

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Epidemiologic Notes and Reports

Probable Viral Gastroenteritis — Colorado

An outbreak of probable waterborne viral gastroenteritis occurred during the week before Christmas among vacationers at a winter resort near Granby, Colorado. Over 700 persons were registered at the camp during the outbreak. Of 208 surveyed thus far, 53% reported symptoms of nausea, vomiting, or diarrhea. Secondary transmission appears to have occurred.

Most visitors left the camp on December 22 or 23 aboard charter buses with final destinations in Arkansas, Colorado, Mississippi, Missouri, Nebraska, and Texas. Explosive diarrhea and vomiting aboard the buses caused some groups to seek medical attention in hospital emergency rooms along the way. One group from Jackson, Mississippi, stopped in Dallas, Texas, where 60 members were seen in a single emergency room within several hours. A Beaumont, Texas, group stopped in a Denver, Colorado, hospital with approximately half its members ill with gastroenteritis. Six of the emergency room nurses caring for this group developed similar symptoms within 24 hours.

The only complete data gathered to date have been obtained from a questionnaire survey of camp personnel to which over 90% responded. The attack rate among them was 51%, with a sharp peak in the number of cases on December 23 (Figure 1). No significant differences were found

between males and females. Meals consumed in the 3-camp dining rooms, serviced by a central kitchen, could not be implicated. The most common symptoms were vomiting (77%) and diarrhea (66%). Nausea without vomiting occurred in 14% (Table 1). There was no mortality. The secondary attack rate among family members of camp staff appeared to be greater than 25%. Numerous stool specimens were negative for common bacterial enteric pathogens.

Because of the widespread nature of the epidemic in the 2,500-acre camp, the occurrence of most cases over a 48-hour period, and the lack of correlation with food consumption, waterborne disease was considered. The camp is supplied with water by a natural spring in a meadow at low elevation. Water is pumped from the spring upward to the camp, and finally to a reservoir which is at still higher elevation. During heavy usage periods, the reservoir is capable of supplying water to 30 cabins by gravity. The pump house over the spring is located at the base of a small hill on top of which is located a private cabin with an attached septic tank, installed in 1959. Interviews with maintenance personnel revealed that on December 22 they discovered malfunctioning of the chlorinator and subsequently turned it off for several hours while making repairs.

On January 6 a survey of 100 guests at the camp revealed an incidence of gastroenteritis of 14% over the preceding 4-day period. Fluorescein dye flushed into the cabin sewage system rapidly appeared in the spring and in the camp tap water. The septic tank, covered by 2 feet of soil and set in fractured shale and decomposed granite, was sub-

FIGURE 1. Probable viral gastroenteritis, Colorado, December 1976

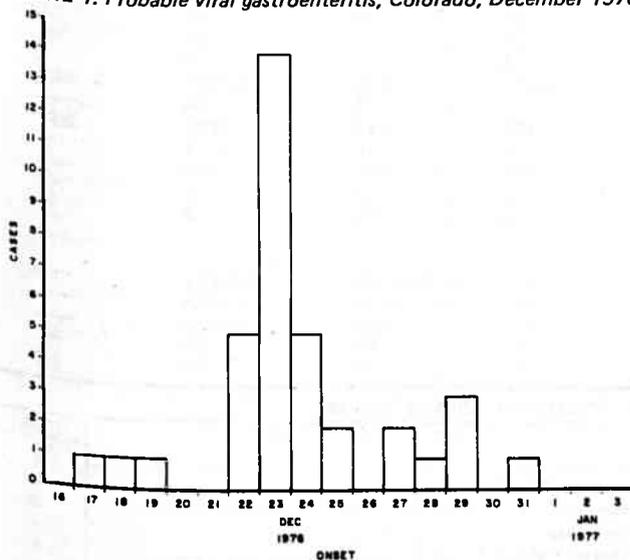


TABLE 1. Clinical symptoms in 36 camp staff with gastroenteritis

SYMPTOMS	% ILL
Vomiting	77
Diarrhea	66
Muscle Aches	49
Headache	43
Dizziness	40
Abdominal Cramps	37
Fever	34
Chills	31
Nausea Without Vomiting	14
Bloody Diarrhea	0

Gastroenteritis — Continued

sequently unearthed, and a 3" x 4" hole was found in the leaching pipe several feet from its exit from the tank and directly above the pump house, at a distance of about 50 feet.

On the next day it was recommended that the camp's main water system (derived from the spring) be shut off and an auxiliary well chlorinated to provide potable water to the core buildings. All of the outlying cabins were closed. The septic tank was removed and daily monitoring of coliform count and chlorine residual was instituted.

The investigation is continuing to characterize the disease among visitors and to determine the extent of secondary transmission. Viral laboratory studies are also pending.

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Editorial Note: Investigation of waterborne outbreaks of gastroenteritis often does not reveal an etiologic agent. From 1961 through 1972, gastroenteritis unassociated with known pathogens accounted for 45% of 49 municipal waterborne outbreaks investigated by CDC. The 1968 outbreak of gastroenteritis in Norwalk, Ohio, was theorized on epidemiologic grounds to be waterborne (7). In 1971 the causative agent, a parvovirus, was identified by electron microscopy after transmission to volunteers. However, waterborne viral gastroenteritis has not been documented by recovery of virus from primary cases or from water.

