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MORBIDITY AND MORTALITY WEEKLY REPORT

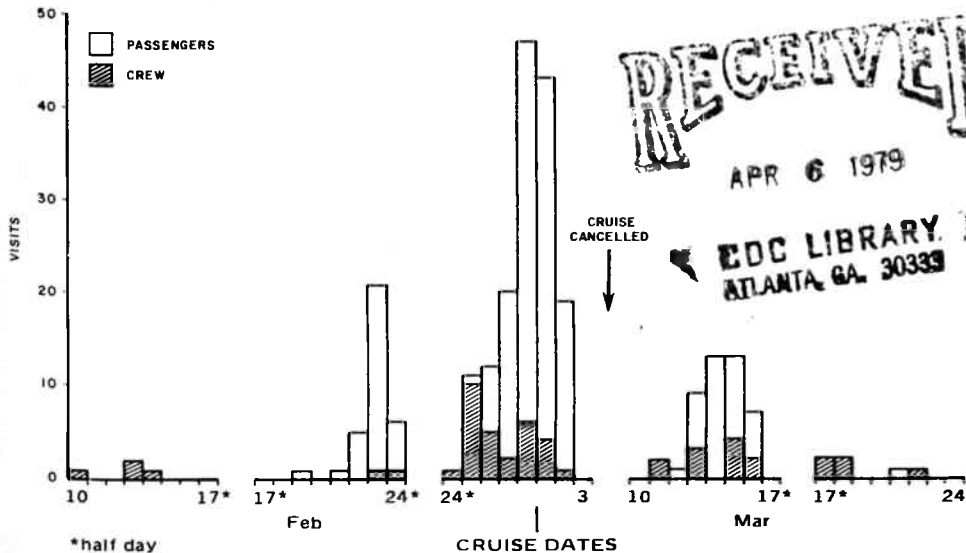
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Epidemiologic Notes and Reports

Salmonella heidelberg Gastroenteritis Aboard a Cruise Ship

An outbreak of gastrointestinal illness occurred aboard the *T.S.S. Festivale*, a Caribbean cruise ship of Panamanian registry owned and operated by Carnival Cruise Lines, on its February 17-24 cruise. The outbreak was detected when several passengers who were ill aboard ship notified the Dade County Health Department and the U.S. Quarantine Office after they disembarked in Miami. On the evening of February 26, a Quarantine Officer in San Juan, where the ship was docked, reviewed the ship's medical log and noted that the outbreak had begun on February 22 and that 32 (3%) of the 1,149 passengers had been seen by the physician for a diarrheal illness during the cruise (Figure 1). An outbreak was also apparently occurring on the present cruise (February 24-March 3): 26 (2%) of the 1,160 passengers and 18 (3%) of the 540 crew had reported having diarrhea to the ship's physician by February 26, and many more passengers were complaining of a gastrointestinal illness. A Public Health Service (PHS) quarantine officer and a PHS sanitarian boarded the ship in St. Martin on February 28 to begin an epidemiologic and environmental investigation.

FIGURE 1. Clinic visits for diarrheal illness among passengers and crew on 4 cruises of the *T.S.S. Festivale*, February 10-March 24, 1979



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Salmonella heidelberg — Continued

A questionnaire survey was conducted on March 1; of the 1,129 (97%) passengers responding, 379 (34%) reported a gastrointestinal illness defined as either watery diarrhea or severe cramps and vomiting; 108 passengers became ill within 48 hours of boarding the ship on February 24. Stool cultures previously obtained from 4 passengers ill during the earlier cruise and from 14 ill crew members, removed from the ship when it docked in St. Thomas on February 27, grew *Salmonella* group B.

A sanitation inspector for the Quarantine Division inspected the ship on March 2. The water was found to have adequate levels of residual chlorine and to be negative for coliforms. Multiple deficiencies in sanitation were found, particularly in food handling and preparation. Records revealed that the ship had not passed earlier sanitation inspections conducted by the Quarantine Division.

On March 3 a second questionnaire was distributed concerning food consumed during the cruise of February 24-March 3. The survey, completed by 93% of passengers, implicated turkey and macaroni salad from the evening buffet on February 24 as vehicles of transmission. Stool cultures were obtained from 21 ill passengers and 6 well passengers before landing; *S. heidelberg* was isolated from 17 (81%) of the ill and 4 (67%) of the well passengers. The same *Salmonella* serotype was cultured from 7 of 35 different food specimens taken from the ship's galley on March 1 and 2; however, the original turkey and macaroni salad from the evening buffet of February 24 were no longer available. Stool specimens were taken from 269 food handlers and tested for salmonellae; more than 60 have been positive for *Salmonella* group B, to date. The food handlers are the employees of Apollo caterers, a Miami-based firm that caters cruise ships.

The following recommendations were made: 1) remove and destroy leftover foods, 2) completely clean and sanitize the galley, 3) screen food handlers for *Salmonella* and remove all those who are positive, 4) make structural improvements in the kitchen's refrigeration systems and dishwashing areas, and 5) provide better supervision and education of galley crew to improve food handling practices. Since these changes would take at least 1 week to implement, the PHS recommended that the company cancel the March 3-10 cruise. The company accepted and agreed to implement these recommendations.

On March 10, the *T.S.S. Festivale* sailed again with a large number of new galley crew members replacing those who had positive *Salmonella* cultures. A small outbreak of gastrointestinal illness occurred during this cruise (Figure 1), and *S. heidelberg* was isolated from 1 new passenger. During the subsequent cruise, which began March 17, only 1 of more than 1,100 passengers reported to the ship's doctor with diarrhea.

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Editorial Note: While shipboard outbreaks of gastrointestinal illness occur yearly (1-2), this is the first time since 1973 that CDC has recommended that a cruise be cancelled because of an outbreak (3). The epidemiologic data and the isolation of *S. heidelberg* from food handlers and food specimens suggested that the ship's principal problems were in the preparation and storage of food.

