



Morbidity and Mortality

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
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EPIDEMIOLOGIC NOTES AND REPORTS STRONGYLOIDIASIS ASSOCIATED WITH MALNUTRITION - Florida

On July 15, 1972, a 3-year-old girl was admitted to a Miami hospital with abdominal pain. Physical examination revealed signs of peritonitis; her height and weight were both less than the third percentile for her age. Laboratory tests showed a white blood cell count of 12,400 with 20% polymorphonuclear leukocytes, 63% bands, 12% lymphocytes, 5% monocytes, no eosinophils, and a hematocrit of 31%. Total serum proteins were 4.4 gms.%; albumin was 1.8 gms.%. An upright abdominal X-ray showed free air under both hemidiaphragms.

Emergency surgery disclosed generalized peritonitis and three perforations in the transverse colon; a colostomy was performed. After surgery, her course was complicated by hyponatremia and pneumonitis. Stool cultures taken post-operatively yielded heavy growth of *Pseudomonas aeruginosa*

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and *Klebsiella*; hookworm, pinworm, and whipworm (*Trichuris trichiura*) were also found. Despite vigorous rehydration and antibiotic therapy, the patient died from a cardiac arrest ten days after admission.

Postmortem examination revealed massive pulmonary hemorrhage, a fatty liver, diffuse inflammation of the intestine, and peritonitis. Larvae compatible with *Strongyloides stercoralis* were identified in sections of lung, liver, heart,

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

DISEASE	33rd WEEK ENDING		MEDIAN 1967-1971	CUMULATIVE, FIRST 33 WEEKS		
	August 19, 1972	August 21, 1971		1972	1971	MEDIAN 1967-1971
Aseptic meningitis	134	264	202	1,737	2,463	1,790
Brucellosis	8	4	5	113	100	132
Chickenpox	360	---	---	113,042	---	---
Diphtheria	1	3	3	63	101	101
Encephalitis, primary:						
Arthropod-borne and unspecified	44	44	44	576	856	817
Encephalitis, post-infectious	4	16	8	194	272	299
Hepatitis, serum (Hepatitis B)	169	150	116	5,839	5,340	3,336
Hepatitis, infectious (Hepatitis A)	916	1,116	948	34,888	38,261	29,446
Malaria	6	37	48	654	2,067	1,735
Measles (rubeola)	132	330	194	26,488	68,201	39,023
Meningococcal infections, total	21	31	29	963	1,684	1,771
Civilian	20	31	26	925	1,496	1,588
Military	1	---	---	38	188	183
Mumps	363	524	---	55,657	97,804	---
Rubella (German measles)	113	197	253	20,239	37,748	42,826
Tetanus	2	3	3	72	66	92
Tuberculosis, new active	791	---	---	21,218	---	---
Tularemia	4	2	3	87	106	106
Typhoid fever	6	6	7	202	193	193
Typhus, tick-borne (Rky. Mt. spotted fever)	25	32	17	351	291	257
Venereal Diseases:†						
Gonorrhea	15,296	14,202	---	454,769	403,841	---
Syphilis, primary and secondary	510	465	---	15,464	14,869	---
Rabies in animals	87	76	62	2,784	2,765	2,327

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	2	Poliomyelitis, total:	9
Botulism:	6	Paralytic:	9
Congenital rubella syndrome:	23	Psittacosis: Kans. - 1	26
Leptosy: * . Tex. - 1	81	Rabies in man:	1
Leptospirosis: Calif. - 1, Fla. - 1	20	Trichinosis: Conn. - 1, N.J. - 1, N.Y.C. - 1	52
Plague:	1	Typhus, murine:	11

*Delayed report: Leptosy: Mich. delete 1

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

STRONGYLOIDIASIS – Continued

skeletal muscle, peripancreatic and adrenal fat, and throughout the intestinal tract. Sections of colon digested with a mixture of pepsin and hydrochloric acid yielded identifiable whole *S. stercoralis* rhabditiform larvae.

Eight household contacts were tested, and four were positive for *S. stercoralis*. A stool survey of 52 neighbors yielded no additional evidence of infection with *Strongyloides*, although five had *G. lamblia*, five had *T. trichiura*, and three had both. One soil sample from a play area near the patient's backyard was positive for *G. lamblia*. Samples from another play area, the backyard, and the kitchen floor were negative.

(Reported by M. N. Schwartzman, M.D., L. Mencia, M.D., S. Smith, M.D., Variety Children's Hospital, Miami, Florida; J. Nitzkin, M.D., Chief, Officer of Consumer Protection, Dade County Department of Public Health; Ralph B. Hogan, M.D., State Epidemiologist, State Board of Health, Jacksonville, Florida; the Protozoology and Helminthology Laboratory, Parasitology Section, Laboratory Division, CDC; and an EIS Officer.)

