

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

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Multi-state Outbreak of *Salmonella newport* Transmitted by Precooked Roasts of Beef

A continuing outbreak of salmonellosis in New York, New Jersey, Connecticut, and Pennsylvania during June, July, and August 1977 has been epidemiologically and bacteriologically traced to precooked, ready-to-eat beef served in delicatessens and sold in supermarkets.

The problem was first recognized when 2 outbreaks occurred in 2 upstate New York counties (Erie and Cortland) in late June and early July 1977. In both outbreaks *Salmonella newport* (serogroup C₂) was isolated from persons who had eaten precooked roast beef served in delicatessens. Clinical findings in affected cases consisted of diarrhea, cramps, chills, and fever. In the Erie County outbreak, *S. newport* was isolated from the roast beef and from at least 4 patients. In both outbreaks the precooked roasts of beef were from the same source, a meat-processing company in Philadelphia. The U.S. Department of Agriculture (USDA) conducted an investigation of the plant, collecting environmental specimens and whole roasts of beef. Two *Salmonella* serogroups, E₁ and C₁, were obtained from the environment, and 2 *Salmonella* serogroups, B and C₂, were obtained from both the internal and external surfaces of 4 individual roasts of beef. The USDA and the company have initiated a recall of all such products distributed up to July 28.

A review of national surveillance data demonstrated 345 *S. newport* isolates in June and July 1977, compared with 222 in the same period in 1976. In this same 2-month period Connecticut, New Jersey, New York, and Pennsylvania experienced marked increases in *S. newport*.

Based on these data, a collaborative study was initiated by the 4 state health departments and CDC. This study has revealed that from June 1 to August 19, 140 *S. newport* cases have been reported by the 4 state health departments. Of the 63 cases interviewed, 32 gave a history of precooked roast beef consumption.

Additional information is available from investigations in New Jersey, Connecticut, and New York. In New Jersey since June 1, 49 cases of *S. newport* infection have been reported. Ten of 23 interviewed patients consumed precooked roast beef, which had been produced by at least 6 different companies, including the Philadelphia one. The New Jersey State Department of Health obtained unopened roasts from 5 producers and has cultured *S. newport*

and *S. waycross* from beef from 1 Jersey City producer. A case-control study conducted by the New Jersey State Department of Health comparing precooked roast beef consumption among cases of *S. newport* salmonellosis and among age-matched cases with other *Salmonella* serotypes demonstrated a statistically significant association with the consumption of roast beef ($p=.012$).

In Connecticut 14 of the 38 cases of *S. newport* infection that have occurred since June 1 have been interviewed by the state health department. Nine have a history of eating precooked roast beef. These cases involve 3 different producers, including the Philadelphia company. Specimens of roast beef are being collected for bacteriologic examination.

In New York 42 *Salmonella* serogroup C₂ isolates have been reported since June 1. Of 36 investigated cases 19 had consumed precooked roast beef. A case-control study using hepatitis patients of similar ages demonstrated that salmonellosis was statistically associated with roast beef consumption ($p=.0005$).

Further investigations are in progress in Pennsylvania.

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Editorial Note: This is the third consecutive year in which precooked roasts of beef have been associated with multi-state outbreaks of salmonellosis (1,2). This recurrent problem with precooked roasts of beef from different producers emphasizes that this is a continuing problem with significant public health implications.

This is not the first time that salmonellae have been identified in unopened roasts. However, in the 1975 outbreak of *S. saint paul* (1) the beef had been injected with a spice mix in preparation for cooking. In the present situation, no such procedures were used, yet salmonellae were isolated from both external and internal surfaces of the roasts. Whatever the mechanism of such contamination, pre-

cooked roasts may continue to pose a risk as long as they are cooked to internal temperatures of less than 130 F. Such temperatures are usual for precooked roast beef but are not high enough to destroy salmonellae.

Current Trends

St. Louis Encephalitis — United States

Two confirmed and 3 presumptive cases of St. Louis Encephalitis (SLE) in humans have been reported from Slidell, Louisiana, located near the northeastern shore of Lake Pontchartrain. The diagnoses were based on serologic tests. All the cases were in women who had onset of encephalitis in mid-July, were hospitalized, and are recovering. Slidell has a continuing extensive mosquito abatement program operated by St. Tammany Parish and directed against pest species, especially *Aedes sollicitans*. As a result of these cases, mosquito control efforts have been redirected to reduce further transmission from vector mosquito species. No further suspect cases have been reported from Slidell. One other confirmed case has been reported from Bogalusa, 30 miles north of Slidell. It occurred in an 11-year-old girl who had onset in July.

Louisiana maintains an extensive system of bird surveillance, including a sentinel chicken flock in the Slidell area, but this system has shown little evidence of SLE virus activity during 1977. One hundred twenty *Culex quinquefasciatus* mosquitoes, females and mostly blooded, were col-

References

1. MMWR 25:34, 1976
2. MMWR 25:333, 1976

lected from around the residences of the persons with SLE in Slidell during August and examined for virus at the University of Arkansas. One was positive for SLE virus.

Elsewhere in the United States, 1 presumptive and 2 confirmed SLE cases have been reported, in addition to those previously reported from Dallas and Memphis (1,2). The 2 confirmed cases were reported from Illinois — 1 from Jackson County in the southern part of the state and the other from LaSalle County in the north central area. One presumptive SLE case with onset late in July has been reported from Dothan, Alabama.

