



Morbidity and Mortality

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE / PUBLIC HEALTH SERVICE HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
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EPIDEMIOLOGIC NOTES AND REPORTS
LEPTOSPIROSIS - New York

On April 24, 1972, a 51-year-old dairy farm worker in New York had onset of recurrent fever and headache, unresponsive to antibiotics, and was hospitalized on May 3. There was no evidence of conjunctivitis. A lumbar puncture on May 4 showed a cerebrospinal fluid (CSF) with no cells, and a protein of 67 mg%. Five subsequent CSF specimens obtained between May 19 and June 7 demonstrated a pleocytosis rising to a peak of 300 white blood cells (5% polymorphonuclear leukocytes). The glucose remained normal, and the protein rose to 111 mg%. Multiple laboratory tests of renal and hepatic function were within normal limits. Serologic examination revealed a microscopic agglutination (MA) titer rise to *Leptospira pomona* from negative to 1:800. The patient recovered without specific treatment.

On July 2, 1972, a 31-year-old co-worker of the first patient had acute onset of headache and fever, unresponsive

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to oral cephalosporins; he was hospitalized on July 8. On admission, a lumbar puncture revealed a CSF with 194 white blood cells (75% polymorphonuclear leukocytes), a protein of 426 mg%, and a glucose of 48 mg%. He was treated with intravenous ampicillin and recovered uneventfully. Acute serum drawn July 8 was negative for leptospirosis. Serum drawn July 14 showed titers of 1:400 to *icterohemorrhagiae* and 1:50 to *pomona*, and another specimen drawn Septem-

TABLE I. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
 (Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	47th WEEK ENDING		MEDIAN 1967-1971	CUMULATIVE, FIRST 47 WEEKS		
	November 25, 1972	November 27, 1971		1972	1971	MEDIAN 1967-1971
Aseptic meningitis	83	69	69	3,893	4,765	4,056
Brucellosis	1	2	5	173	153	207
Chickenpox	2,088	---	---	124,521	---	---
Diphtheria	2	4	8	106	171	173
Encephalitis, primary:						
Arthropod-borne and unspecified	17	28	25	1,031	1,396	1,396
Encephalitis, post-infectious	1	4	3	247	310	352
Hepatitis, serum (Hepatitis B)	128	178	119	8,114	7,905	4,804
Hepatitis, infectious (Hepatitis A)	853	1,036	1,051	49,511	54,752	43,333
Malaria	4	26	39	787	2,712	2,712
Measles (rubeola)	494	281	282	29,168	72,788	43,287
Meningococcal infections, total	19	30	46	1,206	2,024	2,227
Civilian	19	27	27	1,161	1,810	1,975
Military	---	3	3	45	214	212
Mumps	1,113	1,714	---	64,178	112,006	---
Rubella (German measles)	207	319	319	23,266	41,712	46,700
Tetanus	1	1	1	107	99	148
Tuberculosis, new active	525	---	---	30,326	---	---
Tularemia	5	---	3	124	168	154
Typhoid fever	4	9	10	342	384	365
Typhus, tick-borne (Rky. Mt. spotted fever)	3	1	3	514	398	335
Venereal Diseases:†						
Gonorrhea	13,312	13,939	---	681,868	600,570	---
Syphilis, primary and secondary	497	471	---	23,008	21,422	---
Rabies in animals	44	45	51	3,689	3,607	3,089

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	2	Poliomyelitis, total: *Tex. - 1	23
Botulism: Ida. - 1	9	Paralytic: Tex. - 1	20
Congenital rubella syndrome:	30	Psittacosis:	33
Leprosy: Tex. - 2	112	Rabies in man:	1
Leptospirosis:	33	Trichinosis: N.J. - 1, N.Y. Ups. - 1	77
Plague:	1	Typhus, murine: Hawaii - 1	14

*Delayed reports: Poliomyelitis: N.H. 1 (non-paralytic)

†Numbers for 1971 are estimated from quarterly reports to the Venereal Disease Branch, CDC

LEPTOSPIROSIS – Continued

ber 27 showed titers of 1:6,400 to *icterohemorrhagiae* and 1:800 to *pomona*.

Epidemiologic investigation revealed that the two men were employed as fulltime milkers at the same dairy farm. Their jobs included washing the cows' udders, attaching milking machines, and cleaning the milking parlor with water sprays. Illness histories and serum samples were obtained from all 13 milkers at the farm, from three men with chronic exposure to cattle urine (the breeder and two maternity barn workers), and eight men who worked with the cattle outdoors (Table 1). One additional milker had been ill for 1 week, 7 months previously, with headache, fever, and abdominal pains. His serum had a titer of 1:100 to *pomona* and 1:200 to *icterohemorrhagiae*. One maternity barn worker who denied past illness had a titer of 1:25,600 to *pomona*. All outdoor workers were negative by history and serologic testing.

The cattle had been vaccinated with monovalent Pomona bacterin annually from 1969 to 1971 and with bivalent Icterohemorrhagiae-Canicola bacterin in 1971. One-hundred-forty-four of 1,500 animals were bled and tested against 13 leptospiral antigens. Forty-two animals (29%) reacted with a titer of 1:100 or greater against *pomona*; 30 (21%) reacted to *icterohemorrhagiae*; 20 (14%) reacted to either *hardjo* or *wolffi*; and 10 (7%) showed mixed infections. The total number of positive animals was 102 (71%).