Reference

1. Adler JL, Zickl R: Winter vomiting disease. *J Infect Dis* 119: 668-673, 1969

Follow-up on *Salmonella bovis-morbificans* — Pennsylvania

Three more isolates of *Salmonella bovis-morbificans* have been reported to the Pennsylvania Department of Health, bringing to 15 the total number of isolates of this rare serotype in that state in recent months. As in the earlier 12 cases (MMWR 25[42]), the disease appears to have been transmitted by precooked roasts of beef. To date, the mechanism of contamination in this outbreak has not been determined.

Two of the 3 isolates in the recent incident were from a party of 6 who had eaten lunch on October 6, 1976, at a Lebanon County sandwich shop. Five of the 6 became ill after eating submarine sandwiches made with roast beef; the person who remained well did not eat roast beef. *S. bovis-morbificans* was isolated from 1 patient, *S. typhimurium* from another, and both *S. bovis-morbificans* and *S. typhimurium* in a third case.

(Continued on page 19)

Table I. Summary—Cases of Specified Notifiable Diseases: United States

[Cumulative totals include revised and delayed reports through previous weeks]

DISEASE	2nd WEEK ENDING		MEDIAN 1972-1976	CUMULATIVE, FIRST 2 WEEKS		
	January 15, 1977	January 17, 1976		January 15, 1977	January 17, 1976	MEDIAN 1972-1976
Aseptic meningitis	41	43	40	86	88	73
Brucellosis	3	3	1	6	4	3
Chickenpox	4,291	4,694	---	7,249	7,937	---
Diphtheria	—	8	4	—	25	4
Encephalitis	Primary	7	21	18	27	26
	Post-Infectious	1	6	2	2	4
Hepatitis, Viral	Type B	222	231	164	484	321
	Type A	567	638	704	1,056	1,198
	Type unspecified	161	170	---	281	311
Malaria	3	5	5	6	13	7
Measles (rubeola)	831	344	380	1,787	631	631
Meningococcal infections, total	Civilian	39	27	27	70	51
	Military	—	—	1	—	—
		39	27	26	70	57
Mumps	464	1,131	1,334	830	1,975	2,417
Pertussis	22	28	---	30	56	---
Rubella (German measles)	228	142	158	332	271	290
Tetanus	—	1	—	1	1	1
Tuberculosis	399	529	---	604	950	---
Tularemia	2	3	2	3	6	4
Typhoid fever	10	2	2	11	8	8
Typhus, tick-borne (Rky. Mt. spotted fever)	2	—	2	5	—	4
Venereal Diseases:						
Gonorrhea	Civilian	18,556	18,749	---	36,096	38,871
	Military	583	613	---	1,040	1,026
Syphilis, primary and secondary	Civilian	398	573	---	801	1,036
	Military	1	10	---	11	13
Rabies in animals	39	15	42	82	47	82

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	—	Poliomyelitis, total:	1
Botulism:	—	Paralytic: Minn. 1	1
Congenital rubella syndrome:	—	Psittacosis:	2
Leprosy: N.J. 1, Calif. 4	5	Rabies in man:	—
Leptospirosis: Hawaii 1	1	Trichinosis: * Calif. 1	4
Plague:	—	Typhus, murine:	—

* Delayed reports: Botulism: Alaska delete 2 (1976); Trichinosis: Pa. 1 (1976)

Table III
Cases of Specified Notifiable Diseases: United States
Weeks Ending January 15, 1977 and January 17, 1976 - 2nd Week