According to quarantine regulations, the master of a vessel is required to report to the Quarantine Station, within 24 hours before arriving in port, the number of passengers and crew who were seen by the ship's physician for the treatment of diarrhea. CDC usually conducts an epidemiologic and environmental investigation when 3% or more of passengers and crew members experience a diarrheal illness.

The Quarantine Division routinely inspects and scores cruise ships for their adherence to sanitation codes. The results of sanitation inspections on individual cruise ships as well as a monthly summary of the results of the most recent inspections of all cruise ships

Salmonella heidelberg — Continued

sailing from or calling at a U.S. port may be obtained from the U.S. Public Health Service, 1015 North American Way, Room 107, Miami, Florida 33132.

References

1. Merson MH, Hughes JM, Lawrence DN, Wells JG, D'Agnese JJ, Yashuk JC: Food and waterborne disease outbreaks on passenger cruise vessels and aircraft. *Journal of Milk and Food Technology* 39:285-288, 1976
2. Merson MH, Hughes JM, Wood BT, Yashuk JC, Wells JG: Gastrointestinal illness on passenger cruise ships. *JAMA* 231:723-727, 1975
3. *MMWR* 22:217-218, 1973

Measles and Rubella at a Military Recruit Training Center — Illinois

Investigation of an outbreak of rash illness that occurred during a 6-month period in 1977-1978 at a military recruit training center has indicated that at least 97 ill recruits had infections due to measles virus, rubella virus, or both.

In the period mid-November 1977 to mid-April 1978, 147 recruits sought medical attention for a rash illness at the U.S. Naval Recruit Training Command in Great Lakes, Illinois. All individuals were evaluated by either a physician or physician's assistant. Blood specimens obtained during the acute and convalescent stages were obtained from all patients. As a control group, 2 recruit companies (108 persons) submitted blood specimens at the beginning and end of their 7-week training period. One individual, known to have had a rash illness during his training, was excluded from the control population.

Of the 145 recruits with rash illnesses who had paired blood samples tested for both measles and rubella hemagglutination-inhibition (HI) antibodies, 23 (16%) had 4-fold or greater rises to measles only; 56 (39%), to rubella only; 18 (12%), to both; and 48 (33%), to neither (Table 1). Ninety-seven (67%) of the 145 ill persons developed antibody to at least one of the viruses.

Eight of 105 (8%) serum specimens from controls had a measles HI antibody titer of < 1:10, and 26 of all 107 (24%) controls had an initial rubella HI antibody titer of < 1:10. Twenty-one (81%) of these 26 rubella-susceptible individuals seroconverted—that is, had a 4-fold titer rise over the 7-week period; 4 of the 8 (50%) measles-susceptible individuals seroconverted.

Reported by C Juels, MD, MPH, Cdr, Medical Corps, S Walz, MPH, Lt MSC, Navy Environmental Preventive Medicine Unit 2, Norfolk, Virginia; J Maples, MS, LCdr, MSC, N LaChapelle, MSPH, Cdr, MSC, Navy Regional Medical Center, Great Lakes, Illinois; Perinatal Virology Br, Bur of Laboratories, Immunization Div, Bur of State Services, CDC.

TABLE 1. Serologic responses to measles and rubella among 145 ill naval recruits, Great Lakes, Illinois, November 1977-April 1978

Serologic responses	Number	Percent
Four-fold rise	97	67
Measles	23	16
Rubella	56	39
Measles and rubella	18	12
No rise	48	33
Total	145	100

Measles and Rubella — Continued

Editorial Note: Measles and rubella are ongoing problems in military recruit populations (1,2). These serologic data indicate that 67% of clinically ill recruits had infections with either measles, rubella, or both. These cases could have been prevented by prior immunization during childhood or adolescence.

The 8% susceptibility rate for measles among the control group is higher than expected (3,4), but it is based on a small sample of individuals. The 24% susceptibility rate for rubella is similar to reported rates for adults in the United States (4-6). The high seroconversion rate to rubella in the control population provides further evidence of the high degree of rubella virus transmission occurring in susceptible recruits (7).

References

1. MMWR 27:489, 1978
2. MMWR 26:352, 1977
3. Langmuir AD: Medical importance of measles. Am J Dis Child 103:54-56, 1962
4. Preblud SR, Halsey NA, Herrmann KL, Gross FT: Susceptibility to measles and rubella in Merchant Marine cadets, Kingspoint, Long Island, New York, 1977. Presented at the Immunization Conference, Washington, D.C., March 1978
5. Schiff GM, Linneman CC, Shea L, Trimble S: Rubella surveillance and immunization among college women. Obstet Gynecol 43:143-146, 1974
6. Center for Disease Control: Rubella Surveillance, July 1973-December 1975. Atlanta, CDC. Issued August 1976
7. Pollard RB, Edwards EA: Epidemiologic survey of rubella in a military recruit population. Am J Epidemiol 101:431-437, 1975

