

# Morbidity and Mortality



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EPIDEMIOLOGIC NOTES AND REPORTS  
FOLLOW-UP ON WILD RODENT PLAGUE - Colorado

On June 21, *Yersinia pestis* was isolated from *Peromyscus maniculatus* fleas at Moraine Campground, Rocky Mountain National Park (MMWR, Vol. 23, No. 25). The campground was closed to the public and control measures were undertaken on June 22 to reduce or eliminate the potential for a general plague epizootic and resultant human exposure.

Moraine Campground and similar high-use recreation areas in Rocky Mountain Park are characterized by extremely high populations of rodents, particularly the small ground squirrels (*Spermophilus richardsoni* and *Spermophilus lateralis*) and chipmunks (*Eutamias umbrinus* and *Eutamias minimus*). Presumably, high population densities of these animals result from ample quantities of food provided by visitors and

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campers. All of these species are known to be susceptible to plague, suffer high mortality during epizootics, and usually carry a substantial number of fleas during summer months; thus, they represent a principal source of infection to man during montane plague epizootics.

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

DISEASE	29th WEEK ENDING		MEDIAN 1969-1973	CUMULATIVE, FIRST 29 WEEKS		
	July 20, 1974	July 21, 1973		1974	1973	MEDIAN 1969-1973
Aseptic meningitis . . . . .	83	176	172	1,214	1,513	1,334
Brucellosis . . . . .	6	4	5	89	104	104
Chickenpox . . . . .	895	1,083	---	96,886	142,640	---
Diphtheria . . . . .	6	---	1	154	107	92
Encephalitis:						
Primary: Arthropod-borne and unspecified . . . . .	20	34	34	469	651	640
Post-Infectious . . . . .	5	11	11	153	177	185
Hepatitis, Viral:						
Type B . . . . .	214	157	157	5,181	4,362	4,362
Type A . . . . .	824	1,014	1,014	23,847	28,283	30,925
Type unspecified . . . . .	108	---	---	4,646	---	---
Malaria . . . . .	11	6	37	100	135	1,497
Measles (rubeola) . . . . .	201	271	329	18,836	23,238	25,764
Meningococcal infections, total . . . . .	21	26	27	849	938	1,588
Civilian . . . . .	21	26	27	827	915	1,406
Military . . . . .	---	---	2	22	23	169
Mumps . . . . .	525	698	798	42,219	52,427	63,806
Pertussis . . . . .	44	---	---	743	---	---
Rubella (German measles) . . . . .	105	122	296	8,978	25,166	36,649
Tetanus . . . . .	---	4	3	31	46	61
Tuberculosis, new active . . . . .	603	644	---	17,171	17,700	---
Tularemia . . . . .	6	6	5	80	91	80
Typhoid fever . . . . .	7	16	7	204	409	163
Typhus, tick-borne (Rky. Mt. spotted fever) . . . . .	36	47	25	419	359	227
Venereal Diseases:						
Gonorrhea . . . . .	18,627	18,555	---	478,970	438,559	---
Syphilis, primary and secondary . . . . .	477	438	---	13,333	13,575	---
Rabies in animals . . . . .	50	49	71	1,540	2,068	2,082

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax: . . . . .	2	Poliomyelitis, total: . . . . .	2
Botulism: Alaska I . . . . .	9	Paralytic: . . . . .	2
Congenital rubella syndrome: . . . . .	34	Psittacosis: Tex. I . . . . .	17
Leprosy: Hawaii I . . . . .	60	Rabies in man: . . . . .	---
Leptospirosis: Hawaii I . . . . .	24	Trichinosis: Ill. I, N.Y. Ups. I . . . . .	61
Plague: . . . . .	1	Typhus, murine: Va. I . . . . .	13

## PLAGUE – Continued

Between June 22 and June 29, bait stations (1) containing 5% carbaryl dust were distributed over Moraine Campground, spaced at 30 to 40 meter intervals in lines 60 to 80 meters apart. A total of 280 acres were treated, using 230 bait stations and 72 pounds of 5% carbaryl dust or 3.75 pounds of toxicant at a rate of .013 pounds per acre. Bait station lines were moved laterally on the third day of exposure to provide more thorough coverage of the area; therefore, during the week of treatment, there were approximately 460 bait station placements. Fleas on ground squirrels were reduced from an average of 2.0 per animal to .08 per animal (Table 1). An additional 42 bait stations were placed around the periphery of the camp area between June 28 and July 5.

Moraine Campground was reopened to public use on June 29. No further evidence of plague has been observed at Moraine or in other areas of the Park. Field observations and testing of specimens will continue through the summer.

(Reported by Thomas Vernon, M.D., Chief, Epidemiology, Colorado Department of Public Health; Roger Contor, Superintendent, Rocky Mountain National Park, National Park Service; and the Plague Branch, Vectorborne Diseases Division, Bureau of Laboratories, CDC.)

## Reference

1. Barnes AM, Ogdan LJ, Archibald WS, Campos E: Control of plague vectors on *Peromyscus maniculatus* by use of 2% carbaryl dust in bait stations. *J Med Entomol* 11:83-87, 1974

Table 1  
Number of Fleas on Squirrels\* and Chipmunks\*\*  
Before and After Insecticidal Treatment  
Moraine Campground, Rocky Mountain National Park – June 1974

	Number Rodents	Number Fleas	Average Fleas/Rodent
Before treatment	285	581	2.0
After treatment	65	5	.08

\**S. richardsoni*, *S. lateralis*

\*\**E. minimus*, *E. umbrinus*

## FOLLOW-UP ON CHOLERA – Portugal

Between July 5 and July 20, 1974, the Portuguese government reported an additional 173 cases of cholera to the World Health Organization. Since the cholera outbreak began in Portugal in May 1974, 541 cases (6.2 per 100,000 population) and 11 deaths (2%) have been reported. Cases continue to occur most commonly in the districts of Faro, Porto, and Lisboa.

