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WEEKLY REPORT

For Week Ending May 11, 1974

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE

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CONTENTS

EPIDEMIOLOGIC NOTES AND REPORTS

FOODBORNE HEPATITIS A OUTBREAK – Minnesota

Between April 16 and 22, 12 cases of hepatitis A were reported to the Minneapolis Health Department. These reports represented a 12-fold increase over the number of cases normally reported per week (1). Seven persons with hepatitis were among 500 employees of a large downtown department store.

Because of the possibility of a common source outbreak centered in the store, practicing physicians, hospital admissions directors, medical records librarians, and the general public in the Twin Cities area were informed of the outbreak and asked to report all cases of hepatitis A. A case was defined as 1) a person diagnosed by a physician as having hepatitis A, or 2) a person with a history of jaundice or scleral icterus or both, or 3) a person with dark urine plus 2 other symptoms typical of hepatitis A. Using these criteria, an additional 136 cases were reported between April 22 and May 11, bringing the total to 148.

One hundred thirty-eight persons were diagnosed by a physician; 33 patients tested for the hepatitis B antigen

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

DISEASE	19th WEEK ENDING May 11, 1974	19th WEEK ENDING May 12, 1973	MEDIAN 1969-1973	CUMULATIVE, FIRST 19 WEEKS 1974	CUMULATIVE, FIRST 19 WEEKS 1973	CUMULATIVE, FIRST 19 WEEKS MEDIAN 1969-1973
Aseptic meningitis	33	29	29	649	703	664
Brucellosis	3	2	4	47	51	51
Chickenpox	4,326	7,957	– – –	71,840	110,498	– – –
Diphtheria	9	9	2	102	83	66
Encephalitis:						
Primary: Arthropod-borne and unspecified	13	30	20	314	375	375
Post-Infectious	7	11	9	83	91	104
Hepatitis, Viral:						
Type B	182	186	173	3,288	2,797	2,797
Type A	933	1,153	1,153	16,268	18,910	20,721
Type unspecified	136			3,192		
Malaria	5	7	84	61	81	938
Measles (rubeola)	983	1,303	1,399	12,842	16,878	17,996
Meningococcal infections, total	19	46	47	620	665	1,240
Civilian	19	45	45	602	648	1,066
Military	–	1	1	18	17	129
Mumps	1,697	2,498	2,548	31,331	38,877	46,860
Pertussis	37	– – –	– – –	467	– – –	– – –
Rubella (German measles)	366	1,291	1,892	6,147	19,103	26,302
Tetanus	3	1	3	20	24	30
Tuberculosis, new active	583	639	– – –	10,974	11,448	– – –
Tularemia	1	1	1	34	24	31
Typhoid fever	8	6	6	116	308	98
Typhus, tick-borne (Rky. Mt. spotted fever)	21	11	10	59	35	21
Venereal Diseases:						
Gonorrhea	16,254	16,082	– – –	305,488	278,679	– – –
Syphilis, primary and secondary	501	443	– – –	8,691	9,090	– – –
Rabies in animals	50	98	87	1,021	1,359	1,479

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	2	Poliomyelitis, total:	2
Botulism:*	4	Paralytic:	2
Congenital rubella syndrome: Mo. 1, Tex. 3	30	Psittacosis: Wash. 2	10
Leprosy: Calif. 1	46	Rabies in man:	–
Leptospirosis: Hawaii 1, N.Y. Ups. 1	20	Trichinosis: Mo. 1, Va. 1	45
Plague:	–	Typhus, murine:	8

*Delayed reports: Botulism: N.J. 1

HEPATITIS – Continued

(HB_SAg) were negative. Twenty-eight of the 148 cases were in employees of the department store, and 77 were in non-employees who reported eating in the store's restaurants.

Dates of onset for the 105 cases associated with the store are shown in Figure 1. The clustering of cases in the period April 3-17 suggested a common source outbreak. The additional 43 community cases plus those reported by mail prior to April 22 show only a slight increase associated with the outbreak. Analysis of cases showed no spatial clustering in buildings adjacent to the store which shared the water supply.