TABLE I. Summary — cases of specified notifiable diseases, United States

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

DISEASE	13th WEEK ENDING		MEDIAN 1974-1978**	CUMULATIVE, FIRST 13 WEEKS		
	March 31, 1978	April 1, 1978*		March 31, 1978	April 1, 1978*	MEDIAN 1974-1978**
Aseptic meningitis	50	22	35	631	461	461
Bruceellosis	1	—	3	19	39	39
Chickenpox	6,700	4,134	4,905	80,321	51,929	53,010
Diphtheria	—	—	4	51	21	50
Encephalitis: Primary (arthropod-borne & unsp.)	10	8	15	122	132	159
Post-infectious	5	2	3	44	36	50
Hepatitis, Viral: Type B	275	248	248	3,312	3,734	3,574
Type A	475	470	667	7,238	6,810	9,006
Type unspecified	196	148	156	2,771	2,000	2,088
Malaria	8	11	5	95	119	80
Measles (rubella)	416	817	817	3,597	6,889	7,155
Meningococcal infections: Total	55	55	44	844	699	507
Civilian	54	55	44	841	692	502
Military	1	—	—	3	7	7
Mumps	414	341	1,394	4,827	5,507	16,516
Pertussis	19	29	21	356	570	293
Rubella (German measles)	361	475	527	3,228	3,326	4,263
Tetanus	1	1	1	9	10	10
Tuberculosis	597	641	641	6,774	6,552	7,127
Tularemia	1	—	1	26	16	19
Typhoid fever	10	11	7	100	133	86
Typhus fever, tick-borne (Rky. Mt. spotted)	1	1	1	23	11	12
Veneral diseases:						
Gonorrhea: Civilian	17,534	16,521	16,521	237,628	225,247	231,732
Military	422	544	537	6,890	5,733	6,645
Syphilis, primary & secondary: Civilian	480	372	372	6,079	5,023	5,450
Military	12	5	6	81	78	78
Rabies in animals	121	59	51	810	618	604

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1978		CUM. 1978
Anthrax	—	Poliomyelitis: Total	2
Botulism †(Calif. 1)	4	Paralytic	3
Congenital rubella syndrome (Minn. 1, Tex. 1)	8	Psittacosis (Calif. 3)	21
Leprosy (Hawaii 5)	45	Rabies in man	1
Leptospirosis 1	13	Trichinosis (Ups. N. Y. 2)	25
Plague	1	Typhus fever, flea-borne (endemic, murine)	3

* Delayed reports received for calendar year 1978 are used to update last year's weekly and cumulative totals.

** Medians for gonorrhea and syphilis are based on data for 1976-1978.

† Delayed reports: Botulism: N. Mex. +2 (1978); Leptospirosis: Ore. +8 (1978)

TABLE III. Cases of specified notifiable diseases, United States, weeks ending March 31, 1979, and April 1, 1978 (13th week)

REPORTING AREA	ASEPTIC MENINGITIS		BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
							Primary		Post-infectious	B	A	Unspecified		
	1979	1978	1978	1978	1978	CUM. 1979	1978	1978*	1978	1978	1978	1978	1978	CUM. 1978
UNITED STATES	50	1	6,700	-	51		10	8	5	275	475	196	8	95
NEW ENGLAND	-	-	985	-	-		2	-	1	15	14	15	1	5
Maine	-	-	73	-	-		-	-	-	1	1	-	-	-
N.H.	-	-	19	-	-		-	-	-	2	4	-	-	-
Vt.	-	-	11	-	-		-	-	-	-	1	-	-	-
Mass.	-	-	311	-	-		1	-	-	5	4	14	1	1
R.I.	-	-	58	-	-		-	-	1	3	3	-	-	3
Conn.	-	-	513	-	-		1	-	-	4	1	1	-	1
MID. ATLANTIC	12	-	273	-	-		-	1	1	26	30	7	1	13
Upstate N.Y.	10	-	161	-	-		-	1	1	4	13	1	-	2
N.Y. City	2	-	112	-	-		-	-	-	5	9	2	1	9
N.J. †	-	-	NN	-	-		-	-	-	12	8	4	-	1
Pa.	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	1
E.N. CENTRAL	2	-	2,738	-	-		-	1	1	69	74	7	1	6
Ohio †	-	-	335	-	-		-	1	1	17	24	-	-	3
Ind.	-	-	346	-	-		-	-	-	9	6	4	-	-
Ill.	2	-	724	-	-		-	-	-	27	24	1	1	1
Mich.	-	-	760	-	-		-	-	-	16	19	2	-	2
Wis.	-	-	573	-	-		-	-	-	-	1	-	-	-
W.N. CENTRAL	2	1	965	-	-		-	-	-	8	29	8	-	3
Minn.	-	-	1	-	-		-	-	-	4	14	1	-	2
Iowa	2	-	223	-	-		-	-	-	1	1	2	-	-
Mo.	-	-	332	-	-		-	-	-	2	6	3	-	1
N. Dak. †	-	-	42	-	-		-	-	-	-	-	-	-	-
S. Dak.	-	-	34	-	-		-	-	-	-	3	-	-	-
Nebr.	-	1	132	-	-		-	-	-	1	1	1	-	-
Kans.	-	-	201	-	-		-	-	-	-	4	1	-	-
S. ATLANTIC	11	-	580	-	-		-	2	1	46	68	18	2	22
Del.	-	-	2	-	-		-	-	-	1	-	-	-	1
Md.	3	-	4	-	-		-	-	-	3	1	3	-	3
D.C.	-	-	7	-	-		-	-	-	4	1	-	-	4
Va. †	1	-	93	-	-		-	1	1	12	5	4	1	6
W. Va. †	1	-	265	-	-		-	-	-	-	3	-	-	1
N.C.	3	-	NN	-	-		2	-	-	7	11	1	-	1
S.C.	-	-	5	-	-		-	-	-	3	1	1	1	1
Ga.	-	-	-	-	-		-	-	-	9	17	-	-	1
Fla. †	3	-	204	-	-		-	-	-	7	29	9	-	4
E.S. CENTRAL	7	-	295	-	-		1	-	-	31	50	4	-	-
Ky.	-	-	234	-	-		-	-	-	5	13	1	-	-
Tenn.	2	-	NN	-	-		-	-	-	15	15	1	-	-
Ala.	5	-	50	-	-		1	-	-	10	16	2	-	-
Miss.	-	-	11	-	-		-	-	-	1	6	-	-	-
W.S. CENTRAL	3	-	326	-	-		2	1	1	25	77	58	-	8
Ark.	-	-	4	-	-		-	-	-	2	4	2	-	1
La.	-	-	NN	-	-		1	-	-	10	11	3	-	-
Okla.	-	-	-	-	-		1	1	-	5	6	3	-	-
Tex. †	3	-	322	-	-		1	-	1	8	56	50	-	7
MOUNTAIN	-	-	90	-	1		-	-	-	5	40	43	-	2
Mont.	-	-	25	-	-		-	-	-	-	1	1	-	-
Idaho	-	-	-	-	-		-	-	-	2	-	2	-	-
Wyo.	-	-	-	-	-		-	-	-	-	-	-	-	-
Colo.	-	-	46	-	-		-	-	-	1	4	1	-	1
N. Mex.	-	-	11	-	-		-	-	-	2	19	-	-	-
Ariz.	-	-	NN	-	1		-	-	-	-	12	29	-	-
Utah	-	-	8	-	-		-	-	-	-	2	10	-	-
Nev.	-	-	-	-	-		-	-	-	-	2	-	-	-
PACIFIC	13	-	448	-	50		5	3	-	50	93	36	3	36
Wash. †	1	-	430	-	49		1	-	-	4	13	-	1	2
Oreg.	-	-	1	-	-		1	-	-	8	9	1	-	2
Calif. †	12	-	-	-	1		3	2	-	33	67	35	2	31
Alaska †	-	-	4	-	-		-	-	1	1	1	-	-	-
Hawaii	-	-	13	-	-		-	-	-	4	3	-	-	1
Guam †	NA	NA	NA	NA	-		NA	-	-	NA	NA	NA	NA	-
P.R.	1	-	33	-	-		-	-	-	2	-	14	-	-
V.I.	-	-	-	-	-		-	-	-	-	-	-	-	-
Pac. Trust Terr.	NA	NA	NA	NA	-		NA	-	-	NA	NA	NA	NA	-