(Reported by the World Health Organization, Geneva, Switzerland.)

## Editorial Note

Travelers to Portugal should follow precautions outlined in MMWR, Vol. 23, No. 27, page 234.

## CURRENT TRENDS

## BLINDNESS AFTER DIODOQUIN\* (DIIODOHYDROXYQUIN)

## United States

Blindness, an adverse effect sometimes observed with prolonged use of halogenated hydroxyquinolines (1), has been reported in the United States over the last 10 months in 4 children who had been treated with Diodoquin\* (diiodohydroxyquin) (2-4). In all cases, optic atrophy occurred after the drug had been used for prolonged periods of time, usually at greater than recommended doses.

To advise physicians and pharmacists of this hazard, the manufacturer of the drug, Searle Laboratories, has revised the prescribing information for Diodoquin. The package insert now contains a box warning of the potential for developing optic atrophy and a warning against the use of the drug for treating nonspecific diarrhea. The recommended dosage for children is 30-40 mg/kg/day for 20 days.

Although Diodoquin has not been approved by the Food and Drug Administration for the treatment of acrodermatitis enteropathica, it is known that the drug has been prescribed for this disease. Several published reports appear

to attest to the efficacy of Diodoquin in controlling this disease (5-6), but the drug has yet to be tested in a controlled clinical trial. Therefore, the risks associated with Diodoquin treatment for acrodermatitis must be weighed critically against the benefits anticipated.

(Reported by Searle Laboratories; the Division of Anti-Infective Drug Products, Bureau of Drugs, Food and Drug Administration; and the Etiologic Studies Section, Cancer and Birth Defects Division, Bureau of Epidemiology, CDC.)

## References

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2. Pittman FE, Westphal M: SMON and inflammation of the colon. *Lancet* 2:566-567, 1973
3. Behrens MM: Optic atrophy in children after diiodohydroxyquin therapy. *JAMA* 228:693, 1974
4. Fleisher DR, Hepler RS, Landau JW: Blindness during diiodohydroxyquin (Diodoquin<sup>R</sup>) therapy: A case report. *Pediatrics* in press
5. Dillaha CJ, Lorincz AL, Aavik OR: Acrodermatitis enteropathica. *JAMA* 152:509-512, 1953
6. Deffner NF, Perry HO: Acrodermatitis enteropathica and failure to thrive. *Arch Dermatol* 108:658-662, 1973

\*Inclusion of trade names does not imply endorsement by the Public Health Service or the U.S. Department of Health, Education, and Welfare.