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References

1. MMWR 26:215, 1977
2. MMWR 26:265, 1977

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

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

DISEASE	33rd WEEK ENDING		MEDIAN 1972-1976	CUMULATIVE, FIRST 33 WEEKS		
	August 20 1977	August 21 1976		August 20, 1977	August 21, 1976	MEDIAN 1972-1976
Aseptic meningitis	198	128	128	2,213	1,572	1,711
Brucellosis	11	8	6	136	203	126
Chickenpox	274	308	---	157,243	145,772	---
Diphtheria	1	2	2	57	125	125
Encephalitis	37	56	44	474	672	576
{ Primary	6	5	5	143	192	195
{ Post-Infectious	333	344	187	10,308	9,433	5,998
Hepatitis, Viral	581	638	705	19,597	21,801	26,836
{ Type B	164	155	---	5,820	5,351	---
{ Type A	18	10	6	334	273	251
{ Type unspecified	122	148	131	52,722	34,056	23,787
Malaria	33	21	12	1,223	1,094	998
Measles (rubeola)	33	21	12	1,216	1,078	973
Meningococcal infections, total	---	---	---	7	16	24
Civilian	112	123	302	15,289	31,699	45,887
Military	36	28	---	587	623	---
Mumps	64	43	93	18,327	10,457	14,606
Pertussis	3	2	2	35	37	52
Rubella (German measles)	644	629	---	19,296	21,225	---
Tetanus	---	3	3	92	89	89
Tuberculosis	10	11	8	230	250	239
Tularemia	47	44	26	822	612	572
Typhoid fever	---	---	---	---	---	---
Typhus, tick-borne (Rky. Mt. spotted fever)	19,435	21,277	---	612,786	629,033	---
Venereal Diseases:	439	607	---	16,802	18,908	---
Gonorrhea	449	502	---	13,089	15,406	---
Syphilis, primary and secondary	4	6	---	191	221	---
Rabies in animals	55	69	72	1,852	1,834	1,872

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	---	Poliomyelitis, total:	7
Botulism:	72	Paralytic:	6
Congenital rubella syndrome:	10	Psittacosis: Ga. 1, Utah 3	47
Leprosy: Calif. 3	78	Rabies in man:	1
Leptospirosis: La. 1	29	Trichinosis:	57
Plague:	5	Typhus, murine: Tex. 3	57

Table III
Cases of Specified Notifiable Diseases: United States
Weeks Ending August 20, 1977 and August 21, 1976 — 33rd 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		
	1976	1976	1976	1976	CUM. 1976	1976	1975	1976	1976	1976	1976	1976	CUM. 1976
UNITED STATES	198	11	274	1	57	37	56	6	333	581	164	18	334
NEW ENGLAND	22	-	54	-	-	-	1	-	23	8	15	2	17
Maine	-	-	11	-	-	-	-	-	-	-	-	-	-
New Hampshire*	2	-	24	-	-	-	-	-	-	-	-	-	2
Vermont*	-	-	-	-	-	-	-	-	1	-	-	-	1
Massachusetts	2	-	9	-	-	-	-	-	3	4	9	1	3
Rhode Island	4	-	6	-	-	-	-	-	5	1	-	-	4