Editorial Note

S. stercoralis is unique among intestinal helminths because it does not require a free-living or soil phase. The filariform larvae can re-invade the host through the perianal skin. Results of stool surveys in this investigation strongly suggest that transmission occurred in the household unit by fecal contamination, as it does in mental institutions (1). Death from strongyloidiasis is rare and is almost always associated with altered immune states such as malignancy (2), immunosuppressive therapy (3), or malnutrition (4, 5).

References

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PRESUMED VIBRIO PARAHAEMOLYTICUS GASTROENTERITIS – Hawaii

On June 24, 1972, approximately 200 people attended a luau in Honolulu, Hawaii, sponsored by a social club of the Health Department. Within 6 to 50 hours after eating, thirty-eight people had onset of abdominal cramps and diarrhea (Figure 1). The mean incubation period was 18 hours.

Rectal swab specimens from six people were tested, but were negative for salmonella, shigella, or other enteropathogenic coliforms. The specimens were discarded before *Vibrio parahaemolyticus* was considered, and they were not tested on a salt agar.

Epidemiologic investigation revealed no similar illness in the community. Analysis of food histories from 182 people who attended the luau incriminated two foods, raw crabs and raw fish (poki aku) (Table 1). For those who ate the raw crabs, the attack rate was 40.3%; for those who did not eat them, it was 6.6%. For those who ate raw fish, the attack rate was 27.6%; for those who did not eat it, the attack rate

Figure 1
CASES OF GASTROENTERITIS, BY TIME OF ONSET FOLLOWING LUAU – HAWAII, JUNE 1972

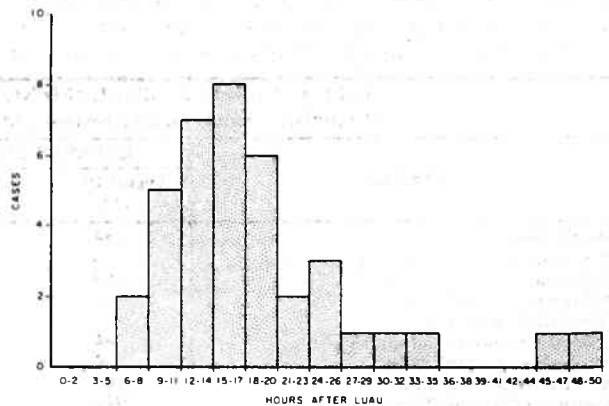


Table 1
Food Specific Attack Rates

	Ate				Did Not Eat			
	Ill	Not Ill	Total	Attack Rate (Percent)	Ill	Not Ill	Total	Attack Rate (Percent)
Kalua Pig	38	137	175	21.7	0	7	7	0
Chicken Long Rice	37	125	162	22.8	1	19	20	5.0
Squid Luau	36	108	144	25.0	2	36	38	5.2
Lomi Salmon	36	119	155	23.2	1	26	27	37.0
Poki Aku (raw fish)	34	89	123	27.6	4	55	59	6.8
Crab	31	46	77	40.3	7	98	105	6.6
Opihi	34	105	139	24.5	4	39	43	9.3
Liver	19	54	73	26.0	19	90	109	17.4
Poi	34	130	164	20.7	4	14	18	22.0
Sweet Potato	34	125	159	21.4	4	19	23	17.4
Haupia	28	110	138	20.3	10	34	44	22.7
Cake	31	121	152	20.4	7	23	30	23.3
Kulolo	30	103	133	22.6	8	41	49	16.3

was 6.8%. Analysis of these attack rates definitely implicated the crabs (Table 2).

Further investigation revealed that the crabs were caught in Kaneohe Bay the day before the luau. They were rinsed, salted, stored overnight at room temperature, and chilled in a freezer a few hours before the luau. The crabs were then briefly refrigerated and served. As is customary, they were eaten raw.

Within 2 weeks after the luau, two different groups of crabs were caught from the same area. They were well-rinsed, homogenized in a blender, and cultured on 3% saline agar. *V. parahaemolyticus* was recovered from all samples tested. (Reported by Mitsuto Sugi, Epidemiologic Specialist, John T. Terredanio, Supervisor, Sanitary Microbiology Section, Ned

Table 2
Attack Rates, by Combinations of
Those Eating and Not Eating Crab and Poki

Crab	Poki	Ill	Well	Total	Attack Rate (Percent)
+	+	29	43	72	40.3
+	0	2	3	5	40.0
0	+	5	46	51	9.8
0	0	2	52	54	3.7

+ = ate 0 = did not eat

H. Wiebenga, M.D., Chief, Epidemiology Branch, and Ira D. Hirschy, M.D., Chief, Communicable Disease Division, Department of Health, State of Hawaii; and an EIS Officer.)

HEPATITIS B ASSOCIATED WITH KONYNE — Massachusetts*

On June 2, 1972, the Division of Communicable Diseases of the Massachusetts Department of Public Health was informed of a high incidence of hepatitis B among 32 patients who underwent open heart surgery at a Boston hospital in January and February. A subsequent investigation in June revealed that seven of the 32 patients had experienced icteric hepatitis with a typical clinical course. Serum from five of these patients was tested for the hepatitis B antigen; four were positive. An eighth patient reported mild fatigue and dark urine and was later found to have marked elevation of liver enzymes. Other anicteric patients were not screened for hepatitis with liver function tests.

