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CONTENTS

EPIDEMIOLOGIC NOTES AND REPORTS

LYMPHOCYTIC CHORIOMENINGITIS ASSOCIATED WITH PET HAMSTERS – New York

In late January 1974, a 24-year-old woman from Rochester was hospitalized for fever, headache, ataxia, dysarthria, and urinary retention due to an atonic bladder; her illness was diagnosed as aseptic meningitis. Investigation revealed that the patient's 3 brothers and 1 close girl friend had had a biphasic illness in January characterized by headache, myalgia, and fever (temperature to 102° F). Lumbar punctures on 2 of the brothers disclosed pleocytosis. All 5 ill persons were found to have evidence of recent lymphocytic choriomeningitis (LCM) infection by complement fixation (CF) and indirect fluorescent antibody (IFA) testing. The 2 other family members, both adults, had had no illness and were serologically negative.

The family had acquired 2 hamsters on approximately December 28, 1973. The hamsters had been well, and 1 had delivered a litter in late January. CF and IFA tests on blood specimens from both adult hamsters and a pool of 5 of the litter were positive for LCM viral antigen.

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

DISEASE	8th WEEK ENDING		MEDIAN 1969-1973	CUMULATIVE, FIRST 8 WEEKS		
	February 23, 1974	February 24, 1973		1974	1973	MEDIAN 1969-1973
Aseptic meningitis	27	27	33	278	292	292
Brucellosis	–	4	2	10	16	15
Chickenpox	3,390	5,653	– – –	26,768	38,006	– – –
Diphtheria	3	7	6	15	23	23
Encephalitis:						
Primary: Arthropod-borne and unspecified	13	12	17	118	119	158
Post-Infectious	2	7	5	33	31	36
Hepatitis, Viral:						
Type B	172	115	115	1,302	1,071	1,071
Type A	893	880	1,033	6,753	7,619	8,592
Type unspecified	168			1,218		
Malaria	4	3	78	25	27	358
Measles (rubeola)	596	622	754	3,533	4,767	5,208
Meningococcal infections, total	30	41	76	207	245	467
Civilian	29	40	50	205	236	413
Military	1	1	4	2	9	24
Mumps	1,488	1,892	2,447	12,535	14,246	17,471
Pertussis	20	– – –	– – –	241	– – –	– – –
Rubella (German measles)	229	645	1,106	1,666	3,534	4,916
Tetanus	–	2	2	7	8	9
Tuberculosis, new active	510	618	– – –	4,061	4,188	– – –
Tularemia	–	1	2	13	13	15
Typhoid fever	7	1	4	51	26	37
Typhus, tick-borne (Rky. Mt. spotted fever)	1	1	–	13	4	3
Venereal Diseases:						
Gonorrhea	14,844	15,387	– – –	128,602	114,936	– – –
Syphilis, primary and secondary	438	467	– – –	3,597	3,839	– – –
Rabies in animals	44	56	75	345	448	517

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	1	Poliomyelitis, total:	–
Botulism:	2	Paralytic:	–
Congenital rubella syndrome: Ariz. 1, Miss. 1	10	Psittacosis:	2
Leprosy:	6	Rabies in man:	–
Leptospirosis: Tex. 2	9	Trichinosis: NYC 1	22
Plague:	–	Typhus, murine: Calif. 1	3

LYMPHOCYTIC CHORIOMENINGITIS – Continued

One week later, a 35-year-old woman from Rochester presented with fever, headache, and myalgia. She was found to have aseptic meningitis which was serologically associated with LCM infection. One of the patient's 4 daughters and her mother, who lived in the home, also had an illness compatible with LCM. Laboratory confirmation is pending. The family had bought a hamster which was positive by CF testing for LCM shortly after Christmas from a store that purchased hamsters from the Aquarium Supply Company which obtains hamsters from the Tampa Livestock Distributors, Inc. The same supplier sold hamsters to the first store.

Three additional LCM infections, confirmed by serologic tests, have been identified in an Albany, New York, family. They had also bought a hamster in this period which was found to be serologically positive for LCM. The hamster came from a store that used the same supplier as the other 2 stores.

The Aquarium Supply Company has a nationwide distribution and ships animals to Rochester and Albany by different routes. The company is cooperating with CDC to determine the magnitude of the distribution of LCM-positive hamsters and the presence of associated human infections. *(Reported by Michael Brandriss, M.D., Associate Professor of Medicine, University of Rochester School of Medicine, and Chief, Infectious Diseases Unit, Rochester General Hospital; Robert F. Betts, M.D., Assistant Professor of Medicine, Infectious Diseases Unit, Strong Memorial Hospital, Rochester; James Tillotson, M.D., Associate Professor of Medicine, Albany Medical College, and Head of the Division of Infectious Diseases, Albany Medical Center; Glenn E. Haughie, M.D., Commissioner, Monroe County Department of Health; John Woodall, M.D., Ph.D., and Rudolph Deibel, M.D., Director, Arbovrius Laboratory, Division of Laboratories and Research, and Alan R. Hinman, M.D., Assistant Commissioner for Epidemiology and Preventive Health Services, New York State Department of Health.)*