# Morbidity and Mortality Weekly Report

**TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDING JULY 20, 1974 AND JULY 21, 1973 (29th WEEK)**

AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod- borne and Unspecified		Post In- fectious	Type B	Type A	Type Unspecified		
						1974	1973	1974	1974	1974	1974		
<b>UNITED STATES</b>	<b>83</b>	<b>6</b>	<b>895</b>	<b>6</b>	<b>154</b>	<b>20</b>	<b>34</b>	<b>5</b>	<b>214</b>	<b>824</b>	<b>108</b>	<b>11</b>	<b>100</b>
<b>NEW ENGLAND</b>	<b>2</b>	<b>-</b>	<b>130</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>31</b>	<b>6</b>	<b>-</b>	<b>5</b>
Maine *	-	-	-	-	-	-	-	-	-	1	1	-	-
New Hampshire *	1	-	1	-	-	1	-	-	-	6	-	-	-
Vermont	-	-	2	-	-	-	-	-	-	3	1	-	-
Massachusetts	-	-	-	-	-	1	-	-	4	8	4	-	1
Rhode Island	1	-	44	-	-	-	-	-	-	8	-	-	3
Connecticut	-	-	83	-	-	-	-	-	-	5	-	-	1
<b>MIDDLE ATLANTIC</b>	<b>11</b>	<b>-</b>	<b>269</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>-</b>	<b>42</b>	<b>80</b>	<b>16</b>	<b>3</b>	<b>16</b>
Upstate New York	1	-	186	-	-	-	-	-	9	25	4	1	4
New York City	-	-	79	-	-	-	-	-	10	21	-	1	6
New Jersey	8	-	NN	-	-	3	-	-	9	14	11	-	3
Pennsylvania *	2	-	4	-	1	-	1	-	14	20	1	1	3
<b>EAST NORTH CENTRAL</b>	<b>8</b>	<b>-</b>	<b>325</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>59</b>	<b>176</b>	<b>19</b>	<b>-</b>	<b>9</b>
Ohio	2	-	94	-	1	-	2	-	5	25	-	-	4
Indiana	3	-	13	-	-	-	-	-	1	10	-	-	-
Illinois	1	-	-	-	1	2	1	-	39	64	15	-	2
Michigan	2	-	36	-	-	-	3	2	10	69	4	-	2
Wisconsin *	-	-	182	-	-	-	-	-	4	8	-	-	1
<b>WEST NORTH CENTRAL</b>	<b>4</b>	<b>2</b>	<b>17</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>3</b>	<b>27</b>	<b>10</b>	<b>-</b>	<b>3</b>
Minnesota	-	-	3	-	-	-	-	-	1	8	-	-	1
Iowa *	3	2	10	-	-	-	-	-	1	5	2	-	-
Missouri *	-	-	-	-	-	-	1	-	1	-	4	-	1
North Dakota	1	-	-	-	-	-	-	-	-	-	-	-	-
South Dakota	-	-	-	-	-	-	-	-	-	-	-	-	1
Nebraska	-	-	4	-	-	-	-	-	-	-	-	-	-
Kansas	-	-	-	-	-	-	-	-	-	14	4	-	-
<b>SOUTH ATLANTIC</b>	<b>-</b>	<b>-</b>	<b>83</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>1</b>	<b>10</b>	<b>91</b>	<b>15</b>	<b>-</b>	<b>17</b>
Delaware	-	-	2	-	-	-	-	-	-	-	1	-	-
Maryland	-	-	6	-	-	-	-	-	1	14	-	-	2
District of Columbia	-	-	-	-	-	-	-	-	1	2	-	-	2
Virginia	-	-	4	-	-	-	3	-	4	10	8	-	3
West Virginia	-	-	49	-	-	-	-	-	-	3	-	-	-
North Carolina	-	-	NN	-	1	-	-	-	2	10	1	-	4
South Carolina	-	-	22	-	-	-	2	-	-	5	4	-	-
Georgia	-	-	-	-	-	-	-	-	-	10	-	-	1
Florida	-	-	-	-	-	3	2	1	2	37	1	-	5
<b>EAST SOUTH CENTRAL</b>	<b>6</b>	<b>2</b>	<b>9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>22</b>	<b>76</b>	<b>-</b>	<b>-</b>	<b>3</b>
Kentucky	-	1	7	-	-	-	-	-	2	9	-	-	2
Tennessee	1	-	NN	-	-	-	1	-	8	49	-	-	1
Alabama	5	1	1	-	-	-	-	-	12	11	-	-	-
Mississippi	-	-	1	-	-	-	2	-	-	7	-	-	-
<b>WEST SOUTH CENTRAL</b>	<b>32</b>	<b>1</b>	<b>32</b>	<b>-</b>	<b>9</b>	<b>9</b>	<b>11</b>	<b>-</b>	<b>16</b>	<b>132</b>	<b>9</b>	<b>2</b>	<b>7</b>
Arkansas	1	-	-	-	-	-	2	-	-	9	-	1	1
Louisiana	8	-	NN	-	-	-	1	-	2	9	5	-	1
Oklahoma *	7	-	5	-	-	6	8	-	9	17	4	1	2
Texas	16	1	27	-	9	3	-	-	5	97	-	-	3
<b>MOUNTAIN</b>	<b>-</b>	<b>-</b>	<b>14</b>	<b>1</b>	<b>28</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>9</b>	<b>78</b>	<b>9</b>	<b>-</b>	<b>4</b>
Montana	-	-	4	-	-	-	-	-	-	28	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	4	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	2	-	-	-
Colorado	-	-	2	-	-	-	-	-	3	3	6	-	2
New Mexico	-	-	8	-	10	-	-	-	1	24	-	-	1
Arizona *	-	-	-	1	18	-	-	-	4	10	3	-	-
Utah	-	-	-	-	-	-	-	-	-	2	-	-	-
Nevada	-	-	-	-	-	-	-	-	1	5	-	-	1
<b>PACIFIC</b>	<b>20</b>	<b>1</b>	<b>16</b>	<b>5</b>	<b>113</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>49</b>	<b>133</b>	<b>24</b>	<b>6</b>	<b>36</b>
Washington	-	-	5	5	104	-	1	-	5	17	6	-	-
Oregon	-	-	1	-	-	-	-	1	2	23	4	1	1
California *	17	1	-	-	5	1	4	1	35	84	13	5	35
Alaska	-	-	1	-	4	-	-	-	3	-	-	-	-
Hawaii	3	-	9	-	-	-	-	-	4	9	1	-	-
Guam	-	-	-	-	-	-	-	-	-	-	-	-	2
Puerto Rico	-	-	7	-	-	-	-	-	-	1	3	1	1
Virgin Islands	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Delayed reports: Aseptic Meningitis: Okla. 2  
 Chickenpox: Me. 7, Okla. 3, Calif. 11  
 Encephalitis, primary: Wisc. 1, Mo. delete 2, Okla. 1  
 Hepatitis B: N.H. 1  
 Hepatitis A: Pa. delete 54, Iowa delete 1, Okla 16, Ariz. delete 2  
 Hepatitis, unspecified: Mo. delete 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDING JULY 20, 1974 AND JULY 21, 1973 (29th WEEK) — Continued