Further investigation revealed that excessive operative or post-operative bleeding had occurred among the 32 patients and that large quantities of whole blood, packed cells, single donor fresh-frozen plasma, and platelets had been given. Nine patients also received Konyne, a concentrate of clotting factors II, VII, IX, and X, manufactured from pooled plasma (Table 3). Six of the Konyne recipients had icteric hepatitis (attack rate 67%). A seventh recipient was the individual with apparent anicteric hepatitis. An eighth recipient had a history of drug addiction and may have been immune. Only one of the 23 patients who did not receive Konyne developed icteric hepatitis (attack rate 4%). The Konyne recipients had an average of 26 units of blood products, while the others received an average of 14 units.

(Reported by Nicholas J. Fiumara, M.D., Director, George E. Waterman, M.D., Assistant Director, and Reita Faria, M.D., Epidemiologist, Division of Communicable Diseases, Massachusetts Department of Public Health; and an EIS Officer.)

*During the preparation of this article for inclusion in the MMWR, a similar description of this outbreak was published as a letter to the editor in *The New England Journal of Medicine*, Vol. 287, pp. 358-359, Aug. 17, 1972.

CARBON MONOXIDE POISONING — Minnesota

On Aug. 5, 1972, a woman vacationing with her 41-year-old husband and four children in a cabin near Ely, Minnesota, awoke with a severe headache, dizziness, and nausea. Her twin daughters had similar symptoms; the husband appeared well. When the woman awoke the next morning, she found her husband dead. The family was hospitalized, but one of the twins died 2 days later.

An autopsy on the husband revealed typical gross pathologic findings of carbon monoxide (CO) poisoning. A blood

Table 3
Incidence of Icteric Hepatitis in 32 Post-Open Heart Surgery Patients
Boston, Massachusetts — March-May 1972

	Total Number of Patients	Patients with Icteric Hepatitis	Attack Rate (Percent)
Recipients of Konyne	9	6	67
Non-Recipients of Konyne	23	1	4
All Patients	32	7	22

Editorial Note

Based on the risk of post-transfusion hepatitis in Boston hospitals (0.2 cases per 100 units of blood) (1), the high attack rate for the Konyne-treated patients could not be accounted for by the differences in the amount of blood received. The experience of this Boston hospital emphasizes the high risk of hepatitis after Konyne administration, 40-62% in previous reports (2, 3). Rates of hepatitis tend to be much lower in recipients with chronic clotting factor deficiencies, who are presumably immune due to prior exposure to blood products (4). In all cases the medical indications for use of Konyne should be weighed against the risk of hepatitis.

References

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specimen obtained at postmortem (exposed to air in transit) yielded 55.4% CO. A blood specimen from the wife on admission to the hospital revealed a CO level of 46%.

Epidemiologic investigation revealed that the cabin was a one-room structure, measuring 20 by 30 feet, with a 10-foot roof sloping to 5-foot walls. A gas stove, a wood stove, and a gas refrigerator were in the kitchen area. The refrigerator had no outside venting, and the exhaust flowed directly into a

(Continued on page 288)

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING AUGUST 19, 1972 AND AUGUST 21, 1971 (33rd WEEK)

AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS		
						Primary including unspec. cases		Post In- fectious	Serum (Hepatitis B)	Infectious (Hepatitis A)	
						1972	1971			1972	1972
UNITED STATES	134	8	360	1	63	44	44	4	169	916	1,116
NEW ENGLAND	2	-	37	-	-	2	2	-	5	91	62
Maine *	-	-	-	-	-	-	-	-	-	6	10
New Hampshire	-	-	-	-	-	-	-	-	1	21	4
Vermont	-	-	6	-	-	-	-	-	-	2	3
Massachusetts	1	-	16	-	-	2	2	-	-	35	21
Rhode Island	1	-	7	-	-	-	-	-	1	12	9
Connecticut	-	-	8	-	-	-	-	-	3	15	15
MIDDLE ATLANTIC	12	-	41	-	3	-	3	1	40	126	221
Upstate New York	8	-	-	-	1	-	2	1	7	49	30
New York City	4	-	41	-	2	-	1	-	23	26	30
New Jersey*	-	-	NN	-	-	-	-	-	10	51	66
Pennsylvania *	---	---	---	---	-	---	-	---	---	---	95
EAST NORTH CENTRAL	23	5	143	-	4	18	8	-	30	164	136
Ohio *	7	-	24	-	-	10	6	-	13	52	38
Indiana	-	-	6	-	-	-	1	-	-	14	13
Illinois	3	-	-	-	3	1	-	-	1	32	26
Michigan	13	3	23	-	1	5	1	-	15	63	52
Wisconsin	-	2	90	-	-	2	-	-	1	3	7
WEST NORTH CENTRAL	-	-	19	-	9	-	1	-	2	20	32
Minnesota	-	-	-	-	-	-	-	-	1	2	5
Iowa	-	-	5	-	-	-	-	-	-	2	2
Missouri	-	-	3	-	-	-	-	-	-	8	11
North Dakota	-	-	7	-	-	-	-	-	-	1	2
South Dakota	-	-	-	-	6	-	1	-	-	1	1
Nebraska	-	-	4	-	3	-	-	-	-	-	3
Kansas	-	-	-	-	-	-	-	-	1	6	8
SOUTH ATLANTIC	39	-	62	-	9	18	13	2	32	135	163
Delaware	1	-	-	-	-	1	-	-	1	6	1
Maryland	4	-	25	-	1	1	-	-	5	8	27
District of Columbia	-	-	-	-	-	-	-	-	1	-	1
Virginia	27	-	3	-	-	2	2	-	8	40	29
West Virginia *	-	-	29	-	-	-	-	-	-	10	11
North Carolina	5	-	NN	-	-	-	4	-	3	17	28
South Carolina	2	-	4	-	1	10	4	-	1	7	17
Georgia	-	-	1	-	2	3	-	-	-	20	12
Florida	-	-	-	-	5	1	3	2	13	27	37
EAST SOUTH CENTRAL	8	-	10	-	3	-	7	-	9	49	65
Kentucky *	3	-	10	-	-	-	-	-	5	23	28
Tennessee	2	-	NN	-	-	-	3	-	-	20	27
Alabama	1	-	-	-	3	-	-	-	4	5	7
Mississippi	2	-	-	-	-	-	4	-	-	1	3
WEST SOUTH CENTRAL	10	2	9	1	24	-	3	-	13	71	125
Arkansas	-	-	-	-	-	-	-	-	-	5	8
Louisiana	4	-	NN	-	4	-	1	-	4	7	17
Oklahoma	-	1	3	-	-	-	2	-	1	8	27
Texas	6	1	6	1	20	-	-	-	8	51	73
MOUNTAIN	18	1	23	-	5	2	-	-	5	62	69
Montana	2	-	4	-	-	2	-	-	-	7	4
Idaho	15	1	-	-	2	-	-	-	-	6	3
Wyoming	-	-	-	-	-	-	-	-	-	-	-
Colorado	-	-	3	-	-	-	-	-	4	17	29
New Mexico	1	-	6	-	1	-	-	-	-	6	11
Arizona	-	-	10	-	2	-	-	-	-	8	13
Utah	-	-	-	-	-	-	-	-	1	16	9
Nevada	-	-	-	-	-	-	-	-	-	2	-
PACIFIC	22	-	16	-	6	4	7	1	33	198	243
Washington	1	-	6	-	4	-	-	-	2	9	23
Oregon	1	-	-	-	1	-	-	-	4	28	30
California	19	-	-	-	1	4	7	1	26	146	182
Alaska	1	-	-	-	-	-	-	-	-	3	2
Hawaii	-	-	10	-	-	-	-	-	1	12	6
Guam	-	-	1	-	-	-	---	-	-	-	---
Puerto Rico	1	-	8	-	-	-	-	-	1	18	34
Virgin Islands	-	-	-	-	-	-	-	-	-	-	-

*Delayed reports: Aseptic meningitis: Pa. 2, Ohio delete 1
 Brucellosis: Pa. 1
 Chickenpox: Me. 5, Pa. 2, Ky. 10
 Encephalitis, primary: Pa. 1

Encephalitis, post infectious: Pa. 1
 Hepatitis B: Pa. 16, Ky. 1
 Hepatitis A: Me. 1, N.J. delete 6, Pa. 78
 W. Va. delete 1, Ky. 7

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING AUGUST 19, 1972 AND AUGUST 21, 1971 (33rd WEEK) - Continued

