CENTER FOR DISEASE CONTROL

Morbidity and Mortality

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For Week Ending May 27, 1972

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE — HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

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INTERNATIONAL NOTES
TYPHOID FEVER – Mexico

In early 1972, an epidemic of typhoid fever started in central Mexico. The state of Hidalgo, northeast of Mexico City, was affected first, and its capital city, Pachuca, was principally involved. Subsequently, outbreaks have been reported in Mexico City and the nearby states of Tlaxcala, Mexico, and Puebla. Although cases and deaths continue to occur in all of these areas, their numbers appear to be diminishing.

Epidemiologic investigation is being conducted by the Secretaria de Salubridad y Asistencia (Secretariat of Health and Assistance) of Mexico. Information as to the number of cases and the mode of transmission are still incomplete. Contamination of water has been implicated in transmission of the illness in Pachuca and to a lesser extent elsewhere. Fecal-oral transmission appears to be a major factor in the spread of the disease in Mexico City.

CONTENTS

A characteristic phage lysis pattern, degraded Vi (A)*, has been tentatively identified in *Salmonella typhi* isolates cultured from patients hospitalized in Mexico City and Pachuca. Some of these strains have been found to be resistant to chloramphenicol but sensitive to ampicillin *in vitro*. Although detailed clinical studies have not been completed, it appears that many of the patients infected with resistant strains responded poorly to therapy with chloramphenicol necessitating the use of other antibiotics, principally ampicillin. In spite of this, however, mortality generally appears to be low.

*Similar but not identical to phage Type A

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

DISEASE	21st WEEK ENDING		MEDIAN 1967-1971	CUMULATIVE, FIRST 21 WEEKS		
	May 27, 1972	May 29, 1971		1972	1971	MEDIAN 1967-1971
Aseptic meningitis	41	42	42	750	972	607
Brucellosis	4	2	5	53	56	62
Chickenpox	3,803	– – –	– – –	88,984	– – –	– – –
Diphtheria	2	2	2	46	70	67
Encephalitis, primary:						
Arthropod-borne and unspecified	17	21	19	327	450	417
Encephalitis, post-infectious	6	11	12	112	140	190
Hepatitis, serum (Hepatitis B)	188	181	112	3,884	3,496	2,118
Hepatitis, infectious (Hepatitis A)	1,130	1,116	922	23,254	25,363	19,404
Malaria	8	50	50	532	1,513	1,063
Measles (rubeola)	1,071	2,906	1,368	20,120	53,777	29,325
Meningococcal infections, total	17	44	45	696	1,353	1,353
Civilian	16	44	44	666	1,176	1,201
Military	1	–	3	30	177	143
Mumps	1,743	3,641	– – –	44,827	78,897	– – –
Rubella (German measles)	682	1,513	2,024	16,268	29,620	32,882
Tetanus	–	4	4	37	36	46
Tuberculosis, new active	568	– – –	– – –	13,247	– – –	– – –
Tularemia	1	1	4	42	34	50
Typhoid fever	14	4	5	117	103	103
Typhus, tick-borne (Rky. Mt. spotted fever)	9	10	10	54	35	35
Venereal Diseases:†						
Gonorrhea	13,093	11,783	– – –	273,871	245,514	– – –
Syphilis, primary and secondary	511	436	– – –	9,628	9,429	– – –
Rabies in animals	75	64	62	1,795	1,886	1,606

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	–	Poliomyelitis, total:	5
Botulism:	–	Paralytic:	5
Congenital rubella syndrome:	16	Psittacosis:	11
Leprosy: Calif. – 4, Wash. – 1	44	Rabies in man:	1
Leptospirosis: Mo. – 1	7	Trichinosis:	32
Plague:	1	Typhus, murine:	7

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

TYPHOID FEVER – Continued

(Reported by the Secretaria de Salubridad y Asistencia of Mexico; the Enterobacteriology Unit, Laboratory Division, and the Bacterial Diseases Branch, Epidemiology Program, CDC.)

Editorial Note

This outbreak of typhoid fever is unusual for several reasons. Its duration and extent of spread are without parallel in recent decades. This is the first known report of naturally occurring chloramphenicol-resistant *S. typhi.* The *S. typhi* strains isolated in this epidemic have the same multiple antibiotic drug resistance as *Shigella dysenteriae* 1, the etiologic agent of a regional epidemic of bacillary dysentery that has affected seven countries of Middle America since late 1968 *(1-4).* This pattern of drug resistance is mediated by an episome and is characterized by resistance to chloramphenicol, tetracycline, streptomycin, and sulfadiazine and by sensitivity to ampicillin, cephalothin, gentamicin, colistin, kanamycin, malidixic acid, and nitrofurantoin. The usefulness of chloramphenicol, long considered to be the drug of choice for the treatment of typhoid, will need to be reevaluated in the light of the newly-acquired resistance of *S. typhi* to this drug. Past experiences with ampicillin given parenterally in the treatment of typhoid and clinical responses of patients affected in the present outbreak suggest that it may be the drug of choice for cases associated with this epidemic.