Connecticut	14	-	4	-	-	-	1	-	14	3	6	1	7
MIDDLE ATLANTIC	40	-	48	-	5	8	2	1	44	40	11	2	75
Upstate New York	8	-	16	-	-	-	1	1	10	16	4	-	19
New York City	6	-	31	-	5	2	-	-	7	4	5	2	33
New Jersey*	10	-	NN	-	-	-	-	-	-	-	-	-	9
Pennsylvania	16	-	1	-	-	6	1	-	27	20	2	-	14
EAST NORTH CENTRAL ..	27	-	92	-	-	9	6	-	53	84	12	1	26
Ohio*	11	-	2	-	-	9	2	-	14	19	-	1	9
Indiana	6	-	4	-	-	-	-	-	14	7	4	-	2
Illinois	-	-	5	-	-	-	1	-	8	15	5	-	2
Michigan	10	-	29	-	-	-	1	-	16	37	3	-	10
Wisconsin	-	-	52	-	-	-	2	-	1	6	-	-	3
WEST NORTH CENTRAL ..	5	6	6	-	1	4	-	-	12	18	5	1	32
Minnesota	-	-	-	-	-	-	-	-	1	2	-	-	9
Iowa*	1	6	3	-	-	1	-	-	9	4	3	1	1
Missouri*	1	-	3	-	1	-	-	-	1	6	2	-	17
North Dakota	-	-	-	-	-	-	-	-	-	-	-	-	1
South Dakota	-	-	-	-	-	-	-	-	-	-	-	-	1
Nebraska	1	-	-	-	-	3	-	-	1	-	-	-	-
Kansas	2	-	-	-	-	-	-	-	-	6	-	-	3
SOUTH ATLANTIC	42	3	25	-	-	5	-	2	73	131	32	3	54
Delaware	-	-	1	-	-	-	-	-	1	2	-	-	-
Maryland	5	-	-	-	-	-	-	1	7	12	2	1	10
District of Columbia* ..	-	-	-	-	-	-	-	-	2	-	4	-	3
Virginia*	13	1	2	-	-	3	-	-	12	5	8	1	12
West Virginia	6	-	11	-	-	2	-	-	-	8	-	-	1
North Carolina	6	-	NN	-	-	-	-	-	5	11	6	-	5
South Carolina	1	-	-	-	-	-	-	-	5	4	2	-	-
Georgia	-	2	-	-	-	-	-	-	11	42	-	-	8
Florida*	11	-	11	-	-	-	1	1	30	47	10	1	15
EAST SOUTH CENTRAL ..	13	-	6	-	-	2	33	-	22	51	1	-	9
Kentucky	-	-	6	-	-	-	1	-	1	12	1	-	4
Tennessee	3	-	NN	-	-	1	1	-	14	26	-	-	1
Alabama	10	-	-	-	-	-	6	-	2	-	-	-	4
Mississippi	-	-	-	-	-	1	25	-	5	13	-	-	-
WEST SOUTH CENTRAL ..	17	2	13	-	2	5	5	-	22	68	32	1	16
Arkansas	-	-	-	-	-	1	-	-	-	4	4	-	-
Louisiana	1	-	NN	-	-	2	1	-	4	13	4	1	2
Oklahoma	5	-	-	-	-	-	1	-	6	14	2	-	-
Texas*	11	2	13	-	2	2	3	-	12	37	22	-	14
MOUNTAIN	1	-	17	-	4	2	-	3	8	40	12	1	10
Montana	-	-	-	-	-	1	-	-	-	2	-	-	-
Idaho	-	-	-	-	-	-	-	-	1	-	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	-	-	-	1
Colorado	-	-	14	-	-	1	-	-	4	9	4	-	6
New Mexico*	1	-	-	-	3	-	-	3	2	15	2	-	1
Arizona	-	-	NN	-	1	-	-	-	-	11	2	1	2
Utah	-	-	3	-	-	-	-	-	1	3	4	-	-
Nevada	-	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC	31	-	13	1	45	2	9	-	76	141	44	7	95
Washington	3	-	9	1	42	1	-	-	6	15	8	-	4
Oregon	6	-	2	-	-	-	1	-	4	10	3	-	1
California*	22	-	-	-	1	1	8	-	63	108	32	7	84
Alaska	-	-	2	-	2	-	-	-	-	-	-	-	2
Hawaii	-	-	-	-	-	-	-	-	3	8	1	-	4
Guam	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
Puerto Rico	-	-	5	-	-	-	-	-	-	4	11	-	2
Virgin Islands	-	-	-	-	-	-	-	-	-	-	-	-	-