NN: Not notifiable. NA: Not available.
 *Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.
 †The following delayed reports will be reflected in next week's cumulative totals: Asep. men.: Ohio +1, Fla. +11, Tex. -1; Chickenpox: Fla. +331, Calif. +260; Enceph. prim.: Wash. -1; Enceph. post.: Fla. +2; Hep. B: W. Va. +1, Fla. +20, Tex. -1, Alaska -1; Hep. A: N.J. +2, N. Dak. +1, Va. -1, W. Va. -1, Fla. +34, Tex. -5; Hep. unsp.: N.J. -2, W. Va. -1, Fla. +6, Tex. -3, Alaska +1; Malaria: Fla. +2.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending March 31, 1979, and April 1, 1978 (13th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1978	CUM. 1978	CUM. 1978*	1978	CUM. 1978	CUM. 1978*	1978	CUM. 1978	1978	1978	CUM. 1978	CUM. 1978
UNITED STATES	416	3,597	6,889	55	844	699	414	4,827	19	361	3,228	9
NEW ENGLAND	3	113	562	2	25	42	8	219	1	70	398	-
Maine	-	4	328	-	1	3	1	89	-	-	11	-
N.H.†	-	3	11	-	4	5	-	2	-	1	24	-
Vt.	3	6	5	1	2	1	-	4	-	17	139	-
Mass.	-	-	76	-	6	14	1	16	-	44	142	-
R.I.	-	100	4	-	1	8	1	9	-	-	8	-
Conn.	-	-	138	1	11	11	5	99	1	8	74	-
MID. ATLANTIC	33	272	527	6	117	86	52	351	4	47	414	2
Upstate N.Y.	9	133	368	1	42	30	2	48	3	14	128	1
N.Y. City	22	108	83	4	34	23	5	42	1	9	46	1
N.J.	2	23	7	1	31	16	45	199	-	24	170	-
Pa.	NA	8	69	-	10	17	NA	62	NA	NA	70	-
E.N. CENTRAL	86	798	2,601	3	74	67	209	2,085	-	88	802	1
Ohio	-	4	144	-	22	15	125	700	-	-	24	-
Ind.	8	77	46	1	17	12	15	130	-	31	216	-
Ill.	29	184	359	-	3	9	14	332	-	-	55	-
Mich.	22	326	1,652	1	25	27	16	406	-	47	424	1
Wis.†	27	207	400	1	7	4	39	517	-	10	83	-
W.N. CENTRAL	46	384	72	3	31	28	9	333	-	5	119	-
Minn.	37	172	14	2	6	4	1	3	-	-	13	-
Iowa	-	2	8	-	4	4	6	110	-	2	41	-
Mo.	9	199	4	-	16	13	-	108	-	-	15	-
N. Dak.	-	2	17	-	-	-	-	1	-	-	8	-
S. Dak.	-	1	-	-	2	2	1	2	-	-	-	-
Nebr.†	-	-	3	-	-	-	-	3	-	-	-	-
Kans.	-	8	26	1	3	5	1	106	-	3	42	-
S. ATLANTIC	55	453	1,784	13	197	200	19	178	7	18	244	2
Del.	-	-	4	-	2	-	2	8	-	-	1	-
Md.	-	5	1	4	15	8	5	26	-	-	-	-
D.C.	-	-	47	-	-	1	-	1	-	-	-	-
Va.†	1	62	1,215	1	35	28	-	39	-	5	15	-
W. Va.	2	34	264	-	3	5	5	44	2	2	53	-
N.C.	8	68	40	2	34	43	3	20	-	1	71	2
S.C.†	-	30	126	-	31	15	-	2	1	1	28	-
Ga.	42	35	5	3	37	27	1	3	3	1	2	-
Fla.†	42	219	82	3	40	73	3	35	1	8	74	-
E.S. CENTRAL	6	59	531	10	69	58	14	495	-	13	118	2
Ky.	2	13	52	1	13	11	10	417	-	-	36	-
Tenn.	1	11	367	5	21	19	2	50	-	2	51	-
Ala.	2	28	25	1	17	15	1	9	-	2	14	2
Miss.	1	7	87	3	18	13	1	19	-	9	17	-
W.S. CENTRAL	81	438	448	7	156	96	67	707	5	21	98	2
Ark.	-	7	3	-	13	12	2	264	-	-	-	2
La.	49	144	201	1	76	27	6	23	-	9	15	-
Okla.†	-	3	7	-	11	8	-	-	-	-	16	-
Tex.†	32	284	237	6	56	49	59	420	5	12	67	-
MOUNTAIN	2	70	78	3	42	11	7	149	1	5	143	-
Mont.	1	23	55	-	2	1	-	5	1	2	29	-
Idaho	1	2	1	-	3	1	-	2	-	3	84	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-
Colo.	-	6	11	-	1	2	2	4	-	-	14	-
N. Mex.	-	9	-	-	2	2	2	48	-	-	-	-
Ariz.	-	15	6	-	27	3	2	11	-	-	11	-
Utah	-	13	1	-	3	1	1	71	-	-	5	-
Nev.	-	2	4	3	4	1	-	8	-	-	-	-
PACIFIC	104	1,010	286	8	133	111	29	310	1	94	892	-
Wash.†	58	429	32	2	18	18	10	130	-	12	81	-
Oreg.	10	19	77	-	9	4	2	29	-	4	40	-
Calif.	33	499	176	5	100	85	15	131	1	78	764	-
Alaska	-	14	-	1	2	3	-	5	-	-	1	-
Hawaii	3	49	1	-	4	1	2	15	-	-	6	-
Guam	NA	-	1	-	-	-	NA	-	NA	NA	1	-
P.R.	11	120	71	-	-	-	40	248	-	8	17	3
V.I.	-	1	6	-	-	-	-	1	-	-	-	-
Pac. Trust Terr.	NA	5	288	-	1	2	NA	11	NA	NA	-	-