Persons who have recently returned from Mexico who have onset of symptoms suggestive of typhoid should have stool specimens cultured, and all isolates should be confirmed in local or state laboratories. This epidemic strain has an unusual and characteristic antibiogram and also possesses a characteristic phage pattern that can be useful in epidemiologic studies. State laboratories are requested that isolates, together with brief clinical and travel histories, be sent to CDC.

To date, there have been no clinical or laboratory reports to indicate that this outbreak has affected United States citizens traveling to Mexico. There has been no increase in the number of isolates of *S. typhi* reported in weekly salmonella surveillance reports received at CDC from state health departments; there were 134 isolates reported in the first 4 months of 1972 as compared with 202 for the same period of 1971. The characteristic phage pattern and antibiogram of the Mexican strains have not been seen in isolates referred to CDC from patients with typhoid fever acquired within the United States.

Nevertheless, travelers to the affected areas should be advised to drink only boiled water, carbonated mineral water, or beverages that have been boiled or carbonated in bottles or cans. Tap water used for brushing teeth and ice used in drinks may be sources of infection. Very hot tap water, however, is probably much less likely to transmit viable enteric bacteria. It may be used for oral hygiene and for drinking after cooling. Foods served hot and freshly peeled fruits are safe to eat.

In addition to these precautions, it is recommended that travelers be vaccinated against typhoid in accordance with the recommendations of the Advisory Committee on Immunization Practices (MMWR. Vol. 18, No. 43). The recommended dose of vaccine for adults and children over 10 years of age is 0.5 ml given subcutaneously on two occasions separated by 4 or more weeks. For children less than 10 years of age, 0.25 ml should be given in the same way. For those who have had this primary series, a booster dose is recommended at 3-year intervals. Even when more than 3 years have elapsed since prior vaccination, a single booster injection is sufficient.

References

1. Mata LJ, Gangarosa EJ, Caceres A, Perera DR, Mejicanos ML: Epidemic Shiga bacillus dysentery in Central America. I. Etiologic investigation in Guatemala, 1969. J Infect Dis 122(3):170-180, 1970
2. Gangarosa EJ, Perera DR, Mata LJ, Mendizabal Morris CA, Guzman G, Reller LB: Epidemic Shiga bacillus dysentery in Central America. II. Epidemiologic studies in 1969. J Infect Dis 122(3):181-190, 1970
3. Mendizabal Morris CA, Mata LJ, Gangarosa EJ, Guzman G: Epidemic Shiga dysentery in Central America. Derivation of the epidemic and its progression in Guatemala, 1968-1969. Amer J Trop Med Hyg 20(6):927-933, 1971
4. Reller LB, Rivas EN, Masferrer R, Bloch M, Gangarosa EJ: Epidemic Shiga dysentery in Central America. Evolution of the outbreak in El Salvador. Amer J Trop Med Hyg 20(6):934-940, 1971

CURRENT TRENDS

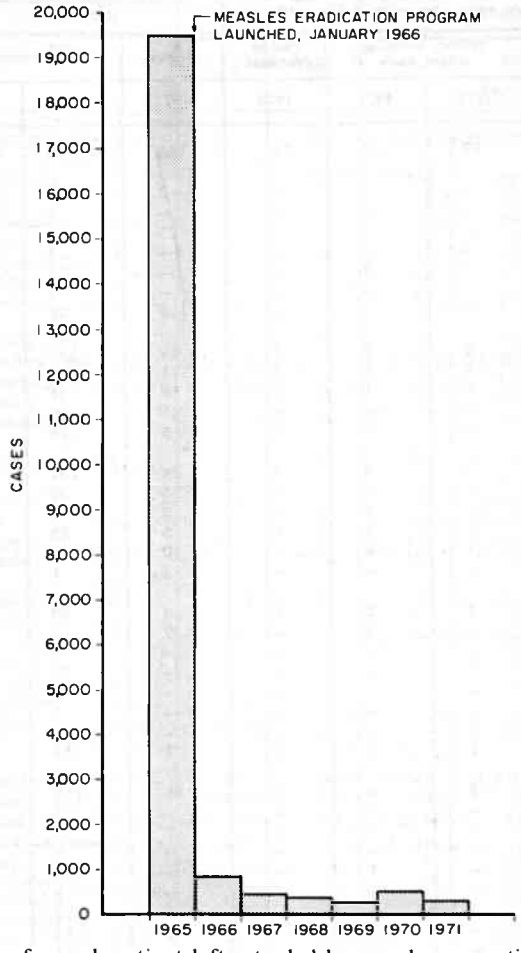
MEASLES COSTS IN MASSACHUSETTS – 1965-1971

From 1965 through 1971, the annual number of measles cases reported in Massachusetts decreased by 98.1%, from 19,512 cases in 1965 to 276 in 1971 (Figure 1). Extensive vaccination of preschool and school-aged children through the statewide Measles Eradication Program launched in January 1966 was largely responsible for this decline. In the years 1966-1971, a total of 1,141,788 doses of live measles-virus vaccine was distributed through this program; this distribution accounted for approximately 90% of the measles vaccine used in those years in Massachusetts.