NN: Not notifiable

NA: Not available

*Delayed reports: Asep. Meng.: Ohio +1, Mo. +1, D.C. +11, Fla. -1; Chickenpox: Calif. +1; Enceph., prim.: Vt. +1, N.J. +1; Enceph., post: Iowa +1, N. Mex. -1; Hep. B: Fla. -1, Tex. -1; Hep. A: Fla. -9, Hep. unsp.: Va. -1; Malaria: N. Hamp. +1, Fla. -3.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending August 20, 1977 and August 21, 1976 — 33rd Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1977	CUMULATIVE		1977	CUMULATIVE		1977	CUM. 1977	1977	1977	CUM. 1977	CUM. 1977
		1977	1976		1977	1976						
UNITED STATES	122	52,722	34,056	33	1,223	1,094	112	15,289	36	64	18,327	35
NEW ENGLAND	4	2,464	375	-	51	53	3	628	1	2	1,182	1
Maine	3	169	7	-	3	1	-	46	-	-	69	-
New Hampshire	-	510	9	-	3	5	1	91	-	-	240	-
Vermont*	-	289	36	-	5	3	-	7	-	-	64	-
Massachusetts	-	632	35	-	16	16	1	117	-	-	373	-
Rhode Island	-	64	14	-	1	5	1	53	-	-	134	-
Connecticut	1	800	274	-	23	23	-	314	1	2	302	1
MIDDLE ATLANTIC	20	8,301	6,960	8	175	150	9	1,248	11	6	5,987	4
Upstate New York	9	3,785	2,921	1	42	61	1	279	2	3	3,358	1
New York City	11	709	448	3	44	40	2	460	7	3	308	1
New Jersey	-	195	591	2	37	19	-	341	-	-	1,777	2
Pennsylvania	-	3,612	3,000	2	52	30	6	168	2	-	544	-
EAST NORTH CENTRAL	32	11,096	14,509	5	119	139	29	5,224	6	6	3,619	3
Ohio	2	1,836	566	3	44	58	-	644	4	1	1,106	1
Indiana	6	4,300	3,259	1	9	6	3	298	-	2	912	1
Illinois	13	1,637	1,521	-	20	17	6	895	-	1	311	-
Michigan	9	923	5,827	1	34	49	2	1,789	-	-	904	1
Wisconsin*	2	2,400	3,336	-	12	9	18	1,598	2	2	386	-
WEST NORTH CENTRAL	-	9,703	1,198	1	67	70	19	3,502	3	-	491	5
Minnesota	-	2,618	414	-	25	14	-	6	1	-	16	2
Iowa	-	4,287	41	-	6	9	1	1,249	-	-	159	-
Missouri*	-	945	18	1	25	23	18	1,195	2	-	35	2
North Dakota	-	23	3	-	1	3	-	16	-	-	11	-
South Dakota	-	66	4	-	4	2	-	59	-	-	17	-
Nebraska	-	209	55	-	1	6	-	68	-	-	2	-
Kansas	-	1,555	663	-	5	13	-	909	-	-	251	1
SOUTH ATLANTIC	12	4,485	2,143	8	267	209	9	704	2	7	1,589	8
Delaware	-	22	128	-	3	6	2	125	-	2	26	-
Maryland	-	371	715	-	18	16	1	59	-	-	5	-
District of Columbia	-	4	12	-	-	2	-	5	-	-	-	-
Virginia	4	2,684	747	2	17	33	-	88	-	-	574	1
West Virginia	6	220	183	-	9	6	4	151	-	1	104	-
North Carolina	-	62	15	1	60	37	-	49	1	-	441	-
South Carolina	-	148	4	-	28	36	-	10	1	-	209	-
Georgia	-	764	2	2	49	19	2	22	-	3	52	1
Florida	2	210	337	3	83	54	-	195	-	1	178	6
EAST SOUTH CENTRAL	5	1,948	813	2	133	102	13	828	4	2	1,910	3
Kentucky	4	1,179	744	-	26	18	1	85	-	-	76	1
Tennessee	1	654	53	1	35	43	11	512	4	2	1,716	1
Alabama	-	77	-	1	48	30	1	201	-	-	109	1
Mississippi	-	38	16	-	24	11	-	30	-	-	9	-
WEST SOUTH CENTRAL	14	2,063	676	4	218	172	15	1,367	1	17	791	4
Arkansas	-	39	-	-	13	10	2	60	-	-	3	1
Louisiana	-	74	194	4	83	32	1	36	-	-	27	1
Oklahoma	-	54	286	-	10	18	2	466	1	-	29	-
Texas	14	1,896	196	-	112	112	10	805	-	17	732	2
MOUNTAIN	6	2,482	5,004	3	44	32	4	589	-	2	353	2
Montana	-	1,157	203	-	2	4	-	10	-	-	14	1
Idaho*	-	129	2,020	-	4	3	-	121	-	1	12	-
Wyoming	1	19	3	-	1	-	-	3	-	-	4	1
Colorado	-	498	245	-	1	5	4	257	-	-	232	-
New Mexico	1	269	15	3	21	4	-	107	-	1	12	-
Arizona	2	299	226	-	11	10	-	-	-	-	12	-
Utah	2	18	2,229	-	3	4	-	76	-	-	58	-
Nevada	-	93	63	-	1	2	-	15	-	-	9	-
PACIFIC	29	10,180	2,378	2	149	167	11	1,199	8	22	2,405	5
Washington	2	531	333	-	18	28	-	257	-	-	436	-
Oregon	7	366	152	-	11	15	2	217	-	4	108	-
California	20	9,190	1,886	2	92	104	9	678	5	8	1,461	5
Alaska	-	58	4	-	26	17	-	25	3	-	1	-
Hawaii	-	35	3	-	2	3	-	22	-	10	399	-
Guam	NA	4	13	-	-	-	NA	5	NA	NA	8	-
Puerto Rico	8	815	334	-	1	3	12	614	1	-	29	8
Virgin Islands	-	14	10	-	-	-	-	186	-	-	2	-