AREA	MALARIA		MEASLES (Rubella)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		RUBELLA	
	1972	Cum. 1972	1972	Cumulative		1972	Cumulative		1972	Cum. 1972	1972	Cum. 1972
				1972	1971		1972	1971				
UNITED STATES	6	654	132	26,488	68,201	21	963	1,684	363	55,657	113	20,239
NEW ENGLAND	-	19	23	3,082	3,411	1	39	74	22	2,351	1	940
Maine *	-	2	1	244	1,460	-	3	8	9	280	-	67
New Hampshire	-	3	-	228	207	-	3	11	-	182	-	32
Vermont	-	1	-	125	116	-	-	-	-	111	-	68
Massachusetts	-	6	19	684	238	-	18	29	3	565	-	434
Rhode Island	-	-	-	519	238	-	10	3	2	371	-	88
Connecticut	-	7	3	1,282	1,152	1	5	23	8	842	1	251
MIDDLE ATLANTIC	-	49	6	963	7,455	-	119	225	30	3,023	1	1,843
Upstate New York	-	10	-	124	634	-	32	63	NN	NN	-	233
New York City	-	7	6	300	3,730	-	36	46	29	1,665	1	206
New Jersey	-	16	-	484	1,187	-	24	51	1	698	-	1,156
Pennsylvania *	---	16	---	55	1,904	---	27	65	---	660	---	248
EAST NORTH CENTRAL	1	69	42	10,897	15,063	2	141	188	91	15,320	28	5,455
Ohio	1	12	1	236	3,974	2	56	57	24	2,157	5	388
Indiana	-	1	3	1,228	2,670	-	11	14	9	987	5	654
Illinois	-	26	22	4,056	2,916	-	30	55	7	2,689	2	1,016
Michigan	-	27	3	1,971	2,249	-	38	51	4	2,665	4	1,253
Wisconsin	-	3	13	3,406	3,254	-	6	11	47	6,822	12	2,144
WEST NORTH CENTRAL	-	43	2	935	6,782	-	68	123	21	8,270	6	1,257
Minnesota	-	6	-	19	52	-	19	21	-	672	-	488
Iowa	-	3	1	651	2,237	-	2	9	3	5,669	-	379
Missouri	-	11	-	162	2,597	-	20	44	10	519	-	109
North Dakota	-	1	1	52	231	-	-	5	8	327	4	26
South Dakota	-	4	-	6	215	-	2	5	-	117	-	12
Nebraska	-	3	-	18	64	-	9	14	-	268	2	52
Kansas	-	15	-	27	1,386	-	16	25	-	698	-	191
SOUTH ATLANTIC	-	99	14	2,110	7,554	7	218	297	54	5,206	5	1,565
Delaware	-	-	-	48	36	-	1	2	2	88	-	7
Maryland	-	8	-	15	537	-	33	44	12	326	-	45
District of Columbia	-	5	-	2	15	-	9	11	-	20	-	6
Virginia	-	4	1	60	1,572	1	48	35	24	1,126	-	70
West Virginia	-	3	5	266	488	-	7	7	5	2,306	2	380
North Carolina	-	36	1	33	1,922	-	27	53	NN	NN	-	28
South Carolina	-	10	-	214	901	-	20	20	8	174	-	50
Georgia	-	22	1	166	335	5	15	23	-	22	1	58
Florida	-	11	6	1,306	1,748	1	58	102	3	1,144	2	921
EAST SOUTH CENTRAL	1	162	-	1,031	8,149	1	77	148	9	2,921	18	1,511
Kentucky	1	143	-	519	3,886	-	25	38	4	457	12	855
Tennessee	-	-	-	191	1,015	-	28	59	5	1,862	5	500
Alabama	-	15	-	140	1,837	1	16	28	-	493	-	44
Mississippi	-	4	-	181	1,411	-	8	23	-	109	1	112
WEST SOUTH CENTRAL	1	71	17	1,436	12,317	4	119	145	32	4,697	7	1,465
Arkansas	-	5	-	13	777	-	9	5	-	160	-	35
Louisiana	-	6	-	82	1,667	-	35	51	5	298	1	88
Oklahoma	-	4	-	10	750	-	6	7	1	156	-	33
Texas	1	56	17	1,331	9,123	4	69	82	26	4,083	6	1,309
MOUNTAIN	-	42	5	1,750	3,180	1	18	54	17	2,864	7	1,064
Montana	-	2	-	15	922	-	2	6	2	174	-	30
Idaho	-	3	-	24	271	1	5	10	-	195	-	25
Wyoming	-	1	-	51	85	-	1	2	-	219	-	8
Colorado	-	27	2	519	821	-	4	7	-	734	-	515
New Mexico	-	1	1	115	341	-	2	4	5	559	1	94
Arizona	-	6	2	871	404	-	1	8	10	800	6	361
Utah	-	2	-	155	329	-	2	14	-	138	-	28
Nevada	-	-	-	-	7	-	1	3	-	45	-	3
PACIFIC	3	100	23	4,284	4,290	5	164	430	87	11,005	40	5,139
Washington	-	-	-	973	981	3	15	24	14	3,570	1	820
Oregon	-	11	14	129	370	-	13	31	10	1,499	-	354
California	3	77	9	3,076	2,518	2	127	368	58	5,574	39	3,895
Alaska	-	3	-	11	54	-	6	-	-	97	-	20
Hawaii	-	9	-	95	367	-	3	7	5	265	-	50
Guam	-	2	-	6	---	-	11	---	-	4	-	8
Puerto Rico *	-	4	20	612	442	-	4	7	15	752	2	23
Virgin Islands	-	-	-	2	17	-	2	-	-	129	-	3

*Delayed reports: Measles: P.R. 7

Mumps: Me. 1, Pa. 13

Meningococcal infections: Pa. 2

Rubella: Pa. 3, P.R. 1

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING AUGUST 19, 1972 AND AUGUST 21, 1971 (33rd WEEK) - Continued