Health benefits of the Massachusetts Measles Eradication Program between 1965 and 1971 were computed by (a) estimating the morbidity and mortality from measles that would have resulted had cases continued to occur each year at the 1965 number of 19,512 cases and by (b) measuring the actual morbidity and mortality from measles that did occur in the years 1965-1971 *(1,2).* The health benefits were considered to be the differences between (a) and (b) (Table 1). In the estimation of measles morbidity and mortality, several assumptions were made on the basis of published experience: Death was considered to occur in 1 per 10,000 cases and encephalitis in 1 per 1,000 *(3),* with 33% of the latter resulting in mental retardation. Other hospitalizations, due principally to pneumonia, otitis media, hyperpyrexia, or dehydration, were calculated to occur at a rate of 1 per 200 cases. Based on this information, it was estimated that measles vaccination prevented 10 deaths, 38 cases of mental retardation, and 114,392 cases of acute measles in the 7-year period.

Direct economic benefits of the Measles Eradication Program were derived from the health benefits data (Table 2). In these calculations, it was estimated that 50% of the acutely ill patients would have consulted a physician, at an average cost of $10 per patient. Mean duration of hospital stay was estimated to be 14.6 days for encephalitis patients (at $90 per day including physician services) and 8.5 days for other patients (at $65 per day). The lifetime cost of institutional

Figure 1
REPORTED CASES OF MEASLES, BY YEAR
MASSACHUSETTS – 1965-1971



care for each patient left retarded by measles was estimated to be $61,890. (This figure is based on estimates by the Massachusetts Department of Mental Health). Indirect benefits, not tabulated here in detail, would include immune globulin prophylaxis for contacts, school and work days saved, and lifetime earnings saved for each patient protected from death or retardation.

The cost of the measles vaccine distributed by the Massachusetts Measles Eradication Program in the years 1965-1971 was $1,312,525. Based on the above estimates, the net savings were $5,472,000.

(Reported by Nicholas J. Fiumara, M.D., Director, Division of Communicable Diseases, Massachusetts Department of Public Health; and by town and city health departments throughout the Commonwealth of Massachusetts.)

Table 1
Estimated Prevention of Measles Morbidity and Mortality Resulting from Measles Eradication Program
Massachusetts – 1965-1971

Morbidity and Mortality	Expected Occurrence – Without Vaccination	Observed Occurrence – With Vaccination	Number of Cases Prevented
Number of cases	136,584	22,192	114,392
Number of deaths	14	4	10
Patients hospitalized with encephalitis	137	22	155
Mentally retarded patients	45	7	38
Other patients hospitalized	6,829	111	6,718

Table 2
Estimated Economic Costs Due to Measles and Benefits Due to Measles Vaccination
Massachusetts – 1965-1971

Costs	Without Vaccination	With Vaccination	Benefits
Physician's services	$ 680,000	$110,100	$ 569,900
Hospital services:			
Encephalitis cases	180,000	28,890	151,110
Other cases	3,772,990	61,295	3,711,695
Lifetime care for mentally retarded	2,785,050	433,230	2,351,820
		Total Savings	6,784,525
		Cost of Vaccine	1,312,525
		Net Savings	$5,472,000

Editorial Note

Measles is not a benign childhood illness.

References:

1. Axnick NW, Shavell SM, Witte JJ: Benefits due to immunization against measles. Public Health Rep 84:673-680, 1969
2. National Communicable Disease Center: Morbidity and Mortality Weekly Rep 16(15), 15 April 1967
3. Miller DL: Frequency of complications of measles, 1963: Report on a national inquiry by the Public Health Laboratory Service in collaboration with the Society of Medical Officers of Health. Brit Med J 2:75-78, 1964

RABIES EXPOSURE IN LABORATORIES – A STATEMENT ON SAFETY

Two recent instances of exposure to rabies in laboratories point up the danger associated in working with fixed rabies virus. In one instance, a veterinary microbiologist in Texas died of rabies apparently contracted from a non-bite laboratory exposure sustained in the process of producing an animal rabies vaccine (MMWR, Vol. 21, No. 14). In the other instance, three persons in a state diagnostic laboratory were exposed when live virus being injected intracranially into a rabbit was sprayed into their eyes from a faulty syringe. In both laboratories, workers were handling a fixed laboratory strain of rabies virus – either the challenge virus standard (CVS) or the production virus (PV).

Because of these accidents, a committee* was appointed by the Director of the Center for Disease Control to review procedures used in laboratories where rabies virus is processed to make them as safe as possible. Some major points of consideration included virus strains, immunity, and kinds of procedures that entail special risk.

(1) Laboratory strains of virus, CVS and PV

The virus in CVS and PV, commonly referred to as "fixed virus," is extremely virulent for humans and animals; for example, 18 people died in Brazil after being

(Continued on page 184)

*The Committee members were Edward Seligman, Ph.D., Division of Biologics Standards, National Institutes of Health; A. L. Strating, D.V.M., Veterinary Biologics, U.S. Department of Agriculture; Robert H. Huffaker, D.V.M., Office of Center Director, and Keith Sikes, D.V.M., Veterinary Public Health Services, Epidemiology Program, CDC.)