Editorial Note

LCM is a viral disease of animals thought to be transmissible to man via excrement or airborne spread usually from mice (*1*) but also from hamsters (*2*) (*3*) (*4*) and guinea pigs (*5*). The clinical illness in man is commonly biphasic. The first phase is a flu-like illness or grippe. This may be followed in 1 to 2 weeks by recurrence of grippe or onset of meningitis or encephalomyelitis, consisting of fever, myalgia, headache, and cough. The course is usually short and rarely fatal, and even with severe disease, the chance of recovery is relatively good. Diagnosis can be made by isolation of the virus from specimens of blood, urine, nasopharynx, or spinal fluid early in the disease using intracerebral inoculation of guinea pigs or LCM-free mice or foot pad inoculation of the latter. Specific antibodies in serum can be demonstrated by immunofluorescence or complement fixation.

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SALMONELLOSIS ON A CARIBBEAN PASSENGER CRUISE SHIP

On October 30, 1973, the Rhode Island State Health Department was informed that *Salmonella bareilly* had been isolated from the stool specimen of a 71-year-old male resident who had returned from a 10-day Caribbean cruise aboard the *S/S Statendam* on October 22. The patient had become ill with diarrhea on October 17 and had visited his physician upon his return. Follow-up investigation of 44 other Rhode Island residents who had taken the same cruise revealed 15 additional cases of gastroenteritis. *S. bareilly* was identified in the stools of 3 of these ill individuals and of 3 additional asymptomatic persons. *S. senftenberg* was also isolated from the stool of 1 of the asymptomatic persons.

On December 27, the vessel notified CDC's Miami Quarantine Station that 40 (5%) of its 740 passengers had reported gastrointestinal symptoms during its 9-day Caribbean cruise that had begun on December 19. Epidemiologic investigation by CDC personnel revealed that 53 cases of gastroenteritis had occurred during the cruise, with peak incidence on the fourth day. *S. bareilly* or *S. senftenberg* was isolated from stool specimens from 15 of the 53 ill passengers cultured. *S. bareilly* was also isolated from 1 additional passenger, a 75-year-old woman, who became ill with diarrhea and was hospitalized in Jacksonville, Florida, 2 days after the cruise.

Between December 29, 1973, and February 18, 1974, an epidemiologic investigation was carried out on 5 consecutive 10-day Caribbean cruises of the vessel. At the end of each cruise, a questionnaire was administered to all passengers to determine the incidence of diarrheal illness. Of 3,228 passengers questioned, 241 (8%) experienced a generally mild diarrheal illness of 1-2 days duration characterized by cramps (41-71%), nausea (14-51%), vomiting (9-46%), and fever (6-17%); no passengers were hospitalized on board. The range of illness incidence was 6-10% (Table 1). One or more of 6 salmonella serotypes were isolated from the stool specimens of 40 (20%) of 199 ill passengers cultured (Table 2). *S. senftenberg* and *S. bareilly* were the predominant serotypes.

Table 1
Diarrheal Illness in *S/S Statendam* Passengers

Date of Cruise	Number on Cruise	Number Completing Questionnaire	Number Ill	Percent Ill
12/29–1/7	703	703	44	6
1/7 –1/17	595	593	35	6
1/18–1/28	762	704	45	6
1/28–2/7	640	553	55	10
2/8 –2/18	727	675	65	9
Total	3,427	3,228	244	8

(Continued on page 75)

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING FEBRUARY 23, 1974 AND FEBRUARY 24, 1973 (8th WEEK)

AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod-borne and Unspecified		Post Infectious	Type B	Type A	Type Unspecified		
	1974	1974	1974	1974	Cum. 1974	1974	1973	1974	1974	1974	1974	1974	Cum. 1974
UNITED STATES	27	–	3,390	3	15	13	12	2	172	893	168	4	25
NEW ENGLAND	2	–	546	–	–	1	–	–	6	50	14	–	2
Maine *	–	–	8	–	–	–	–	–	–	5	–	–	–
New Hampshire *	–	–	65	–	–	–	–	–	–	6	–	–	–
Vermont	–	–	35	–	–	–	–	–	–	5	1	–	–
Massachusetts	–	–	213	–	–	1	–	–	4	9	13	–	–
Rhode Island	1	–	91	–	–	–	–	–	–	11	–	–	2
Connecticut	1	–	134	–	–	–	–	–	2	14	–	–	–
MIDDLE ATLANTIC	4	–	111	–	–	–	3	–	11	87	14	1	1
Upstate New York	1	–	33	–	–	–	–	–	–	34	3	–	–
New York City	2	–	69	–	–	–	–	–	6	27	–	1	1
New Jersey *	–	–	NN	–	–	–	–	–	2	8	10	–	–
Pennsylvania *	1	–	9	–	–	–	3	–	3	18	1	–	–
EAST NORTH CENTRAL	3	–	1,373	–	–	2	–	–	22	165	27	–	2
Ohio	–	–	196	–	–	–	–	–	1	17	–	–	1
Indiana	–	–	185	–	–	–	–	–	1	23	–	–	–
Illinois	–	–	–	–	–	2	–	–	9	60	25	–	1
Michigan	3	–	542	–	–	–	–	–	11	54	2	–	–
Wisconsin	–	–	450	–	–	–	–	–	–	11	–	–	–
WEST NORTH CENTRAL	–	–	376	–	–	2	3	–	11	31	16	–	1
Minnesota	–	–	8	–	–	–	–	–	5	1	2	–	–
Iowa	–	–	271	–	–	1	1	–	4	5	1	–	–
Missouri	–	–	44	–	–	1	–	–	1	1	13	–	–
North Dakota	–	–	17	–	–	–	–	–	–	–	–	–	–
South Dakota	–	–	–	–	–	–	–	–	–	11	–	–	1
Nebraska	–	–	16	–	–	–	–	–	1	1	–	–	–
Kansas	–	–	20	–	–	–	2	–	–	12	–	–	–
SOUTH ATLANTIC	6	–	235	–	1	4	3	1	25	177	25	–	3
Delaware	–	–	12	–	–	–	–	–	–	1	–	–	–
Maryland	–	–	11	–	–	1	–	–	5	8	2	–	–
District of Columbia	–	–	11	–	–	–	–	–	4	–	1	–	2
Virginia *	–	–	10	–	–	3	–	–	2	28	2	–	1
West Virginia	–	–	189	–	–	–	–	–	1	8	–	–	–
North Carolina	1	–	NN	–	–	–	3	–	2	13	1	–	–
South Carolina	–	–	–	–	–	–	–	–	–	7	7	–	–
Georgia	–	–	2	–	–	–	–	–	–	6	–	–	–
Florida	5	–	–	–	1	–	–	1	11	106	12	–	–
EAST SOUTH CENTRAL	2	–	43	–	–	2	–	–	9	47	9	–	–
Kentucky	–	–	19	–	–	–	–	–	3	10	9	–	–
Tennessee	–	–	–	–	–	2	–	–	5	36	–	–	–
Alabama	–	–	19	–	–	–	–	–	1	–	–	–	–
Mississippi	2	–	5	–	–	–	–	–	–	1	–	–	–
WEST SOUTH CENTRAL	7	–	225	–	5	1	–	–	30	135	10	–	2
Arkansas	–	–	6	–	–	–	–	–	–	18	–	–	–
Louisiana	2	–	NN	–	–	–	–	–	13	17	7	–	1
Oklahoma	1	–	20	–	–	–	–	–	3	30	3	–	1
Texas	4	–	199	–	5	1	–	–	14	70	–	–	–
MOUNTAIN	–	–	75	–	1	–	–	1	3	45	14	1	1
Montana	–	–	20	–	–	–	–	–	1	11	–	–	–
Idaho	–	–	–	–	–	–	–	–	–	3	1	–	–
Wyoming	–	–	–	–	–	–	–	–	–	–	–	–	–
Colorado	–	–	32	–	–	–	–	–	–	1	10	1	1
New Mexico	–	–	23	–	1	–	–	–	1	17	–	–	–
Arizona *	–	–	–	–	–	–	–	–	1	4	2	–	–
Utah	–	–	–	–	–	–	–	–	–	1	1	–	–
Nevada	–	–	–	–	–	–	–	1	–	8	–	–	–
PACIFIC	3	–	406	3	8	1	3	–	55	156	39	2	13
Washington	–	–	376	2	6	–	–	–	3	16	21	–	–
Oregon	–	–	–	–	–	1	–	–	8	19	3	–	–
California *	3	–	–	–	1	–	3	–	42	111	14	2	13
Alaska	–	–	21	1	1	–	–	–	1	9	–	–	–
Hawaii	–	–	9	–	–	–	–	–	1	1	1	–	–
Guam *	–	–	–	–	–	–	–	–	–	–	–	–	–
Puerto Rico	–	–	19	–	–	–	–	–	1	–	9	–	–
Virgin Islands	–	–	–	–	–	–	–	–	–	–	–	–	–

* Delayed reports: Aseptic Meningitis: N.J. 1 (1973)
Chickenpox: Me. 9, N.H. 3, Calif. 71 (1974)
Hepatitis B: Penn. 7 (1973), N.H. 1 (1974)
Hepatitis A: Penn. 4, Ariz. 1 (1973)
N.H. 3, Va. delete 1, Guam 12 (1974)

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING FEBRUARY 23, 1974 AND FEBRUARY 24, 1973 (8th WEEK) – Continued