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1974	Cumulative		1974	Cumulative		1974	Cum. 1974	1974	1974	Cum. 1974	Cum. 1974
		1974	1973		1974	1973						
UNITED STATES	201	18,836	23,238	21	849	938	525	42,219	44	105	8,978	31
NEW ENGLAND	10	877	7,292	3	46	44	67	5,680	—	8	894	—
Maine	—	39	64	—	2	1	—	770	—	—	242	—
New Hampshire	—	197	854	1	10	6	—	270	—	1	16	—
Vermont	—	57	117	—	1	2	—	28	—	1	18	—
Massachusetts	6	361	3,869	1	13	12	35	925	—	4	316	—
Rhode Island	1	58	600	—	7	3	26	2,291	—	—	18	—
Connecticut	3	165	1,788	1	13	20	6	1,396	—	2	284	—
MIDDLE ATLANTIC	66	7,643	2,255	3	112	126	50	3,351	3	13	985	2
Upstate New York	23	815	748	1	47	45	23	806	3	5	221	1
New York City	19	520	847	1	15	25	14	542	—	5	120	—
New Jersey	15	5,446	364	—	35	28	—	638	—	2	426	1
Pennsylvania	9	862	296	1	15	28	13	1,365	—	1	218	—
EAST NORTH CENTRAL	76	7,323	8,182	2	99	120	163	12,184	1	44	2,965	5
Ohio	2	2,989	278	1	34	52	84	3,033	—	1	480	2
Indiana	1	206	595	—	9	4	9	930	—	5	473	—
Illinois	41	1,834	1,962	—	10	24	17	1,048	1	25	481	2
Michigan	11	1,869	4,259	1	32	35	21	5,270	—	9	1,118	1
Wisconsin	21	425	1,088	—	14	5	32	1,903	—	4	413	—
WEST NORTH CENTRAL	11	673	430	5	70	72	4	2,609	2	2	206	7
Minnesota	1	79	18	—	21	5	—	35	—	1	11	1
Iowa	10	134	276	2	13	17	1	1,609	2	1	15	—
Missouri	—	256	48	—	18	30	—	353	—	—	32	2
North Dakota	—	25	56	1	3	3	2	23	—	—	11	1
South Dakota	—	27	—	—	3	4	—	2	—	—	25	—
Nebraska	—	2	5	2	3	6	1	75	—	—	6	—
Kansas	—	150	27	—	9	7	—	512	—	—	106	3
SOUTH ATLANTIC	9	442	1,162	3	169	157	34	4,976	5	14	967	8
Delaware	—	6	8	—	3	1	3	86	—	—	24	—
Maryland	1	22	9	1	18	22	3	92	—	1	2	—
District of Columbia	—	3	5	—	—	4	—	46	—	—	4	—
Virginia	—	21	409	—	28	28	8	489	1	—	38	3
West Virginia	8	129	186	—	6	4	17	2,839	—	12	156	—
North Carolina	—	4	4	—	37	33	—	NN	3	—	53	—
South Carolina	—	44	55	—	15	10	—	105	1	—	545	1
Georgia	—	4	147	—	7	19	—	—	—	—	2	—
Florida	—	209	339	2	55	36	3	1,319	—	1	143	4
EAST SOUTH CENTRAL	6	179	585	—	92	88	77	5,303	4	1	466	2
Kentucky	4	117	361	—	37	31	12	2,145	1	—	169	—
Tennessee	—	33	165	—	42	35	63	2,313	3	1	226	1
Alabama	2	16	5	—	9	15	1	476	—	—	56	—
Mississippi	—	13	54	—	4	7	1	369	—	—	15	1
WEST SOUTH CENTRAL	3	165	624	1	144	145	72	2,922	7	4	292	2
Arkansas	—	6	69	—	10	13	—	124	—	—	8	—
Louisiana	—	13	84	—	28	28	17	195	4	—	59	1
Oklahoma	—	23	51	1	15	25	6	355	2	—	34	—
Texas	3	123	420	—	91	79	49	2,248	1	4	191	1
MOUNTAIN	1	718	559	—	26	28	11	998	1	7	384	—
Montana	1	372	15	—	1	6	1	168	—	2	65	—
Idaho	—	50	242	—	2	4	1	156	1	—	12	—
Wyoming	—	1	77	—	3	—	—	9	—	—	—	—
Colorado	—	29	98	—	6	7	4	481	—	3	158	—
New Mexico	—	52	111	—	2	3	5	162	—	2	102	—
Arizona	—	12	14	—	5	4	—	—	—	—	—	—
Utah	—	3	1	—	4	2	—	18	—	—	14	—
Nevada	—	199	1	—	3	2	—	4	—	—	33	—
PACIFIC	19	816	2,149	4	91	158	47	4,196	21	12	1,819	5
Washington	—	55	996	1	9	17	2	1,508	—	2	327	—
Oregon	—	—	447	—	9	12	7	730	4	2	192	1
California	16	701	623	3	67	123	36	1,811	17	8	1,286	4
Alaska	—	—	65	—	3	6	—	96	—	—	—	—
Hawaii	3	60	18	—	3	—	2	51	—	—	14	—
Guam	—	11	26	—	1	—	—	329	—	—	5	—
Puerto Rico	19	545	1,692	—	4	7	12	809	1	2	21	3
Virgin Islands	—	22	—	—	—	—	—	30	—	—	—	1

\*Delayed reports: Measles: Mass. delete 3, Wisc. delete 1 Pertussis: Okla. 1  
Meningococcal infections: N.H. 1, Okla. 1 Rubella: N.J. delete 1, Mich. 4, Wisc. 1, Okla. 1  
Mumps: Me. 1, Mo. 1, Okla. 2

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDING JULY 20, 1974 AND JULY 21, 1973 (29th WEEK) - Continued