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING MAY 27, 1972 AND MAY 29, 1971 (21st WEEK)

AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS		
						Primary including unspec. cases		Post Infectious	Serum	Infectious	
	1972	1972	1972	1972	Cum. 1972	1972	1971	1972	1972	1972	1971
UNITED STATES	41	4	3,803	2	46	17	21	6	188	1,130	1,116
NEW ENGLAND	1	–	713	–	–	–	1	–	3	54	68
Maine	–	–	39	–	–	–	–	–	–	5	8
New Hampshire *	–	–	15	–	–	–	–	–	1	4	10
Vermont	–	–	9	–	–	–	–	–	–	3	3
Massachusetts	–	–	336	–	–	–	1	–	–	21	33
Rhode Island	1	–	94	–	–	–	–	–	–	1	1
Connecticut	–	–	220	–	–	–	–	–	2	20	13
MIDDLE ATLANTIC	2	–	458	–	1	3	3	1	59	185	229
Upstate New York	–	–	1	–	1	1	2	1	14	69	49
New York City	2	–	263	–	–	–	1	–	18	38	77
New Jersey *	–	–	NN	–	–	–	–	–	21	50	64
Pennsylvania	–	–	194	–	–	2	–	–	6	28	39
EAST NORTH CENTRAL	2	–	1,216	1	3	3	8	1	24	137	210
Ohio	–	–	210	–	–	1	–	–	4	39	32
Indiana	–	–	181	–	–	–	1	–	2	8	32
Illinois	–	–	–	1	2	1	1	1	5	23	56
Michigan	2	–	–	–	1	1	6	–	10	66	85
Wisconsin	–	–	825	–	–	–	–	–	3	1	5
WEST NORTH CENTRAL	2	3	292	–	9	2	2	1	4	50	46
Minnesota	2	–	20	–	–	–	1	–	2	2	1
Iowa	–	3	195	–	–	–	–	–	–	9	9
Missouri	–	–	–	–	–	1	–	–	–	20	20
North Dakota	–	–	55	–	–	–	–	–	–	3	4
South Dakota	–	–	2	–	6	–	–	–	–	2	3
Nebraska *	–	–	20	–	3	–	–	–	–	–	1
Kansas	–	–	–	–	–	1	1	1	2	14	8
SOUTH ATLANTIC	6	1	460	–	8	3	4	1	16	155	133
Delaware	–	–	6	–	–	–	–	–	–	3	1
Maryland	–	–	42	–	–	–	–	–	2	13	14
District of Columbia	–	–	20	–	–	–	–	–	–	1	–
Virginia	1	1	64	–	–	–	1	–	4	29	29
West Virginia	1	–	311	–	–	–	–	–	–	5	11
North Carolina	–	–	NN	–	–	2	1	–	2	20	15
South Carolina	–	–	13	–	1	–	2	–	2	13	1
Georgia	–	–	4	–	2	–	–	–	–	11	19
Florida	4	–	–	–	5	1	–	1	6	60	43
EAST SOUTH CENTRAL	4	–	107	–	1	2	–	–	11	78	59
Kentucky	2	–	94	–	–	–	–	–	9	42	17
Tennessee	–	–	NN	–	–	1	–	–	1	26	30
Alabama	–	–	10	–	1	1	–	–	–	9	7
Mississippi	2	–	3	–	–	–	–	–	1	1	5
WEST SOUTH CENTRAL	5	–	8	–	20	1	–	1	15	170	63
Arkansas	–	–	3	–	–	–	–	–	–	1	3
Louisiana	2	–	NN	–	4	–	–	–	2	5	11
Oklahoma	–	–	2	–	–	–	–	–	3	21	9
Texas	3	–	3	–	16	1	–	1	10	143	40
MOUNTAIN	–	–	201	1	4	1	–	–	5	56	53
Montana	–	–	5	–	–	–	–	–	–	3	2
Idaho	–	–	2	1	2	–	–	–	–	2	8
Wyoming	–	–	–	–	–	–	–	–	–	1	–
Colorado	–	–	66	–	–	–	–	–	3	16	10
New Mexico	–	–	45	–	1	–	–	–	–	–	6
Arizona	–	–	74	–	1	1	–	–	1	20	11
Utah	–	–	9	–	–	–	–	–	1	12	16
Nevada	–	–	–	–	–	–	–	–	–	2	–
PACIFIC	19	–	348	–	–	2	3	1	51	245	255
Washington	–	–	263	–	–	–	–	–	1	19	24
Oregon	–	–	–	–	–	–	–	–	2	31	14
California	19	–	–	–	–	2	3	1	48	180	213
Alaska	–	–	12	–	–	–	–	–	–	6	2
Hawaii	–	–	73	–	–	–	–	–	–	9	2
Guam	–	–	–	–	–	–	---	–	–	–	---
Puerto Rico	–	–	17	–	–	–	–	–	6	26	29
Virgin Islands	–	–	–	–	–	–	–	–	–	–	–

*Delayed reports: Diphtheria: Nebr. 1
Hepatitis, infectious: N. H. delete 2, N. J. delete 2