NA: Not available

*Delayed reports: Measles: Vt. +1, Wis. -3, Mo. +39, Idaho +33, Pertussis: Mo. +1

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending August 20, 1977 and August 21, 1976 - 33rd Week

REPORTING AREA	TUBERCULOSIS		TULA- REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS	
								GONORRHEA		SYPHILIS (Pri. & Sec.)					
	1977	CUM. 1977	CUM. 1977	1977	CUM. 1977	1977	CUM. 1977	1977	CUMULATIVE		1977	CUMULATIVE			CUM. 1977
										1977	1976		1977		1976
UNITED STATES	644	19,296	92	10	230	47	822	19,435	612,786	629,033	449	13,089	15,406	1,852	
NEW ENGLAND	30	732	1	-	12	-	6	608	16,169	17,172	12	536	498	32	
Maine	2	57	-	-	-	-	-	50	1,155	1,461	1	15	13	26	
New Hampshire*	2	19	-	-	-	-	-	24	642	479	-	3	8	1	
Vermont	-	24	-	-	-	-	-	17	424	429	-	6	8	-	
Massachusetts	19	416	1	-	9	-	1	255	6,969	8,219	10	386	346	4	
Rhode Island	2	59	-	-	2	-	3	42	1,314	1,142	-	7	16	-	
Connecticut	5	157	-	-	1	-	2	220	5,665	5,442	1	119	107	1	
MIDDLE ATLANTIC	73	3,027	1	4	55	3	55	2,375	62,501	73,431	66	1,809	2,604	54	
Upstate New York	16	491	1	-	7	-	26	258	10,526	11,599	7	173	155	28	
New York City	23	978	-	2	22	-	-	1,032	24,492	32,969	39	1,136	1,635	-	
New Jersey	10	766	-	-	17	-	9	368	10,848	11,191	10	236	367	22	
Pennsylvania	24	792	-	2	9	3	20	717	16,635	17,672	10	264	447	4	
EAST NORTH CENTRAL ..	113	3,054	3	-	20	6	21	2,602	96,243	98,333	39	1,378	1,330	79	
Ohio*	29	526	1	-	7	1	8	416	25,332	24,259	15	325	317	-	
Indiana	19	359	-	-	1	-	2	145	8,633	9,474	1	102	74	6	
Illinois	29	1,186	-	3	5	10	952	31,374	34,657	16	724	695	23		
Michigan*	31	848	-	-	9	-	1	722	22,112	21,155	7	160	174	4	
Wisconsin*	5	135	2	-	-	-	-	367	8,792	8,788	-	67	70	46	
WEST NORTH CENTRAL ..	25	643	13	-	13	1	25	835	32,278	32,481	8	295	280	459	
Minnesota	7	143	-	-	4	-	-	123	5,845	5,851	-	86	64	174	
Iowa	-	61	-	-	-	-	-	135	3,770	4,113	2	36	29	71	
Missouri	12	268	12	-	4	-	14	410	13,691	12,847	5	108	110	35	
North Dakota	1	16	-	-	1	-	-	27	620	481	-	-	-	72	
South Dakota	-	33	1	-	-	-	1	33	946	920	1	3	4	75	
Nebraska	-	24	-	-	1	-	1	107	2,776	2,820	-	24	22	1	
Kansas*	5	98	-	-	3	1	9	NA	4,630	5,449	-	38	51	31	
SOUTH ATLANTIC	146	4,300	9	4	43	22	453	4,493	151,037	153,880	105	3,681	4,686	202	
Delaware	-	36	-	-	-	-	1	37	2,061	2,037	-	18	45	2	
Maryland	16	610	2	1	3	2	59	545	19,153	20,302	10	246	396	-	
District of Columbia ..	1	196	-	-	1	-	-	297	9,995	10,597	12	390	370	-	
Virginia*	15	504	-	1	10	9	133	468	15,819	16,550	7	367	421	4	
West Virginia	7	165	-	-	3	2	5	52	2,063	1,998	1	3	19	5	
North Carolina	24	714	2	-	3	3	163	1,066	22,876	21,961	19	520	859	7	
South Carolina	15	374	2	-	-	-	44	393	14,038	14,901	3	158	247	8	
Georgia	35	518	3	-	11	5	47	805	29,609	28,106	27	769	680	128	
Florida*	33	1,183	-	2	12	1	1	830	35,423	37,428	26	1,210	1,649	48	
EAST SOUTH CENTRAL ..	56	1,721	6	-	4	7	133	2,017	54,487	55,585	23	472	609	50	
Kentucky	20	448	2	-	-	-	33	127	7,383	7,126	1	54	90	17	
Tennessee	15	521	4	-	1	5	82	636	21,698	21,933	4	147	210	26	
Alabama	15	453	-	-	1	1	15	759	14,993	15,880	11	97	130	7	
Mississippi	6	299	-	-	2	1	3	495	10,413	10,646	7	174	179	-	
WEST SOUTH CENTRAL ..	102	2,308	49	1	13	6	115	2,785	77,510	81,192	52	1,891	1,803	567	
Arkansas*	5	258	31	-	5	-	26	192	5,975	7,567	2	46	59	88	
Louisiana	25	438	1	-	-	-	1	156	11,235	11,861	5	424	379	15	
Oklahoma	3	206	8	-	1	4	65	259	7,345	7,646	-	51	68	179	
Texas	69	1,406	9	1	7	2	23	2,178	52,955	54,118	45	1,370	1,297	285	
MOUNTAIN	18	540	6	-	16	2	12	876	24,936	25,256	12	268	415	108	
Montana	1	29	1	-	-	2	5	61	1,286	1,268	-	4	5	33	
Idaho	-	25	-	-	-	-	4	36	1,174	1,330	4	9	15	-	
Wyoming	-	8	1	-	-	-	2	11	607	473	-	4	3	1	
Colorado	1	74	3	-	8	-	1	233	6,446	6,299	6	81	92	38	
New Mexico	6	96	-	-	-	-	-	128	3,655	4,746	-	48	105	-	
Arizona	8	245	1	-	4	-	-	226	7,073	7,526	1	105	150	32	
Utah	-	29	-	-	4	-	-	51	1,425	1,266	-	6	17	4	
Nevada	2	34	-	-	-	-	-	130	3,270	2,348	1	11	28	-	
PACIFIC	81	2,971	4	1	54	-	2	2,844	97,625	91,703	132	2,759	3,181	301	
Washington*	NA	189	-	-	1	-	-	238	7,344	7,701	NA	134	90	2	
Oregon*	5	128	-	-	3	-	-	195	6,656	7,065	9	98	65	4	
California*	71	2,242	4	1	49	-	2	2,323	78,456	72,551	123	2,484	2,951	280	
Alaska	-	35	-	-	-	-	-	73	3,166	2,646	-	18	12	15	
Hawaii	5	377	-	-	1	-	-	15	2,003	1,740	-	25	63	-	
Guam*	NA	39	-	NA	1	NA	-	NA	130	221	NA	1	2	-	
Puerto Rico	7	225	-	1	5	-	-	67	2,034	1,834	14	361	375	40	
Virgin Islands	-	1	-	-	-	-	-	7	131	166	-	7	47	-	

NA: Not available

*Delayed reports: TB: N. Hamp. -1, Ohio +1, Mich. -4, Kan. -1, Guam +2; Tularemia: Ark. +3, Typh. Fev. Va. -1, RMSF: Va. -1, Ark. +7, Calif. +1; GC: Wisc. -1, Fla. +1953, Wash. +102 (mil.), Guam +2; Syphilis: Fla. +26, Wash. +1 (mil.), Oreg. -15.