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1974	Cumulative		1974	Cumulative		1974	Cum. 1974	1974	1974	Cum. 1974	Cum. 1974
		1974	1973		1974	1973						
UNITED STATES	596	3,533	4,767	30	207	245	1,488	12,535	20	229	1,666	7
NEW ENGLAND	9	220	1,982	3	14	13	199	1,803	–	27	109	–
Maine *	–	9	9	–	–	–	19	262	–	6	11	–
New Hampshire *	–	119	341	–	2	1	3	77	–	–	4	–
Vermont	–	–	26	–	–	1	–	7	–	1	5	–
Massachusetts	6	47	995	1	5	5	33	311	–	9	55	–
Rhode Island	–	32	169	–	3	–	46	539	–	1	9	–
Connecticut *	3	13	442	2	4	6	98	607	–	10	25	–
MIDDLE ATLANTIC	281	1,223	351	3	21	31	132	927	–	13	127	1
Upstate New York	2	18	60	1	3	8	40	180	–	3	34	–
New York City	8	63	222	2	8	7	21	159	–	2	28	–
New Jersey	235	924	46	–	7	7	17	252	–	7	57	1
Pennsylvania	36	218	23	–	3	9	54	336	–	1	8	–
EAST NORTH CENTRAL	231	1,401	1,323	5	19	23	423	3,759	12	76	685	–
Ohio	106	609	75	2	7	14	100	971	–	9	65	–
Indiana	14	45	129	–	–	1	45	363	–	11	209	–
Illinois	31	263	458	–	2	1	28	369	7	18	101	–
Michigan	66	379	415	1	6	5	178	1,521	4	29	237	–
Wisconsin	14	105	246	2	4	2	72	535	1	9	73	–
WEST NORTH CENTRAL	13	77	125	–	12	22	109	897	–	5	21	2
Minnesota *	1	44	10	–	4	–	–	20	–	–	2	–
Iowa	–	2	97	–	3	3	64	674	–	–	5	–
Missouri	5	10	4	–	3	11	19	82	–	–	5	2
North Dakota	7	12	6	–	1	1	–	4	–	4	5	–
South Dakota	–	1	–	–	–	2	–	1	–	–	–	–
Nebraska	–	1	1	–	–	1	8	31	–	1	3	–
Kansas	–	7	7	–	1	4	18	85	–	–	1	–
SOUTH ATLANTIC	17	117	140	6	44	38	139	1,098	–	29	114	1
Delaware	–	2	1	–	3	–	3	25	–	–	4	–
Maryland	–	2	–	2	6	10	1	19	–	–	–	–
District of Columbia	–	–	–	–	–	1	2	18	–	–	–	–
Virginia	3	9	7	1	9	4	19	95	–	2	4	–
West Virginia	4	30	30	–	2	–	84	554	–	4	40	–
North Carolina	–	1	4	2	9	9	NN	NN	–	1	3	–
South Carolina	–	7	14	–	1	2	1	10	–	–	1	–
Georgia	–	1	7	–	4	8	–	–	–	–	2	–
Florida	10	65	77	1	10	4	29	377	–	22	60	1
EAST SOUTH CENTRAL	5	22	107	2	15	15	185	1,392	4	31	119	1
Kentucky	1	17	24	1	3	4	101	517	2	17	34	–
Tennessee	–	–	60	1	11	7	70	735	2	11	70	1
Alabama	–	–	–	–	1	2	11	122	–	2	8	–
Mississippi	4	5	23	–	–	2	3	18	–	1	7	–
WEST SOUTH CENTRAL	8	56	211	4	47	36	104	846	1	1	60	1
Arkansas	–	4	7	–	4	2	4	71	–	–	6	–
Louisiana	2	5	13	2	10	4	–	43	–	1	2	–
Oklahoma	1	6	4	–	6	2	19	69	–	–	13	–
Texas	5	41	187	2	27	28	81	663	1	–	39	1
MOUNTAIN	20	146	103	–	7	10	44	451	–	3	83	–
Montana	2	109	1	–	–	1	–	69	–	–	55	–
Idaho	7	15	15	–	1	–	4	112	–	1	5	–
Wyoming	–	–	2	–	–	–	–	1	–	–	–	–
Colorado	3	7	20	–	–	2	39	168	–	2	12	–
New Mexico	6	12	59	–	3	1	1	99	–	–	9	–
Arizona	2	3	6	–	2	3	–	–	–	–	–	–
Utah	–	–	–	–	1	1	–	2	–	–	–	–
Nevada	–	–	–	–	–	2	–	–	–	–	2	–
PACIFIC	12	271	425	7	28	57	153	1,362	3	44	348	1
Washington	6	20	200	–	4	3	77	535	–	12	131	–
Oregon	–	–	108	2	5	2	21	284	–	8	42	–
California	6	250	113	4	18	51	47	490	3	23	168	1
Alaska	–	–	–	1	1	1	8	41	–	–	–	–
Hawaii	–	1	4	–	–	–	–	12	–	1	7	–
Guam *	–	1	2	–	–	–	–	44	–	–	–	–
Puerto Rico	8	78	308	–	–	1	31	152	–	–	1	–
Virgin Islands *	–	–	–	–	–	–	–	2	–	–	–	–

* Delayed reports: Measles: Minn. 1 (1973), N.H. delete 4, Ct. delete 1, Guam 1 (1974)
Mumps: V.I. 1 (1973), Me. 2, Guam 11 (1974)
Rubella: Me. 1 (1974)

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING FEBRUARY 23, 1974 AND FEBRUARY 24, 1973 (8th WEEK) – Continued