AREA REPORTING	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		
						1977	1976	1977	1977	1977	1977		
UNITED STATES	41	3	4,291	-	-	7	21	1	222	567	161	3	6
NEW ENGLAND	-	-	531	-	-	-	-	-	3	5	10	-	-
Maine	-	-	54	-	-	-	-	-	-	-	-	-	-
New Hampshire *	-	-	5	-	-	-	-	-	-	1	-	-	-
Vermont	-	-	10	-	-	-	-	-	-	-	-	-	-
Massachusetts	-	-	197	-	-	-	-	-	-	2	5	-	-
Rhode Island	-	-	141	-	-	-	-	-	-	-	-	-	-
Connecticut	-	-	124	-	-	-	-	-	3	2	5	-	-
MIDDLE ATLANTIC	14	-	303	-	-	1	2	-	28	29	8	2	4
Upstate New York	3	-	222	-	-	-	1	-	12	15	1	1	2
New York City	5	-	78	-	-	1	-	-	16	14	7	1	2
New Jersey	6	-	NN	-	-	-	1	-	-	-	-	-	-
Pennsylvania *	-	-	3	-	-	-	-	-	-	-	-	-	-
EAST NORTH CENTRAL	6	-	1,643	-	-	4	10	-	43	86	16	-	-
Ohio	2	-	130	-	-	2	7	-	15	29	-	-	-
Indiana	-	-	252	-	-	-	-	-	1	3	2	-	-
Illinois	-	-	204	-	-	-	-	-	15	4	3	-	-
Michigan	4	-	429	-	-	2	3	-	12	50	11	-	-
Wisconsin	-	-	628	-	-	-	-	-	-	-	-	-	-
WEST NORTH CENTRAL	1	1	700	-	-	-	-	-	18	63	3	-	-
Minnesota	-	-	-	-	-	-	-	-	8	24	-	-	-
Iowa	-	-	493	-	-	-	-	-	2	1	-	-	-
Missouri *	1	-	32	-	-	-	-	-	4	35	3	-	-
North Dakota *	-	-	58	-	-	-	-	-	-	2	-	-	-
South Dakota	-	-	108	-	-	-	-	-	-	-	-	-	-
Nebraska *	-	-	9	-	-	-	-	-	1	-	-	-	-
Kansas	-	1	-	-	-	-	-	-	3	1	-	-	-
SOUTH ATLANTIC	1	-	236	-	-	2	2	-	24	76	19	-	1
Delaware	-	-	14	-	-	-	-	-	-	-	-	-	-
Maryland	-	-	22	-	-	-	2	-	4	5	6	-	-
District of Columbia	-	-	3	-	-	1	-	-	1	2	-	-	-
Virginia	1	-	24	-	-	-	-	-	-	5	1	-	1
West Virginia	-	-	121	-	-	-	-	-	1	1	-	-	-
North Carolina	-	-	NN	-	-	1	-	-	6	9	3	-	-
South Carolina	-	-	22	-	-	-	-	-	-	6	3	-	-
Georgia	-	-	-	-	-	-	-	-	-	33	-	-	-
Florida *	-	-	30	-	-	-	-	-	12	15	6	-	-
EAST SOUTH CENTRAL	3	1	26	-	-	-	1	1	16	17	3	-	-
Kentucky *	-	-	26	-	-	-	1	-	-	-	-	-	-
Tennessee	3	1	NN	-	-	-	-	1	16	17	3	-	-
Alabama	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
Mississippi	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
WEST SOUTH CENTRAL	1	-	220	-	-	-	1	-	15	57	41	-	-
Arkansas *	-	-	-	-	-	-	-	-	-	1	2	-	-
Louisiana	-	-	NN	-	-	-	-	-	3	11	3	-	-
Oklahoma *	-	-	45	-	-	-	-	-	2	12	3	-	-
Texas *	1	-	175	-	-	-	1	-	10	33	33	-	-
MOUNTAIN	-	-	228	-	-	-	1	-	8	70	11	1	1
Montana	-	-	7	-	-	-	-	-	-	5	1	-	-
Idaho	-	-	16	-	-	-	-	-	-	3	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	-	-	-	-
Colorado	-	-	80	-	-	-	-	-	2	5	7	-	-
New Mexico	-	-	-	-	-	-	1	-	-	25	-	-	-
Arizona	-	-	NN	-	-	-	-	-	6	28	1	1	1
Utah	-	-	84	-	-	-	-	-	-	4	2	-	-
Nevada	-	-	41	-	-	-	-	-	-	-	-	-	-
PACIFIC	15	1	404	-	-	-	4	-	67	164	50	-	-
Washington	-	-	368	-	-	-	1	-	2	15	3	-	-
Oregon	-	-	3	-	-	-	1	-	5	16	2	-	-
California *	14	1	-	-	-	-	2	-	59	98	45	-	-
Alaska	-	-	1	-	-	-	-	-	1	35	-	-	-
Hawaii	1	-	32	-	-	-	-	-	-	-	-	-	-
Guam	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
Puerto Rico	-	-	9	-	-	1	-	-	-	1	-	-	-
Virgin Islands	-	-	-	-	-	-	-	-	-	-	-	-	-

NA: Not available
 NN: Not notifiable
 * Delayed reports: Asep. meng.: Conn. add 2, Pa. add 4 (1976); Mo. add 1, Ky. add 3 (1977); Chickenpox: N. Hamp. add 3, Pa. add 4, Ark. add 4, Okla. add 30 (1976); N. Hamp. add 11, Ky. add 5, Calif. add 1 (1977); Enceph.: Pa. add 1 (1976), Ky. add 2 (1977); Enceph. post. other: N. Hamp. add 1 (1976); Hep. B.: Pa. add 25, Ark. add 2 (1976); Hep. A: Pa. add 21, N. Dak. delete 1, Ark. add 4 (1976), Fla. add 1, Tex. delete 3 (1977); Hep. unsp. Pa. add 1, Neb. add 1, Ark. add 2, Okla. add 1 (1976)

Table III-Continued
 Cases of Specified Notifiable Diseases: United States
 Weeks Ending January 15, 1977 and January 17, 1976 - 2nd Week