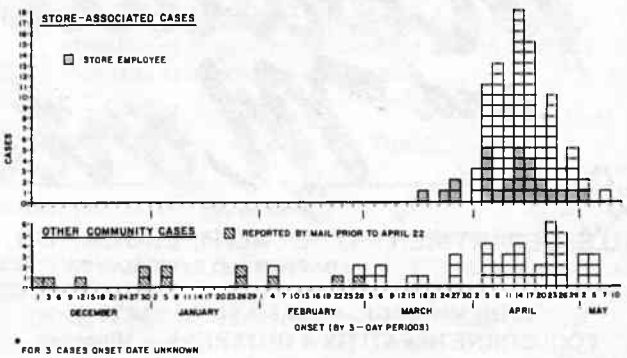
Examination of the store's food facilities showed that food was sold in 3 areas – 2 restaurants and a bakery – and that both restaurants received bulk food items from 1 common kitchen. Results of food history questionnaires from 66 store-associated cases on whom data were available and 482 controls implicated lunch served in the store's basement restaurant as the vehicle of infection ($p < .001$); cold sandwiches with lettuce and tossed salads served in the center aisle carried the greatest risk (Table 1). Breakfast, supper, and snacks served in the basement restaurant, meals served in the other restaurant, and items sold in the bakery were not associated with illness. Analysis of the food questionnaires also showed that of 12 people who ate in the restaurant only once, 10 ate there on March 15, 16, or 18.

Inspection of the basement restaurant revealed that 20 people prepared food served there. Salad mix, sandwich meats, and fillings were cut and prepared in the kitchen. Two employees, each working at individual sandwich boards in the center aisle of the restaurant, assembled the sandwiches from these ingredients that were mostly ready to use; the lettuce, however, had to be torn apart by hand. On weekdays, another employee worked at the salad bar, placing salad mix into individual bowls by hand. On Saturdays, 1 of the sandwich-makers was assigned to the salad bar for the noon meal.

This sandwich-maker was the earliest store-associated case. She became ill on March 18, left work on March 23, and was hospitalized on March 25. No lapses in her personal hygiene could be demonstrated. Furthermore, the drain from the toilet commonly used by her and other restaurant workers led directly to the outside sewer and had no connection with water or drainage from the food preparation area.

Initially, several control measures were undertaken: 1) on April 22, store officials voluntarily closed the basement and first-floor restaurants and began selling in the bakery only items made elsewhere; 2) the medical community and the general public were informed of the outbreak and its implications mainly through the mass media; 3) all those who had eaten at the store between February 15 and March 31 were advised to get injections of immune serum globulin (ISG). (Between April 23 and 27, the Minneapolis Health Department gave almost 10,000 injections of ISG, and private physicians gave many more.) Seven days after the investigation began, health department officials discussed their findings with store managers and offered a series of recommendations which stressed more frequent hand-washing for food-handlers and less handling of foods and ingredients where possible. They also told the managers that the restaurants could reopen at any time. To help convince the public that eating at the store's restaurant was safe, the investigators ate various sandwiches for lunch at the basement restaurant on May 8.

Figure 1
HEPATITIS A CASES, BY DATE OF ONSET*



*FOR 3 CASES ONSET DATE UNKNOWN

Table 1
Distribution of Illness Among Hepatitis Cases and Controls Who Did and Did Not Eat Selected Foods
Minneapolis, Minnesota – March-April 1974

Food	Ate		Did Not Eat		p Value
	Ill	Not Ill	Ill	Not Ill	
Individual sandwiches					
Club	9	29	55	428	.03
Corned beef	7	16	56	442	.013
Sliced turkey	12	44	49	415	.02
Bacon, lettuce, and tomato	17	59	49	398	.007
Ham and Swiss cheese	9	21	56	441	.009
Tuna salad	15	50	50	406	.008
Chicken salad	14	31	52	481	.00046
Hot roast beef	18	72	47	385	.016
Cold sandwiches with lettuce	44	160	21	292	.00000008
Cold meat-salad sandwiches with lettuce	21	83	45	374	.009
Cold sandwiches	49	203	16	247	.000003
Other sandwiches without lettuce	17	77	43	370	.03
Salads	26	113	35	339	.003
Tossed vegetable salad bowl	24	104	37	350	.005
Other food items	31	150	33	283	.023

