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For Week Ending July 28, 1973

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE

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EPIDEMIOLOGIC NOTES AND REPORTS

HUMAN BUBONIC PLAGUE – Arizona

Between July 6 and 7, 1973, a 9-year-old girl from near Payson, Arizona, became ill with headache, fever, and right axillary lymphadenopathy. Four days later, she developed what appeared to be a metastatic anterior chamber endophthalmitis. A blood specimen obtained on July 11 yielded a gram-negative organism identified in the Arizona State Laboratory on July 19 as *Yersinia pestis*. This identification was corroborated by the Plague Section, Vectorborne Diseases Branch, Bureau of Laboratories, CDC, in Fort Collins, Colorado.

During the 2 weeks before diagnosis of her illness was confirmed, the patient was treated with various antibiotics and topical eye drops. Initial specific antibiotic therapy for *Y. pestis* was started July 19 and included parenteral tetracycline and chloramphenicol eye drops. She has also been started on a short course of streptomycin sulfate to help resolve the possible anterior chamber septic endophthalmitis and marked lymphadenitis.

She has improved generally, and her axillary bubo has diminished since specific therapy was instituted. Her ocular problems have also shown considerable improvement, although her pupil remains markedly dilated.

Initial epidemiologic investigation suggests she was exposed near her mountain cabin home. *Y. pestis* was detected in the animals of this area in February 1972 when a single

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

DISEASE	30th WEEK ENDING		MEDIAN 1968-1972	CUMULATIVE, FIRST 30 WEEKS		
	July 28, 1973	July 29, 1972		1973	1972	MEDIAN 1968-1972
Aseptic meningitis	149	103	118	1,651	1,315	1,315
Brucellosis	4	7	4	107	97	116
Chickenpox	482	709	– – –	143,121	111,444	– – –
Diphtheria	3	3	2	104	60	94
Encephalitis, primary:						
Arthropod-borne and unspecified	33	18	22	681	490	577
Encephalitis, post-infectious	5	7	7	182	179	240
Hepatitis, serum (Hepatitis B)	190	179	115	4,550	5,344	4,081
Hepatitis, infectious (Hepatitis A)	895	1,035	1,035	29,100	32,036	32,036
Malaria	3	10	28	141	632	1,548
Measles (rubeola)	189	171	259	23,449	25,935	25,935
Meningococcal infections, total	19	31	34	954	909	1,683
Civilian	18	30	33	930	873	1,509
Military	1	1	1	24	36	174
Mumps	470	525	780	52,881	54,356	71,751
Rubella (German measles)	144	188	270	25,305	19,821	41,756
Tetanus	1	1	3	48	64	64
Tuberculosis, new active	619	905	– – –	18,390	19,295	– – –
Tularemia	2	1	6	84	75	86
Typhoid fever	5	6	7	414	179	171
Typhus, tick-borne (Rky. Mt. spotted fever)	24	25	24	377	269	213
Venereal Diseases:						
Gonorrhea	18,402	16,787	– – –	456,982	407,485	– – –
Syphilis, primary and secondary	528	520	– – –	15,062	13,856	– – –
Rabies in animals	74	76	74	2,141	2,562	2,158

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	1	Poliomyelitis, total: Calif.-1	3
Botulism:	13	Paralytic: Calif.-1	3
Congenital rubella syndrome:	17	Psittacosis:	11
Leprosy: Calif.-3, Tex.-2	62	Rabies in man:	–
Leptospirosis: Ida.-1	19	Trichinosis: Calif.-1, N.Y.C.-14, Pa.-2	61
Plague:*	1	Typhus, murine:	23

*Delayed reports: Plague: Ariz. 1

PLAGUE – Continued

plague case resulted from direct contact with a wild lynx (MMWR, Vol. 21, No. 10). A serologic survey of wild carnivore populations last year showed widespread, intensive plague activity on the Coconino Plateau and in contiguous, ecologically similar areas immediately north of the site where this case apparently originated. The State health department in conjunction with CDC is conducting field studies to determine the extent and nature of the problem.

(Reported by Frank Marks, Assistant Epidemiologist, Philip M. Hotchkiss, D.V.M., State Epidemiologist, Arizona State Department of Health; and the Plague Section, Vectorborne Diseases Branch, Fort Collins, Colorado, Bureau of Laboratories, CDC.)

MALARIA – California

On May 12, 1973, a couple from Los Angeles suddenly became ill with chills, fever, sweats, headache, photophobia, myalgia, and arthralgia. The wife also experienced nausea and vomiting. They consulted a private physician who diagnosed influenza and prescribed tetracycline. The following day, because of persisting symptoms, they visited a hospital emergency room and were told that they had a viral syndrome. On May 14, they felt somewhat better, but on May 15, their symptoms became more severe—with temperatures to 105°F. They were then seen in another emergency room where their blood smears revealed plasmodial ring forms. Each was given 1 gm of chloroquine phosphate and transferred to the Communicable Disease Ward at the Los Angeles County-University of Southern California (LAC-USC) Medical Center. Laboratory studies on admission revealed no evidence of renal disease, hemolysis, or red cell defects, but the wife's hematocrit dropped from 40% to 32% within 24 hours of admission. The patients were treated with a 3-day course of chloroquine followed by 2 weeks of primaquine and recovered.