AREA	TETANUS		TB (New Active)		TULAREMIA		TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. spotted fever)		VENEREAL DISEASES		RABIES IN ANIMALS	
	1972	1972	1972	Cum. 1972	1972	Cum. 1972	1972	Cum. 1972	1972	Cum. 1972	GONORRHEA	SYPHILIS (Pri. & Sec.)	1972	Cum. 1972
											1972	1972		
UNITED STATES	2	791	4	87	6	202	25	351	15,296	510	87	2,784		
NEW ENGLAND	-	16	-	-	-	11	-	-	575	7	3	89		
Maine	-	-	-	-	-	-	-	-	18	1	2	69		
New Hampshire	-	-	-	-	-	2	-	-	6	-	-	3		
Vermont	-	-	-	-	-	-	-	-	8	-	1	9		
Massachusetts	-	6	-	-	-	7	-	-	199	2	-	2		
Rhode Island	-	2	-	-	-	-	-	-	53	-	-	2		
Connecticut	-	8	-	-	-	2	-	-	291	4	-	4		
MIDDLE ATLANTIC	-	81	-	1	1	35	-	18	2,359	105	3	67		
Upstate New York	-	24	-	-	1	12	-	5	725	6	3	35		
New York City	-	31	-	-	-	19	-	1	1,226	81	-	-		
New Jersey	-	26	-	1	-	3	-	7	408	18	-	-		
Pennsylvania *	-	-	-	-	-	1	-	5	-	-	-	32		
EAST NORTH CENTRAL	-	157	-	1	2	17	-	19	1,368	21	18	292		
Ohio	-	42	-	1	1	6	-	18	269	7	13	83		
Indiana	-	22	-	-	-	-	-	-	276	5	1	61		
Illinois	-	67	-	-	1	5	-	-	217	2	1	50		
Michigan	-	12	-	-	-	5	-	-	466	7	1	7		
Wisconsin	-	14	-	-	-	1	-	1	140	-	2	91		
WEST NORTH CENTRAL	-	32	1	20	-	5	1	15	897	13	20	763		
Minnesota	-	7	-	-	-	-	-	-	231	8	3	169		
Iowa	-	2	-	-	-	-	-	2	98	3	8	239		
Missouri	-	13	1	15	-	3	-	8	277	1	2	67		
North Dakota	-	1	-	-	-	-	-	-	12	-	3	106		
South Dakota	-	2	-	1	-	-	1	4	25	-	-	76		
Nebraska	-	-	-	1	-	-	-	-	97	-	-	10		
Kansas	-	7	-	3	-	2	-	1	157	1	4	96		
SOUTH ATLANTIC	1	144	1	11	-	23	16	195	3,590	212	12	257		
Delaware	-	-	-	-	-	-	-	1	22	-	-	-		
Maryland	-	24	-	1	-	6	1	26	251	18	-	11		
District of Columbia	-	8	-	-	-	2	-	1	291	16	-	-		
Virginia	-	16	1	8	-	7	5	46	479	39	7	73		
West Virginia *	-	2	-	-	-	1	-	3	51	1	2	49		
North Carolina *	-	25	-	-	-	-	8	86	388	9	-	1		
South Carolina	-	2	-	-	-	-	1	14	131	18	-	10		
Georgia	1	20	-	1	-	1	-	17	1,284	78	2	64		
Florida	-	47	-	1	-	6	1	1	693	33	1	49		
EAST SOUTH CENTRAL	-	57	-	5	1	24	5	59	1,078	29	10	509		
Kentucky *	-	11	-	-	1	6	-	3	232	11	2	197		
Tennessee	-	19	-	4	-	8	4	40	482	5	8	263		
Alabama	-	22	-	1	-	5	1	5	59	6	-	48		
Mississippi	-	5	-	-	-	5	-	11	305	7	-	1		
WEST SOUTH CENTRAL	1	200	1	38	-	26	1	38	2,141	51	7	564		
Arkansas	-	7	-	23	-	9	1	5	202	4	-	79		
Louisiana *	-	38	1	3	-	5	-	-	376	6	4	31		
Oklahoma	-	8	-	8	-	1	-	27	210	4	1	228		
Texas	1	147	-	4	-	11	-	6	1,353	37	2	226		
MOUNTAIN	-	20	-	8	-	5	2	6	646	5	1	62		
Montana	-	2	-	-	-	-	1	2	50	-	-	6		
Idaho	-	-	-	-	-	-	-	3	68	-	-	-		
Wyoming	-	-	-	-	-	-	-	-	9	-	-	1		
Colorado	-	11	-	1	-	-	-	-	170	1	-	-		
New Mexico	-	-	-	-	-	1	-	-	124	2	-	15		
Arizona *	-	7	-	2	-	2	-	-	108	2	-	37		
Utah	-	-	-	5	-	2	1	1	49	-	1	2		
Nevada	-	-	-	-	-	-	-	-	68	-	-	1		
PACIFIC	-	84	1	3	2	56	-	1	2,642	67	13	181		
Washington	-	14	-	-	-	2	-	1	231	-	-	-		
Oregon	-	5	-	1	-	-	-	-	269	3	1	2		
California	-	63	1	1	2	51	-	-	2,040	63	12	172		
Alaska	-	-	-	1	-	-	-	-	68	1	-	7		
Hawaii	-	2	-	-	-	3	-	-	34	-	-	-		
Guam	-	5	-	-	-	-	-	-	2	-	-	-		
Puerto Rico	-	10	-	-	-	5	-	-	35	19	-	36		
Virgin Islands	-	-	-	-	-	-	-	-	2	3	-	-		