The turnover of animals on the farm was very high with 96 (67%) of the 144 animals having been on the farm 2 years or less. The farm veterinarian and manager denied increased incidence of abortions or decreased milk production among the cattle in recent years.

To determine whether the source of the infection was wildlife, a trapping program was initiated. Five woodchucks were captured from a nearby field; all were seronegative, but leptospire of the Pomona serogroup have been isolated from the kidneys of two. One grey fox was captured and was also culture-positive, but seronegative. Despite signs of rat infestation and a thorough trapping program, only two rats have been captured. Both were negative by culture and serology. Definitive control measures await completion of continuing studies which include attempts to identify the source of infection into the herd.

(Reported by John Curtis, M.D., private physician, Sharon, Connecticut, James Tillotson, M.D., and Judson Harrington, Medical Student, Albany Medical College, Albany, New York; Alan R. Hinman, M.D., Assistant Commissioner, Jack Debbie, D.V.M., Research Associate, Leonard Berdan, D.V.M., Supervising Veterinarian, and Melvin Abelseth, D.V.M., Director, Laboratories for Veterinary Science, Alan Bowerman, Ph.D.,

Table 1
Leptospirosis – New York State, July-August 1972
Serosurvey of Workers

Type of Work	Number Tested	Number Positive	Percent Positive
Milkers	13	3	23
Breeder and Maternity	3	1	33
Outside Workers	8	0	0

Senior Research Scientist, Rodent Control Evaluation Laboratory, New York State Department of Health; Ward Stone, Ph.D., Associate Wildlife Pathologist, New York State Department of Environmental Conservation; and an EIS Officer.)
Editorial Note

Based on clinical and serologic results, all three patients contracted leptospirosis, but the infecting serotype is unknown. Interpretation of the titers for the first patient indicate a member of the Pomona serogroup. However, the titers for the second and third patient suggest a member of the Icterohemorrhagiae serogroup. This investigation demonstrates the limitations of serologic methods resulting from the common antigens shared by leptospire of different serogroups. Serologic procedures can indicate the infecting serogroup with a high degree of probability; however, cultural studies are needed to definitively identify the infecting serotype. Recent experience at CDC has shown that leptospire may be isolated from urine of infected patients as late as 12 to 18 weeks after onset of illness.

For many years, leptospirosis in the United States has been recognized as an occupational hazard to agricultural workers. Humans contract the disease by transmission of leptospire from infected urine or tissues of domestic or wild animals. Studies in New Zealand, where 90% of the cases are occupationally related, have implicated milking parlors with sunken walkways as important to the transmission of the disease (1). A recent survey showed that the incidence of leptospirosis in men working in such parlors is approximately twice as high as those working in conventional walk-through sheds. The workers in the outbreak reported here were at particularly high risk because they handled large numbers of potentially infected cows from sunken walkways, giving them maximum working exposure to cattle urine. This is the first outbreak reported to CDC in the United States that occurred in fulltime milkers working in this type of milking parlor.

Reference

1. Jamieson S, Davidson RM, et al: Leptospirosis du New Zealand. Bull Off Int Epizoot 73:81-92, 1970

RECOMMENDATION OF THE PUBLIC HEALTH SERVICE
ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES

SIMULTANEOUS ADMINISTRATION OF CERTAIN LIVE VIRUS VACCINES

Supplementary Recommendation

Recently acquired data on simultaneous administration of certain live virus vaccines provide a scientific basis for using them together when desirable in preventive medicine programs.

MEASLES AND RUBELLA VACCINES

Licensed combinations of live virus vaccines (measles-mumps-rubella, measles-rubella, and rubella-mumps) have al-

ready been recommended for use (Supplement, MMWR Vol 21, No. 25). At the time of that recommendation, there were insufficient data to comment on giving other manufacturers' strains of measles and rubella vaccines together. Recent clinical trials indicate that the Schwarz strain of measles vaccine and the Cendehill strain of rubella vaccine can be safely and effectively administered at the same time at separate sites.

MEASLES-MUMPS-RUBELLA AND ORAL POLIOMYELITIS VACCINES

It has been recommended that measles and rubella vaccines and the third dose of trivalent oral poliomyelitis vaccine (OPV) be administered during the second year of life. Newly

acquired serologic evidence shows that when the licensed combination measles-mumps-rubella vaccine is given simultaneously with trivalent OPV, antibody responses can be expected to be comparable to those which follow administration of the vaccines at different times.

**SURVEILLANCE SUMMARY
MEASLES - United States, First 40 Weeks, 1972**

In the first 40 weeks of 1972, 27,356 cases of measles were reported in the United States (Figure 1). This represents a decrease of 62% from the 70,381 cases recorded for the comparable period in 1971.