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING MAY 27, 1972 AND MAY 29, 1971 (21st 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	8	532	1,071	20,120	53,777	17	696	1,353	1,743	44,827	682	16,268
NEW ENGLAND	–	12	131	1,992	2,405	1	30	60	40	1,795	17	737
Maine	–	–	3	184	1,053	–	3	7	1	208	1	59
New Hampshire	–	2	5	167	117	1	2	8	2	135	1	30
Vermont	–	–	–	95	92	–	–	–	–	76	–	23
Massachusetts *	–	5	44	372	192	–	15	25	8	461	6	379
Rhode Island	–	–	19	367	158	–	8	2	12	313	4	64
Connecticut	–	5	60	807	793	–	2	18	17	602	5	182
MIDDLE ATLANTIC	–	37	21	776	5,836	2	82	176	106	2,050	59	1,462
Upstate New York	–	7	8	104	399	1	21	43	NN	NN	7	181
New York City	–	5	8	170	3,003	1	24	39	66	982	5	142
New Jersey	–	11	2	458	901	–	19	42	9	585	38	915
Pennsylvania	–	14	3	44	1,533	–	18	52	31	483	9	224
EAST NORTH CENTRAL	–	50	505	7,816	11,116	2	97	145	412	12,319	227	4,482
Ohio	–	6	2	202	3,121	1	34	40	31	1,747	7	291
Indiana	–	1	46	1,090	1,961	–	10	11	20	827	35	519
Illinois	–	18	167	2,920	2,375	1	22	43	95	2,244	31	845
Michigan	–	23	115	1,446	1,328	–	27	41	68	2,121	63	1,036
Wisconsin	–	2	175	2,158	2,331	–	4	10	198	5,380	91	1,791
WEST NORTH CENTRAL	1	35	57	823	5,465	2	58	112	256	7,735	25	755
Minnesota	–	3	1	15	41	2	13	17	19	637	4	64
Iowa	–	3	46	569	1,965	–	2	7	134	5,460	7	343
Missouri	–	10	5	150	2,077	–	18	43	8	377	2	97
North Dakota	–	1	4	46	184	–	–	5	9	284	–	20
South Dakota	–	4	–	4	192	–	2	5	2	103	–	12
Nebraska	–	3	1	18	56	–	7	12	9	219	2	50
Kansas	1	11	–	21	950	–	16	23	75	655	10	169
SOUTH ATLANTIC	3	76	46	1,655	5,598	3	148	218	241	3,898	28	1,225
Delaware	–	–	1	17	32	–	1	1	–	47	–	5
Maryland	1	2	–	12	351	1	25	31	12	181	3	38
District of Columbia	–	1	–	2	10	–	4	8	–	7	1	3
Virginia	–	3	6	52	984	–	36	16	45	660	1	57
West Virginia	–	1	4	197	375	–	6	5	137	1,996	5	327
North Carolina	1	33	–	28	1,705	–	21	35	NN	NN	2	18
South Carolina	–	10	5	186	783	–	14	17	1	138	2	47
Georgia	–	19	1	124	181	–	3	20	–	1	1	33
Florida	1	7	29	1,037	1,177	2	38	85	46	868	13	697
EAST SOUTH CENTRAL	2	148	23	940	7,127	–	58	123	79	2,327	20	1,260
Kentucky	–	138	4	472	3,429	–	20	37	5	379	1	755
Tennessee	–	–	3	180	820	–	22	45	56	1,434	14	391
Alabama	2	6	2	125	1,525	–	10	24	16	418	4	31
Mississippi	–	4	14	163	1,353	–	6	17	2	96	1	83
WEST SOUTH CENTRAL	–	60	52	1,182	10,802	–	83	115	131	3,656	37	1,159
Arkansas	–	3	1	11	666	–	7	5	–	147	–	27
Louisiana	–	4	2	75	1,539	–	23	40	19	211	3	74
Oklahoma	–	3	–	9	721	–	6	6	5	151	4	30
Texas	–	50	49	1,087	7,876	–	47	64	107	3,147	30	1,028
MOUNTAIN	–	37	80	1,408	2,508	–	12	43	67	2,361	74	874
Montana	–	2	–	12	872	–	2	3	4	146	–	22
Idaho	–	3	–	16	186	–	3	5	3	179	1	9
Wyoming	–	–	–	1	83	–	1	2	–	214	–	6
Colorado	–	25	43	432	707	–	2	7	23	620	38	473
New Mexico	–	1	3	92	233	–	1	3	5	470	7	75
Arizona	–	5	33	705	290	–	1	8	25	607	28	268
Utah	–	1	1	150	134	–	1	12	7	80	–	18
Nevada	–	–	–	–	3	–	1	3	–	45	–	3
PACIFIC	2	77	156	3,528	2,920	7	128	361	411	8,686	195	4,314
Washington	–	–	40	831	715	–	11	17	117	3,163	21	746
Oregon	–	8	3	40	271	1	11	24	54	1,083	9	293
California	2	59	110	2,569	1,750	3	99	315	228	4,207	165	3,218
Alaska	–	2	–	5	31	3	4	–	2	92	–	15
Hawaii	–	8	3	83	153	–	3	5	10	141	–	42
Guam	–	2	–	2	---	–	6	---	–	2	–	5
Puerto Rico	–	3	37	387	228	1	3	1	31	429	–	12
Virgin Islands	–	–	–	1	5	–	2	–	–	117	–	3