AREA	TUBERCULOSIS (New Active)		TULAREMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (Rky. Mt. spotted fever)		VENEREAL DISEASES						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1974	Cum. 1974	Cum. 1974	1974	Cum. 1974	1974	Cum. 1974	1974	Cumulative 1974	Cumulative 1973	1974	Cumulative 1974	Cumulative 1973	Cum. 1974
UNITED STATES	510	4,061	13	7	51	1	13	14,844	128,602	114,936	438	3,597	3,839	345
NEW ENGLAND	15	188	–	–	2	–	–	337	3,409	2,942	17	81	101	3
Maine	1	20	–	–	–	–	–	17	256	175	5	8	5	1
New Hampshire	–	8	–	–	–	–	–	10	107	95	–	3	3	–
Vermont	1	3	–	–	–	–	–	10	102	40	–	–	6	–
Massachusetts	8	112	–	–	–	–	–	157	1,525	1,373	7	34	37	–
Rhode Island	2	16	–	–	2	–	–	47	299	382	–	2	3	2
Connecticut	3	29	–	–	–	–	–	96	1,120	877	5	34	47	–
MIDDLE ATLANTIC	81	641	1	3	11	–	9	1,792	16,555	14,800	90	797	828	3
Upstate New York	7	54	1	–	–	–	–	175	3,057	3,679	9	76	58	1
New York City	24	292	–	3	11	–	–	728	6,818	5,760	53	481	522	–
New Jersey	15	144	–	–	–	–	–	317	2,605	1,979	13	118	138	–
Pennsylvania	35	151	–	–	–	–	9	572	4,075	3,382	15	122	110	2
EAST NORTH CENTRAL	66	545	–	–	2	–	–	1,846	16,520	13,793	16	184	225	19
Ohio	17	153	–	–	–	–	–	576	6,067	4,416	–	35	44	–
Indiana	17	101	–	–	–	–	–	146	1,620	1,677	1	32	45	1
Illinois	17	134	–	–	1	–	–	199	1,927	1,825	5	42	31	2
Michigan	15	157	–	–	1	–	–	744	5,056	4,396	7	59	90	–
Wisconsin	–	–	–	–	–	–	–	181	1,850	1,479	3	16	15	16
WEST NORTH CENTRAL	6	122	4	1	2	–	–	674	6,222	6,737	15	63	46	102
Minnesota	3	21	–	–	1	–	–	193	1,565	1,363	1	8	17	49
Iowa	1	14	–	–	–	–	–	---	665	846	---	7	4	21
Missouri	–	63	4	1	1	–	–	260	1,872	2,671	12	36	15	3
North Dakota	–	2	–	–	–	–	–	11	103	110	–	–	–	23
South Dakota	–	6	–	–	–	–	–	39	326	346	1	1	1	–
Nebraska	2	4	–	–	–	–	–	42	504	593	–	1	1	–
Kansas	–	12	–	–	–	–	–	129	1,187	808	1	10	8	6
SOUTH ATLANTIC	137	834	1	–	4	1	3	4,337	32,816	29,622	135	1,226	1,109	47
Delaware	2	14	–	–	–	–	–	114	495	372	–	21	11	–
Maryland	12	92	–	–	–	–	1	293	3,016	2,620	10	142	155	–
District of Columbia	8	57	–	–	–	–	–	260	2,523	2,482	15	106	126	–
Virginia	17	111	1	–	–	–	–	288	3,040	2,780	13	158	94	23
West Virginia	7	51	–	–	1	–	–	67	403	459	–	3	3	6
North Carolina	23	158	–	–	–	–	–	756	4,468	4,327	23	139	81	–
South Carolina	10	87	–	–	–	–	–	427	3,729	3,256	18	177	163	1
Georgia	20	71	–	–	–	–	1	1,122	6,690	5,341	12	131	228	13
Florida	38	193	–	–	3	1	1	1,010	8,452	7,985	44	349	248	4
EAST SOUTH CENTRAL	56	396	3	1	9	–	–	1,286	10,657	9,783	32	195	305	41
Kentucky	16	85	1	–	6	–	–	210	1,382	1,148	10	39	145	22
Tennessee	15	126	2	1	3	–	–	512	4,336	3,879	8	70	61	15
Alabama	20	117	–	–	–	–	–	331	2,677	2,403	6	39	22	4
Mississippi	5	68	–	–	–	–	–	233	2,262	2,353	8	47	77	–
WEST SOUTH CENTRAL	39	533	4	1	3	–	–	1,847	18,493	15,347	67	358	443	78
Arkansas *	3	78	1	–	–	–	–	165	1,543	2,273	1	19	29	12
Louisiana	3	79	1	1	1	–	–	479	3,706	2,905	22	95	121	3
Oklahoma	5	38	1	–	–	–	–	155	1,409	1,593	2	20	32	16
Texas	28	338	1	–	2	–	–	1,048	11,835	8,576	42	224	261	47
MOUNTAIN	22	115	–	–	5	–	1	531	4,774	4,286	9	72	124	11
Montana	1	11	–	–	–	–	–	41	291	262	–	–	–	–
Idaho	2	6	–	–	–	–	–	37	379	252	–	1	2	–
Wyoming	–	2	–	–	2	–	–	4	96	73	–	–	4	1
Colorado	9	16	–	–	–	–	1	126	1,323	1,145	2	15	46	–
New Mexico	–	25	–	–	–	–	–	87	767	711	2	7	12	5
Arizona *	7	40	–	–	3	–	–	152	1,362	1,234	1	25	36	5
Utah	2	6	–	–	–	–	–	36	227	231	–	6	1	–
Nevada	1	9	–	–	–	–	–	48	329	378	4	18	23	–
PACIFIC	88	687	–	1	13	–	–	2,194	19,156	17,626	57	621	658	41
Washington	4	51	–	–	2	–	–	193	1,706	1,665	–	15	26	–
Oregon	4	22	–	–	–	–	–	207	1,479	1,550	1	12	17	–
California	73	553	–	1	11	–	–	1,706	15,054	13,593	56	586	580	41
Alaska	–	17	–	–	–	–	–	35	458	433	–	1	17	–
Hawaii	7	44	–	–	–	–	–	53	459	385	–	7	18	–
Guam *	–	–	–	–	–	–	–	–	66	61	–	–	–	–
Puerto Rico	8	88	–	–	–	–	–	41	404	561	14	142	122	9
Virgin Islands	–	–	–	–	–	–	–	4	28	28	1	1	4	–