Ten states (Massachusetts, Rhode Island, Arizona, New Hampshire, Vermont, Connecticut, Wisconsin, Illinois, Delaware, and California) and Puerto Rico showed an increase in the number of cases in the first 40 weeks of 1972; all other states showed a decrease. In contrast, 38 states showed an increase for the comparable period in 1971. The highest incidence rates (per 100,000 children under 18 years of age) were in Wisconsin (220.1) and Rhode Island (174.6). Arizona (137.1), Connecticut (127.1), New Hampshire (110.9), and Illinois (108.9) also had rates of over 100 cases per 100,000 children under 18 years (Figure 2).

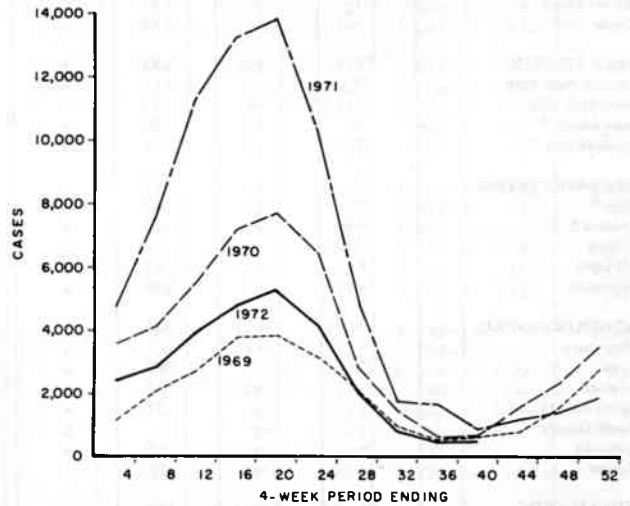
Distribution of live attenuated measles vaccine in the United States in the first 10 months of 1972 was 6.8 million, compared with over 8.3 million doses in all of 1971. Epidemiologic investigation continues to document the efficacy of the live attenuated measles vaccine, the majority of cases studied having been in unimmunized children and those immunized before the age of 1 year.

(Reported by the Field Services Branch, Epidemiology Program, and the Immunization Branch, State and Community Services Division, CDC.)

Editorial Note

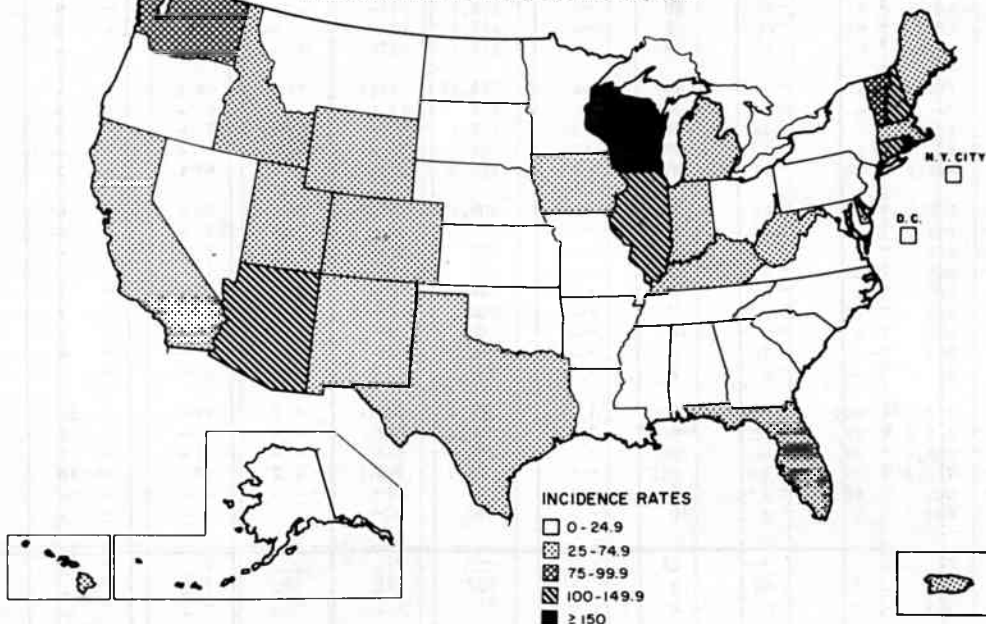
Further reduction in measles morbidity and mortality will result only if states initiate improved surveillance and

**Figure 1
REPORTED CASES OF MEASLES, BY 4-WEEK PERIODS
UNITED STATES - 1969-1972**



increased immunization activity. The identification of specific target groups, either on the basis of low immunization levels or the presence of yearly measles outbreaks, followed by intensive immunization campaigns during the coming weeks is essential to continue the downward trend in measles morbidity in the United States.

**Figure 2
INCIDENCE RATES* OF REPORTED MEASLES CASES, BY STATE
UNITED STATES - FIRST 40 WEEKS, 1972**



* RATES PER 100,000 CHILDREN UNDER 18 YEARS

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING NOVEMBER 25, 1972 AND NOVEMBER 27, 1971 (47th WEEK)

AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS		
						Primary including unspec. cases		Post In- fectious	Serum (Hepatitis B)	Infectious (Hepatitis A)	
						1972	1971			1972	1972
UNITED STATES	83	1	2,088	2	106	17	28	1	128	853	1,036
NEW ENGLAND	1	1	328	-	-	-	-	-	7	71	49
Maine *	-	-	11	-	-	-	-	-	-	-	10
New Hampshire	-	1	163	-	-	-	-	-	-	6	4
Vermont	-	-	1	-	-	-	-	-	-	7	4
Massachusetts	-	-	69	-	-	-	-	-	4	32	18
Rhode Island	1	-	27	-	-	-	-	-	1	8	5
Connecticut	-	-	57	-	-	-	-	-	2	18	8
MIDDLE ATLANTIC	18	-	37	-	3	1	3	-	39	143	180
Upstate New York	5	-	-	-	1	-	1	-	3	29	44
New York City	4	-	31	-	2	1	-	-	16	32	39
New Jersey *	7	-	NN	-	-	-	-	-	3	34	56
Pennsylvania *	2	-	6	-	-	-	2	-	17	48	41
EAST NORTH CENTRAL	7	-	792	-	4	7	7	-	15	148	149
Ohio *	2	-	40	-	-	2	-	-	3	30	40
Indiana *	-	-	25	-	-	-	2	-	-	2	8
Illinois	1	-	-	-	3	-	1	-	3	39	21
Michigan	4	-	241	-	1	5	3	-	7	72	71
Wisconsin	-	-	486	-	-	-	1	-	2	5	9
WEST NORTH CENTRAL	3	-	354	1	18	3	-	-	1	14	37
Minnesota	-	-	-	-	-	-	-	-	-	4	4
Iowa	2	-	286	-	-	3	-	-	-	3	7
Missouri	-	-	2	-	-	-	-	-	-	2	7
North Dakota	1	-	37	-	-	-	-	-	-	1	3
South Dakota	-	-	-	1	15	-	-	-	-	-	-
Nebraska	-	-	9	-	3	-	-	-	1	-	6
Kansas	-	-	20	-	-	-	-	-	-	4	10
SOUTH ATLANTIC	19	-	180	-	10	2	6	-	14	123	145
Delaware	-	-	9	-	-	-	-	-	-	2	1
Maryland	---	---	---	---	1	---	---	---	---	---	22
District of Columbia	-	-	-	-	-	-	1	-	-	-	-
Virginia	3	-	2	-	-	-	3	-	3	18	26
West Virginia	-	-	164	-	-	-	-	-	-	9	8
North Carolina	11	-	NN	-	-	2	1	-	5	21	44
South Carolina	-	-	5	-	1	-	-	-	1	7	4
Georgia	-	-	-	-	3	-	-	-	-	10	9
Florida	5	-	-	-	5	-	1	-	5	56	31
EAST SOUTH CENTRAL	2	-	32	-	7	-	1	-	18	54	79
Kentucky	-	-	21	-	-	-	1	-	1	11	20
Tennessee	1	-	NN	-	-	-	-	-	9	19	43
Alabama	-	-	7	-	7	-	-	-	8	12	11
Mississippi	1	-	4	-	-	-	-	-	-	12	5
WEST SOUTH CENTRAL	8	-	64	-	41	2	4	1	4	89	63
Arkansas	-	-	-	-	-	1	-	-	-	6	-
Louisiana *	4	-	NN	-	5	-	2	-	2	8	2
Oklahoma	3	-	4	-	-	-	2	-	-	21	4
Texas	1	-	60	-	36	1	-	1	2	54	57
MOUNTAIN	-	-	138	-	6	-	5	-	6	63	89
Montana	-	-	42	-	-	-	-	-	-	14	6
Idaho	-	-	-	-	2	-	-	-	-	9	4
Wyoming	-	-	46	-	-	-	-	-	-	2	2
Colorado	-	-	19	-	-	-	-	-	1	10	17
New Mexico	-	-	3	-	2	-	-	-	1	7	27
Arizona	-	-	22	-	2	-	3	-	-	16	31
Utah	-	-	4	-	-	-	2	-	4	3	2
Nevada	-	-	2	-	-	-	-	-	-	2	-
PACIFIC	25	-	163	1	17	2	2	-	24	148	245
Washington	6	-	144	1	13	-	-	-	2	17	37
Oregon	-	-	-	-	1	-	-	-	3	35	30
California	19	-	-	-	1	2	2	-	18	93	172
Alaska	-	-	4	-	2	-	-	-	-	-	1
Hawaii	-	-	15	-	-	-	-	-	1	3	5
Guam *	-	-	-	-	-	-	---	-	-	-	---
Puerto Rico *	-	-	3	-	-	-	-	-	-	5	23
Virgin Islands	-	-	-	-	-	-	-	-	-	-	-

*Delayed reports: Brucellosis: Pa. 1
Chickenpox: Me. 16, Guam 3

Encephalitis, primary: Ohio 2, Ind. delete 1
Hepatitis A: Me. 15, N.J. delete 1, La. delete 2, P.R. 2

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING NOVEMBER 25, 1972 AND NOVEMBER 27, 1971 (47th WEEK) - Continued