Table IV
Deaths in 121 United States Cities*
Week Ending August 20, 1977 - 33rd 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	581	375	144	29	18	31	SOUTH ATLANTIC	1,079	626	303	66	42	38
Boston, Mass.	139	106	50	14	8	10	Atlanta, Ga.	123	78	26	9	7	2
Bridgeport, Conn.	30	21	5	2	1	3	Baltimore, Md.	157	93	40	10	5	2
Cambridge, Mass.	19	12	6	1	-	3	Charlotte, N. C.	56	29	13	8	2	1
Fall River, Mass.	19	18	1	-	-	-	Jacksonville, Fla.	91	42	37	4	4	3
Hartford, Conn.	58	39	16	2	1	5	Miami, Fla.	125	71	38	7	7	3
Lowell, Mass.	22	16	4	2	-	2	Norfolk, Va.	50	20	13	3	8	3
Lynn, Mass.	20	14	5	1	-	-	Richmond, Va.	74	47	19	3	3	7
New Bedford, Mass.	21	16	3	-	1	1	Savannah, Ga.	27	14	8	-	-	3
New Haven, Conn.	45	30	11	2	2	-	St. Petersburg, Fla.	75	56	11	4	2	-
Providence, R.I.	45	29	11	1	4	3	Tampa, Fla.	77	50	19	3	3	9
Somerville, Mass.	4	4	-	-	-	-	Washington, D. C.	181	100	60	14	1	4
Springfield, Mass.	38	25	10	2	1	2	Wilmington, Del.	43	26	16	1	-	1
Waterbury, Conn.	24	16	8	-	-	2							
Worcester, Mass.	47	29	14	2	-	-							
MIDDLE ATLANTIC	2,693	1,692	659	190	77	122	EAST SOUTH CENTRAL	616	354	169	43	22	22
Albany, N. Y.	38	25	6	3	3	1	Birmingham, Ala.	104	51	34	5	7	1
Allentown, Pa.	27	24	3	-	-	2	Chattanooga, Tenn.	35	21	11	2	1	2
Buffalo, N. Y.	106	63	27	7	3	8	Knoxville, Tenn.	46	35	8	-	1	-
Camden, N. J.	27	13	11	1	2	1	Louisville, Ky.	89	51	28	5	2	5
Elizabeth, N. J.	25	17	6	2	-	1	Memphis, Tenn.	165	87	46	17	5	4
Erie, Pa.	29	18	8	1	1	2	Mobile, Ala.	62	40	14	5	3	3
Jersey City, N. J.	44	25	11	4	4	1	Montgomery, Ala.	24	14	8	1	1	1
Newark, N. J.	66	29	21	10	2	3	Nashville, Tenn.	91	55	19	8	2	6
New York City, N. Y.	1,362	880	300	103	40	54	WEST SOUTH CENTRAL	1,344	707	353	119	81	41
Paterson, N. J.	50	33	11	5	1	3	Austin, Tex.	35	23	6	5	1	1
Philadelphia, Pa.	402	229	131	24	12	12	Baton Rouge, La.	69	34	25	4	4	2
Pittsburgh, Pa.†	170	99	49	10	6	10	Corpus Christi, Tex.	48	21	11	1	8	2
Reading, Pa.	31	15	13	1	1	4	Dallas, Tex.	198	116	44	19	8	5
Rochester, N. Y.	100	69	13	14	1	11	El Paso, Tex.	50	30	12	2	1	4
Schenectady, N. Y.	19	16	2	-	-	-	Fort Worth, Tex.	76	48	21	2	4	2
Scranton, Pa.†	37	26	9	1	-	2	Houston, Tex.	372	165	106	42	26	5
Syracuse, N. Y.	72	46	22	1	-	-	Little Rock, Ark.	62	34	14	9	2	3
Trenton, N. J.	43	32	7	2	1	2	New Orleans, La.	147	68	40	17	15	2
Utica, N. Y.	21	16	4	-	-	4	San Antonio, Tex.	131	73	37	8	5	3
Yonkers, N. Y.	24	17	5	1	-	1	Shreveport, La.	74	42	20	4	5	2
							Tulsa, Okla.	82	53	17	6	2	10
EAST NORTH CENTRAL	2,073	1,181	590	140	74	50	MOUNTAIN	476	285	112	35	27	14
Akron, Ohio	43	24	12	2	3	2	Albuquerque, N. Mex.	56	35	16	4	-	2
Canton, Ohio	24	11	10	2	-	2	Colorado Springs, Colo.	44	29	8	4	2	2
Chicago, Ill.	551	275	182	47	15	11	Denver, Colo.	117	62	33	7	9	1
Cincinnati, Ohio	150	78	43	14	3	1	Las Vegas, Nev.	30	11	10	6	-	1
Cleveland, Ohio	175	109	42	8	9	5	Ogden, Utah	10	7	1	1	1	1
Columbus, Ohio	137	72	40	6	12	-	Phoenix, Ariz.	95	56	23	7	7	1
Dayton, Ohio	97	64	25	2	2	1	Pueblo, Colo.	20	12	7	-	-	5
Detroit, Mich.	242	131	79	20	9	3	Salt Lake City, Utah ..	45	30	3	3	6	1
Evansville, Ind.	32	22	10	-	-	3	Tucson, Ariz.	59	43	11	3	2	-
Fort Wayne, Ind.	55	28	14	7	2	1							
Gary, Ind.	24	15	6	2	1	2	PACIFIC	1,409	852	362	91	42	33
Grand Rapids, Mich.	36	28	4	2	2	3	Berkeley, Calif.	18	11	4	2	-	-
Indianapolis, Ind.	129	73	34	9	6	2	Fresno, Calif.	55	26	15	4	6	-
Madison, Wis.	43	22	11	6	1	6	Glendale, Calif.	25	19	6	-	-	-
Milwaukee, Wis.	99	64	25	4	1	2	Honolulu, Hawaii	45	22	13	5	1	-
Peoria, Ill.	31	24	5	-	2	1	Long Beach, Calif.	93	51	32	1	5	-
Rockford, Ill.	28	27	-	1	-	3	Los Angeles, Calif.	393	230	103	30	8	12
South Bend, Ind.	36	23	11	1	-	-	Oakland, Calif.	53	31	12	5	4	2
Toledo, Ohio	89	56	23	6	4	2	Pasadena, Calif.	31	20	8	1	2	-
Youngstown, Ohio	52	35	14	1	2	-	Portland, Ore.	116	81	19	7	4	-
WEST NORTH CENTRAL	717	436	179	37	40	14	Sacramento, Calif.	51	28	13	4	2	-
Des Moines, Iowa	50	30	16	1	1	-	San Diego, Calif.	126	70	32	15	3	1
Duluth, Minn.	20	12	8	-	-	1	San Francisco, Calif.	137	86	37	9	4	3
Kansas City, Kans.	38	17	12	3	3	2	San Jose, Calif.	35	23	8	3	-	1
Kansas City, Mo.	142	86	38	6	9	3	Seattle, Wash.	154	102	41	3	2	7
Lincoln, Nebr.	32	22	7	3	-	2	Spokane, Wash.	46	29	13	2	1	3
Minneapolis, Minn.	85	55	16	7	5	1	Tacoma, Wash.	31	23	6	-	-	4
Omaha, Nebr.	79	48	22	1	4	-							
St. Louis, Mo.	164	96	39	9	11	1	TOTAL	10,988	6,508	2,867	750	423	365
St. Paul, Minn.	56	40	12	3	-	-	Expected Number	11,216	6,727	2,895	756	386	366
Wichita, Kans.	51	30	9	4	7	4							