(Reported by Peter Johnson, Oren Larson, and James Brinda, Director, Bureau of Environmental Hygiene, Gladys Hirman, P.H.N., other Public Health Nurses, and secretarial and clerical staff, Public Health Nursing Service, and C.A. Smith, M.D., Commissioner of Health, Minneapolis Health Department; Herbert Polesky, M.D., Director, Minneapolis War Memorial Blood Bank; Henry Bauer, Ph.D., Director, Division of Medical Laboratories, Robert Siem, Ph.D., Chief, Virus Laboratory, and D.S. Fleming, M.D., Director, Division of Personal Health Services, Minnesota Department of Health; David Nelson, 4th-year medical student, Emory University, Atlanta, taking the epidemiology elective at the Viral Diseases Division, Bureau of Epidemiology, CDC; and 2 EIS Officers.)

Editorial Note

The immediate notification of the medical profession and the general public facilitated rapid identification of the

(Continued on page 175).

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING MAY 11, 1974 AND MAY 12, 1973 (19th 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	33	3	4,326	9	102	13	30	7	182	933	136	5	61
NEW ENGLAND	1	–	626	–	–	1	2	–	4	51	6	–	3
Maine *	–	–	5	–	–	–	–	–	–	5	–	–	–
New Hampshire *	–	–	30	–	–	–	–	–	–	1	–	–	–
Vermont	–	–	25	–	–	–	–	–	–	6	–	–	–
Massachusetts	–	–	277	–	–	–	2	–	3	9	6	–	1
Rhode Island	–	–	124	–	–	–	–	–	–	2	–	–	2
Connecticut	1	–	165	–	–	1	–	–	1	28	–	–	–
MIDDLE ATLANTIC	2	–	232	–	–	2	2	2	32	100	26	1	9
Upstate New York	2	–	71	–	–	–	–	1	6	37	2	–	3
New York City	–	–	154	–	–	–	1	–	6	15	–	–	3
New Jersey *	–	–	NN	–	–	–	–	–	7	22	21	1	1
Pennsylvania	–	–	7	–	–	2	1	1	13	26	3	–	2
EAST NORTH CENTRAL	3	–	1,622	–	–	2	8	1	26	146	12	–	7
Ohio *	1	–	201	–	–	–	3	1	3	19	–	–	3
Indiana	–	–	177	–	–	–	–	–	1	13	–	–	–
Illinois	1	–	–	–	–	1	–	–	7	34	9	–	2
Michigan	1	–	659	–	–	1	5	–	13	55	3	–	1