The patients' travel history revealed that they and their 10-year-old son had returned from a trip around the world on May 2. They had made stops in Hong Kong, Singapore, Bangkok, Bombay, Tel Aviv, Bethlehem, Jerusalem, Athens, Rome, Madrid, and Lagos. They spent the most time in Nigeria, April 27-May 2, where they camped in the countryside. At no time did they take antimalarial chemoprophylaxis. Only the son recalled being bitten by mosquitoes.

On May 17, the patients' home was visited, and their son was examined; he was asymptomatic and appeared well. Blood was obtained for thick and thin smears and serologic studies, and he was given a 6-week supply of chloroquine phosphate for post-exposure prophylaxis. However, 15 hours later, before taking any medication, he had a shaking chill and temperature of 105°F. Simultaneously, the Los Angeles County Health Department Parasitology Laboratory reported a small number of ring forms in his blood smear. He was seen as an outpatient at LAC-USC Medical Center, was treated with chloroquine phosphate and primaquine, and recovered rapidly.

Blood smears from all patients were reviewed at CDC, and the species was identified as *Plasmodium falciparum.*

(Reported by Arvid Underman, M.D., Resident in Medicine, Arthur Dover, M.D., Resident in Pediatrics, Allen Mathies, M.D., Chief, Communicable Disease Service, Los Angeles County-University of Southern California Medical Center; Ichiro Kamei, M.D., Chief, Acute Communicable Disease Control Division, Ralph R. Sachs, M.D., Deputy Director, Los Angeles Community Health Services; Ronald Roberto, M.D., Medical Epidemiologist, California State Department of Public Health; and an EIS Officer.)

Editorial Note

The mean intrinsic incubation period of *P. falciparum* malaria is 12 days, and almost all infections become manifest within 27 days after acquisition. Thus, since the incubation period is compatible and since *P. falciparum* is the most common malaria species in West Africa, these patients most likely acquired their infection in Nigeria. Falciparum malaria may not cause the classic paroxysms of chills, fever, and diaphoresis characteristic of other forms of malaria. The infection may mimic influenza, but it can progress rapidly and cause death, particularly in patients who have no prior immunity. To diagnose malaria in a patient with fever of unknown origin, it is essential that the examining physician obtain a travel history. Primaquine is only indicated in the treatment of the relapsing malarias *(P. vivax, P. ovale),* not in falciparum malaria.

DIPHTHERIA – Washington

On February 22, 1973, a 14-year-old girl from Georgeville, Washington, presented to her physician with fever, marked weakness, a severe sore throat, cervical lymphadenopathy, and respiratory distress. Physical examination revealed a pharyngeal membrane. The clinical diagnosis of diphtheria was made, and the patient was treated with antitoxin. The clinical diagnosis was subsequently confirmed by culture.

On February 26, examination of the contacts of this patient revealed another pharyngeal case of diphtheria in a 12-year-old girl. In addition, specimens from the skin lesions of 2 neighborhood children with impetigo were cultured and were found positive for *Corynebacterium diphtheriae* on February 28. The same day, 3 additional children presented to their physicians with symptoms compatible with diphtheria.

By March 19, a total of 27 culture-proven diphtheria cases and 54 carriers had been identified among the residents of Georgeville and 2 nearby communities, Billyville and Goldendale. Three of the ill persons had massive cervical lymphadenopathy, 11 had pharyngeal membranes, and 13 had nasal lesions either of the external nares or extending as a sore onto the upper lip. Two patients had pharyngeal paralysis, but there were no cases of myocarditis and no deaths. Of 27 *C. diphtheriae* isolates from cases, 24 were intermedius and 3 were mitis strains. Of 54 *C. diphtheriae* isolates from carriers, 49 were intermedius and 5 were mitis. Infection was eradicated with oral erythromycin in all 27 symptomatic persons and 54 carriers, as documented by 2 negative follow-up cultures.

Four cases of diphtheritic impetigo were found in children. Two of the children with impetigo were primary school

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING JULY 28, 1973 AND JULY 29, 1972 (30th WEEK)

AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS		
						Primary including unspec. cases		Post Infectious	Serum (Hepatitis B)	Infectious (Hepatitis A)	
	1973	1973	1973	1973	Cum. 1973	1973	1972	1973	1973	1973	1972
UNITED STATES	149	4	482	3	104	33	18	5	190	895	1,035
NEW ENGLAND	6	–	63	–	3	1	2	–	3	45	60
Maine*	–	–	1	–	–	–	–	–	–	–	5
New Hampshire*	1	–	–	–	–	–	–	–	–	5	6
Vermont	–	–	–	–	–	–	–	–	–	2	1
Massachusetts	2	–	36	–	1	–	2	–	1	19	33
Rhode Island	3	–	9	–	2	1	–	–	2	6	4
Connecticut	–	–	17	–	–	–	–	–	–	13	11
MIDDLE ATLANTIC	3	–	55	–	–	–	1	–	41	124	150
Upstate New York	2	–	3	–	–	–	–	–	7	29	42
New York City	–	–	52	–	–	–	–	–	6	20	38
New Jersey*	–	–	NN	–	–	–	–	–	20	33	44
Pennsylvania	1	–	–	–	–	–	1	–	8	42	26
EAST NORTH CENTRAL	44	1	209	–	–	8	7	2	42	172	184
Ohio	16	–	19	–	–	3	2	–	19	48	46
Indiana	5	–	16	–	–	–	1	–	–	12	12
Illinois	4	–	–	–	–	–	1	2	10	33	50
Michigan	18	1	37	–	–	5	3	–	12	72	71
Wisconsin	1	–	137	–	–	–	–	–	1	7	5
WEST NORTH CENTRAL	1	–	7	–	7	1	–	–	5	75	34
Minnesota*	–	–	–	–	–	–	–	–	1	–	1
Iowa	1	–	4	–	–	–	–	–	–	5	7
Missouri*	–	–	–	–	–	1	–	–	2	58	6
North Dakota	–	–	2	–	–	–	–	–	–	–	1
South Dakota	–	–	–	–	7	–	–	–	–	3	2
Nebraska	–	–	1	–	–	–	–	–	–	1	3
Kansas	–	–	–	–	–	–	–	–	2	8	14
SOUTH ATLANTIC	17	–	50	–	–	6	–	–	15	110	167
Delaware	–	–	2	–	–	–	–	–	–	–	1
Maryland	1	–	7	–	–	–	–	–	1	9	21
District of Columbia	2	–	2	–	–	–	–	–	–	4	1
Virginia	5	–	–	–	–	1	–	–	–	7	24
West Virginia	3	–	28	–	–	–	–	–	–	5	7
North Carolina	2	–	NN	–	–	2	–	–	3	34	49
South Carolina	1	–	11	–	–	–	–	–	–	12	5
Georgia	–	–	–	–	–	–	–	–	–	7	12
Florida	3	–	–	–	–	3	–	–	11	32	47
EAST SOUTH CENTRAL	11	1	6	–	–	2	2	2	10	47	73
Kentucky	4	–	1	–	–	–	–	–	10	10	28
Tennessee	6	1	NN	–	–	2	–	1	–	31	27
Alabama	–	–	3	–	–	–	2	1	–	1	9
Mississippi	1	–	2	–	–	–	–	–	–	5	9
WEST SOUTH CENTRAL	17	1	26	–	9	10	2	–	29	135	102
Arkansas*	1	–	1	–	–	–	–	–	–	5	10
Louisiana	5	–	NN	–	–	–	–	–	4	20	9
Oklahoma	3	–	–	–	–	10	2	–	1	18	20
Texas	8	1	25	–	9	–	–	–	24	92	63
MOUNTAIN	1	–	29	–	7	–	1	–	2	33	68
Montana	1	–	1	–	–	–	–	–	–	2	3
Idaho	–	–	–	–	–	–	–	–	–	4	9
Wyoming	–	–	–	–	–	–	–	–	–	1	1
Colorado	–	–	16	–	–	–	–	–	–	12	14
New Mexico	–	–	9	–	6	–	1	–	–	12	17
Arizona*	–	–	–	–	1	–	–	–	–	–	10
Utah*	–	–	3	–	–	–	–	–	2	2	11
Nevada	–	–	–	–	–	–	–	–	–	–	3
PACIFIC	49	1	37	3	78	5	3	1	43	154	197
Washington	8	–	25	3	70	–	–	–	1	18	13
Oregon	–	–	–	–	3	1	–	–	–	14	22
California	41	1	–	–	3	4	3	1	42	122	152
Alaska	–	–	4	–	2	–	–	–	–	–	5
Hawaii	–	–	8	–	–	–	–	–	–	–	5
Guam*	–	–	–	–	–	–	–	–	–	–	1
Puerto Rico	–	–	2	–	–	–	–	–	1	8	16
Virgin Islands	–	–	4	–	–	–	–	–	–	–	–

* Delayed reports: Aseptic meningitis: N.H. 2, N. J. delete 1, Ark. 1
Brucellosis: Ark. 1
Chickenpox: Me. 3, Utah 2, Guam 3
Diphtheria: Mo. delete 1
Hepatitis B: N. H. 1, N. J. 6, Minn. 1, Ark. 1, Ariz. 1, Utah 1
Hepatitis A: Me. 7, N. H. delete 1, N. J. 30, Minn. delete 1, Mo. delete 2, Ark. 1, Ariz. 4, Utah 3, Guam 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING JULY 28, 1973 AND JULY 29, 1972 (30th WEEK) – Continued