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

†Estimate based on average percent of divisional total.

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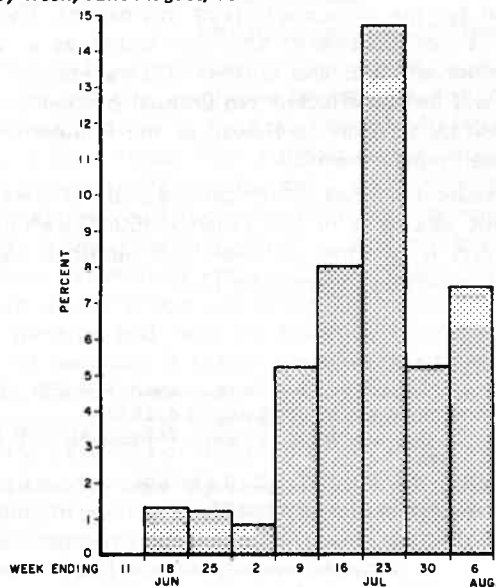
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*Epidemiologic Notes and Reports***Gastroenteritis — Yellowstone National Park, Wyoming**

An outbreak of mild gastroenteritis presumed to be viral in etiology began early in July in Yellowstone National Park. The center of the outbreak was Canyon Village, a small, centrally located town in the park which provides lodging accommodations, campsites, and eating facilities for tourists. A survey by CDC on August 6 of Canyon Village employees revealed an attack rate of 32% since June 1, with a peak attack rate of nearly 15% for the week ending July 23 (Figure 1). The disease was characterized by the acute onset of vomiting or diarrhea, which lasted approximately 24 hours.

FIGURE 1. Attack rate of gastroenteritis in Canyon Village employees, by week, June-August, 1977



In Lake Village, 17 miles south of Canyon Village, and Old Faithful Village, 42 miles west of Canyon Village, outbreaks also occurred in July; overall attack rates for these 2 villages were approximately 15%. In Lake Village the peak occurred during the week ending July 30, when the attack rate was 3.7%.

Initially, investigation suggested a common-source outbreak temporally associated with the use of a secondary water source. The primary water source for Canyon Village is Soda Creek, a small mountain stream. When it is not sufficient, Cascade Creek, an unprotected surface water source which originates at Cascade Lake and runs approximately 4 miles to a small reservoir, is used as an auxiliary water source. Because of inadequate rain this summer, Cascade Creek has been used intermittently every day since June 29, except for 2 days — July 24-25 — when there was adequate rainfall. These 2 days occurred in the week ending

July 30, which had a decrease in the attack rate for Canyon Village (Figure 1).

Among employees in Canyon Village, those who drank an average of more than 5 glasses of water per day were at a significantly higher risk of contracting gastroenteritis than those who drank 2 glasses or less ($p < 0.05$). Furthermore, employees who boiled their water were at significantly less risk of having gastroenteritis than those who drank water without boiling it ($p < 0.05$). Among visitors to Yellowstone Park surveyed on August 8, those who visited Canyon Village and drank more than 2 glasses of water per day while in the park were at significantly higher risk of having gastroenteritis than those who did not drink this much water or visit Canyon Village ($p < 0.001$).

Fluorescent dye studies to determine if there are any cross connections between the sewage and water supplies are underway.