*Delayed reports: Measles: Mass. delete 11

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING MAY 27, 1972 AND MAY 29, 1971 (21st WEEK) – Continued

AREA	TETANUS	TB (New Active)	TULAREMIA		TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. spotted fever)		VENEREAL DISEASES		RABIES IN ANIMALS	
									GONORRHEA	SYPHILIS (Pri. & Sec.)		
	1972	1972	1972	Cum. 1972	1972	Cum. 1972	1972	Cum. 1972	1972	1972	1972	Cum. 1972
UNITED STATES	–	568	1	42	14	117	9	54	13,093	511	75	1,795
NEW ENGLAND	–	29	–	–	–	5	–	–	392	14	3	65
Maine	–	–	–	–	–	–	–	–	17	1	1	55
New Hampshire	–	–	–	–	–	–	–	–	15	–	1	1
Vermont	–	1	–	–	–	–	–	–	14	–	–	7
Massachusetts	–	24	–	–	–	3	–	–	161	10	–	–
Rhode Island	–	1	–	–	–	–	–	–	24	–	–	–
Connecticut	–	3	–	–	–	2	–	–	161	3	1	2
MIDDLE ATLANTIC	–	114	–	1	2	25	–	3	2,206	134	3	37
Upstate New York	–	34	–	–	–	8	–	–	482	6	1	16
New York City	–	33	–	–	2	13	–	–	822	87	–	–
New Jersey *	–	16	–	1	–	3	–	1	305	33	–	–
Pennsylvania	–	31	–	–	–	1	–	2	597	8	2	21
EAST NORTH CENTRAL	–	64	–	1	1	12	2	2	1,411	19	14	194
Ohio *	–	27	–	1	–	5	2	2	38	3	6	65
Indiana	–	13	–	–	–	–	–	–	148	–	1	47
Illinois *	–	–	–	–	1	2	–	–	530	5	3	34
Michigan	–	24	–	–	–	4	–	–	577	8	–	2
Wisconsin	–	–	–	–	–	1	–	–	118	3	4	46
WEST NORTH CENTRAL	–	29	–	8	–	3	–	1	844	5	10	428
Minnesota	–	–	–	–	–	–	–	–	125	–	5	110
Iowa	–	–	–	–	–	–	–	–	118	1	1	118
Missouri	–	18	–	8	–	2	–	–	277	4	–	40
North Dakota	–	–	–	–	–	–	–	–	17	–	2	69
South Dakota	–	–	–	–	–	–	–	–	25	–	–	31
Nebraska	–	2	–	–	–	–	–	–	81	–	1	8
Kansas	–	9	–	–	–	1	–	1	201	–	1	52
SOUTH ATLANTIC	–	93	–	6	3	15	7	29	3,013	180	7	152
Delaware	–	–	–	–	–	–	–	–	35	3	–	–
Maryland	–	9	–	–	–	2	3	7	224	33	2	5
District of Columbia *	–	2	–	–	1	2	–	–	256	12	–	–
Virginia	–	11	–	4	1	5	1	10	331	44	2	45
West Virginia	–	3	–	–	–	1	–	–	23	–	–	36
North Carolina	–	25	–	–	–	–	1	6	127	8	–	–
South Carolina	–	–	–	–	–	1	–	4	541	31	–	–
Georgia	–	16	–	1	–	–	2	2	682	17	2	39
Florida	–	27	–	1	1	4	–	–	794	32	1	27
EAST SOUTH CENTRAL	–	74	–	3	2	11	–	8	748	23	11	398
Kentucky	–	7	–	–	1	4	–	–	91	2	8	143
Tennessee	–	24	–	2	1	3	–	7	462	11	2	212
Alabama	–	34	–	1	–	–	–	1	–	3	1	42
Mississippi	–	9	–	–	–	4	–	–	195	7	–	1
WEST SOUTH CENTRAL	–	52	1	20	2	10	–	11	1,814	52	25	396
Arkansas	–	8	1	12	2	5	–	2	130	2	1	59
Louisiana	–	–	–	1	–	1	–	–	350	16	–	20
Oklahoma	–	10	–	4	–	1	–	7	231	–	5	178
Texas	–	34	–	3	–	3	–	2	1,103	34	19	139
MOUNTAIN	–	8	–	2	–	3	–	–	404	21	–	25
Montana	–	–	–	–	–	–	–	–	6	–	–	–
Idaho	–	–	–	–	–	–	–	–	48	1	–	–
Wyoming	–	–	–	–	–	–	–	–	2	–	–	–
Colorado	–	–	–	1	–	–	–	–	115	–	–	–
New Mexico	–	2	–	–	–	1	–	–	46	10	–	3
Arizona	–	6	–	1	–	1	–	–	111	8	–	22
Utah	–	–	–	–	–	1	–	–	64	–	–	–
Nevada *	–	–	–	–	–	–	–	–	12	2	–	–
PACIFIC	–	105	–	1	4	33	–	–	2,261	63	2	100
Washington	–	21	–	–	2	2	–	–	143	3	–	–
Oregon	–	4	–	–	–	–	–	–	135	1	–	–
California	–	70	–	–	2	28	–	–	1,946	59	2	96
Alaska	–	–	–	1	–	–	–	–	37	–	–	4
Hawaii	–	10	–	–	–	3	–	–	–	–	–	–
Guam	–	–	–	–	–	–	–	–	–	–	–	–
Puerto Rico	–	15	–	–	1	3	–	–	73	19	–	26
Virgin Islands	–	–	–	–	–	–	–	–	10	4	–	–