* Delayed reports: Tuberculosis: Ark. 8 (1974); Typhoid Fever: Ariz. 1 (1973); Gonorrhea: Guam 2 (1974); Rabies: Ariz. 1 (1974)

Week No. 8

TABLE IV. DEATHS IN 121 UNITED STATES CITIES FOR WEEK ENDING FEBRUARY 23, 1974

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

Area	All Causes					Pneumonia and Influenza All Ages
	All Ages	65 years and over	45-64 years	25-44 years	Under 1 year	
NEW ENGLAND	693	435	172	33	34	30
Boston, Mass.	195	118	49	11	9	8
Bridgeport, Conn.	37	22	8	3	3	1
Cambridge, Mass.	33	20	8	1	3	1
Fall River, Mass.	27	16	11	–	–	–
Hartford, Conn.	54	32	18	3	–	2
Lowell, Mass.	20	19	1	–	–	2
Lynn, Mass.	17	12	3	–	1	–
New Bedford, Mass.	43	30	9	2	2	1
New Haven, Conn.	61	32	13	2	12	1
Providence, R. I.	57	31	19	3	2	3
Somerville, Mass.	7	4	2	–	1	–
Springfield, Mass.	48	37	7	3	–	3
Waterbury, Conn.	57	36	14	5	1	8
Worcester, Mass.	37	26	10	–	–	–
MIDDLE ATLANTIC	3,272	2,058	849	187	94	146
Albany, N. Y.	53	27	14	3	6	1
Allentown, Pa.	23	15	8	–	–	–
Buffalo, N. Y.	136	87	32	5	5	8
Camden, N. J.	46	27	16	2	1	–
Elizabeth, N. J.	35	18	16	1	–	1
Erie, Pa.	40	26	8	2	4	6
Jersey City, N. J.	84	48	31	2	2	–
Newark, N. J.	104	55	31	10	7	10
New York City, N. Y. †	1,754	1,116	437	118	40	77
Paterson, N. J.	30	19	8	2	1	–
Philadelphia, Pa.	396	249	97	20	16	11
Pittsburgh, Pa.	164	100	52	9	–	8
Reading, Pa.	52	38	12	–	2	6
Rochester, N. Y.	133	83	38	1	4	5
Schenectady, N. Y.	35	24	10	–	1	1
Scranton, Pa.	21	18	2	–	–	2
Syracuse, N. Y.	73	44	17	6	3	3
Trenton, N. J.	37	27	5	4	1	2
Utica, N. Y.	21	15	5	1	–	2
Yonkers, N. Y.	35	22	10	1	1	3
EAST NORTH CENTRAL	2,557	1,549	655	172	95	98
Akron, Ohio	65	44	13	4	1	–
Canton, Ohio	41	29	9	1	2	–
Chicago, Ill.	710	395	215	56	18	26
Cincinnati, Ohio	161	94	43	8	7	1
Cleveland, Ohio	208	123	53	20	9	9
Columbus, Ohio	132	81	36	5	5	7
Dayton, Ohio	99	59	27	6	2	4
Detroit, Mich.	311	188	72	31	13	12
Evansville, Ind.	47	35	8	2	1	1
Fort Wayne, Ind.	61	46	13	2	–	6
Gary, Ind.	31	16	8	2	5	4
Grand Rapids, Mich.	55	41	12	1	–	7
Indianapolis, Ind.	164	97	42	7	7	6
Madison, Wis.	31	13	8	5	1	4
Milwaukee, Wis.	136	93	31	7	1	4
Peoria, Ill.	53	30	10	5	8	1
Rockford, Ill.	43	28	10	–	3	4
South Bend, Ind.	34	18	7	3	4	–
Toledo, Ohio	119	87	21	5	6	1
Youngstown, Ohio	56	32	17	2	2	1
WEST NORTH CENTRAL	805	541	188	26	25	33
Des Moines, Iowa	70	49	14	2	2	–
Duluth, Minn.	36	31	2	–	2	4
Kansas City, Kans.	35	19	12	–	1	1
Kansas City, Mo.	123	82	29	1	6	1
Lincoln, Nebr.	37	27	7	1	1	1
Minneapolis, Minn.	102	75	18	2	3	4
Omaha, Nebr.	68	50	15	–	1	6
St. Louis, Mo.	198	120	58	11	5	3
St. Paul, Minn.	79	48	22	6	3	–
Wichita, Kans.	57	40	11	3	1	13
SOUTH ATLANTIC	1,298	745	364	94	51	43
Atlanta, Ga.	96	52	24	9	6	2
Baltimore, Md.	202	105	62	19	13	3
Charlotte, N. C.	63	28	20	10	2	1
Jacksonville, Fla.	90	50	26	1	5	–
Miami, Fla.	151	91	44	6	6	9
Norfolk, Va.	70	34	21	3	9	4