AREA	MALARIA		MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		RUBELLA	
	1973	Cum. 1973	1973	Cumulative		1973	Cumulative		1973	Cum. 1973	1973	Cum. 1973
				1973	1972		1973	1972				
UNITED STATES	3	141	189	23,449	25,935	19	954	909	470	52,881	144	25,305
NEW ENGLAND	–	12	18	7,332	3,005	–	44	37	27	2,667	9	3,540
Maine *	–	–	–	64	240	–	1	3	1	288	–	68
New Hampshire	–	–	1	855	227	–	6	3	–	177	–	353
Vermont	–	2	1	118	120	–	2	–	–	241	–	43
Massachusetts	–	6	10	3,901	639	–	12	17	14	790	3	1,997
Rhode Island	–	–	2	602	519	–	3	10	7	301	3	209
Connecticut	–	4	4	1,792	1,260	–	20	4	5	870	3	870
MIDDLE ATLANTIC	–	21	57	2,314	898	1	127	116	89	6,881	22	4,108
Upstate New York	–	12	25	773	123	–	45	30	NN	NN	11	385
New York City	–	1	4	851	236	1	26	35	72	4,254	3	441
New Jersey *	–	4	13	379	484	–	28	24	12	1,463	8	2,996
Pennsylvania	–	4	15	311	55	–	28	27	5	1,164	–	286
EAST NORTH CENTRAL	–	19	80	8,262	10,705	4	125	126	87	13,760	29	5,732
Ohio	–	3	–	278	231	3	56	53	7	2,614	4	670
Indiana	–	3	18	613	1,216	–	4	11	23	1,134	9	917
Illinois	–	10	25	1,987	3,956	–	24	25	22	2,316	7	903
Michigan	–	3	23	4,282	1,946	1	36	32	13	3,835	5	1,769
Wisconsin	–	–	14	1,102	3,356	–	5	5	22	3,861	4	1,473
WEST NORTH CENTRAL	–	5	1	431	920	2	74	66	8	4,508	1	1,189
Minnesota	–	1	1	19	19	1	6	17	–	76	1	218
Iowa	–	–	–	276	647	–	17	2	–	2,784	–	184
Missouri	–	1	–	48	159	1	31	20	–	614	–	254
North Dakota	–	1	–	56	51	–	3	–	–	64	–	276
South Dakota	–	–	–	–	5	–	4	2	3	17	–	23
Nebraska	–	1	–	5	18	–	6	9	5	117	–	139
Kansas	–	1	–	27	21	–	7	16	–	836	–	95
SOUTH ATLANTIC	–	22	7	1,166	2,056	4	158	205	59	6,225	11	2,040
Delaware	–	–	–	8	48	–	–	1	3	254	4	12
Maryland	–	3	3	12	15	–	22	33	5	605	–	10
District of Columbia	–	1	–	5	2	–	4	9	12	81	1	3
Virginia	–	5	–	409	58	1	29	45	1	661	–	616
West Virginia	–	–	3	186	253	–	2	7	24	2,161	2	267
North Carolina	–	5	–	4	30	2	35	26	NN	NN	1	200
South Carolina	–	1	1	56	214	–	10	19	1	347	1	81
Georgia	–	3	–	147	161	1	20	8	–	26	–	11
Florida	–	4	–	339	1,275	–	36	57	13	2,090	2	840
EAST SOUTH CENTRAL	1	5	2	587	1,020	1	89	75	52	4,234	14	1,243
Kentucky	1	1	2	363	518	–	31	24	11	1,268	1	376
Tennessee	–	–	–	165	191	1	36	28	38	1,928	11	495
Alabama	–	4	–	5	131	–	15	15	3	584	–	183
Mississippi	–	–	–	54	180	–	7	8	–	454	2	189
WEST SOUTH CENTRAL	–	9	6	629	1,391	2	147	111	37	3,458	12	1,415
Arkansas *	–	–	–	69	13	–	13	9	1	340	–	112
Louisiana	–	2	–	83	82	2	30	34	3	69	–	100
Oklahoma	–	1	–	51	9	–	25	6	2	409	9	175
Texas	–	6	6	426	1,287	–	79	62	31	2,640	3	1,028
MOUNTAIN	1	9	7	568	1,727	2	29	16	25	2,373	14	2,345
Montana	–	1	–	15	12	–	6	2	1	221	–	499
Idaho	–	–	4	246	21	–	4	4	–	110	–	33
Wyoming	–	–	–	77	51	–	–	1	–	418	–	5
Colorado	1	2	2	100	514	2	9	3	16	406	5	1,535
New Mexico	–	2	1	112	110	–	3	2	8	949	9	186
Arizona	–	4	–	16	866	–	3	1	–	140	–	17
Utah *	–	–	–	1	153	–	2	2	–	121	–	67
Nevada	–	–	–	1	–	–	2	1	–	8	–	3
PACIFIC	1	39	11	2,160	4,213	3	161	157	86	8,775	32	3,693
Washington	–	3	–	996	970	–	17	12	4	1,405	1	651
Oregon	–	2	2	449	113	–	12	13	32	1,623	3	768
California *	1	31	9	632	3,024	3	126	123	49	4,836	28	2,239
Alaska	–	2	–	65	11	–	6	6	–	672	–	9
Hawaii	–	1	–	18	95	–	–	3	1	239	–	26
Guam *	–	–	–	20	8	–	–	11	–	16	–	8
Puerto Rico	–	–	19	1,701	552	–	7	4	9	625	–	26
Virgin Islands	–	–	–	–	1	–	–	2	–	17	–	2