AREA	MALARIA		MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		RUBELLA	
	1972	Cum. 1972	1972	Cumulative		1972	Cumulative		1972	Cum. 1972	1972	Cum. 1972
				1972	1971		1972	1971				
UNITED STATES	4	787	494	29,168	72,788	19	1,206	2,024	1,113	64,178	207	23,266
NEW ENGLAND	—	28	184	3,751	3,499	1	54	96	38	2,809	4	1,034
Maine *	—	2	1	250	1,483	—	4	9	—	302	—	77
New Hampshire	—	4	49	512	213	—	3	21	—	191	—	33
Vermont	—	1	—	128	121	—	—	—	—	138	—	70
Massachusetts	—	10	125	1,023	253	1	24	35	20	700	2	485
Rhode Island	—	1	1	525	240	—	12	3	2	411	1	93
Connecticut	—	10	8	1,313	1,189	—	11	28	16	1,067	1	276
MIDDLE ATLANTIC	—	74	8	1,095	7,678	1	144	269	66	3,851	9	1,954
Upstate New York	—	17	—	132	697	—	33	83	NN	NN	1	247
New York City	—	17	7	401	3,796	—	43	55	44	2,207	2	251
New Jersey	—	19	—	498	1,255	—	27	59	9	842	1	1,178
Pennsylvania	—	21	1	64	1,930	1	41	72	13	802	5	278
EAST NORTH CENTRAL	1	88	154	11,793	16,325	5	185	233	332	17,454	41	5,982
Ohio	—	19	5	280	4,055	2	74	75	37	2,354	3	427
Indiana	—	1	12	1,320	2,872	—	13	18	39	1,164	6	758
Illinois	1	33	41	4,305	3,192	—	39	66	49	3,014	3	1,081
Michigan	—	32	54	2,219	2,523	3	51	59	56	3,148	14	1,377
Wisconsin	—	3	42	3,669	3,683	—	8	15	151	7,774	15	2,339
WEST NORTH CENTRAL	—	50	80	1,104	7,154	2	88	143	178	9,225	7	1,340
Minnesota	—	8	—	23	57	—	24	27	—	703	—	497
Iowa	—	3	74	783	2,564	—	6	12	138	6,400	5	419
Missouri	—	12	3	169	2,606	—	26	49	29	599	—	115
North Dakota	—	1	—	58	240	—	—	6	1	401	1	50
South Dakota	—	4	3	11	221	—	2	6	—	120	—	13
Nebraska	—	3	—	23	69	—	10	15	—	271	—	54
Kansas	—	19	—	37	1,397	2	20	28	10	731	1	192
SOUTH ATLANTIC	3	124	13	2,279	8,729	6	267	360	91	5,944	8	2,324
Delaware	—	—	—	53	42	—	1	2	19	138	—	8
Maryland	---	9	---	15	554	---	39	51	---	436	---	54
District of Columbia	1	8	—	2	16	—	11	14	—	27	—	7
Virginia	—	9	—	71	1,612	2	60	42	14	1,219	—	72
West Virginia	—	2	—	300	552	—	8	11	37	2,572	2	422
North Carolina	1	40	—	38	1,957	1	32	66	NN	NN	—	33
South Carolina	1	12	—	217	923	—	22	20	1	182	—	50
Georgia	—	28	—	185	1,133	2	21	25	—	24	—	58
Florida	1	16	13	1,398	1,940	1	73	129	20	1,346	6	1,620
EAST SOUTH CENTRAL	—	169	5	1,076	8,420	1	94	186	44	3,287	9	1,622
Kentucky	—	146	1	539	3,968	1	29	53	12	500	2	889
Tennessee	—	—	—	194	1,025	—	30	74	11	2,047	4	549
Alabama	—	18	—	154	1,954	—	20	33	18	617	—	68
Mississippi	—	5	4	189	1,473	—	15	26	3	123	3	116
WEST SOUTH CENTRAL	—	86	19	1,641	12,657	2	142	178	77	5,375	7	1,672
Arkansas	—	5	—	13	778	—	11	5	—	167	1	36
Louisiana	—	7	—	105	1,701	1	44	66	—	325	2	97
Oklahoma	—	6	—	11	757	—	9	10	1	164	2	41
Texas	—	68	19	1,512	9,421	1	78	97	76	4,719	2	1,498
MOUNTAIN	—	49	10	1,945	3,500	—	29	64	79	3,322	7	1,162
Montana *	—	2	—	18	925	—	4	7	5	205	—	34
Idaho	—	3	1	153	274	—	8	11	—	217	—	35
Wyoming	—	1	—	51	85	—	1	2	30	328	—	8
Colorado	—	31	2	537	840	—	5	7	5	785	2	531
New Mexico	—	3	2	131	400	—	3	5	31	675	2	121
Arizona	—	7	4	895	633	—	1	9	8	926	1	394
Utah	—	2	1	159	336	—	6	19	—	138	2	36
Nevada	—	—	—	1	7	—	1	4	—	48	—	3
PACIFIC	—	119	21	4,484	4,826	1	203	495	208	12,911	115	6,176
Washington	—	1	4	988	1,093	—	17	33	42	3,915	17	900
Oregon	—	11	9	159	378	—	14	40	46	1,840	3	424
California	—	92	8	3,226	2,782	1	160	412	95	6,657	95	4,770
Alaska	—	3	—	13	63	—	9	1	23	200	—	23
Hawaii	—	12	—	98	510	—	3	9	2	299	—	59
Guam	—	2	—	16	---	—	13	---	—	10	—	12
Puerto Rico	—	5	41	932	603	—	4	10	1	912	1	31
Virgin Islands	—	—	—	3	17	—	2	—	—	130	—	3