AREA	TUBERCULOSIS (New Active)		TULA- REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (Rky. Mt. spotted fever)		VENEREAL DISEASES					RABIES IN ANIMALS	
	1974	Cum. 1974	Cum. 1974	1974	Cum. 1974	1974	Cum. 1974	GONORRHEA		SYPHILIS (Pri. & Sec.)		Cum. 1974		
								1974	Cumulative 1973	1974	Cumulative 1973			
UNITED STATES	603	17,171	80	7	204	36	419	18,627	478,970	438,559	477	13,333	13,575	1,540
NEW ENGLAND	12	685	-	-	6	-	4	498	11,407	12,170	10	272	391	10
Maine *	-	56	-	-	-	-	-	44	966	679	-	16	13	1
New Hampshire	-	16	-	-	1	-	-	13	391	410	-	9	4	2
Vermont	1	14	-	-	-	-	-	25	355	184	-	1	13	1
Massachusetts	6	378	-	-	2	-	2	186	4,749	5,882	8	114	197	3
Rhode Island	2	63	-	-	2	-	2	29	1,094	1,250	-	10	10	3
Connecticut	3	158	-	-	1	-	-	201	3,852	3,765	2	122	154	-
MIDDLE ATLANTIC	115	3,036	2	-	30	-	38	2,827	57,875	61,294	90	2,929	3,143	17
Upstate New York	22	421	2	-	6	-	19	760	11,062	11,021	8	288	194	9
New York City	53	1,170	-	-	20	-	-	1,188	25,037	28,744	48	1,683	1,961	-
New Jersey	16	580	-	-	4	-	2	240	7,892	8,650	15	469	562	-
Pennsylvania	24	865	-	-	-	-	17	639	13,884	12,879	19	489	426	8
EAST NORTH CENTRAL	89	2,309	5	2	19	2	8	1,922	68,343	51,228	21	951	755	101
Ohio *	33	643	-	-	5	2	6	618	20,481	16,529	5	155	160	-
Indiana	10	347	-	-	1	-	-	193	7,099	6,091	2	102	174	10
Illinois	23	667	3	-	6	-	2	392	16,307	7,490	3	413	104	22
Michigan	19	602	-	2	6	-	-	461	16,994	15,735	7	226	276	1
Wisconsin	4	50	2	-	1	-	-	258	7,462	5,383	4	55	41	68
WEST NORTH CENTRAL	28	623	15	-	7	-	3	1,016	24,975	24,150	14	332	187	365
Minnesota	4	104	-	-	3	-	-	276	5,656	4,901	2	46	62	145
Iowa	4	66	-	-	1	-	1	32	3,198	3,183	1	20	35	82
Missouri *	10	306	11	-	1	-	2	435	8,145	8,305	9	226	67	22
North Dakota	1	16	2	-	-	-	-	8	372	349	-	3	1	75
South Dakota	2	35	2	-	-	-	-	52	1,198	1,229	-	2	3	-
Nebraska	-	30	-	-	-	-	-	36	2,029	2,458	-	7	3	3
Kansas	7	66	-	-	2	-	-	177	4,377	3,725	2	28	16	38
SOUTH ATLANTIC	165	3,608	8	1	29	26	247	4,856	122,675	110,644	176	4,300	3,918	203
Delaware	5	51	-	-	-	-	3	67	1,655	1,547	2	47	58	1
Maryland	11	474	-	-	2	4	37	545	12,451	9,234	33	440	399	9
District of Columbia	8	224	-	-	1	-	-	360	8,991	8,993	15	361	466	-
Virginia	27	457	3	-	-	10	78	408	10,375	10,835	17	468	387	59
West Virginia	5	170	-	1	8	2	3	73	1,423	1,686	-	9	12	23
North Carolina	23	564	3	-	3	5	60	763	16,017	16,265	7	519	333	18
South Carolina	20	360	-	-	2	1	39	487	13,127	11,765	9	482	584	3
Georgia	30	494	2	-	2	4	25	1,230	25,716	21,609	17	467	647	63
Florida	36	814	-	-	10	-	2	923	32,920	28,710	76	1,507	1,032	27
EAST SOUTH CENTRAL	38	1,525	7	3	26	5	57	1,870	41,413	36,455	30	685	881	160
Kentucky	15	357	1	-	12	3	7	180	5,034	4,497	5	156	328	101
Tennessee	4	494	4	1	10	2	37	710	16,189	13,782	12	271	244	38
Alabama	14	442	2	-	2	-	6	541	11,409	10,184	1	128	100	20
Mississippi *	5	232	-	2	2	-	7	439	8,781	7,992	12	130	209	1
WEST SOUTH CENTRAL	47	2,227	34	-	19	3	54	2,535	66,474	59,970	59	1,292	1,538	391
Arkansas	9	285	21	-	1	-	7	141	6,371	7,122	1	64	89	53
Louisiana	7	259	2	-	7	1	1	555	13,545	12,701	15	371	460	19
Oklahoma *	7	173	9	-	1	2	40	287	5,921	6,106	3	80	102	95
Texas	24	1,510	2	-	10	-	6	1,552	40,637	34,041	40	777	887	224
MOUNTAIN	10	551	5	-	12	-	6	652	18,250	16,016	8	316	432	85
Montana	2	45	-	-	-	-	1	50	1,042	914	-	3	3	1
Idaho	1	22	-	-	-	-	1	35	1,055	969	-	7	7	-
Wyoming	-	12	2	-	3	-	1	10	375	262	-	5	20	6
Colorado	-	103	-	-	-	-	1	170	5,001	4,253	4	74	125	27
New Mexico	-	110	2	-	2	-	1	107	2,689	2,787	-	41	46	25
Arizona	2	201	1	-	6	-	-	194	5,587	4,651	4	123	89	25
Utah	3	23	-	-	-	-	1	12	959	839	-	9	8	1
Nevada	2	35	-	-	1	-	-	74	1,542	1,341	-	54	134	-
PACIFIC	99	2,607	4	1	56	-	2	2,451	67,558	66,632	69	2,256	2,330	208
Washington	9	175	-	-	11	-	-	278	6,310	6,114	-	53	87	-
Oregon	3	107	-	-	-	-	2	174	5,801	5,834	2	47	40	8
California	79	2,080	4	1	44	-	-	1,874	52,488	51,812	67	2,124	2,106	192
Alaska	-	49	-	-	-	-	-	67	1,473	1,631	-	10	45	8
Hawaii	8	196	-	-	1	-	-	58	1,486	1,241	-	22	52	-
Guam	-	24	-	-	-	-	-	-	154	176	-	2	1	-
Puerto Rico	7	304	-	1	3	-	-	46	1,754	2,454	18	491	440	35
Virgin Islands	-	3	-	-	-	-	-	-	165	131	-	20	15	-

\*Delayed reports: Tuberculosis: Ohio delete 2, Miss 10, Okla. 4  
 Tularemia: Mo. 2  
 RMSF: Mo. delete 1, Okla. 7  
 Gonorrhea: Me. 42, Okla. 248  
 Syphilis: Okla. 2  
 Rabies: Okla. 4