*Delayed reports: Measles: Me. 1, N. J. delete 2, Guam 9
Mumps: Me. 5, Ark. 1, P. R. 1
Rubella: N. J. delete 45, Utah 1, Calif. delete 74, Guam 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING JULY 28, 1973 AND JULY 29, 1972 (30th WEEK) – Continued

AREA	TETANUS	TUBERCULOSIS (New Active)		TULAREMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (Rky. Mt. spotted fever)		VENEREAL DISEASES		RABIES IN ANIMALS	
									GONORRHEA	SYPHILIS (Pri. & Sec.)		
	Cumulative 1973	1973	Cum. 1973	Cumulative 1973	1973	Cum. 1973	1973	Cum. 1973	1973	1973	1973	Cum. 1973
UNITED STATES	48	619	18,390	84	5	414	24	377	18,402	528	74	2,141
NEW ENGLAND	2	15	645	–	1	6	–	1	571	23	3	92
Maine	–	2	50	–	–	–	–	–	25	1	–	53
New Hampshire*	–	2	37	–	–	–	–	–	28	–	3	31
Vermont*	–	1	18	–	–	–	–	–	11	–	–	3
Massachusetts	–	8	345	–	1	6	–	1	243	4	–	4
Rhode Island	1	–	45	–	–	–	–	–	39	–	–	–
Connecticut	1	2	150	–	–	–	–	–	225	18	–	1
MIDDLE ATLANTIC	7	104	3,617	–	1	38	4	21	2,681	117	3	19
Upstate New York	1	33	650	–	–	6	–	9	245	10	1	9
New York City	3	43	1,374	–	–	14	–	1	1,376	75	–	–
New Jersey	2	–	622	–	1	10	2	5	334	16	–	–
Pennsylvania	1	28	971	–	–	8	2	6	726	16	2	10
EAST NORTH CENTRAL	7	99	2,816	2	–	22	1	17	2,090	20	6	197
Ohio	1	29	853	–	–	9	1	13	769	4	–	26
Indiana	–	14	367	–	–	–	–	–	185	5	1	46
Illinois	3	38	849	–	–	5	–	4	226	2	–	54
Michigan	1	18	670	2	–	6	–	–	644	9	–	3
Wisconsin	2	–	77	–	–	2	–	–	266	–	5	68
WEST NORTH CENTRAL	4	14	743	10	–	13	2	13	1,063	14	32	691
Minnesota	–	–	85	–	–	4	–	–	261	–	9	234
Iowa	–	1	81	–	–	–	1	6	165	7	9	144
Missouri*	3	6	347	10	–	7	–	6	260	7	5	62
North Dakota	1	2	27	–	–	–	–	–	12	–	8	113
South Dakota	–	2	51	–	–	1	–	–	79	–	–	77
Nebraska	–	1	47	–	–	1	1	1	145	–	–	3
Kansas	–	2	105	–	–	–	–	–	141	–	1	58
SOUTH ATLANTIC	8	142	3,639	6	2	225	9	183	4,027	196	5	172
Delaware	–	2	50	–	–	–	–	7	25	–	–	2
Maryland	–	16	385	–	1	6	1	7	463	15	1	9
District of Columbia	–	5	166	–	–	–	–	–	477	48	–	–
Virginia	2	7	478	1	–	1	1	39	515	45	–	53
West Virginia	–	10	172	–	–	2	–	1	40	2	1	18
North Carolina*	–	30	578	1	–	4	7	76	517	20	–	1
South Carolina	–	7	323	–	1	4	–	26	447	28	1	3
Georgia	1	30	610	3	–	1	–	27	506	10	2	55
Florida	5	35	877	1	–	207	–	–	1,037	28	–	31
EAST SOUTH CENTRAL	7	60	1,658	6	–	17	2	55	1,659	20	8	343
Kentucky	1	13	385	1	–	2	–	–	190	8	4	187
Tennessee	4	15	514	4	–	8	2	27	562	6	4	119
Alabama	2	19	443	–	–	2	–	9	602	1	–	37
Mississippi	–	13	316	1	–	5	–	19	305	5	–	–
WEST SOUTH CENTRAL	8	85	1,863	58	–	18	5	74	3,054	63	7	407
Arkansas*	–	8	218	40	–	3	–	12	609	4	2	88
Louisiana*	3	11	295	–	–	6	–	–	527	24	1	33
Oklahoma	3	7	163	16	–	2	5	60	200	1	4	132
Texas	2	59	1,187	2	–	7	–	2	1,718	34	–	154
MOUNTAIN	–	13	594	1	–	6	–	6	574	5	1	19
Montana	–	1	29	–	–	–	–	–	22	–	–	–
Idaho	–	2	25	–	–	–	–	1	45	–	–	–
Wyoming	–	–	11	–	–	1	–	1	14	–	–	–
Colorado	–	–	114	–	–	1	–	1	167	1	–	–
New Mexico	–	2	130	1	–	1	–	3	120	1	–	2
Arizona	–	7	226	–	–	3	–	–	170	1	1	17
Utah*	–	–	21	–	–	–	–	–	9	–	–	–
Nevada	–	1	38	–	–	–	–	–	27	2	–	–
PACIFIC	5	87	2,815	1	1	69	1	7	2,683	70	9	201
Washington	1	1	232	–	–	6	1	4	210	2	–	2
Oregon	1	6	155	–	–	2	–	2	300	3	1	2
California*	3	76	2,195	1	1	60	–	1	2,041	62	8	190
Alaska	–	–	67	–	–	–	–	–	73	–	–	7
Hawaii	–	4	166	–	–	1	–	–	59	3	–	–
Guam*	–	–	28	–	–	–	–	–	–	–	–	–
Puerto Rico	4	8	285	–	1	3	–	–	45	8	–	29
Virgin Islands	–	–	–	–	–	–	–	–	7	–	–	–