*Delayed reports: Measles: Mont. 2
Rubella: Me. 1

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING NOVEMBER 25, 1972 AND NOVEMBER 27, 1971 (47th WEEK) - Continued

AREA	TETANUS	TB (New Active)	TULAREMIA		TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. spotted fever)		VENEREAL DISEASES		RABIES IN ANIMALS	
	1972	1972	1972	Cum. 1972	1972	Cum. 1972	1972	Cum. 1972	GONOR- RHEA	SYPHILIS (Pri. & Sec.)	1972	Cum. 1972
									1972	1972		
UNITED STATES	1	525	5	124	4	342	3	514	13,312	497	44	3,689
NEW ENGLAND	-	17	-	-	-	16	-	2	388	8	-	109
Maine	-	3	-	-	-	-	-	-	8	-	-	85
New Hampshire *	-	-	-	-	-	2	-	-	12	-	-	4
Vermont	-	-	-	-	-	-	-	-	-	-	-	9
Massachusetts	-	5	-	-	-	12	-	2	164	3	-	4
Rhode Island	-	3	-	-	-	-	-	-	35	-	-	2
Connecticut	-	6	-	-	-	2	-	-	169	5	-	5
MIDDLE ATLANTIC	-	91	-	1	-	54	2	39	2,314	121	2	99
Upstate New York	-	10	-	-	-	15	-	6	789	13	-	43
New York City	-	16	-	-	-	27	-	2	898	73	-	-
New Jersey	-	25	-	1	-	8	-	16	303	27	-	-
Pennsylvania *	-	40	-	-	-	4	2	15	324	8	2	56
EAST NORTH CENTRAL	-	103	-	3	-	23	-	27	1,606	36	3	367
Ohio	-	21	-	1	-	7	-	23	555	5	-	99
Indiana	-	13	-	-	-	1	-	-	195	3	2	72
Illinois	-	50	-	2	-	6	-	3	92	6	1	61
Michigan	-	13	-	-	-	7	-	-	523	19	-	9
Wisconsin	-	6	-	-	-	2	-	1	241	3	-	126
WEST NORTH CENTRAL	-	37	-	28	-	8	-	19	574	7	18	1,047
Minnesota	-	4	-	-	-	1	-	-	169	6	7	259
Iowa	-	9	-	-	-	-	-	2	-	-	5	297
Missouri	-	16	-	21	-	3	-	11	155	1	3	94
North Dakota	-	-	-	-	-	-	-	-	10	-	1	140
South Dakota	-	-	-	1	-	-	-	4	28	-	2	116
Nebraska	-	6	-	1	-	1	-	-	60	-	-	16
Kansas	-	2	-	5	-	3	-	2	152	-	-	125
SOUTH ATLANTIC	1	71	2	14	-	45	-	254	2,680	152	10	384
Delaware	-	-	-	-	-	1	-	1	53	-	-	10
Maryland	---	---	---	1	---	9	---	31	---	---	---	18
District of Columbia	-	8	-	-	-	3	-	1	319	14	-	-
Virginia	-	10	2	11	-	11	-	56	400	60	-	97
West Virginia	-	4	-	-	-	1	-	3	48	-	2	57
North Carolina	1	16	-	-	-	-	-	119	492	17	-	3
South Carolina	-	-	-	-	-	3	-	20	219	16	-	13
Georgia	-	9	-	1	-	7	-	22	349	12	5	105
Florida	-	24	-	1	-	10	-	1	800	33	3	81
EAST SOUTH CENTRAL	-	46	-	8	-	39	-	99	1,068	52	3	594
Kentucky	-	4	-	-	-	13	-	4	122	29	-	230
Tennessee	-	13	-	7	-	11	-	60	561	10	3	299
Alabama	-	21	-	1	-	10	-	19	94	6	-	62
Mississippi	-	8	-	-	-	5	-	16	291	7	-	3
WEST SOUTH CENTRAL	-	47	3	56	2	42	1	63	1,341	50	6	736
Arkansas	-	4	3	32	-	13	-	15	80	4	-	101
Louisiana	-	9	-	4	-	7	-	-	261	9	1	43
Oklahoma	-	5	-	11	-	3	1	35	90	-	3	278
Texas	-	29	-	9	2	19	-	13	910	37	2	314
MOUNTAIN	-	32	-	10	2	15	-	9	488	12	-	94
Montana	-	-	-	1	-	-	-	2	20	-	-	7
Idaho	-	-	-	-	-	-	-	6	38	-	-	-
Wyoming	-	-	-	-	-	-	-	-	15	-	-	1
Colorado	-	10	-	1	-	2	-	-	130	2	-	-
New Mexico	-	4	-	-	-	1	-	-	73	4	-	23
Arizona *	-	8	-	2	2	9	-	-	88	5	-	53
Utah	-	1	-	6	-	3	-	1	31	1	-	8
Nevada	-	9	-	-	-	-	-	-	93	-	-	2
PACIFIC	-	81	-	4	-	100	-	2	2,853	59	2	259
Washington	-	8	-	-	-	2	-	1	227	-	-	-
Oregon	-	6	-	1	-	-	-	1	266	-	-	4
California	-	63	-	2	-	94	-	-	2,262	59	2	247
Alaska	-	-	-	1	-	-	-	-	53	-	-	8
Hawaii	-	4	-	-	-	4	-	-	45	-	-	-
Guam *	-	-	-	-	-	-	-	-	-	-	-	-
Puerto Rico	-	8	-	-	-	7	-	-	38	11	2	50
Virgin Islands	-	-	-	-	-	-	-	-	7	2	-	-

*Delayed reports: TB: N.H. 1

Gonorrhoea: Guam 4

RMSF: Pa. delete 1

Rabies in animals: Pa. 1, Ariz. 1

Morbidity and Mortality Weekly Report

TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDING NOVEMBER 25, 1972

Week No.