Wisconsin *	–	–	585	–	–	–	–	–	2	25	–	–	1
WEST NORTH CENTRAL	1	1	627	–	–	–	1	–	5	125	13	–	2
Minnesota	1	–	75	–	–	–	–	–	1	110	–	–	–
Iowa *	–	1	354	–	–	–	1	–	3	3	–	–	–
Missouri	–	–	11	–	–	–	–	–	–	2	7	–	1
North Dakota	–	–	21	–	–	–	–	–	–	–	–	–	–
South Dakota	–	–	6	–	–	–	–	–	–	2	–	–	1
Nebraska	–	–	10	–	–	–	–	–	1	–	4	–	–
Kansas	–	–	150	–	–	–	–	–	–	8	2	–	–
SOUTH ATLANTIC	9	2	228	1	1	–	3	–	25	122	27	1	10
Delaware	–	–	1	–	–	–	–	–	–	–	1	–	–
Maryland	2	1	7	–	–	–	–	–	6	4	3	–	1
District of Columbia	–	–	12	–	–	–	–	–	9	–	–	–	2
Virginia	–	–	16	–	–	–	1	–	–	1	6	–	2
West Virginia	–	–	130	–	–	–	–	–	–	2	–	–	–
North Carolina	–	–	NN	1	1	–	2	–	1	12	3	1	2
South Carolina	–	–	62	–	–	–	–	–	1	8	5	–	–
Georgia	–	1	–	–	–	–	–	–	–	8	–	–	–
Florida	7	–	–	–	–	–	–	–	8	87	9	–	3
EAST SOUTH CENTRAL	3	–	60	–	–	1	2	1	10	63	4	–	2
Kentucky	–	–	51	–	–	–	–	–	1	11	4	–	2
Tennessee	2	–	–	–	–	1	2	1	9	50	–	–	–
Alabama	–	–	7	–	–	–	–	–	–	–	–	–	–
Mississippi	1	–	2	–	–	–	–	–	–	2	–	–	–
WEST SOUTH CENTRAL	7	–	549	–	8	2	4	–	12	133	8	–	3
Arkansas	–	–	8	–	–	–	–	–	3	10	2	–	–
Louisiana	3	–	NN	–	–	2	2	–	4	8	–	–	1
Oklahoma	1	–	65	–	–	–	1	–	2	14	6	–	1
Texas *	3	–	476	–	8	–	1	–	3	101	–	–	1
MOUNTAIN	1	–	74	4	19	1	–	–	7	59	8	–	3
Montana	–	–	21	–	–	–	–	–	1	14	–	–	–
Idaho	–	–	–	–	–	–	–	–	–	1	–	–	–
Wyoming	–	–	14	–	–	–	–	–	–	–	–	–	–
Colorado	–	–	18	–	–	–	–	–	2	7	4	–	2
New Mexico *	1	–	19	–	6	–	–	–	1	17	–	–	1
Arizona	–	–	–	4	13	–	–	–	1	16	2	–	–
Utah	–	–	–	–	–	1	–	–	2	3	2	–	–
Nevada	–	–	2	–	–	–	–	–	–	1	–	–	–
PACIFIC	6	–	308	4	74	4	8	3	61	134	32	3	22
Washington	–	–	266	3	66	–	1	–	4	3	16	–	–
Oregon	–	–	–	–	–	–	–	–	4	8	–	–	–
California *	2	–	–	1	5	4	7	3	52	122	15	3	22
Alaska	–	–	2	–	3	–	–	–	–	–	–	–	–
Hawaii	4	–	40	–	–	–	–	–	1	1	1	–	–
Guam *	–	–	–	–	–	–	–	–	–	–	–	–	1
Puerto Rico	1	–	55	–	–	–	–	–	–	–	8	–	–
Virgin Islands	–	–	23	–	–	–	–	–	–	–	–	–	–