REPORTING AREA	MEASLES (Rubella)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1977	CUMULATIVE		1977	CUMULATIVE		1977	CUM. 1977	1977	1977	CUM. 1977	CUM. 1977
		1977	1978		1977	1978						
UNITED STATES	831	1,787	631	39	70	57	464	830	22	228	332	1
NEW ENGLAND	12	22	3	2	2	6	31	44	-	16	19	-
Maine	-	-	-	-	-	-	-	-	-	-	-	-
New Hampshire	-	-	-	-	-	-	1	1	-	-	-	-
Vermont*	11	21	-	-	-	-	-	-	-	-	-	-
Massachusetts	-	-	-	-	-	3	1	1	-	7	9	-
Rhode Island	-	-	2	-	-	-	5	7	-	6	6	-
Connecticut	1	1	1	2	2	3	24	35	-	3	4	-
MIDDLE ATLANTIC	177	349	50	10	15	5	41	62	7	55	57	-
Upstate New York	15	17	26	3	5	2	15	15	5	2	2	-
New York City	2	4	2	2	3	2	20	26	2	2	3	-
New Jersey	-	7	6	4	6	-	2	15	-	44	44	-
Pennsylvania*	160	321	16	1	1	1	4	6	-	7	8	-
EAST NORTH CENTRAL	309	578	216	4	10	5	136	231	2	88	141	-
Ohio	15	27	1	1	7	1	36	61	2	34	36	-
Indiana	161	306	54	-	-	-	11	17	-	34	66	-
Illinois	20	32	7	1	1	-	10	16	-	4	5	-
Michigan	14	48	22	2	2	3	21	56	-	9	21	-
Wisconsin	99	165	132	-	-	1	58	81	-	7	13	-
WEST NORTH CENTRAL	117	518	16	-	2	3	118	227	1	9	23	1
Minnesota	7	7	-	-	-	2	-	-	-	-	1	-
Iowa	48	383	2	-	-	-	94	188	-	8	8	-
Missouri*	2	2	-	-	1	-	12	20	-	1	3	1
North Dakota	2	2	1	-	-	-	1	2	-	-	-	-
South Dakota	-	-	-	-	-	-	-	-	-	-	-	-
Nebraska	-	-	12	-	-	-	-	-	-	-	-	-
Kansas	58	124	1	-	1	1	11	17	1	-	11	-
SOUTH ATLANTIC	7	16	75	6	14	12	25	39	2	4	4	-
Delaware	-	1	-	1	1	-	5	8	-	-	-	-
Maryland	-	-	-	-	1	1	1	2	-	-	-	-
District of Columbia	-	-	-	-	-	-	1	2	1	-	-	-
Virginia*	5	8	-	-	-	-	5	6	-	-	-	-
West Virginia	2	7	25	-	2	-	3	11	-	2	2	-
North Carolina*	-	-	-	1	2	2	3	3	-	1	1	-
South Carolina	-	-	-	2	3	1	-	-	1	1	1	-
Georgia	-	-	-	-	-	-	1	1	-	-	-	-
Florida	-	-	50	2	5	8	6	6	-	-	-	-
EAST SOUTH CENTRAL	23	34	53	1	2	3	14	65	-	22	38	-
Kentucky*	3	3	53	-	-	1	1	1	-	2	2	-
Tennessee*	20	31	-	1	1	2	13	60	-	20	35	-
Alabama	NA	-	-	-	1	-	NA	4	NA	NA	1	-
Mississippi	NA	-	-	-	-	-	NA	-	NA	NA	-	-
WEST SOUTH CENTRAL	23	32	11	10	15	8	46	75	1	5	6	-
Arkansas*	1	1	-	-	-	-	-	-	-	-	-	-
Louisiana	-	-	-	8	10	1	-	7	-	-	-	-
Oklahoma*	1	2	3	-	-	2	32	38	-	1	1	-
Texas*	21	29	8	2	5	5	14	30	1	4	5	-
MOUNTAIN	43	94	169	-	1	3	6	25	1	3	8	-
Montana	35	86	-	-	-	-	-	-	-	-	-	-
Idaho	7	7	24	-	1	-	3	9	1	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	-	-	-
Colorado	-	-	-	-	-	-	3	4	-	1	3	-
New Mexico	-	-	-	-	-	-	-	-	-	-	-	-
Arizona	-	-	1	-	-	2	-	-	-	-	-	-
Utah	1	1	144	-	-	1	-	12	-	2	5	-
Nevada	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC	120	144	38	6	9	12	47	62	8	26	36	-
Washington	-	4	-	-	-	3	7	11	3	6	11	-
Oregon	5	5	-	-	-	1	5	8	-	1	2	-
California	115	135	36	3	4	8	31	38	5	19	23	-
Alaska	-	-	-	2	4	-	3	4	-	-	-	-
Hawaii	-	-	2	1	1	-	1	1	-	-	-	-
Guam	NA	-	1	-	-	1	NA	-	NA	NA	-	-
Puerto Rico	18	21	3	-	-	1	17	30	-	2	2	-
Virgin Islands	-	-	-	-	-	-	-	-	-	-	-	-

NA: Not available

*Delayed reports: Measles: N.C. add 7 (1976), Ky. add 3 (1977); Men. Inf.: Pa. add 1, Va. delete 1, Ark. add 2 (1976), Mo. add 2, Ky. add 3 (1977); Mumps: Vt. add 1, Ark. add 7, Okla. add 9 (1976), Pa. add 2 (1977); Rubella: Okla. add 1 (1976), Ky. add 1, Tenn. add 8 (1977); Tetanus: Tex. add 2 (1976)