Week No.  
29

TABLE IV. DEATHS IN 121 UNITED STATES CITIES FOR WEEK ENDING JULY 20, 1974

(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	45-64 years	25-44 years	Under 1 year			All Ages	65 years and over	45-64 years	25-44 years	Under 1 year	
<b>NEW ENGLAND</b>	680	416	191	31	22	49	<b>SOUTH ATLANTIC</b>	1,177	635	354	99	48	37
Boston, Mass.	210	117	60	15	8	10	Atlanta, Ga.	127	60	41	11	13	3
Bridgeport, Conn.	36	17	16	2	1	6	Baltimore, Md.	235	125	76	20	2	5
Cambridge, Mass.	31	21	6	3	1	9	Charlotte, N. C.	55	26	20	5	2	1
Fall River, Mass.	23	9	12	1	—	—	Jacksonville, Fla.	82	43	23	7	5	—
Hartford, Conn.	54	28	16	2	5	1	Miami, Fla.	151	90	36	16	4	3
Lowell, Mass.	19	10	8	1	—	—	Norfolk, Va.	82	37	28	7	6	7
Lynn, Mass.	22	14	7	—	1	4	Richmond, Va.	102	59	30	6	2	7
New Bedford, Mass.	33	22	9	—	1	2	Savannah, Ga.	42	18	17	3	2	2
New Haven, Conn.	44	26	12	2	2	3	St. Petersburg, Fla.	69	55	14	—	—	4
Providence, R. I.	63	43	15	1	1	7	Tampa, Fla.	76	44	22	6	2	3
Somerville, Mass.	10	6	3	1	—	1	Washington, D. C.	114	56	33	15	8	2
Springfield, Mass.	47	36	9	1	1	3	Wilmington, Del.	42	22	14	3	2	—
Waterbury, Conn.	40	29	9	2	—	—	<b>EAST SOUTH CENTRAL</b>	726	410	208	48	26	25
Worcester, Mass.	48	38	9	—	1	3	Birmingham, Ala.	104	59	29	9	2	4
<b>MIDDLE ATLANTIC</b>	3,365	2,082	847	204	92	99	Chattanooga, Tenn.	54	34	12	2	—	2
Albany, N. Y.	56	33	16	1	3	2	Knoxville, Tenn.	57	37	14	2	2	—
Allentown, Pa.	38	25	8	3	1	1	Louisville, Ky.	125	73	40	6	2	9
Buffalo, N. Y.	141	76	46	7	5	6	Memphis, Tenn.	175	95	53	12	10	2
Camden, N. J.	30	14	10	3	—	—	Mobile, Ala.	56	30	16	2	4	1
Elizabeth, N. J.	36	23	9	3	—	—	Montgomery, Ala.	43	20	12	1	4	2
Erie, Pa.	28	18	9	1	—	1	Nashville, Tenn.	112	62	32	14	2	5
Jersey City, N. J.	61	38	16	2	1	2	<b>WEST SOUTH CENTRAL</b>	1,161	633	310	104	51	45
Newark, N. J.	64	35	12	7	3	6	Austin, Tex.	32	24	5	1	—	1
New York City, N. Y. †	1,756	1,132	397	112	44	49	Baton Rouge, La.	—	—	—	—	—	—
Paterson, N. J.	41	19	15	2	1	1	Corpus Christi, Tex.	42	26	6	2	3	—
Philadelphia, Pa.	494	288	142	37	11	7	Dallas, Tex.	169	79	55	18	7	3
Pittsburgh, Pa.	194	114	57	5	9	7	El Paso, Tex.	53	24	15	5	8	7
Reading, Pa.	43	28	11	2	1	5	Fort Worth, Tex.	79	44	21	6	7	2
Rochester, N. Y.	122	75	27	8	4	3	Houston, Tex.	263	127	81	29	7	5
Schenectady, N. Y.	34	23	6	4	—	3	Little Rock, Ark.	59	29	21	3	5	6
Scranton, Pa.	42	28	9	3	1	—	New Orleans, La.	167	101	44	11	2	5
Syracuse, N. Y.	89	56	23	1	6	1	San Antonio, Tex.	118	67	23	17	4	2
Trenton, N. J.	34	16	16	2	—	2	Shreveport, La.	88	53	24	6	3	6
Utica, N. Y.	26	18	6	—	2	2	Tulsa, Okla.	91	59	15	6	5	8
Yonkers, N. Y.	36	23	12	1	—	1	<b>MOUNTAIN</b>	529	295	142	37	27	23
<b>EAST NORTH CENTRAL</b>	2,418	1,367	659	195	93	60	Albuquerque, N. Mex.	85	40	24	14	2	8
Akron, Ohio	66	41	12	7	—	—	Colorado Springs, Colo.	29	15	12	1	—	3
Canton, Ohio	32	19	9	1	3	2	Denver, Colo.	96	53	21	6	9	5
Chicago, Ill.	663	326	217	68	32	11	Las Vegas, Nev.	19	9	7	1	—	—
Cincinnati, Ohio	122	75	30	9	2	2	Ogden, Utah	28	21	4	1	—	—
Cleveland, Ohio	195	130	41	15	2	3	Phoenix, Ariz.	119	60	38	7	9	—
Columbus, Ohio	136	65	47	11	4	3	Pueblo, Colo.	35	25	8	1	—	5
Dayton, Ohio	84	48	21	7	6	3	Salt Lake City, Utah	59	38	11	2	6	—
Detroit, Mich.	347	178	105	35	9	10	Tucson, Ariz.	59	34	17	4	1	2
Evansville, Ind.	47	31	11	1	3	5	<b>PACIFIC</b>	1,557	943	420	91	39	32
Fort Wayne, Ind.	71	41	13	8	1	3	Berkeley, Calif.	24	17	5	1	—	—
Gary, Ind.	35	16	9	3	1	1	Fresno, Calif.	57	34	12	4	1	—
Grand Rapids, Mich.	64	39	16	4	3	5	Glendale, Calif.	39	27	8	1	1	—
Indianapolis, Ind.	125	67	35	11	9	3	Honolulu, Hawaii *	50	25	15	4	2	1
Madison, Wis.	32	19	6	2	2	1	Long Beach, Calif.	75	43	26	4	1	1
Milwaukee, Wis.	120	79	31	6	3	1	Los Angeles, Calif.	519	318	130	37	11	6
Peoria, Ill.	33	22	8	—	2	—	Oakland, Calif.	69	44	17	4	3	—
Rockford, Ill.	48	32	10	2	3	3	Pasadena, Calif.	27	23	3	—	1	—
South Bend, Ind.	30	21	6	1	2	2	Portland, Oreg.	122	78	34	6	2	3
Toledo, Ohio	114	80	25	2	3	2	Sacramento, Calif.	51	23	19	3	3	1
Youngstown, Ohio	54	38	7	2	3	—	San Diego, Calif.	131	82	36	2	3	3
<b>WEST NORTH CENTRAL</b>	883	554	233	35	26	19	San Francisco, Calif.	131	73	41	12	2	7
Des Moines, Iowa	65	46	12	4	1	—	San Jose, Calif.	60	35	15	3	6	—
Duluth, Minn.	24	14	6	2	—	—	Seattle, Wash.	127	70	43	8	2	5
Kansas City, Kans.	34	18	11	1	3	2	Spokane, Wash.	45	34	8	1	—	2
Kansas City, Mo.	144	95	31	8	8	4	Tacoma, Wash.	30	17	8	1	1	3
Lincoln, Nebr.	23	13	6	2	1	—	<b>Total</b>	12,496	7,335	3,364	844	424	389
Minneapolis, Minn.	124	80	25	9	2	4	<b>Expected Number</b>	11,699	6,753	3,176	805	430	326
Omaha, Nebr.	89	50	26	2	7	—							
St. Louis, Mo.	219	133	74	5	2	5							
St. Paul, Minn.	83	55	24	—	2	1							
Wichita, Kans.	78	50	18	2	—	3							