*Delayed reports: Aseptic Meningitis: N.J. 11, Texas 1; (1973) N.J. 1
Chickenpox: Me. 12, N.H. 13, Calif. 19, Texas 256, Guam 11
Encephalitis, Primary: Iowa 1, Texas 1
Hepatitis B: Ohio 1, Texas 4
Hepatitis A: Me. 1, N.H. 1, Ohio delete 1, N.M. delete 1, Texas 67, Guam 29
Malaria: Wisc. 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING MAY 11, 1974 AND MAY 12, 1973 (19th 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	983	12,842	16,878	19	620	665	1,697	31,331	37	366	6,147	20
NEW ENGLAND	25	597	6,039	–	35	30	140	4,214	–	27	556	–
Maine	–	25	27	–	1	–	4	648	–	1	152	–
New Hampshire *	1	196	807	–	6	6	7	185	–	–	13	–
Vermont	8	50	93	–	1	2	–	13	–	–	10	–
Massachusetts *	8	201	3,258	–	10	11	32	677	–	20	220	–
Rhode Island *	–	57	395	–	6	1	73	1,545	–	–	15	–
Connecticut	8	68	1,459	–	11	10	24	1,146	–	6	146	–
MIDDLE ATLANTIC	365	5,068	1,285	4	79	96	192	2,431	3	68	675	1
Upstate New York	27	156	332	2	35	35	59	535	3	18	155	–
New York City	31	290	653	–	12	18	14	343	–	5	77	–
New Jersey *	272	4,068	149	1	25	21	28	483	–	28	286	1
Pennsylvania	35	554	151	1	7	22	91	1,070	–	17	157	–
EAST NORTH CENTRAL	451	5,006	5,413	4	73	77	465	8,966	12	132	1,978	2
Ohio *	237	2,288	212	1	23	36	112	2,358	–	50	348	–
Indiana	10	147	452	1	8	2	31	684	–	13	366	–
Illinois	118	970	1,186	–	9	12	25	747	10	20	229	1
Michigan	79	1,362	2,783	2	22	22	191	3,792	2	30	739	1
Wisconsin	7	239	780	–	11	5	106	1,385	–	19	296	–
WEST NORTH CENTRAL	21	441	316	–	44	56	103	2,296	3	2	161	5
Minnesota	–	76	15	–	15	–	1	28	–	–	6	–
Iowa *	1	9	209	–	8	11	74	1,473	3	1	13	–
Missouri	19	165	22	–	10	28	–	294	–	1	28	2
North Dakota	1	25	44	–	1	3	1	15	–	–	9	–
South Dakota	–	24	–	–	2	3	–	2	–	–	25	–
Nebraska	–	2	3	–	1	4	2	64	–	–	6	–
Kansas	–	140	23	–	7	7	25	420	–	–	74	3
SOUTH ATLANTIC	9	346	935	4	119	106	194	3,889	3	13	622	5
Delaware	–	5	5	–	3	1	5	54	–	1	13	–
Maryland	–	21	1	1	14	16	4	67	–	–	–	–
District of Columbia	1	3	–	–	–	2	3	39	–	2	3	–
Virginia	2	18	351	1	19	17	25	308	–	3	22	2
West Virginia	2	93	142	1	5	2	120	2,284	–	5	107	–
North Carolina	–	2	4	–	26	20	NN	NN	–	–	44	–
South Carolina	–	31	48	1	12	7	1	77	3	2	320	–
Georgia	–	1	138	–	5	17	–	–	–	–	2	–
Florida	4	172	246	–	35	24	36	1,060	–	–	111	3
EAST SOUTH CENTRAL	3	79	495	1	67	60	253	3,462	1	8	332	2
Kentucky	–	59	333	–	31	24	166	1,521	–	2	112	–
Tennessee	1	4	129	1	30	20	74	1,550	1	5	159	1
Alabama	2	4	–	–	6	11	11	332	–	–	47	–
Mississippi		12	33	–	–	5	2	59	–	1	14	1
WEST SOUTH CENTRAL	7	124	532	2	118	105	177	2,151	9	14	216	1
Arkansas	–	4	62	–	9	12	–	113	–	–	8	–
Louisiana	–	11	61	1	23	21	3	121	–	–	37	–
Oklahoma	–	13	39	–	12	10	14	279	–	2	27	–
Texas *	7	96	370	1	74	62	160	1,638	9	12	144	1
MOUNTAIN	78	574	387	–	16	18	25	778	1	22	252	–
Montana	67	303	12	–	1	4	–	126	–	2	62	–
Idaho	–	47	189	–	2	1	4	148	–	–	11	–
Wyoming	1	4	10	–	2	–	5	9	–	–	–	–
Colorado	–	25	65	–	2	3	14	353	–	3	86	–
New Mexico	–	44	97	–	2	3	1	136	–	13	52	–
Arizona	–	10	13	–	4	4	–	–	–	–	–	–
Utah	1	1	1	–	1	1	1	4	1	3	13	–
Nevada	9	140	–	–	2	2	–	2	–	1	28	–
PACIFIC	24	607	1,476	4	69	117	148	3,144	5	80	1,355	4
Washington	2	42	738	–	7	12	48	1,183	–	20	279	–
Oregon	–	–	327	–	8	10	11	583	–	1	167	1
California	22	514	402	4	49	91	77	1,269	5	59	898	3
Alaska	–	–	–	–	2	4	7	74	–	–	–	–
Hawaii	–	51	9	–	3	–	5	35	–	–	11	–
Guam *	–	6	4	–	1	–	–	243	–	–	2	–
Puerto Rico	52	371	1,169	–	1	4	52	973	2	–	11	2
Virgin Islands	–	10	–	–	–	–	2	26	–	–	–	1