47

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

Area	All Causes			Pneumonia and Influenza All Ages	Area	All Causes			Pneumonia and Influenza All Ages
	All Ages	65 years and over	Under 1 year			All Ages	65 years and over	Under 1 year	
NEW ENGLAND	684	426	18	25	SOUTH ATLANTIC	934	504	44	38
Boston, Mass.	221	122	5	8	Atlanta, Ga.	62	28	5	3
Bridgeport, Conn.	40	28	—	1	Baltimore, Md.	174	95	9	4
Cambridge, Mass.	16	10	1	6	Charlotte, N. C.	62	27	4	—
Fall River, Mass.	28	25	—	2	Jacksonville, Fla.	84	46	3	—
Hartford, Conn.	54	34	2	—	Miami, Fla.	86	43	5	3
Lowell, Mass.	38	22	1	2	Norfolk, Va.	57	26	3	3
Lynn, Mass.	22	13	1	1	Richmond, Va.	88	52	1	6
New Bedford, Mass.	22	17	1	—	Savannah, Ga.	31	15	1	2
New Haven, Conn.	60	34	2	1	St. Petersburg, Fla.	70	61	—	4
Providence, R. I.	57	35	1	—	Tampa, Fla.	74	43	3	6
Somerville, Mass.	5	3	—	—	Washington, D. C.	108	46	6	5
Springfield, Mass.	47	35	1	1	Wilmington, Del.	38	22	4	2
Waterbury, Conn.	26	18	1	—	EAST SOUTH CENTRAL	510	278	21	24
Worcester, Mass.	48	30	2	3	Birmingham, Ala.	69	36	2	2
MIDDLE ATLANTIC	2,776	1,726	99	120	Chattanooga, Tenn.	37	11	5	1
Albany, N. Y.	37	25	3	1	Knoxville, Tenn.	42	29	—	1
Allentown, Pa.	22	18	—	4	Louisville, Ky.	91	55	6	9
Buffalo, N. Y.	108	68	2	9	Memphis, Tenn.	124	65	2	1
Camden, N. J.	39	17	5	3	Mobile, Ala.	51	34	2	1
Elizabeth, N. J.	20	12	—	—	Montgomery, Ala.	15	7	—	4
Erie, Pa.	47	25	2	1	Nashville, Tenn.	81	41	4	5
Jersey City, N. J.	56	39	4	4	WEST SOUTH CENTRAL	944	512	52	26
Newark, N. J.	56	25	3	3	Austin, Tex.	23	13	—	—
New York City, N. Y.*	1,399	875	44	58	Baton Rouge, La.	19	11	—	—
Paterson, N. J.	21	14	—	—	Corpus Christi, Tex.	26	14	1	1
Philadelphia, Pa.	394	229	16	8	Dallas, Tex.	151	76	9	2
Pittsburgh, Pa.	176	98	10	8	El Paso, Tex.	28	16	2	5
Reading, Pa.	33	21	1	1	Fort Worth, Tex.	91	43	8	3
Rochester, N. Y.	118	82	4	8	Houston, Tex.	137	75	11	5
Schenectady, N. Y.	26	19	—	3	Little Rock, Ark.	44	25	2	2
Scranton, Pa.	38	34	—	1	New Orleans, La.	152	72	3	—
Syracuse, N. Y.	87	54	3	1	Oklahoma City, Okla.*	67	39	4	1
Trenton, N. J.	37	27	2	1	San Antonio, Tex.	106	62	8	1
Utica, N. Y.	22	18	—	3	Shreveport, La.	47	30	3	2
Yonkers, N. Y.	40	26	—	3	Tulsa, Okla.	53	36	1	4
EAST NORTH CENTRAL	2,107	1,188	100	41	MOUNTAIN	418	251	14	15
Akron, Ohio	52	24	2	—	Albuquerque, N. Mex.	31	15	1	1
Canton, Ohio	23	12	1	—	Colorado Springs, Colo.	31	20	2	2
Chicago, Ill.	621	331	36	14	Denver, Colo.	104	69	2	7
Cincinnati, Ohio	124	75	4	1	Las Vegas, Nev.	13	4	1	1
Cleveland, Ohio	131	69	7	2	Ogden, Utah	14	10	1	2
Columbus, Ohio	135	71	11	—	Phoenix, Ariz.	107	63	2	—
Dayton, Ohio	75	43	—	1	Pueblo, Colo.	18	14	—	2
Detroit, Mich.	301	157	13	4	Salt Lake City, Utah	43	27	4	—
Evansville, Ind.	50	34	—	3	Tucson, Ariz.	57	29	1	—
Fort Wayne, Ind.	32	17	—	1	PACIFIC	1,445	899	47	34
Gary, Ind.	35	24	1	2	Berkeley, Calif.	19	14	—	—
Grand Rapids, Mich.	29	16	—	—	Fresno, Calif.	40	25	1	4
Indianapolis, Ind.	135	84	6	2	Glendale, Calif.	19	14	—	—
Madison, Wis.	27	13	—	—	Honolulu, Hawaii	46	22	7	2
Milwaukee, Wis.	93	66	1	4	Long Beach, Calif.	108	67	2	2
Peoria, Ill.	15	8	3	2	Los Angeles, Calif.	411	257	8	8
Rockford, Ill.	19	12	3	—	Oakland, Calif.	73	38	4	2
South Bend, Ind.	46	36	1	3	Pasadena, Calif.	28	23	—	—
Toledo, Ohio	99	56	10*	2	Portland, Oreg.	151	94	4	1
Youngstown, Ohio	65	40	1	—	Sacramento, Calif.	60	38	2	1
WEST NORTH CENTRAL	682	443	33	20	San Diego, Calif.	94	56	7	2
Des Moines, Iowa	68	42	3	1	San Francisco, Calif.	160	109	3	3
Duluth, Minn.	20	15	—	—	San Jose, Calif.	36	25	—	1
Kansas City, Kans.	34	17	2	—	Seattle, Wash.	122	75	3	5
Kansas City, Mo.	89	60	2	—	Spokane, Wash.	38	19	2	1
Lincoln, Nebr.	14	10	1	1	Tacoma, Wash.	40	23	4	2
Minneapolis, Minn.	82	50	8	5	Total	10,500	6,227	428	343
Omaha, Nebr.	90	61	8	2	Expected Number	12,819	7,414	558	457
St. Louis, Mo.	186	124	4	3	Cumulative Total (includes reported corrections for previous weeks)	592,866	345,086	23,474	22,678
St. Paul, Minn.	70	45	3	2					
Wichita, Kans.	29	19	2	6					