Table III-Continued
 Cases of Specified Notifiable Diseases: United States
 Weeks Ending January 15, 1977 and January 17, 1976 - 2nd Week

REPORTING AREA	TUBERCULOSIS		TULA-REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)					RABIES IN ANIMALS	
	1977	CUM. 1977	CUM. 1977	1977	CUM. 1977	1977	CUM. 1977	GONORRHEA		SYPHILIS (Pri. & Sec.)			CUM. 1977	
								1977	CUMULATIVE		1977	CUMULATIVE		
						1977			1977			1976		
UNITED STATES	399	604	3	10	11	2	5	18,556	36,096	38,871	398	801	1,036	82
NEW ENGLAND	3	7	-	-	-	-	-	348	807	1,158	11	26	27	-
Maine	1	2	-	-	-	-	-	42	78	92	-	-	-	-
New Hampshire	-	-	-	-	-	-	-	19	36	22	-	-	-	-
Vermont	-	-	-	-	-	-	-	11	18	23	1	1	1	-
Massachusetts	-	-	-	-	-	-	-	117	246	493	10	19	14	-
Rhode Island	-	3	-	-	-	-	-	34	44	95	-	-	2	-
Connecticut	2	2	-	-	-	-	-	125	385	433	-	6	10	-
MIDDLE ATLANTIC	60	69	-	5	6	-	-	2,122	5,592	3,402	60	105	194	-
Upstate New York*	2	2	-	-	-	-	-	124	221	331	-	-	3	-
New York City	27	27	-	5	6	-	-	976	3,688	1,575	41	68	148	-
New Jersey	31	40	-	-	-	-	-	406	554	566	10	18	26	-
Pennsylvania*	NA	-	-	-	-	-	-	616	1,129	930	9	19	17	-
EAST NORTH CENTRAL ..	54	60	1	-	-	-	-	2,608	5,094	6,044	34	108	115	5
Ohio	-	-	-	-	-	-	-	683	1,616	1,767	8	28	23	-
Indiana	10	13	-	-	-	-	-	116	206	286	3	3	3	-
Illinois	42	42	-	-	-	-	-	1,077	1,859	1,945	20	64	68	-
Michigan	-	-	-	-	-	-	-	541	1,031	1,444	2	11	16	-
Wisconsin	2	5	1	-	-	-	-	191	382	602	1	2	5	5
WEST NORTH CENTRAL ..	19	21	-	1	1	1	2	1,169	2,227	2,089	13	20	26	11
Minnesota*	8	8	-	-	-	-	-	192	311	436	7	7	6	6
Iowa	3	4	-	-	-	-	-	143	286	307	-	1	2	1
Missouri*	4	4	-	1	1	1	2	520	1,140	771	4	8	15	-
North Dakota	-	-	-	-	-	-	-	11	24	40	-	-	-	4
South Dakota	-	1	-	-	-	-	-	29	52	70	-	-	-	-
Nebraska*	-	-	-	-	-	-	-	100	127	138	-	1	1	-
Kansas	4	4	-	-	-	-	-	174	287	327	2	3	2	-
SOUTH ATLANTIC	135	244	2	-	-	-	-	4,581	8,178	8,703	138	248	300	15
Delaware*	-	-	-	-	-	-	-	128	165	133	-	-	7	-
Maryland*	16	33	-	-	-	-	-	550	960	1,353	9	9	26	-
District of Columbia ..	5	6	-	-	-	-	-	240	448	585	12	25	22	-
Virginia	28	47	-	-	-	-	-	650	1,015	1,058	11	19	37	-
West Virginia	5	9	-	-	-	-	-	43	95	125	-	-	-	-
North Carolina	25	37	-	-	-	-	-	644	1,270	1,048	28	40	37	-
South Carolina*	14	26	-	-	-	-	-	311	767	642	4	17	16	-
Georgia	23	40	2	-	-	-	-	1,073	1,825	1,669	25	51	31	15
Florida	19	46	-	-	-	-	-	942	1,633	2,090	49	87	124	-
EAST SOUTH CENTRAL ..	13	36	-	-	-	-	2	816	2,216	3,168	1	15	40	1
Kentucky*	-	-	-	-	-	-	-	59	59	496	-	-	4	-
Tennessee	13	25	-	-	-	-	2	757	1,363	1,237	1	10	17	1
Alabama	NA	11	-	NA	-	NA	-	NA	448	719	NA	3	11	-
Mississippi	NA	-	-	NA	-	NA	-	NA	346	716	NA	2	8	-
WEST SOUTH CENTRAL ..	37	42	-	-	-	1	1	2,525	5,332	7,768	51	105	129	33
Arkansas	3	7	-	-	-	-	-	192	432	360	3	3	-	-
Louisiana*	20	20	-	-	-	-	-	497	706	1,012	18	27	29	-
Oklahoma	-	-	-	-	-	-	-	171	381	581	-	3	7	11
Texas*	14	15	-	-	-	1	1	1,665	3,813	5,815	30	72	93	22
MOUNTAIN	-	6	-	-	-	-	-	718	1,462	1,487	5	13	16	-
Montana	-	-	-	-	-	-	-	42	111	71	-	-	-	-
Idaho	-	-	-	-	-	-	-	45	80	61	1	1	-	-
Wyoming	-	-	-	-	-	-	-	46	58	33	2	2	-	-
Colorado	-	-	-	-	-	-	-	152	314	309	2	4	12	-
New Mexico	-	-	-	-	-	-	-	103	167	378	-	-	-	-
Arizona	-	6	-	-	-	-	-	217	448	389	-	5	2	-
Utah	-	-	-	-	-	-	-	34	73	120	-	-	-	-
Nevada	-	-	-	-	-	-	-	79	211	126	-	1	2	-
PACIFIC	78	119	-	4	4	-	-	3,669	5,188	5,052	85	161	189	17
Washington*	NA	-	-	-	-	-	-	209	209	475	NA	-	-	-
Oregon	2	2	-	-	-	-	-	257	297	424	1	6	8	-
California	69	92	-	4	4	-	-	3,087	4,415	3,860	81	152	178	15
Alaska	-	-	-	-	-	-	-	65	166	139	-	-	-	2
Hawaii	7	25	-	-	-	-	-	51	101	154	3	3	3	-
Guam	NA	-	-	NA	-	NA	-	NA	-	22	NA	-	-	-
Puerto Rico	20	20	-	-	-	-	-	43	106	75	8	22	4	-
Virgin Islands	-	-	-	-	-	-	-	5	8	13	-	-	7	-