*Delayed reports: Measles: N.H. 1, Mass. delete 2, R.I. delete 1, Ohio delete 1, Texas 7, Guam 2
Meningococcal Infection: N.J. 2, Iowa 2, Texas 1
Mumps: Me. 4, Texas 58, Guam 35
Pertussis: Texas 6
Rubella: Texas 15, Guam 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING MAY 11, 1974 AND MAY 12, 1973 (19th 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	583	10,974	34	8	116	21	59	16,254	305,488	278,679	501	8,691	9,090	1,021
NEW ENGLAND	5	458	–	–	5	–	–	296	6,979	7,551	3	157	264	6
Maine	–	31	–	–	–	–	–	35	586	409	–	11	9	1
New Hampshire	1	14	–	–	1	–	–	16	249	259	–	6	4	1
Vermont	–	4	–	–	–	–	–	5	232	105	–	1	9	–
Massachusetts	4	275	–	–	2	–	–	164	2,741	3,544	2	65	131	2
Rhode Island	–	45	–	–	2	–	–	54	671	796	–	5	6	2
Connecticut	–	89	–	–	–	–	–	22	2,500	2,438	1	69	105	–
MIDDLE ATLANTIC	90	1,862	1	3	22	–	9	1,968	37,006	37,717	118	1,945	2,047	7
Upstate New York	15	215	1	3	6	–	–	333	6,982	7,725	10	193	106	4
New York City	40	737	–	–	13	–	–	918	15,762	16,324	65	1,129	1,303	–
New Jersey	18	368	–	–	3	–	–	337	5,267	5,604	22	302	359	–
Pennsylvania	17	542	–	–	–	–	9	380	8,995	8,064	21	321	279	3
EAST NORTH CENTRAL	55	1,418	5	–	8	–	–	2,545	41,997	32,880	56	580	523	62
Ohio	8	418	–	–	3	–	–	834	14,222	10,393	7	104	100	–
Indiana	12	213	–	–	–	–	–	92	4,292	3,988	4	73	129	5
Illinois	2	374	3	–	3	–	–	813	7,470	4,848	31	212	66	10
Michigan	25	400	–	–	2	–	–	530	11,335	10,196	10	148	195	1
Wisconsin	8	13	2	–	–	–	–	276	4,678	3,455	4	43	33	46
WEST NORTH CENTRAL	36	397	8	–	3	–	–	876	15,906	15,840	17	202	118	236
Minnesota	9	66	–	–	2	–	–	128	3,655	3,054	6	30	47	108
Iowa	3	40	–	–	–	–	–	123	2,146	2,100	–	12	13	48
Missouri	13	197	7	–	1	–	–	340	4,924	5,552	9	133	39	10
North Dakota	2	11	–	–	–	–	–	14	265	224	1	1	1	48
South Dakota	6	28	1	–	–	–	–	33	751	791	–	2	1	–
Nebraska	1	17	–	–	–	–	–	70	1,337	1,641	–	3	1	–
Kansas	2	38	–	–	–	–	–	168	2,828	2,478	1	21	16	22
SOUTH ATLANTIC	139	2,294	2	–	17	14	29	3,798	77,539	70,245	131	2,779	2,623	122
Delaware	3	33	–	–	–	1	1	51	1,054	1,010	4	36	32	–
Maryland	26	286	–	–	1	–	1	300	7,038	6,064	18	300	281	–
District of Columbia	9	142	–	–	–	–	–	300	5,724	5,678	11	235	294	–
Virginia	12	284	1	–	1	2	5	–	6,526	6,627	–	315	267	49
West Virginia	6	121	–	–	3	–	1	46	942	1,110	1	8	11	18
North Carolina	16	358	1	–	1	9	12	445	10,061	10,079	27	321	213	8
South Carolina *	17	236	–	–	–	1	5	540	8,840	7,750	11	346	394	2