* Estimate based on average percent of divisional total

EPIDEMIOLOGIC NOTES AND REPORTS

MEASLES — Massachusetts

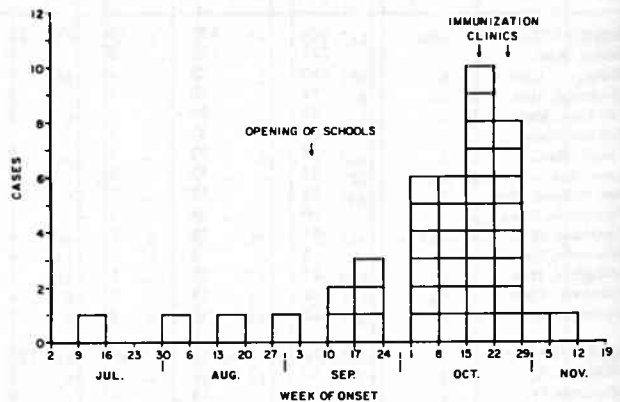
In October 1972, the first case of measles reported from an eastern Massachusetts town since 1966 led to an investigation by the Division of Communicable Diseases, Massachusetts Department of Public Health. Forty-one cases were subsequently identified through school absentee surveillance, retrospective contact tracing, and official morbidity reports. All had a typical clinical syndrome.

The investigation revealed that occasional unreported cases of measles occurred in July and August. The number increased early in October (Figure 3). Thirty-four cases (83%) were in children 8 through 13 years of age, and 29 were in students at two of the seven local grammar schools. Only eight children had a history of vaccination.

In October, the school immunization records were reviewed and susceptibles from grades 1 through 9 identified. They were offered measles vaccine at school on October 20 and at a special clinic on October 26. Approximately 2,100 school children (39% of the enrollment in the target grades) and 150 preschoolers received the vaccine. Within 2 weeks, the number of cases diminished abruptly.

(Reported by Nicholas J. Fiumara, M.D., Director, George E. Waterman, M.D., Assistant Director, and Michael Baltier,

Figure 3
CASES OF MEASLES, BY WEEK OF ONSET
MASSACHUSETTS — JULY-NOVEMBER 1972



Epidemiologist, Division of Communicable Diseases, Massachusetts Department of Public Health; and an EIS Officer.)

INTERNATIONAL NOTES
QUARANTINE MEASURES

U.S. travelers should be advised of the presence of cholera in Luanda, Angola. Provincial authorities now require a

Cholera Vaccination Certificate with vaccination within 30 days of traveler's arrival/departure Luanda.

The Morbidity and Mortality Weekly Report, Circulation 28,000, is published by the Center for Disease Control, Atlanta, Ga.

Director, Center for Disease Control
Director, Epidemiology Program, CDC
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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.

In addition to the established procedures for reporting morbidity and mortality, the editor welcomes accounts of interesting outbreaks or case investigations of current interest to health officials.

Address all correspondence to: Center for Disease Control
Attn: Editor
Morbidity and Mortality Weekly Report
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