*Delayed reports: Tuberculosis: Ohio delete 2, Ill. 25, D.C. delete 90
Gonorrhea: N. J. 51, Nev. 55
Syphilis: N. J. 8

Week No. 21

TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDING MAY 27, 1972

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

Area	All Causes: All Ages	All Causes: 65 years and over	All Causes: Under 1 year	Pneumonia and Influenza: All Ages
NEW ENGLAND	693	411	38	36
Boston, Mass.	201	114	13	15
Bridgeport, Conn.	43	26	3	3
Cambridge, Mass.	22	15	–	4
Fall River, Mass.	28	17	–	–
Hartford, Conn.	71	37	5	–
Lowell, Mass.	24	14	–	–
Lynn, Mass.	16	12	–	1
New Bedford, Mass.	25	21	1	1
New Haven, Conn.	62	27	8	–
Providence, R. I.	68	34	6	6
Somerville, Mass.	10	9	–	–
Springfield, Mass.	44	30	1	2
Waterbury, Conn.	37	22	–	–
Worcester, Mass.	42	33	1	4
MIDDLE ATLANTIC	3,089	1,852	95	107
Albany, N. Y.	43	26	4	–
Allentown, Pa.	25	17	1	2
Buffalo, N. Y.	143	88	4	5
Camden, N. J.	40	23	2	3
Elizabeth, N. J.	37	22	–	1
Erie, Pa.	38	24	1	1
Jersey City, N. J.	58	40	3	4
Newark, N. J.	68	36	3	3
New York City, N. Y. †	1,480	878	30	46
Paterson, N. J.	40	22	2	5
Philadelphia, Pa.	495	289	22	8
Pittsburgh, Pa.	249	137	14	8
Reading, Pa.	45	34	–	3
Rochester, N. Y.	115	77	3	11
Schenectady, N. Y.	20	13	1	–
Scranton, Pa.	25	18	–	1
Syracuse, N. Y.	78	51	3	2
Trenton, N. J.	39	22	2	2
Utica, N. Y.	22	17	–	1
Yonkers, N. Y.	29	18	–	1
EAST NORTH CENTRAL	2,584	1,480	111	63
Akron, Ohio	70	47	2	1
Canton, Ohio	43	31	2	–
Chicago, Ill.	696	382	24	16
Cincinnati, Ohio	148	91	4	2
Cleveland, Ohio	211	109	11	3
Columbus, Ohio	130	71	8	2
Dayton, Ohio	117	70	3	5
Detroit, Mich.	342	168	22	5
Evansville, Ind.	44	30	1	–
Flint, Mich.**	52	28	3	1
Fort Wayne, Ind.	66	43	4	4
Gary, Ind.	32	16	2	1
Grand Rapids, Mich.	45	28	1	3
Indianapolis, Ind.	139	70	8	–
Madison, Wis.	31	19	1	2
Milwaukee, Wis.	105	73	1	–
Peoria, Ill.	53	33	3	2
Rockford, Ill.	38	25	3	4
South Bend, Ind.	43	29	2	5
Toledo, Ohio	115	73	6	4
Youngstown, Ohio	64	44	–	3
WEST NORTH CENTRAL	801	474	40	22
Des Moines, Iowa	63	28	5	1
Duluth, Minn.	13	9	–	–
Kansas City, Kans.	38	20	3	3
Kansas City, Mo.	130	74	9	1
Lincoln, Nebr.	29	15	1	–
Minneapolis, Minn.	99	66	4	1
Omaha, Nebr.	76	47	5	3
St. Louis, Mo.	233	138	8	9
St. Paul, Minn.	69	45	–	–
Wichita, Kans.	51	32	5	4
Las Vegas, Nev.*	25	9	1	3
SOUTH ATLANTIC	1,105	598	35	34
Atlanta, Ga.	103	45	2	3
Baltimore, Md.	203	108	5	1
Charlotte, N. C.	38	13	5	–
Jacksonville, Fla.	79	43	1	–
Miami, Fla.	94	47	2	3
Norfolk, Va.	53	28	4	3
Richmond, Va.	85	47	1	11
Savannah, Ga.	37	14	–	–
St. Petersburg, Fla.	80	71	2	2
Tampa, Fla.	67	47	2	5
Washington, D. C.	212	103	8	6
Wilmington, Del.	54	32	3	–
EAST SOUTH CENTRAL	658	336	41	26
Birmingham, Ala.	137	58	16	4
Chattanooga, Tenn.	44	22	–	2
Knoxville, Tenn.	34	21	1	–
Louisville, Ky.	97	53	4	7
Memphis, Tenn.	148	72	9	4
Mobile, Ala.	75	41	5	1
Montgomery, Ala.	28	16	–	5
Nashville, Tenn.	95	53	6	3
WEST SOUTH CENTRAL	1,158	574	75	34
Austin, Tex.	37	26	2	2
Baton Rouge, La.	52	25	4	2
Corpus Christi, Tex.	39	23	5	–
Dallas, Tex.	174	82	10	5
El Paso, Tex.	60	23	11	6
Fort Worth, Tex.	70	38	1	2
Houston, Tex.	214	84	25	5
Little Rock, Ark.	42	17	4	–
New Orleans, La.	173	76	6	5
Oklahoma City, Okla.	52	31	1	–
San Antonio, Tex.	120	65	5	2
Shreveport, La.	75	54	1	1
Tulsa, Okla.	50	30	–	4
MOUNTAIN	468	248	27	19
Albuquerque, N. Mex.	57	24	–	8
Colorado Springs, Colo.	18	9	–	5
Denver, Colo.	133	60	13	1
Ogden, Utah	28	19	1	2
Phoenix, Ariz.	108	59	5	–
Pueblo, Colo.	19	14	–	2
Salt Lake City, Utah	44	27	4	–
Tucson, Ariz.	61	36	4	1
PACIFIC	1,641	1,022	54	39
Berkeley, Calif.	17	8	1	–
Fresno, Calif.	47	29	4	1
Glendale, Calif.	32	21	–	–
Honolulu, Hawaii	50	27	5	1
Long Beach, Calif.	91	53	1	1
Los Angeles, Calif.	552	350	12	14
Oakland, Calif.	90	56	5	1
Pasadena, Calif.	26	16	2	2
Portland, Oreg.	126	86	2	2
Sacramento, Calif.	53	30	5	2
San Diego, Calif.	111	70	5	3
San Francisco, Calif.	176	107	1	6
San Jose, Calif.	46	26	2	2
Seattle, Wash.	151	93	6	2
Spokane, Wash.	42	26	2	1
Tacoma, Wash.	31	24	1	1
Total	12,197	6,995	516	380
Expected Number	12,648	7,220	553	439
Cumulative Total (includes reported corrections for previous weeks)	278,788	163,628	10,704	12,614

