during several hours of exposure between March 30-April 1. This same equipment had been used on 3 other occasions in the previous year. On these occasions, several persons – including this patient – had been potentially exposed to rabies virus aerosol.

Two types of modified live rabies virus strains were used between March 31-April 1; both were derived from the Street Alabama Dufferin (SAD) commercial veterinary rabies strain which usually has an infectivity titer of approximately $10^{3 \cdot 5}$ mouse intracerebral 50% lethal doses (MICLD50) /.03 ml in weanling mice. One of the viral preparations had been passed twice in suckling mice and had an infectivity titer of $10^{5 \cdot 5}$ MICLD50/.03 ml in weanling mice; the other preparation had been passed through baby hamster kidney tissue culture (BHK-21) and had an infectivity titer of $\geqslant 10^{8 \cdot 5}$ MICLD50/.03 ml in weanling mice. In previous uses of the machine the virus suspensions had a titer of $\leqslant 10^{6 \cdot 5}$ MICLD50/.03 ml. Epidemiologic investigation of other possible sources of infection is continuing.

Reported by JR Tillotson, MD, Div of Infectious Disease, Dept of Medicine, Albany Medical College; D Axelrod, MD, Div of Laboratories and Research, DO Lyman, MD, State Epidemiologist, New York Dept of Health; Viral Zoonoses Br, Virology Div, Bur of Laboratories, Respiratory and Special Pathogens Br, Viral Diseases Div, and Field Services Div, Bur of Epidemiology CDC.

Rabies — continued

Editorial Note: This case of rabies is unusual for several reasons. It is the first documented case of rabies in a person previously vaccinated and presumed protected, as evidenced by a 1:32 rabies antibody titer 6 months prior to onset of illness. This is also only the second case of presumed laboratory-acquired infection in recent history. As in the previous case (MMWR 21[14], 1972) this individual is presumed to have been exposed via the inhalation route. He may have been infected with the modified live rabies virus which had been passed through animal or tissue culture systems to gain higher infectivity titer than is available in commercial vaccines. What effect passage through tissue culture or animal systems and titer elevation has on virus virulence is not known. Studies to assess this are in progress.

While the reporting of a case of laboratory-acquired rabies in a vaccinated individual may cause some concern among rabies laboratory workers, it should be remembered that few laboratories are engaged in activities which could lead to exposures of the type believed responsible for this infection. Additional information is required to assess the risk of exposure to aerosolized virus and/or to attenuated strains of virus which have been modified through laboratory manipulation. The parent strain of virus, SAD vaccine virus, has been used for over 10 years in many laboratories and a number of accidental parenteral exposures to this virus have occurred without subsequent infection developing, even in unimmunized individuals who were not treated. As noted in the Public Health Services's Advisory Committee on Immunization Practices recommendations on rabies (MMWR 25 [51], 1976) the SAD and Flury strains of vaccine virus are regarded as non-pathogenic for man, but when passed through other substrates they should be regarded as potentially virulent.

Erratum, Vol. 26, No. 21

p175 In the article, "Measles — United States," second column, second line, there was a 13-fold increase in measles cases in the West North Central States, not the East North Central States, as written.

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