*Delayed reports: Tuberculosis: N.C. delete 2, Ky. 8, La. 1, Ariz. delete 1
 RMSF: Ky. 2
 Gonorrhoea: Pa. 1,458, Ky. 130, La. delete 9

Syphilis: Ky. 27
 Rabies in animals: Pa. 3, W. Va. 1, Ky. 5

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TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDING AUGUST 19, 1972

Week No.
33

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

Area	All Causes			Pneumonia and Influenza All Ages	Area	All Causes			Pneumonia and Influenza All Ages
	All Ages	65 years and over	Under 1 year			All Ages	65 years and over	Under 1 year	
NEW ENGLAND	747	424	25	35	SOUTH ATLANTIC	1,134	579	35	53
Boston, Mass.	217	113	7	11	Atlanta, Ga.	104	46	2	4
Bridgeport, Conn.	30	14	3	4	Baltimore, Md.	226	106	9	—
Cambridge, Mass.	35	25	—	6	Charlotte, N. C.	63	27	2	—
Fall River, Mass.	31	16	—	—	Jacksonville, Fla.	36	20	1	—
Hartford, Conn.	90	51	3	—	Miami, Fla.	110	60	3	5
Lowell, Mass.	22	12	1	3	Norfolk, Va.	63	30	1	7
Lynn, Mass.	26	20	—	—	Richmond, Va.	101	52	—	8
New Bedford, Mass.	28	18	1	3	Savannah, Ga.	36	14	6	7
New Haven, Conn.	69	33	4	1	St. Petersburg, Fla.	89	73	1	9
Providence, R. I.	50	33	1	3	Tampa, Fla.	79	42	2	7
Somerville, Mass.	11	8	—	—	Washington, D. C.	175	82	3	3
Springfield, Mass.	47	30	4	3	Wilmington, Del.	52	27	5	3
Waterbury, Conn.	31	24	—	—	EAST SOUTH CENTRAL	670	363	37	20
Worcester, Mass.	60	27	1	1	Birmingham, Ala.	118	60	6	1
MIDDLE ATLANTIC	2,965	1,784	77	107	Chattanooga, Tenn.	64	40	3	6
Albany, N. Y.	38	22	3	—	Knoxville, Tenn.	43	26	—	2
Allentown, Pa. **	33	22	1	2	Louisville, Ky.	107	58	7	1
Buffalo, N. Y.	130	78	5	2	Memphis, Tenn.	133	73	9	2
Camden, N. J.	40	21	2	4	Mobile, Ala.	67	40	1	1
Elizabeth, N. J.	30	17	—	2	Montgomery, Ala.	39	22	1	4
Erie, Pa.	39	24	—	2	Nashville, Tenn.	99	44	10	3
Jersey City, N. J.	79	58	5	—	WEST SOUTH CENTRAL	1,245	622	57	35
Newark, N. J.	61	27	3	—	Austin, Tex.	39	24	1	1
New York City, N. Y. **	1,494	904	34	52	Baton Rouge, La.	49	23	3	2
Paterson, N. J.	46	30	2	5	Corpus Christi, Tex.	29	19	1	—
Philadelphia, Pa.	410	233	10	4	Dallas, Tex.	144	64	15	2
Pittsburgh, Pa.	191	99	4	13	El Paso, Tex.	51	23	3	1
Reading, Pa.	32	20	—	1	Fort Worth, Tex.	72	43	3	1
Rochester, N. Y.	104	71	2	6	Houston, Tex.	251	114	2	5
Schenectady, N. Y.	27	19	—	1	Little Rock, Ark.	70	29	9	6
Scranton, Pa.	25	19	—	1	New Orleans, La.	192	101	10	1
Syracuse, N. Y.	75	45	2	—	Oklahoma City, Okla.**	88	48	4	2
Trenton, N. J.	42	24	2	1	San Antonio, Tex.	125	64	3	3
Utica, N. Y.	25	20	1	6	Shreveport, La.	80	37	3	4
Yonkers, N. Y.	44	31	1	5	Tulsa, Okla.	55	33	—	7
EAST NORTH CENTRAL	2,451	1,358	166	60	MOUNTAIN	508	288	23	14
Akron, Ohio	55	35	2	—	Albuquerque, N. Mex.	45	17	1	5
Canton, Ohio	25	19	—	—	Colorado Springs, Colo.	31	21	1	3
Chicago, Ill.	649	353	40	14	Denver, Colo.	149	85	8	1
Cincinnati, Ohio	164	91	18	3	Ogden, Utah	22	13	—	—
Cleveland, Ohio	189	101	17	5	Phoenix, Ariz.	116	65	7	—
Columbus, Ohio	136	76	10	6	Pueblo, Colo.	27	18	—	3
Dayton, Ohio	92	46	1	2	Salt Lake City, Utah	53	30	5	—
Detroit, Mich.	291	155	14	6	Tucson, Ariz.	65	39	1	2
Evansville, Ind.	43	30	1	4	PACIFIC	1,675	1,018	55	35
Flint, Mich. **	49	26	5	1	Berkeley, Calif.	25	15	—	—
Fort Wayne, Ind.	43	24	1	5	Fresno, Calif.	47	26	4	1
Gary, Ind.	30	13	2	2	Glendale, Calif.	31	25	—	1
Grand Rapids, Mich.	39	22	2	4	Honolulu, Hawaii	41	17	1	1
Indianapolis, Ind.	178	100	8	—	Long Beach, Calif.	102	60	5	3
Madison, Wis.	20	12	—	2	Los Angeles, Calif.	529	321	19	11
Milwaukee, Wis.	143	76	27	2	Oakland, Calif.	71	53	4	2
Peoria, Ill.	53	23	7	—	Pasadena, Calif.	23	18	—	—
Rockford, Ill.	50	31	5	1	Portland, Oreg.	151	104	6	4
South Bend, Ind.	39	30	2	1	Sacramento, Calif.	57	35	—	1
Toledo, Ohio	102	66	2	2	San Diego, Calif.	122	63	8	3
Youngstown, Ohio	61	29	2	—	San Francisco, Calif.	176	106	2	1
WEST NORTH CENTRAL	774	488	36	5	San Jose, Calif.	39	22	—	1
Des Moines, Iowa	47	33	3	—	Seattle, Wash.	161	95	2	2
Duluth, Minn.	18	14	—	—	Spokane, Wash.	58	36	2	3
Kansas City, Kans.	39	14	5	1	Tacoma, Wash.	42	22	2	1
Kansas City, Mo.	103	66	6	1	Total	12,169	6,924	511	364
Lincoln, Nebr.	28	17	1	—	Expected Number	12,171	6,832	569	408
Minneapolis, Minn.	115	74	4	1	Cumulative Total (includes reported corrections for previous weeks)	424,245	247,407	16,691	17,249
Omaha, Nebr.	80	51	4	—					
St. Louis, Mo.	211	136	6	—					
St. Paul, Minn.	50	33	1	—					
Wichita, Kans.	83	50	6	2					
Las Vegas, Nev.*	17	9	—	—					