*Mortality data are being collected from Las Vegas, Nev., for possible inclusion in this table, however, for statistical reasons, these data will be listed only and not included in the total, expected number, or cumulative total, until 5 years of data are collected.

†Delayed report for week ending May 20, 1972

**Estimate based on average percent of divisional total.

RABIES – Continued

vaccinated with vaccine containing live CVS virus that had not been adequately inactivated *(1)*. Fixed virus in large doses injected intramuscularly will produce rabies in a large percentage of monkeys or dogs. Fixed rabies virus, therefore, should be treated with the same caution as wild rabies virus (also known as street virus).

(2) Pre-exposure rabies immunization

Any person who works directly with rabies virus, either in a rabies vaccine production laboratory or a rabies diagnostic laboratory, must be vaccinated against rabies and should have a serum neutralizing antibody titer of at least 1:5 before handling rabid animals or rabies virus. Should a titer of 1:5 or greater not develop following vaccination, at least two booster doses of vaccine should be given. The regimen for pre-exposure rabies vaccination and the recommendations for treatment, if exposed subsequently, are presented in the statement on Rabies Prophylaxis by the Public Health Service Advisory Committee on Immunization Practices (MMWR, Vol. 18, No. 43).

(3) Laboratory procedures that entail special risk

(a) Necropsy

Workers who perform necropsies on animals in the laboratory are at great risk, since they must use sharp instruments to open the cranium and remove the brain from infected animals. Special emphasis should be placed on protecting these people from direct exposure; anyone performing a necropsy should take the following precautions:

1. Use a plastic face shield.
2. Wear gloves.
3. Hold the animal's head securely in a vise or other mechanical restraint while removing the brains.

(b) Trituration and specimen processing

Since rabies virus is liberated from the cells and is concentrated during the trituration and centrifugation of brain and other infected tissues, persons pipetting or handling such suspensions must recognize the increased risks during those phases of their work. They should protect themselves and their colleagues by doing the following:

1. Use only pre-tested trituration and blending equipment known to be leak-proof. The equipment should be tested at least twice a year by filling it with dye in a solvent such as alcohol, wrapping it in a clean white cloth, and operating it. Leaks will be easy to identify.
2. Use safety pipettes and never mouth-pipet rabies virus.
3. Avoid spilling virus suspensions. If any suspension does get on the hands or other part of the body, it should be washed off with soap and water. If there is contamination through an abrasion, the accident should be reported to the supervisor, and a physician should be consulted and advised of the degree of exposure.
4. Use safe syringes, pre-tested to prevent leakage during animal inoculation.

Reference

1. Para M: An outbreak of post-vaccinal rabies in Fortaleza, Brazil, in 1960. Residual fixed virus as the etiological agent. Bull Wld Hlth Org 33:177-182. 1965

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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.

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