Richmond, Va.	97	59	28	6	2	6
Savannah, Ga.	33	22	7	3	–	2
St. Petersburg, Fla.	118	100	11	3	2	1
Tampa, Fla.	91	60	20	8	1	7
Washington, D. C.	250	118	94	24	4	8
Wilmington, Del.	37	26	7	2	1	–
EAST SOUTH CENTRAL	675	379	176	45	40	29
Birmingham, Ala.	116	62	23	6	17	3
Chattanooga, Tenn.	49	27	14	3	3	4
Knoxville, Tenn.	40	30	6	2	–	–
Louisville, Ky.	117	60	36	7	7	9
Memphis, Tenn.	157	85	46	13	5	4
Mobile, Ala.	68	36	17	8	4	3
Montgomery, Ala.	28	18	7	1	2	2
Nashville, Tenn.	100	61	27	5	2	4
WEST SOUTH CENTRAL	1,143	608	322	105	59	43
Austin, Tex.	38	18	9	5	5	3
Baton Rouge, La. *	46	25	13	4	2	2
Corpus Christi, Tex.	29	14	11	3	–	–
Dallas, Tex.	161	82	52	15	7	2
El Paso, Tex.	37	21	8	5	2	1
Fort Worth, Tex.	89	58	20	8	1	3
Houston, Tex.	281	129	84	36	17	5
Little Rock, Ark.	38	21	12	3	–	–
New Orleans, La. *	153	80	46	14	7	2
San Antonio, Tex.	134	71	33	10	8	5
Shreveport, La.	71	44	20	–	6	7
Tulsa, Okla.	66	45	14	2	4	13
MOUNTAIN	479	279	125	31	23	21
Albuquerque, N. Mex.	36	16	12	1	4	5
Colorado Springs, Colo.	38	19	13	1	1	6
Denver, Colo.	98	60	21	10	2	3
Las Vegas, Nev.	18	11	3	3	–	1
Ogden, Utah	15	7	7	–	1	2
Phoenix, Ariz.	128	74	32	8	7	1
Pueblo, Colo.	17	9	5	2	1	1
Salt Lake City, Utah	53	32	15	1	5	2
Tucson, Ariz.	76	51	17	5	2	–
PACIFIC	1,607	1,033	410	77	36	30
Berkeley, Calif.	25	15	9	–	–	–
Fresno, Calif.	60	34	16	5	3	2
Glendale, Calif.	20	12	3	2	1	2
Honolulu, Hawaii *	51	28	15	3	2	1
Long Beach, Calif.	108	77	25	3	2	–
Los Angeles, Calif.	460	306	109	24	8	7
Oakland, Calif.	77	52	21	2	1	2
Pasadena, Calif.	38	31	6	–	1	1
Portland, Oreg.	116	84	22	5	3	5
Sacramento, Calif.	62	36	22	1	–	–
San Diego, Calif.	141	84	43	5	4	3
San Francisco, Calif.	168	103	45	12	3	3
San Jose, Calif.	63	32	19	7	–	1
Seattle, Wash.	125	76	36	4	7	1
Spokane, Wash.	52	39	10	1	–	2
Tacoma, Wash.	41	24	9	3	1	–
Total	12,529	7,627	3,261	770	457	473
Expected Number	13,087	7,783	3,541	824	449	544

† Delayed report for week ending February 16, 1974
* Estimate based on average percent of divisional total

SALMONELLOSIS – Continued

Table 2
Salmonella Serotypes of Ill Passengers

Date of Cruise	Number Cultured	Number Positive	Percent Positive	Serotype					
				S. senftenberg	*S. bareilly*	*S. typhimurium*	*S. agona*	*S. westhampton*	*S. london*
12/29–1/7	32	10	31	3	2	5	0	0	0
1/7 –1/17	30	15*	50	8*	6*	0	2	0	0
1/18–1/28	41	8	20	5	2	0	0	1	0
1/28–2/7	47	3	6	3	0	0	0	0	0
2/8 –2/18	49	4	8	2	1	0	0	0	1
Total	199	40	20	21	11	5	2	1	1

*1 passenger had both *S. senftenberg* and *S. bareilly*.

During these 5 cruises, multiple stool specimens were also obtained from crew members, including all food handlers. Five of the 6 serotypes isolated from passengers plus 5 additional serotypes were isolated from 80 (16%) of 498 crew members, most of whom reported no symptoms (Table 3); 17 of these crew members worked in the ship's galley.