*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.

**Estimate based on average percent of divisional total

CARBON MONOXIDE – Continued

loft. The wife had slept in a closet-like area with the doors closed, the husband had slept on the ground floor, and the children had slept in the loft. All windows and doors had been closed because of the unseasonably cold weather. During investigation, an air sample was taken with doors and windows closed to simulate conditions of August 5. Two hours after the refrigerator had been turned on, the CO level in the cabin was 66 ppm. Toxicity due to CO is related to both time of exposure and concentration. A concentration of 50 ppm is considered to be the threshold limit of toxicity for 8-hour exposure of healthy adult workers by the American Conference of Governmental Industrial Hygienists (ACGIH) (1). The U.S. Environmental Protection Agency (EPA) has

set maximum allowable concentrations of CO for the general population at 9 ppm for 8-hour exposure and 35 ppm for 1-hour exposure (2).

(Reported by Karl L. Helwig, Jr., M.D., private pathologist, Virginia, Minnesota; Edgar H. Brown, Hotels, Resorts, and Restaurants Section, Duluth, and D. S. Fleming, M.D., Director, Division of Disease Prevention and Control, Minnesota Department of Health; and an EIS Officer.)

References

1. American Conference of Governmental Industrial Hygienists: Threshold Limit Values of Airborne Contaminants Adopted by the ACGIH for 1971. Cincinnati, 1971, p 54
2. Environmental Protection Agency: National Primary and Secondary Ambient Air Quality Standards. Federal Register 36:8186-8201, April 30, 1971

INTERNATIONAL NOTES
JUNGLE YELLOW FEVER – Venezuela

Between June 3, and July 7, 1972, ten deaths due to jungle yellow fever occurred in Venezuela. Five were in the state of Barinas, and five were in Portuguesa (Figure 2). Six additional deaths suspected of yellow fever are under investigation.

Nine of the ten deaths were males; one was a female. Ages ranged from 11 to 40 years; six were 20 to 29 years old. No cases of jungle yellow fever have been reported in Venezuela since 1966 when five cases occurred in the state of Anzoategui.

(Reported by the Pan American Health Organization: Weekly Epidemiological Report, Vol. 44, No. 30, July 26, 1972.)



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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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