NA: Not available
 *Delayed reports: TB: Mo. add 1, Del. add 2, Md. delete 4 (1976), Minn. add 3 (1977); Typhoid fever: Pa. add 1 (1976); RMSF: Neb. add 2, S.C. add 1, Tex. add 1 (1976); GC (civ.): NY St. add 788, La. delete 16 (1976), Ky. add 292, Wash. add 294 (1977); GC (mil): NY St. add 1, Wash. add 157 (1976); Syphilis (civ): La. delete 1 (1976), Ky. add 3 (1977)

Table IV
Deaths in 121 United States Cities*
Week Ending January 15, 1977 - 2nd Week

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza ALL AGES	REPORTING 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	
NEW ENGLAND	674	437	171	32	22	38	SOUTH ATLANTIC	1,475	867	406	96	65	60
Boston, Mass.	174	112	40	11	7	11	Atlanta, Ga.	173	88	58	9	11	11
Bridgeport, Conn.	48	36	9	2	1	6	Baltimore, Md.	342	200	86	31	15	8
Cambridge, Mass.	17	10	7	-	-	4	Charlotte, N. C.	60	29	19	5	4	2
Fall River, Mass.	27	20	3	3	1	-	Jacksonville, Fla.	130	76	40	8	4	5
Hartford, Conn.	87	53	26	5	2	3	Miami, Fla.	113	58	40	9	1	4
Lowell, Mass.	21	11	10	-	-	-	Norfolk, Va.	52	32	14	1	5	5
Lynn, Mass.	15	10	4	1	-	-	Richmond, Va.	98	58	26	4	5	1
New Bedford, Mass.	28	20	8	-	-	1	Savannah, Ga.	39	25	9	5	-	3
New Haven, Conn.	45	29	9	-	4	-	St. Petersburg, Fla.	110	98	10	1	1	7
Providence, R.I.	74	39	26	6	1	5	Tampa, Fla.	78	53	15	6	3	3
Somerville, Mass.	6	6	-	-	-	2	Washington, D. C.	229	117	76	16	15	7
Springfield, Mass.	42	28	10	1	2	2	Wilmington, Del.	51	33	13	1	1	4
Waterbury, Conn.	29	24	3	1	1	3	EAST SOUTH CENTRAL	910	532	237	68	33	48
Worcester, Mass.	61	39	16	2	3	1	Birmingham, Ala.	128	68	36	11	4	3
MIDDLE ATLANTIC	3,027	1,891	794	182	88	153	Chattanooga, Tenn.	93	49	31	6	2	8
Albany, N. Y.	47	30	9	2	2	2	Knoxville, Tenn.	51	37	11	1	-	3
Allentown, Pa.	28	21	5	-	2	2	Louisville, Ky.	102	60	27	6	6	11
Buffalo, N. Y.	146	99	32	7	5	8	Memphis, Tenn.	232	137	58	15	14	3
Camden, N. J.	33	17	12	2	1	1	Mobile, Ala.	82	44	16	13	4	2
Elizabeth, N. J.	32	18	9	4	1	-	Montgomery, Ala.	45	29	9	3	1	6
Erie, Pa.	33	21	10	2	-	2	Nashville, Tenn.	177	108	49	13	2	12
Jersey City, N. J.	62	40	13	8	-	-	WEST SOUTH CENTRAL	1,378	793	359	91	76	54
Newark, N. J.	44	21	12	8	3	3	Austin, Tex.	33	21	6	4	-	-
New York City, N. Y.	1,532	964	388	101	41	66	Baton Rouge, La.	72	44	20	3	2	1
Paterson, N. J.	42	24	12	3	1	2	Corpus Christi, Tex.	42	31	3	2	4	1
Philadelphia, Pa.	399	230	117	23	18	33	Dallas, Tex.	189	105	59	10	7	5
Pittsburgh, Pa.	174	102	53	8	6	9	El Paso, Tex.	53	27	11	3	7	4
Reading, Pa.	55	32	21	2	-	2	Fort Worth, Tex.	80	49	19	6	5	-
Rochester, N. Y.	131	86	31	8	4	6	Houston, Tex.	338	167	99	31	25	6
Schenectady, N. Y.	30	21	7	1	-	3	Little Rock, Ark.	68	37	24	4	1	4
Scranton, Pa.	46	32	12	1	1	4	New Orleans, La.	132	83	32	6	7	2
Syracuse, N. Y.	74	48	23	1	1	1	San Antonio, Tex.	201	119	53	11	9	10
Trenton, N. J.	36	22	11	1	1	2	Shreveport, La.	82	52	18	7	4	11
Utica, N. Y.	47	35	10	-	1	5	Tulsa, Okla.	88	58	15	4	5	10
Yonkers, N. Y.	36	28	7	-	-	2	MOUNTAIN	617	392	151	31	29	24