*Delayed reports: Tetanus: Mo. delete 1
TB: N. H. delete 1, N. C. delete 5, Guam 1
Tularemia: Ark. 4
Gonorrhea: La. delete 8, Utah 28
Syphilis: Vt. delete 1, La. delete 1, Calif. 93

Week No. 30

TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDING JULY 28, 1973

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

Area	All Causes			Pneumonia and Influenza	Area	All Causes			Pneumonia and Influenza
	All Ages	65 years and over	Under 1 year	All Ages		All Ages	65 years and over	Under 1 year	All Ages
NEW ENGLAND	665	392	28	26	SOUTH ATLANTIC	1,387	721	92	48
Boston, Mass.	183	100	10	9	Atlanta, Ga.	155	87	8	6
Bridgeport, Conn.	37	21	–	1	Baltimore, Md.	223	120	5	1
Cambridge, Mass.	19	11	–	3	Charlotte, N. C.	66	31	5	–
Fall River, Mass.	27	21	–	–	Jacksonville, Fla.	95	43	7	1
Hartford, Conn.	66	35	1	1	Miami, Fla.	138	72	2	5
Lowell, Mass.	36	25	–	1	Norfolk, Va.	59	37	2	4
Lynn, Mass.	15	12	–	–	Richmond, Va.	105	56	3	3
New Bedford, Mass.	28	16	–	2	Savannah, Ga.	52	35	–	4
New Haven, Conn.	52	25	5	–	St. Petersburg, Fla.	72	55	2	5
Providence, R. I.	59	32	3	6	Tampa, Fla.	70	36	4	7
Somerville, Mass.	13	9	–	–	Washington, D. C.	310	129	51	10
Springfield, Mass.	41	26	7	1	Wilmington, Del.	42	20	3	2
Waterbury, Conn.	28	22	–	1	EAST SOUTH CENTRAL	655	369	26	31
Worcester, Mass.	61	37	2	1	Birmingham, Ala.	90	52	6	1
MIDDLE ATLANTIC	3,139	1,865	116	133	Chattanooga, Tenn.	60	34	3	3
Albany, N. Y.	58	36	5	1	Knoxville, Tenn.	40	26	1	3
Allentown, Pa.	35	19	2	1	Louisville, Ky.	133	69	2	12
Buffalo, N. Y.	124	77	3	8	Memphis, Tenn.	154	85	9	5
Camden, N. J.	41	23	2	–	Mobile, Ala.	55	32	4	2
Elizabeth, N. J.	26	16	–	1	Montgomery, Ala.	35	23	1	–
Erie, Pa.	36	26	1	3	Nashville, Tenn.	88	48	–	5
Jersey City, N. J.	57	37	–	2	WEST SOUTH CENTRAL	1,252	645	54	31
Newark, N. J.	65	25	3	2	Austin, Tex.	33	20	1	3
New York City, N. Y. †	1,538	925	53	63	Baton Rouge, La.	82	45	3	1
Paterson, N. J.	38	28	1	4	Corpus Christi, Tex.	57	25	5	2
Philadelphia, Pa.	490	289	20	7	Dallas, Tex.	168	77	10	4
Pittsburgh, Pa.	190	99	9	15	El Paso, Tex.	73	39	6	3
Reading, Pa.	40	27	–	9	Fort Worth, Tex.	82	42	1	–
Rochester, N. Y.	153	86	7	7	Houston, Tex.	220	100	7	2
Schenectady, N. Y.	24	14	1	2	Little Rock, Ark.	74	32	2	3
Scranton, Pa.	39	25	2	–	New Orleans, La.	123	66	4	–
Syracuse, N. Y.	75	46	4	2	Oklahoma City, Okla. *	88	48	4	1
Trenton, N. J.	41	20	3	2	San Antonio, Tex.	143	81	6	5
Utica, N. Y.	30	18	–	2	Shreveport, La.	49	29	1	1
Yonkers, N. Y.	39	29	–	2	Tulsa, Okla.	60	41	4	6
EAST NORTH CENTRAL	2,412	1,348	106	52	MOUNTAIN	531	294	23	25
Akron, Ohio	69	40	4	–	Albuquerque, N. Mex.	61	30	1	5
Canton, Ohio	45	23	3	–	Colorado Springs, Colo.	47	33	1	5
Chicago, Ill.	650	348	41	13	Denver, Colo.	99	58	4	4
Cincinnati, Ohio	144	87	1	5	Las Vegas, Nev.	33	12	3	1
Cleveland, Ohio	204	104	3	2	Ogden, Utah	26	15	2	1
Columbus, Ohio	141	73	1	2	Phoenix, Ariz.	120	65	5	3
Dayton, Ohio	107	67	5	1	Pueblo, Colo.	23	13	–	5
Detroit, Mich.	276	156	15	10	Salt Lake City, Utah	57	37	3	–
Evansville, Ind.	33	24	–	–	Tucson, Ariz.	65	31	4	1
Fort Wayne, Ind.	55	22	–	2	PACIFIC	1,571	953	59	32
Gary, Ind.	28	15	–	2	Berkeley, Calif.	13	10	–	–
Grand Rapids, Mich.	50	38	2	5	Fresno, Calif.	51	26	3	–
Indianapolis, Ind.	157	80	8	2	Glendale, Calif.	23	19	–	1
Madison, Wis.	29	13	3	1	Honolulu, Hawaii	63	31	5	–
Milwaukee, Wis.	130	81	3	2	Long Beach, Calif.	105	64	7	–
Peoria, Ill.	40	23	4	–	Los Angeles, Calif.	517	316	19	10
Rockford, Ill.	39	18	4	2	Oakland, Calif.	68	44	3	–
South Bend, Ind.	48	31	–	2	Pasadena, Calif.	33	27	–	1
Toledo, Ohio	107	66	8	1	Portland, Oreg.	118	71	8	1
Youngstown, Ohio	60	39	1	–	Sacramento, Calif.	51	28	–	1
WEST NORTH CENTRAL	716	436	29	24	San Diego, Calif.	129	84	5	3
Des Moines, Iowa	56	36	2	1	San Francisco, Calif.	151	81	2	3
Duluth, Minn.	19	13	–	2	San Jose, Calif.	53	31	–	–
Kansas City, Kans.	24	16	3	–	Seattle, Wash.	121	67	7	2
Kansas City, Mo.	113	70	5	–	Spokane, Wash.	41	29	–	1
Lincoln, Nebr.	13	9	–	3	Tacoma, Wash.	34	25	–	9
Minneapolis, Minn.	89	52	4	5	Total	12,328	7,023	533	402
Omaha, Nebr.	83	42	5	1	Expected Number	12,183	6,893	550	391
St. Louis, Mo.	224	136	6	6	Cumulative Total (includes reported corrections for previous weeks)	392,782	231,745	14,552	16,480
St. Paul, Minn.	66	46	3	2					
Wichita, Kans.	29	16	1	4					