NA: Not available.

*Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: Measles: Wis. -14, Fla. +46, Tex. -3; Men. inf.: Va. -1, S.C. -1, Fla. +6, Okla. +5; Mumps: Fla. +6; Pertussis: Tex. -1, Wash. +1; Rubella: N.H. +3, Wis. +2, Nebr. +58, Fla. +19, Tex. +2.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending March 31, 1979, and April 1, 1978 (13th week)

REPORTING AREA	TUBERCULOSIS		TULA-REMI	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1978	CUM. 1979	CUM. 1979	1978	CUM. 1979	1978	CUM. 1979	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	CUM. 1978*	CUM. 1979
UNITED STATES	597	6,774	26	10	100	1	23	17,534	237,628	225,247	480	6,079	5,023	810
NEW ENGLAND	16	193	1	1	8	-	-	287	6,261	5,680	8	107	166	14
Maine	-	13	-	-	1	-	-	53	420	410	-	1	3	13
N.H.	-	3	-	-	-	-	-	15	199	276	-	2	1	1
Vt.	-	6	-	-	-	-	-	4	102	146	-	-	-	-
Mass.	13	119	1	-	4	-	-	4	2,485	2,530	8	74	109	-
R.I.	-	12	-	-	1	-	-	57	531	377	-	3	4	-
Conn.	3	40	-	1	2	-	-	154	2,524	1,941	-	27	49	-
MID. ATLANTIC	90	1,091	1	1	15	-	-	3	1,620	25,402	77	973	660	6
Upstate N.Y.	26	194	1	-	3	-	-	3	516	4,814	3	778	82	47
N.Y. City	45	420	-	1	6	-	-	-	923	9,517	10,087	51	653	456
N.J.	19	194	-	-	5	-	-	-	181	4,653	19	128	77	-
Pa.	NA	283	-	NA	1	NA	-	NA	6,418	6,614	NA	110	80	-
E.N. CENTRAL	89	969	-	2	7	-	-	2	2,564	36,615	31,232	15	754	508
Ohio †	16	187	-	-	-	-	-	2	1,072	10,147	8,316	-	157	94
Ind.	18	147	-	-	-	-	-	-	187	2,924	3,320	-	43	28
Ill.	19	352	-	1	4	-	-	-	394	11,569	8,960	2	433	326
Mich.	32	245	-	1	3	-	-	-	689	8,635	7,596	10	93	45
Wis.	4	38	-	-	-	-	-	-	222	3,340	3,040	3	28	15
W.N. CENTRAL	18	224	9	-	3	-	-	1	824	11,360	11,203	16	84	115
Minn.	2	26	-	-	2	-	-	-	109	1,986	2,143	4	25	47
Iowa	-	23	-	-	-	-	-	-	180	1,550	1,361	-	7	11
Mo.	10	121	7	-	1	-	-	-	332	4,726	4,262	10	36	28
N. Dak.	2	9	-	-	-	-	-	-	25	198	268	-	-	2
S. Dak.	-	13	1	-	-	-	-	-	30	379	430	-	-	1
Nebr.	1	3	1	-	-	-	-	-	88	759	874	-	1	3
Kans.	3	29	-	-	-	-	-	1	60	1,762	1,865	2	15	23
S. ATLANTIC	176	1,583	1	3	12	-	-	9	4,711	56,812	53,997	113	1,540	1,363
Del.	-	12	-	-	-	-	-	-	84	919	902	-	9	3
Md.	22	218	-	1	5	-	-	4	511	6,950	7,216	6	104	97
D.C.	10	71	-	-	1	-	-	-	274	3,534	3,525	9	109	114
Va. †	27	190	-	1	2	-	-	-	536	5,425	5,020	12	159	124
W. Va.	2	56	-	-	-	-	-	-	70	829	830	-	21	4
N.C. †	26	266	-	-	-	-	-	4	533	8,756	7,126	5	138	109
S.C.	5	61	1	1	1	-	-	1	519	4,805	5,035	9	85	63
Ge.	35	239	-	-	-	-	-	-	1,057	10,900	10,453	29	408	324
Fla. †	49	470	-	-	3	-	-	-	1,127	14,694	13,890	43	507	525
E.S. CENTRAL	43	619	4	-	6	-	-	5	1,629	20,617	18,995	28	428	229
Ky. †	12	136	2	-	2	-	-	-	152	2,770	2,183	3	44	25
Tenn.	9	178	2	-	1	-	-	1	481	7,171	7,162	10	177	82
Ala.	17	131	-	-	3	-	-	4	623	6,219	5,434	8	88	29
Miss.	5	174	-	-	-	-	-	-	373	4,457	4,216	7	119	93
W.S. CENTRAL	70	801	4	-	6	1	2	2,010	31,267	31,974	79	1,044	771	
Ark.	13	56	2	-	-	1	1	81	2,395	2,452	-	32	28	
La.	26	199	1	-	-	-	-	-	265	5,401	5,127	13	237	163
Okla.	2	104	-	-	-	-	-	-	220	2,764	2,832	6	21	28
Tex.	29	442	1	-	6	-	1	1,444	20,707	21,563	60	754	552	
MOUNTAIN	11	193	5	1	6	-	1	615	8,917	8,416	14	85	104	
Mont.	-	5	-	-	-	-	-	-	27	439	516	-	4	6
Idaho	-	4	-	1	1	-	-	-	19	407	292	1	7	-
Wyo.	-	3	-	-	-	-	-	-	26	238	195	-	3	3
Colo.	-	13	-	-	1	-	-	-	191	2,498	2,327	1	28	32
N. Mex.	5	33	1	-	1	-	-	-	126	1,181	1,163	-	10	30
Ariz.	3	111	-	-	2	-	-	-	87	2,380	2,103	8	19	20
Utah	-	5	4	-	-	-	-	-	48	457	522	1	2	3
Nev.	3	19	-	-	1	-	1	91	1,317	1,298	3	12	10	
PACIFIC	84	1,101	1	2	37	-	-	3,274	40,377	38,735	130	1,064	1,107	
Wash.	3	34	-	-	1	-	-	-	539	3,376	2,629	NA	40	49
Oreg.	5	57	-	-	-	-	-	-	174	2,631	2,710	5	47	32
Calif.	72	918	1	2	29	-	-	2,410	32,427	31,408	123	952	1,009	
Alaska †	-	25	-	-	-	-	-	-	94	1,302	1,238	2	5	5
Hawaii	4	67	-	-	7	-	-	-	57	641	750	-	20	12
Guam	NA	9	-	NA	-	NA	-	NA	16	34	NA	-	-	-
P.R.	9	85	-	-	1	-	-	45	480	667	6	142	106	
V.I.	-	1	-	-	-	-	-	2	40	55	-	-	4	
McC. Trust Terr.	NA	8	-	NA	-	NA	-	NA	47	129	NA	-	-	