†Delayed report for week ending July 13, 1974

\*Estimate based on average percent of divisional total

EPIDEMIOLOGIC NOTES AND REPORTS  
 AMPICILLIN-RESISTANT *HEMOPHILUS INFLUENZAE* –  
 Massachusetts, Florida, Nebraska

**Case 1**

In June 1973, a 3-year-old girl developed increased intracranial pressure from a posterior fossa medulloblastoma. In June and again in August, Torkildsen and ventriculo-peritoneal (V-P) shunts were inserted to control the intracranial pressure. She received a full course of central nervous system radiotherapy but no chemotherapy, and in May 1974 she had a normal neurologic examination and a negative lumbar puncture (LP). On June 18, 1974, she developed lethargy and fever and became dehydrated, and on June 21 she was admitted to a Boston hospital.

Physical examination showed a temperature of 40°C, left otitis media, rales in the left hemithorax, a functioning V-P shunt, nuchal rigidity, and stage I coma. Chest X-ray showed a left lingular infiltrate, and an LP demonstrated cerebrospinal fluid (CSF) with 33,000 white blood cells (WBC)/mm<sup>3</sup> (90% polymorphonuclear leukocytes), a glucose of 13 mg%, and a protein of 354 mg%. The child was begun on intravenous ampicillin (400 mg/kg/day).

Cultures of blood and CSF yielded *Hemophilus influenzae*, type b. The child's condition did not improve, and a culture from a V-P shunt aspirate on the second hospital day grew *H. influenzae*, reported to be resistant to ampicillin; she was begun on chloramphenicol intravenously (100 mg/kg/day).

On the third hospital day, coma deepened. An LP produced cloudy fluid with 55,000 WBC/mm<sup>3</sup> (100% polymorphonuclear leukocytes), occasional intracellular bacteria, a CSF glucose of 4 mg%, and a protein of 550 mg%; however, subsequent culture was negative. The malfunctioning Torkildsen shunt was removed, and the child was given intravenous streptomycin (30 mg/kg/day) and sulfisoxazole (150 mg/kg/day) as well as an intrathecal injection of 25 mg of streptomycin. On the morning of the fourth hospital day, June 25, the patient developed a severe lactic acidosis which was unresponsive to bicarbonate infusions. She became progressively worse and died later that day.

By ampicillin disc sensitivity, the *H. influenzae* strain isolated from the child's blood, CSF, and nasopharynx exhibited an 8 mm zone, and tube-dilution studies, carried out in Trypticase Soy Broth enriched with 5% Fildes' peptic digest of blood, indicated a minimum inhibitory concentration (MIC) of 32 µg/ml ampicillin. Tests were performed by the Microbiology Laboratory, New England Medical Center.