†Delayed report for week ending July 21, 1973
*Estimate based on average percent of divisional total

DIPHTHERIA – Continued

students, and 1 was enrolled in a Headstart program. Among 78 classmates of these 3 children, 19 had positive cultures for *C. diphtheriae*. In contrast, among 104 classmates of 5 children with respiratory diphtheria, only 7 had positive cultures.

Control measures included quarantine and erythromycin treatment of all household contacts of cases or carriers. Case-finding uncovered 4 cases on home visits, and another 7 cases were culture-positive before the onset of symptoms. An immunization program reached more than 10,000 persons in the area. Adults were given 3 primary Td vaccinations over a 3-month period, if they gave no history of previous immunizations. Children under 6 years were given DPT.

No further diphtheria cases have been reported from the area in the past 3 months, and there has been no evidence of spread from Goldendale to other areas.

(Reported by Helen Conboy, P.H.N., Donald Champaign, M.D., Health Officer, Southwest Washington Health District; Marshall Y. Kremers, M.D., Acting State Epidemiologist, Washington State Department of Social and Health Services, Health Services Division; and 2 EIS Officers.)

Editorial Note

This outbreak accounted for a portion of the increase in reported diphtheria in the Pacific Northwest in the past year. Other foci of disease have been the skid row populations of Seattle and Vancouver, British Columbia.

The role of skin diphtheria in spreading infection in this community is supported by the higher attack rates in classmates of children with diphtheritic skin lesions. Others have also proposed that skin diphtheria may provide a reservoir for this pathogen *(1)*.

Reference

1. Belsey MA, Sinclair M, Roder RM, LeBlanc DR: *Corynebacterium diphtheriae* skin infections in Alabama and Louisiana: a factor in the epidemiology of diphtheria. N Engl J Med 280:135-141, 1969

PROBABLE BOTULISM – Maryland

On the evening of July 24, 1973, a 67-year-old farmer and his 53-year-old wife from Sunderland, Maryland, experienced the onset of nausea, vomiting, and diarrhea. On July 25, both persons developed blurred vision, diplopia, dry mouth, dysphonia, dysphagia, and generalized weakness. They were seen late that afternoon at a local hospital, where the diagnosis of botulism was suspected, and were referred to a university hospital in Baltimore.

On admission, both patients had bilateral ptosis, external opthalmoplegia, nasal speech, symmetrical facial muscle weakness, no gag reflexes, and symmetrical proximal muscle weakness. Both were alert and had normal sensation and deep tendon reflexes. The man's pupils were dilated and nonreactive, while the woman's measured 4-6 mm and were reactive. Tensilon tests were negative in both patients. Electromyograms (EMG) demonstrated decreased amplitude of the muscle action potential in both patients, with only slight potentiation in the woman's EMG during repetitive stimulation on the first hospital day.