NA: Not available.

*Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: TB: Ohio -2, N.C. -1, Fla. -1, Ky. -1, Alaska -1; T. Fever: Va. -1; An. rabies: Ky. +2.

TABLE IV. Deaths in 121 U.S. cities,* week ending
March 31, 1979 (13th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL	REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	>85	45-84	25-44	<1			ALL AGES	>85	45-84	25-44	<1	
NEW ENGLAND	668	441	160	26	29	40	S. ATLANTIC	1,072	642	275	65	46	40
Boston, Mass.	195	123	51	10	9	13	Atlanta, Ga.	121	72	33	8	4	4
Bridgport, Conn.	36	21	14	1	-	1	Baltimore, Md.	184	98	49	11	14	-
Cambridge, Mass.	20	14	4	2	-	2	Charlotte, N.C.	53	34	11	4	4	2
Fall River, Mass.	28	21	5	1	1	-	Jacksonville, Fla.	80	45	22	3	1	4
Hartford, Conn.	43	24	9	3	6	-	Miami, Fla.	106	64	28	6	5	4
Lowell, Mass.	29	22	4	-	1	-	Norfolk, Va.	63	38	14	8	2	2
Lynn, Mass.	20	14	5	-	1	-	Richmond, Va.	86	54	22	5	2	8
New Bedford, Mass.	20	13	4	1	-	2	Savannah, Ga.	48	25	12	3	5	5
New Haven, Conn.	48	26	13	2	5	1	St. Petersburg, Fla.	78	60	11	4	-	3
Providence, R.I.	77	53	20	2	1	4	Tampa, Fla.	72	43	20	3	3	4
Somerville, Mass.	12	12	-	-	-	1	Washington, D.C.	123	73	34	10	4	3
Springfield, Mass.	37	24	9	1	1	5	Wilmington, Del.	58	36	20	-	2	1
Waterbury, Conn.	32	22	9	-	1	4							
Worcester, Mass.	71	52	13	3	3	7							
							E.S. CENTRAL	695	427	179	27	27	34
MID. ATLANTIC	2,142	1,433	468	107	59	84	Birmingham, Ala.	137	75	38	8	8	1
Albany, N.Y.	44	27	8	1	3	-	Chattanooga, Tenn.	59	37	9	5	3	5
Allentown, Pa.	18	12	6	-	-	-	Knoxville, Tenn.	52	38	13	-	-	-
Buffalo, N.Y.	142	92	32	6	6	12	Louisville, Ky.	116	71	34	3	5	12
Camden, N.J.	38	28	7	2	-	-	Memphis, Tenn.	140	87	39	5	1	5
Elizabeth, N.J.	33	23	7	2	1	-	Mobile, Ala.	51	30	13	1	2	-
Erie, Pa.†	22	15	3	2	1	3	Montgomery, Ala.	38	26	8	-	3	2
Jersey City, N.J.	59	40	9	3	3	1	Nashville, Tenn.	102	63	25	5	5	9
Newark, N.J.	43	22	15	1	4	1							
N.Y. City, N.Y.	1,387	932	294	82	29	50	W.S. CENTRAL	973	562	248	74	41	62
Patterson, N.J.	36	18	8	3	5	1	Austin, Tex.	54	40	8	2	2	5
Pittsburgh, Pa.†	329	188	87	30	9	16	Baton Rouge, La.	29	17	9	-	2	2
Reading, Pa.†	71	45	23	1	1	6	Corpus Christi, Tex.	42	25	9	-	6	1
Rochester, N.Y.	42	32	10	-	-	3	Dallas, Tex.	183	97	56	17	8	3
Schenectady, N.Y.	112	80	28	2	1	11	El Paso, Tex.	54	29	14	5	2	5
Syracuse, Pa.†	26	22	4	-	-	-	Fort Worth, Tex.	80	41	18	10	6	4
Syracuse, N.Y.	24	19	4	1	-	2	Houston, Tex.	122	60	36	17	-	4
Trenton, N.J.	82	57	15	-	6	1	Little Rock, Ark.	51	40	5	2	1	6
Utica, N.Y.	29	15	11	2	-	1	New Orleans, La.	97	52	27	7	3	11
Yonkers, N.Y.	23	16	5	2	-	2	San Antonio, Tex.	134	82	33	8	9	4
	28	17	9	1	1	1	Shreveport, La.	62	36	22	2	2	1
							Tulsa, Okla.	65	43	11	4	1	6
E.N. CENTRAL	2,219	1,363	561	137	81	59	MOUNTAIN	592	347	124	47	35	29
Akron, Ohio	76	51	19	4	1	-	Albuquerque, N. Mex.	56	33	11	6	3	4
Canton, Ohio	55	34	16	4	-	4	Colo. Springs, Colo.	40	25	6	5	1	6
Chicago, Ill.	556	314	162	40	22	9	Denver, Colo.	112	77	16	6	6	3
Cincinnati, Ohio	128	81	29	11	6	3	Las Vegas, Nev.	72	27	25	6	1	7