Table 3
Salmonella Serotypes of Crew Members

Serotype	Number with Serotype (n=80)*
S. senftenberg	38
S. bareilly	30
S. oranienburg	9
S. typhimurium	8
S. give	3
S. westhampton	2
S. agona	1
S. infantis	1
S. blockley	1
S. branderup	1

*11 crew members had more than 1 serotype.

Further investigation revealed that the passenger cases were not related to consumption of food or beverages at any port. Environmental investigation revealed cross contamination between raw and cooked food in the ship's galley and inadequate refrigeration of food at the ship's buffet which served breakfast, lunch, and midnight snacks. *S. senftenberg* and *S. bareilly* were recovered from samples of cooked and uncooked food and from environmental samples including galley utensils used in food preparation.

Since January 7, action has been undertaken by the cruise line to prevent cross contamination and to amend food handling practices. All culture-positive food handlers were taken out of service. Following the institution of these measures, the incidence of the isolation of salmonella from stools of ill passengers aboard the vessel decreased substantially. *(Reported by C. A. Hoenderdos, Master, S/S Statendam, Holland-America Cruises; E. Charlton Prather, M.D., Chief, Bureau of Preventable Diseases, Florida Division of Health; James R. Allen, M.D., Acting State Epidemiologist, and Joseph E. Cannon, M.D., Director of Health, Rhode Island Department of Health; the Enteric Diseases Section, the Microbiologic Control Section, and the Epidemiologic Services Laboratory Section, Bacterial Diseases Division, and the Quarantine Division, Bureau of Epidemiology, CDC.)*

Editorial Note

The recent CDC survey of the incidence of gastrointestinal illness and environmental conditions on board cruise ships was published in last week's issue (MMWR, Vol. 23, No. 7).

CURRENT TRENDS

RECOMMENDATIONS FOR HEALTH DEPARTMENT SUPERVISION OF TUBERCULOSIS PATIENTS

The following statement has been developed as the official position of the Center for Disease Control, based on the recommendations of the Tuberculosis Advisory Committee.

Tuberculosis patients who complete adequate chemotherapy should be considered cured. They have no need for routine lifetime periodic recall for X-ray or examination. Indeed, perpetuating lifetime followup of such treated patients diverts clinic personnel and resources from the crucial task of providing services for those who really need them.

Highest priority should be given to prompt and thorough treatment for newly diagnosed patients with tuberculosis. Medical supervision is most important during the early months of outpatient chemotherapy whether treatment begins at home or with a brief period of hospitalization. Patients known to have had tuberculosis without chemotherapy, who are still being followed, should receive preventive treatment. Contacts of patients with newly diagnosed tuberculosis and other high-risk infected persons should be sought and should receive preventive treatment.

Persons who have responded well to treatment and have completed the recommended course of therapy should be told to expect their recovery to be permanent. The diagnosis of treated tuberculosis becomes part of their medical history. These persons should be discharged with instructions not to return unless they develop symptoms that could be caused by tuberculosis, such as a cough of longer than 2 weeks' duration, significant weight loss, persistent fever or prolonged respiratory infection. Persons who have completed preventive therapy should also be discharged with similar instructions to return if they develop symptoms.

If a patient has not responded well to drugs or has had an irregular course of treatment, efforts should be made to complete adequate therapy. Special treatment programs, such as directly administered ambulatory therapy, should be considered for such patients. Continuing periodic chest roentgeno-

TUBERCULOSIS – Continued

grams and bacteriologic examinations should be considered only for persons in whom all attempts at therapy have failed. If such persons are in occupations where infectiousness may have serious consequences (such as some school and hospital personnel) they should be examined more than once a year or, if feasible, transferred to areas where there are minimal consequences to contacts if the person becomes infectious.

These recommendations are summarized in Table 4.

(Reported by the Tuberculosis Control Division, Bureau of State Services, CDC.)

Table 4
Recommendations for Supervision of Patients With Tuberculosis Infection or Disease

Patient Status	Recommended Action*		
	Treat	Discharge	Follow
Currently Being Treated	I		
Previous Treatment Incomplete	I		II
Never Treated	I		II
Treatment Completed		I	

* I = Preferred choice II = Secondary choice

INTERNATIONAL NOTES
QUARANTINE MEASURES

The following additions should be made to the "Supplement – United States Designated Yellow Fever Vaccination Centers," MMWR, Vol. 22, No. 32:

California

San Francisco — Medical Clinic 94128
San Francisco International Airport
P.O. Box 8115, Central Terminal
Telephone: 415-877-0444
Clinic hours: Mon.–Fri., 8:30 a.m.–5:30 p.m.; Sat., 8:30 a.m.–12:00 noon
Fee charged

Sacramento — County Health Department 95817
Change address to
3701 J Street 95816

The Morbidity and Mortality Weekly Report, circulation 36,000, is published by the Center for Disease Control, Atlanta, Ga.

Director, Center for Disease Control — David J. Sencer, M.D.
Director, Bureau of Epidemiology, CDC — Philip S. Brachman, M.D.
Editor, MMWR — Michael B. Gregg, M.D.
Managing Editor, MMWR — Deborah L. Jones, B.S.

The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

In addition to the established procedures for reporting morbidity and mortality, the editor welcomes accounts of interesting outbreaks or case investigations of current interest to health officials.

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