Although water was the probable source of some cases, other factors suggested person-to-person transmission for many cases in the 3 villages. Social intermingling among employees in these villages is commonplace, and surveys in Canyon Village documented that roommates of persons ill with gastroenteritis were at a significantly higher risk of becoming ill than roommates of well persons ($p < 0.001$). Among Park Service personnel, individuals residing in dormitories were at a significantly higher risk than those residing in trailers or apartments ($p < 0.01$), suggesting that person-to-person spread was occurring, particularly in areas of community living.

On August 12, the Canyon Village water supply was chlorinated to a free chlorine residual of 1 ppm. A memorandum was issued to all park employees advising them of the problem and urging them, if ill with vomiting, diarrhea, or nausea, to report such illness to the Yellowstone Medical Service. Ongoing surveillance was also established with a questionnaire for each person identified by the clinic as having compatible symptoms. On August 18 cases were still occurring, and the Park Service was advised by CDC to avoid using Cascade Creek water for human consumption. On August 20 a temporary water system utilizing the Yellowstone River was established to be used by Canyon Village for the rest of this season. It was also recommended that a meeting be held later this summer to develop plans to correct deficiencies in the Canyon Village water supply before the opening of the park next spring.

Reported by M Smith, MD, Yellowstone Medical Service; MD Skinner, MD, State Epidemiologist, Montana State Dept of Health and Environmental Sciences; and Enteric and Neurotropic Diseases Br, Viral Diseases Div, CDC.

Fatal Plague Infection — California

On August 14, 1977, a 55-year-old veterinarian was hospitalized in San Jose, California, for lobar pneumonia. His illness began 2 days earlier, when he had onset of cough, chest pain, shaking chills, and fever. Sputum and blood specimens collected on admission subsequently yielded *Yersinia pestis*. Despite intensive therapy, his condition pro-

gressively deteriorated, and he died August 17. Autopsy findings were consistent with either primary septicemic plague complicated by pneumonia or primary pneumonic plague.

About 200 persons, including hospital personnel and community contacts, have been placed on a program of

active clinical surveillance and antimicrobial prophylaxis. No secondary infections have been documented. Investigations into the source of infection for the patient are in progress.

Reported by M Mattu, MD, G Matthews, RN, San Jose; J DiCaprio,

MD, Santa Clara County Health Dept; RJ Bowersox, MD, Monterey County Health Dept; B Stephens, MD, San Francisco County Medical Examiner; G Nygaard, RR Roberto, MD, SB Werner, MD, California State Dept of Health; Plague Br, Vector-Borne Diseases Div, Bur of Laboratories, Bacterial Zoonoses Br, Bacterial Diseases Div, and Field Services Div, Bur of Epidemiology, CDC.

Vibrio cholerae — Hawaii

On August 14, 1977, a 52-year-old male returning from a 2-week trip to the Philippines developed nausea and vomiting shortly after his flight departed Manila. On arrival in Honolulu, he was taken from the airplane to a hospital because of hypotension; he subsequently developed diarrhea. *Vibrio cholerae* El Tor Inaba was isolated from his stool. He was treated with intravenous fluids and had an uneventful recovery. There have been no secondary cases. The patient had received 2 injections of cholera vaccine 2 weeks apart 1 month before leaving the United States. In the Philippines, he spent 14 days in Cebu City and 2 days in Manila.

Reported by D Eith, MD, R Lam, MD, Industrial Medical Clinic, Honolulu; R Frankel, MD, Queens Medical Center and University of Hawaii; D Will, MD, Queens Medical Center, Honolulu; V Goo, N Wiebenga, MD, State Epidemiologist, Hawaii State Health Dept; Bacteriology Div, Bur of Laboratories, Honolulu Quarantine Station, Quarantine Div, Field Services Div, and Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Although cholera is endemic in the Philippines and in other countries in Asia and Africa, the risk to travelers abroad is low. This is only the sixth documented case among travelers from the United States and the first known importation into the United States since the current pandemic began in 1961 (7). Although stools from persons with severe diarrheal illnesses occurring en route from cholera-infected countries are frequently cultured

by CDC, most persons infected with *V. cholerae* have mild or no symptoms and thus would escape detection. Nevertheless, the risk of secondary spread of imported cholera in this country is small because water and sewage systems are generally adequate.

Since cholera is usually transmitted by contaminated food or water and person-to-person spread is rare, neither cholera vaccine nor prophylactic antibiotics were recommended for the close contacts of this patient. The United States is not considered cholera-infected as a result of this imported case, and current cholera vaccine requirements will not be affected. No unusual precautions should be taken by travelers to Hawaii or the Philippines, or by state health departments.

This case illustrates the limitations of the cholera vaccine (2). This vaccine is of low potency (50-60% efficacy), its protection is of short duration (3-6 months), and it has limited impact on transmission (3,4).

References

1. MMWR 25:415, 1976
2. Advisory Committee on Immunization Practices: Collected Recommendations. MMWR 21(Suppl):3-4, 1972
3. Barua D, Burrows W(ed): Cholera. Philadelphia, WB Saunders Company, 1974
4. Gangarosa EJ: The epidemiologic basis of cholera control. Bull Pan Am Health Organ 8:189-197, 1974

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p259 In the article, "Poisoning Associated with Herbal Teas — Arizona, Washington," in the second last paragraph to the editorial note, add the following: "In addition, several months ago the Pima and Pinal County Health Departments contacted all pharma-

cies in Hispanic communities in their areas alerting them to the situation." Also, add to the credits the following: DG Bal, MD, BJ Spaulding, RN, Pima County (Arizona) Health Dept; C Ferryman, RN, Pinal County Health Dept.

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