EAST NORTH CENTRAL	2,574	1,527	668	162	134	66	Albuquerque, N. Mex.	72	39	24	3	4	3
Akron, Ohio	94	59	23	6	4	-	Colorado Springs, Colo.	41	29	9	2	-	4
Canton, Ohio	36	22	9	1	2	3	Denver, Colo.	155	98	31	12	10	8
Chicago, Ill.	680	348	202	55	58	19	Las Vegas, Nev.	25	11	11	1	2	-
Cincinnati, Ohio	155	93	39	8	9	1	Ogden, Utah	20	11	7	1	1	3
Cleveland, Ohio	199	108	58	15	13	-	Phoenix, Ariz.	123	77	32	4	5	1
Columbus, Ohio	179	117	35	12	7	3	Pueblo, Colo.	26	20	5	1	-	1
Dayton, Ohio	97	67	21	3	3	1	Salt Lake City, Utah	65	46	12	3	2	4
Detroit, Mich.	250	153	67	17	2	3	Tucson, Ariz.	90	61	20	4	5	-
Evansville, Ind.	41	31	8	1	1	2	PACIFIC	1,813	1,165	430	100	62	57
Fort Wayne, Ind.	51	31	12	6	2	4	Berkeley, Calif.	22	17	4	-	1	1
Gary, Ind.	40	16	16	5	1	1	Fresno, Calif.	59	40	9	3	2	3
Grand Rapids, Mich.	56	28	22	2	3	2	Glendale, Calif.	20	16	3	1	-	3
Indianapolis, Ind.	191	122	43	12	10	6	Honolulu, Hawaii	62	31	22	1	5	3
Madison, Wis.	28	15	8	1	2	3	Long Beach, Calif.	118	73	32	5	3	2
Milwaukee, Wis.	153	94	37	7	5	5	Los Angeles, Calif.	558	349	128	46	22	14
Peoria, Ill.	53	33	15	1	1	2	Oakland, Calif.	76	49	15	7	3	4
Rockford, Ill.	38	28	6	1	2	4	Pasadena, Calif.	25	20	3	-	2	-
South Bend, Ind.	57	39	12	3	2	2	Portland, Ore.	141	99	29	4	6	1
Toledo, Ohio	122	88	21	5	3	5	Sacramento, Calif.	63	37	21	4	-	3
Youngstown, Ohio	54	35	14	1	4	-	San Diego, Calif.	148	86	42	10	6	4
WEST NORTH CENTRAL	901	578	193	58	46	35	San Francisco, Calif.	205	137	44	9	4	5
Des Moines, Iowa	67	51	12	2	2	3	San Jose, Calif.	50	37	9	1	-	3
Duluth, Minn.	37	29	5	-	2	4	Seattle, Wash.	171	107	50	5	7	4
Kansas City, Kans.	30	18	9	2	1	-	Spokane, Wash.	44	28	11	2	1	6
Kansas City, Mo.	129	85	24	9	7	4	Tacoma, Wash.	51	39	8	2	-	4
Lincoln, Nebr.	33	22	8	3	-	4	TOTAL	13,349	8,182	3,409	820	555	535
Minneapolis, Minn.	112	71	24	4	7	2	Expected Number	12,611	7,754	3,249	775	414	507
Omaha, Nebr.	104	58	27	8	6	3							
St. Louis, Mo.	234	143	52	18	12	4							
St. Paul, Minn.	87	54	19	9	4	5							
Wichita, Kans.	68	47	13	3	5	6							

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

The Morbidity and Mortality Weekly Report, circulation 52,000, is published by the Center for Disease Control, Atlanta, Georgia. 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.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Send reports to: Center for Disease Control, Attn.: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

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Salmonella Continued

The precooked roasts were processed from imported beef by a Philadelphia company different from those previously identified as the sources of contaminated roasts of beef. The United States Department of Agriculture and the Pennsylvania Bureau of Laboratories investigated the processing plant and took environmental cultures. No *Sal-*

monella organisms were isolated from meat or environmental specimens.