Cleveland, Ohio	172	98	43	12	9	-	Ogden, Utah	22	15	2	3	2	2
Columbus, Ohio	139	95	27	11	2	2	Phoenix, Ariz.	125	67	31	12	8	3
Dayton, Ohio	108	67	28	6	4	4	Pueblo, Colo.	19	15	3	1	-	3
Detroit, Mich.	242	140	58	22	12	4	Salt Lake City, Utah	48	29	6	2	8	1
Evansville, Ind.	40	25	10	1	-	1	Tucson, Ariz.	98	59	24	6	6	-
Fort Wayne, Ind.	50	39	6	2	1	2							
Gary, Ind.	21	13	7	1	-	-	PACIFIC	1,817	1,150	417	108	69	64
Grand Rapids, Mich.	65	49	13	-	3	4	Berkeley, Calif.	21	17	4	-	-	1
Indianapolis, Ind.	140	77	46	4	6	10	Fresno, Calif.	77	45	11	6	7	10
Madison, Wis.	37	22	8	-	1	5	Glendale, Calif.	22	17	5	-	-	-
Milwaukee, Wis.	115	80	26	3	5	3	Honolulu, Hawaii	60	34	21	3	1	1
Peoria, Ill.	37	23	10	2	1	4	Long Beach, Calif.	94	58	30	1	2	1
Rockford, Ill.	41	29	8	3	-	3	Los Angeles, Calif.	588	367	140	44	15	20
South Bend, Ind.	50	29	14	4	1	1	Oakland, Calif.	60	36	11	7	1	4
Toledo, Ohio	92	60	23	4	1	-	Pasadena, Calif.	24	20	4	-	-	-
Youngstown, Ohio	55	37	8	3	6	-	Portland, Oreg.	109	65	26	7	7	4
							Sacramento, Calif.	65	47	10	3	3	2
W.N. CENTRAL	799	522	180	33	32	20	San Diego, Calif.	162	101	34	11	7	2
Des Moines, Iowa	58	36	17	1	3	1	San Francisco, Calif.	137	81	36	7	8	-
Duluth, Minn.	27	17	7	1	2	6	San Jose, Calif.	152	96	32	7	4	1
Kansas City, Kans.	25	14	5	3	2	-	Seattle, Wash.	142	93	29	10	4	7
Kansas City, Mo.	143	90	35	5	7	3	Spokane, Wash.	54	36	15	1	2	6
Lincoln, Nebr.	40	30	8	1	-	1	Tacoma, Wash.	50	37	9	1	3	5
Minneapolis, Minn.	62	43	8	4	3	-							
Omaha, Nebr.	92	65	19	1	4	-							
St. Louis, Mo.	196	124	50	11	6	3							
St. Paul, Minn.	70	52	4	5	2	-							
Wichita, Kans.	86	51	22	1	3	6							
							TOTAL	10,977	6,887	2,612	624	419	412
							Expected Number	11,040	6,923	2,766	659	402	438

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza

†Because of changes in reporting methods in these 4 Pennsylvania cities, there will now be 117 cities involved in the generation of the expected values used to monitor pneumonia and influenza activity in the United States. Data from these 4 cities will appear in the tables but will not be included in the totals for the United States and the Middle Atlantic Region.

Staphylococcal Food Poisoning — Florida

In November 1978, a Thanksgiving dinner shared by approximately 350 students, faculty, and guests at a college in Florida resulted in an outbreak of staphylococcal food poisoning. At least 54 individuals developed an illness characterized by the abrupt onset of nausea and vomiting, followed by diarrhea. None reported fever. The onset of the majority of cases was 4 to 5 hours after eating; the range was 2 to 8 hours. Two persons were hospitalized.

Food histories obtained from 64 persons who ate the meal incriminated ham as the vehicle of spread ($p < 0.001$). Bacterial cultures of leftover food items confirmed the epidemiologic findings; $> 10^7$ *Staphylococcus aureus* colonies per gram were isolated from the ham and turkey. Phage typing was not done, and no specimens from patients or food handlers were cultured.