**Case 2**

On June 15, 1974, a 7-month-old girl was admitted to a Tallahassee, Florida, hospital after 3 days of fever, runny nose, and lethargy. Physical examination revealed bilateral otitis media, lethargy, and a suggestion of nuchal rigidity. An LP showed 2,136 WBC/mm<sup>3</sup> (93% polymorphonuclear leukocytes), with a sugar of 11 mg% and a protein of 109 mg%. A culture grew *H. influenzae*, type b. The child was treated with ampicillin (350 mg/kg/day) intravenously. A repeat LP after 48 hours of hospitalization had 1,056 WBC/mm<sup>3</sup> (94% polymorphonuclear leukocytes) with a sugar of 0 mg% and a protein of 66 mg%. A culture again grew *H. influenzae*, type b. Treatment was changed to intravenous chloramphenicol

100 mg/kg/day. The patient improved, and an LP on the fifth hospital day contained 90 WBC/mm<sup>3</sup> (12% polymorphonuclear leukocytes), with a glucose of 25 mg% and a protein of 97 mg%. A CSF culture was negative. She continued to improve, and on the fourteenth hospital day an LP showed WBC/mm<sup>3</sup> (all lymphocytes) and a negative culture. The child was discharged on the fifteenth hospital day and has been well.

The CSF isolate tested at CDC was found to have an MIC of 16 µg/ml.

**Case 3**

On May 7, 1974, a 16-month-old girl developed diarrhea and irritability. On May 9, she began having fever, vomiting, and anorexia and subsequently became lethargic. On May 11, she was taken to a hospital in Omaha, Nebraska. Physical examination showed her to be in acute distress with marked lethargy and opisthotonus. She was also noted to have bilateral otitis media. An LP produced cloudy spinal fluid with 5,600 WBC/mm<sup>3</sup>, with a glucose of 6 mg%, and a protein of 100 mg%. A CSF culture grew *H. influenzae*. The child was placed on 400 mg/kg/day of ampicillin intravenously, but failed to improve. An LP on the fifth hospital day showed little change in spinal fluid findings, and *H. influenzae* was again recovered from the spinal fluid. That day she began having generalized seizures and was noted to be poorly responsive to external stimuli. She was begun on chloramphenicol 100 mg/kg/day intravenously, and by the seventh hospital day, her fever had subsided.

On the eighth hospital day, a repeat spinal tap showed 21,000 WBC/mm<sup>3</sup>, with a glucose of 18 mg% and a protein of 100 mg%. The CSF culture was negative. A subsequent LP on the thirteenth hospital day showed 70 WBC/mm<sup>3</sup>, a protein of 60 mg%, and a negative culture. The child was discharged on the twentieth hospital day with a normal LP but with some neurologic deficits including visual defects. She was readmitted on June 7 for evaluation and therapy of subarachnoid adhesions and hydrocephalus.

The isolate obtained on the fifth hospital day was found to have an MIC of 16 µg/ml when tested at CDC.

(Reported by Barry D. Chandler, M.D., Resident in Pediatrics, and Charles A. Ellis, M.D., Director, Bacteriology Laboratory, New England Medical Center Hospital; Nicholas J. Fiumara, M.D., State Epidemiologist, Massachusetts Department of Public Health; Michael Wilhoit, M.D., private pediatrician, Tallahassee, Florida; Chester L. Nayfield, M.D., State Epidemiologist, Florida Division of Health; Phil Gasseling, M.D., Pediatric Resident, University of Nebraska Medical Center; Paul A. Stoesz, M.D., State Epidemiologist, Nebraska State Department of Health; the Antimicrobics Unit, Bureau of Laboratories, CDC; and an EIS Officer.)

**Editorial Note**

A total of 15 cases of disease due to ampicillin-resistant *H. influenzae* have been reported to CDC since February 1974 (MMWR, Vol. 23, No. 11) (Table 2).

## HEMOPHILUS INFLUENZAE – Continued

Table 2  
Ampicillin-Resistant *Hemophilus influenzae* Cases Reported to CDC Since February 1974 – United States

Case No.	Month of Onset	Age (mos.)	City of Residence	Source of Isolate	Ampicillin Treatment Prior to Admission <sup>1</sup>	Disease Manifestation <sup>2,3</sup> M O P E S	Ampicillin MIC (μg/ml) <sup>4</sup>	Ampicillin Disc less than 21 mm <sup>4</sup>	Outcome
1	11/73	18	Pautuxent, Md.	CSF	Yes	++	NA <sup>5</sup>	NA	Lived
2	12/73	18	Pautuxent, Md.	CSF	Yes	++	8	Yes	Died
3	12/73	12	D.C.	CSF	Yes	+ +	NA	NA	Died
4	12/73	4	D.C.	Blood	No	+ +	NA	NA	Lived
5	12/73	4	Atlanta	Ear/Throat	Yes	++	32	Yes	Lived
6	1/74	11	Atlanta	CSF/Blood	Not Admitted	+	8	Yes	Lived
7	2/74	5	Atlanta	Blood	Yes	+ +	32	Yes	Lived
8	2/74	24	Atlanta	Blood	NA	+ +	25	NA	Lived
9	2/74	19	Austin	Blood/Ear	Yes	++++	32	Yes	Lived
10	4/74	4	El Paso	CSF	No	+	16	Yes	Lived
11	4/74	NA	Denver	Blood	NA	+	NA	NA	Lived
12	5/74	9	Tallahassee	CSF	No	+	16	NA	Lived
13	6/74	7	Tallahassee	CSF	No	+	16	NA	Lived
14	6/74	36	Boston	CSF/Blood	No	+ +	32	Yes	Died
15	5/74	16	Omaha	CSF	No	+ +	16	NA	Lived

1. Although 6 patients are known to have been treated with ampicillin prior to admission, all hospitalized cases were treated initially with at least 200 mg/kg/day of ampicillin intravenously. In all cases except case 13 the clinical response to ampicillin was poor.

2. Disease Manifestation: M = meningitis, O = otitis media, P = pneumonia, E = epiglottitis, S = sepsis

3. Eight of 12 patients who were cultured while on therapy had positive CSF or blood cultures for *H. influenzae*, type b.

4. In all cases except case 14 tests were performed at CDC.

5. NA = not available

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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 cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials.

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