Both patients were given trivalent (ABE) and bivalent (AB) botulism antitoxin intravenously on July 26. Both had respiratory difficulty and required ventilatory assistance; 2 days later, a tracheostomy was performed on each. On July 27, they received intravenous calcium chloride without improvement and were begun on oral guanidine. Both are improving gradually.

The patient's 13-year-old son was admitted to the same Baltimore hospital on July 26 for observation. The history obtained on admission strongly suggested that he had shared consumption of contaminated food with his parents. Accordingly, after appropriate skin testing, he received 1 vial of trivalent antitoxin (ABE) prophylactically. He remains asymptomatic.

Epidemiologic investigation directed attention to home-canned poke salad and corn, which had been consumed by the husband and wife 2 days before the onset of illness; the son had shared the corn, but he had not eaten poke salad from the suspect jar.

Canning procedures were described by the son as follows: food was placed in a glass jar which was filled with water and sealed by a screw cap. The jar was then submerged in a large pot of water and boiled for approximately 2 hours.

Analysis of pre- and post-treatment serum specimens from both husband and wife, a post-treatment serum specimen from the son, stool specimens from all 3 family members, and numerous food items, including samples of corn and poke salad, failed to demonstrate botulinal toxin. Additional studies are in progress.

(Reported by Page C. Jett, M.D., private practitioner, Calvert County, Maryland; Dennis Torretti, M.D., Medical Intern, Craig Smith, M.D., Junior Assistant Resident, Hubert Gurley, M.D., Senior Assistant Resident, Leigh Thompson, M.D., Ph.D., Director, Medical Intensive Care Unit, Assistant Professor of Medicine, Assistant Professor of Pharmacology and Experimental Therapeutics, Johns Hopkins Hospital, Baltimore, Maryland; William T. Blair, Sanitarian, David L. Rogers, M.D., Health Officer, Calvert County Health Department; Arnold C. Salinger, Environmental Microbiologist, Maryland State Laboratory, John D. Stafford, M.D., State Epidemiologist, Maryland State Department of Health; the U.S. Food and Drug Administration; the Enterobacteriology Section, Bacteriology Branch, Bureau of Laboratories, CDC; and 2 EIS Officers.)

Editorial Note

Although laboratory confirmation is lacking, the patients in this outbreak had a clinical illness compatible with botulism. Since 1971 botulinal toxin has been identified in 12 of 18 foodborne botulism outbreaks reported to CDC.

Prophylactic administration of botulism antitoxin should be considered for asymptomatic persons who have consumed food suspected to be contaminated with botulinal toxin. As in this instance, the risk of anaphylaxis or serum sickness inherent in administering the antitoxin, which is prepared from horse serum, must be carefully weighed against the chance that clinical botulism may develop. Each situation demands individual consideration. Surveillance of reactions to botulism

BOTULISM – Continued

antitoxins by CDC has revealed a reaction rate of 32% for bivalent antitoxin and 17% for trivalent antitoxin.

Although these 2 patients improved gradually after initiation of oral guanidine therapy, the efficacy of guanidine in the treatment of botulism is not established *(1, 2, 3, 4).*

References
1. Cherington M, Ryan DW: Treatment of botulism with guanidine: Early neurophysiologic studies. N Engl J Med 282:195, 1970
2. Cherington M, Ginsberg S: Type B botulism: Neurophysiologic studies. Neurology 21:23, 1971
3. Ryan DW, Cherington M: Human type A botulism. JAMA 216:513, 1971
4. Faich GA, Graebuer RW, Sato S: Failure of guanidine therapy in botulism A. N Engl J Med 285:773, 1971

FOLLOW-UP ON RELAPSING FEVER – Arizona

Further investigation of the recent outbreak of relapsing fever in Arizona (MMWR, Vol. 22, No. 29) has revealed 2 additional suspect cases in an 8-year-old girl from Oregon and a 52-year-old man from Utah. Both stayed overnight at the North Rim of the Grand Canyon approximately 1 week prior to onset of symptoms. Laboratory confirmation of the diagnosis is pending. No further cases have been reported in employees or their family members.

Wooden cabins on the North Rim are being sprayed with Bagon* to kill the presumed tick vector. A postal survey is being conducted to notify tourists at risk about their possible exposure and to ascertain the occurrence of additional cases.

(Reported by David L. White, M.D., Health Officer, Lane County, Oregon, Health Department; John A. Googins, M.D., State Epidemiologist, Oregon State Division of Health; Taira Fukushima, M.D., State Epidemiologist, Utah State Division of Health; Philip M. Hotchkiss, D.V.M., State Epidemiologist, Arizona State Department of Health; and the Phoenix, Arizona, Laboratories, Ecological Investigations Program, CDC.)

*Trade name for 2% ortho iso propoxy patenyl methyl carbonate. Inclusion of trade names does not imply endorsement by the Public Health Service or the U.S. Department of Health, Education, and Welfare.

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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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