Because of the holiday, the dinner was prepared by a large number of students instead of the usual kitchen personnel. Interviews with these students indicated that hams and turkeys had been partially thawed at room temperature and that the temperature controls on the ovens used for cooking were not functioning properly. The sliced ham and turkey had been stored at temperatures favorable for the growth of *S. aureus* (< 60 C; < 140 F) for as long as 8 hours before serving.

Reported by JA Barstow, JS Coles, A McCallister, RA Miller, MSEH, JS Rayl, MA Weise, Martin County Health Dept; RM Yeller, MD, State Epidemiologist, Florida State Dept of Health; Enteric Diseases Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Improper thawing of meat and storing of prepared foods provided the conditions necessary for this outbreak to occur. This incident serves as a reminder of the importance of having trained, supervised personnel involved in the preparation of food for the public—a consideration overlooked by some institutions and establishments during holiday seasons.

International Notes

Quarantine Measures

The following changes should be made in the "Supplement—Health Information for International Travel," MMWR, Vol. 27, September 1978:

URUGUAY

Smallpox — Change code to III. ALSO on page 18 change code to III.

VENEZUELA

Smallpox — Delete all information. Insert code III > 6 mos. ALSO on page 18 change code to III.

WAKE ISLAND

Smallpox — Delete code. Insert: None. ALSO on page 18 delete code. Insert: None.

Current Trends

Primary and Secondary Syphilis — United States, December 1978

Reported cases of primary and secondary syphilis numbered 1,832 in December 1977 and 1,921* in December 1978, representing an increase of 4.9%. This is the 10th consecutive month that more infections were reported compared to the same month of the previous year. In calendar year 1978, 21,681 cases were reported—5.6% more than the number reported in 1977.

Thirty-one areas reported an increase in the number of cases occurring in 1978 compared to 1977, but only 9 of these areas have experienced an increase of more than 100 cases. Twenty-five areas reported fewer cases, and 3 areas reported the same number of cases in 1978 compared to 1977 (Table 2). Reported early latent (less than 1 year's duration) syphilis cases increased 3.3% to 16,816 during 1978 compared to the same period in 1977.

Reported by the Venereal Disease Control Div, Bur of State Services, CDC.

*provisional data

TABLE 2. Summary of reported primary and secondary syphilis cases, by reporting area, December 1978 and December 1977 (provisional data)

Reporting Area by HEW Region	December		Calendar Year Cumulative January-December		Reporting Area by HEW Region	December		Calendar Year Cumulative January-December		Reporting Area by HEW Region	December		Calendar Year Cumulative January-December	
	1978	1977	1978	1977		1978	1977	1978	1977		1978	1977	1978	1977
Connecticut	8	17	171	186	Illinois	16	6	157	144	Arizona	8	6	113	153
Maine	1	1	10	28	(Excl. Chicago)	6	157	1,375	1,034	California	129	151	1,699	1,586
Massachusetts	23	38	342	547	Chicago	98	94	1,375	1,034	(Excl. LA & SF)	136	133	1,700	1,447
New Hampshire	1	1	7	6	Indiana	9	12	87	98	Los Angeles*	43	66	611	832
Rhode Island	5	3	29	14	(Excl. Indianapolis)	6	6	78	59	Hawaii	3	6	44	38
Vermont	0	0	3	6	Indianapolis*	39	29	255	267	Nevada	3	0	57	17
REGION I TOTAL	45	64	562	787	Michigan	7	15	146	158	REGION IX TOTAL	322	362	4,224	4,073
New Jersey	29	41	357	374	Minnesota	44	42	465	479	Alaska	0	0	12	29
(Excl. NYC)	28	24	228	273	Ohio	10	8	73	110	Idaho	0	0	9	7
New York City	221	187	2,043	1,856	Wisconsin	231	212	2,836	2,349	Oregon	13	13	170	144
REGION II TOTAL	278	252	2,629	2,583	Arkansas	9	3	77	66	Washington	24	17	265	260
Delaware	0	1	12	17	Louisiana	69	60	733	668	REGION X TOTAL	37	30	457	440
District of Columbia	28	27	407	536	New Mexico	6	19	87	101	UNITED STATES	1,821	1,832	21,681	20,535
Maryland	13	6	167	155	Oklahoma	5	14	94	89	TOTAL				
(Excl. Baltimore)	16	18	275	285	Texas	307	213	2,637	2,124	Puerto Rico	41	46	535	604
Pennsylvania	9	21	104	176	REGION VI TOTAL	396	308	3,628	3,048	Virgin Islands	3	1	27	13
(Excl. Philadelphia)	18	16	223	251	Iowa	1	1	37	37	UNITED STATES, INCLUDING OUTLYING AREAS	1,865	1,878	22,243	21,152
Philadelphia	33	59	476	549	Kansas	3	2	86	56					
Virginia	2	1	32	5	Missouri	17	19	152	170					
West Virginia	126	148	1,686	1,954	Nebraska	2	0	15	25					
REGION III TOTAL					REGION VII TOTAL	23	22	280	288					
Alabama	20	11	199	164	Colorado	8	12	120	123					
Florida	181	159	1,577	1,828	Minnesota	0	1	8	8					
Georgia	55	65	818	801	North Dakota	1	0	3	3					
(Excl. Atlanta)	46	56	584	471	South Dakota	0	3	3	14					
Atlanta*	9	7	150	111	Utah	1	3	14	13					
Kentucky	31	21	352	252	Wyoming	0	1	6	4					
Mississippi	45	47	610	782	REGION VIII TOTAL	10	20	154	165					
North Carolina	17	24	288	265										
South Carolina	49	26	387	256										
Tennessee	453	416	5,408	4,936										
REGION IV TOTAL														

*County data

Note: Cumulative totals include revised and delayed reports through previous months.

Source: CDC 9-98 HEW, PHS, CDC, BSS, VD Control Division, Atlanta, Georgia 30333

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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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