Reported by R Berman, WE Parkin, DVM, State Epidemiologist, J Price, Pennsylvania Dept of Health; Meat and Poultry Inspection Program, Animal and Plant Health Inspection Service, U.S. Dept of Agriculture, Beltsville, MD; Enteric Diseases Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Current Trends

Influenza — United States

Two close contacts of a 13-year-old Wisconsin boy with confirmed swine influenza (MMWR 25[50]) have been found to have serologic evidence of A/New Jersey/76 infection, suggesting a person-to-person spread of the virus. In addition, a 27-year-old man from Litchfield, Minnesota, had confirmed swine influenza in early January, following contact with ill swine. Further investigations of both cases and their contacts are underway.

confirmed outbreak of influenza in the United States this season.

Reported by HG Skinner, MD, State Epidemiologist, Wisconsin State Dept of Health and Social Services; JS Andrews Jr, MD, Acting State Epidemiologist, Minnesota State Dept of Health; P Wright, MD, Vanderbilt University; J Bistowish, MD, Davidson County Health Dept, Nashville; AR Hinman, MD, State Epidemiologist, Tennessee State Dept of Public Health; National Influenza Immunization Program; and Virology Div, Bur of Laboratories, CDC.

An outbreak of influenza B among university students in Nashville, Tennessee, has been reported. This is the first

International Notes

Human Rabies — England

A fatal case of human rabies has been reported from England. It appears likely that the illness was contracted in Bangladesh, where the disease is endemic, not in England, which is recognized as being rabies-free. If this is the case, the patient's incubation period was 14-32 months.

dog bite. It was learned that upon returning from Bangladesh in April 1975 the patient had mentioned that someone had been bitten by a dog but it was never clear who the victim was. Subsequently it was established that the patient had been in Bangladesh for 18 months before returning to England in 1975.

The patient, a 53-year-old Bangladeshi man, lived in England where he worked in a restaurant. He was admitted to the North Manchester General Hospital on June 9, 1976, with a history of dysuria and frequency of micturition for 3 days. On admission he was anxious and complained of pain in his penis and urethra. His temperature was 37.5 C and his pulse rate 80 per minute. He was a known diabetic on chlorpropamide.

At 8:15 AM June 11, the patient had a cardiac arrest, and attempts to resuscitate him failed. Postmortem examination revealed vomitus and saliva in the lungs. There were multiple old scars on the right shin near the knee compatible with bites of unknown age. The brain showed no signs of encephalitis. The diagnosis of rabies was confirmed when rabies virus was isolated from the brain.

The morning of June 10 the patient began to act strangely; he was described as being alternately aggressive and affectionate. On several occasions he refused to drink and pushed away water offered to him. On 3 occasions when he did drink water, he exhibited aerophobia and hypersensitivity to light, sound, and touch. At about 3:00 PM he was found on the floor by his bed, salivating, with clinched teeth, his body arched backwards, and his arms held out. At this point his behavior was considered hysterical. Again, he refused to drink water. Because he was in such an excited state he was given large doses of diazepam over a period of about 1 hour with no immediate effect.

Six persons who had close contact with the patient were given a course of antirabies vaccination, beginning with duck embryo vaccine and later changed to human diploid vaccine.

From reports compiled by the Epidemiological Research Laboratory received from the Public Health Laboratory Service and hospital laboratories in England, Wales, and Ireland, published in the Communicable Disease Report, July 9, 1976.

On examination he was found to have lower abdominal tenderness and a temperature of 37.5 C. He was referred to the general surgeon, who performed a laparotomy. In the 2 hours before surgery the patient was calm and cooperative. A laparotomy was performed at 9:00 PM. The bladder was distended and the appendix slightly inflamed.

Editorial Note: It is highly unlikely that exposure could have occurred in the 14 months the patient was living in Great Britain before onset of illness. The patient did not appear to have been outside the United Kingdom after April 1975, and he was not working in a rabies laboratory. Although not positively demonstrated, it seems certain that the exposure occurred in April 1975 during the patient's visit to Bangladesh, where dog rabies is enzootic.

At about 11:30 PM the patient became uncontrollable and violent despite repeated sedatives. At this stage, rabies was considered as a possible diagnosis, and the patient's friends were contacted and asked if there was a history of

The usual incubation period for rabies is 20-60 days. Incubation periods in excess of 1 year have been reported, but usually the possibility of recent unrecognized exposure cannot be so reliably excluded as in this case.

Reported by Viral Zoonoses Section, Viral Diseases Div, Bur of Epidemiology, CDC.

Current Trends**Follow-up on Guillain Barré Syndrome – United States**

Forty-nine states have reported a total of 576 cases of Guillain Barré syndrome (GBS) to CDC in the period October 1, 1976-January 18, 1977. There have been 293 cases in influenza vaccine recipients (7 of whom received a non-A/New Jersey influenza vaccine) and 264 cases in non-recipients. Six additional cases received vaccine after their onset of GBS. The vaccine status for 13 cases is unknown.

Sixteen states have reported a total of 20 deaths for an overall case fatality ratio of 3.4%. Ten of these were in influenza vaccine recipients and 10 in persons with no history of vaccination.

Reported by the National Influenza Immunization Program; and the Viral Diseases Div, Bur of Epidemiology, CDC.

**U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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