Georgia	21	300	–	–	1	1	3	935	16,225	12,868	18	292	468	28
Florida	29	534	–	–	10	–	1	1,181	21,129	19,059	41	926	663	17
EAST SOUTH CENTRAL	72	1,003	7	1	14	3	7	1,439	26,234	23,799	22	441	641	122
Kentucky*	13	215	1	–	7	–	–	105	3,179	2,921	2	90	262	81
Tennessee	27	326	4	1	5	3	6	578	10,215	8,815	12	181	160	28
Alabama	22	315	2	–	2	–	–	417	7,198	6,750	5	87	55	12
Mississippi	10	147	–	–	–	–	1	339	5,642	5,313	3	83	164	1
WEST SOUTH CENTRAL	88	1,460	8	–	9	4	10	2,272	43,869	37,829	53	890	1,063	273
Arkansas	10	191	3	–	1	–	–	227	4,162	5,069	5	46	63	36
Louisiana*	2	154	1	–	2	–	–	535	9,162	7,749	18	253	310	8
Oklahoma	7	107	3	–	–	3	7	209	3,744	4,148	3	58	75	59
Texas *	69	1,008	1	–	6	1	3	1,301	26,801	20,863	27	533	615	170
MOUNTAIN	24	370	2	1	12	–	3	598	11,709	10,588	4	210	307	35
Montana	5	29	–	–	–	–	1	37	706	618	–	–	2	–
Idaho	5	18	–	–	–	–	–	15	683	639	–	4	6	–
Wyoming	–	9	1	–	2	–	1	11	247	163	–	4	12	3
Colorado	–	68	–	–	–	–	1	155	3,321	2,833	–	42	100	–
New Mexico	5	77	1	–	1	–	–	70	1,577	1,669	–	32	26	15
Arizona*	7	132	–	–	8	–	–	200	3,637	3,164	3	76	66	17
Utah	1	13	–	–	–	–	–	35	572	554	–	6	8	–
Nevada	1	24	–	1	1	–	–	75	966	948	1	46	87	–
PACIFIC	74	1,712	1	3	26	–	1	2,462	44,249	42,230	97	1,487	1,504	158
Washington	6	112	–	–	4	–	–	238	4,024	3,875	–	34	55	–
Oregon	5	73	–	–	–	–	1	179	3,732	3,731	1	28	30	8
California	59	1,365	1	3	22	–	–	1,949	34,535	32,808	95	1,409	1,354	144
Alaska*	–	32	–	–	–	–	–	39	964	1,022	–	1	24	6
Hawaii	4	130	–	–	–	–	–	57	994	794	1	15	41	–
Guam *	–	19	–	–	–	–	–	–	96	124	–	–	–	–
Puerto Rico	4	212	–	–	2	–	–	71	1,022	1,548	8	317	286	24
Virgin Islands	–	–	–	–	–	–	–	8	105	78	–	12	8	–

*Delayed reports: Tuberculosis: Texas 37, Alaska 5, Guam 1
RMSF: S.C. delete 1, Texas 1
Gonorrhea: La. delete 1, Texas 1714, Guam 19
Syphilis: Texas 23
Rabies: Ky. delete 1, Ariz. 2, Texas 11

Week No. 19

TABLE IV. DEATHS IN 121 UNITED STATES CITIES FOR WEEK ENDING MAY 11, 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	709	427	208	29	22	40
Boston, Mass.	212	115	62	14	11	14
Bridgeport, Conn.	40	20	16	1	1	2
Cambridge, Mass.	28	20	8	–	–	4
Fall River, Mass.	28	17	9	1	–	2
Hartford, Conn.	51	30	17	1	–	–
Lowell, Mass.	20	12	7	–	1	2
Lynn, Mass.	20	16	2	1	1	2
New Bedford, Mass.	31	22	8	–	1	1
New Haven, Conn.	50	30	19	–	–	–
Providence, R. I.	62	37	16	5	1	4
Somerville, Mass.	11	9	2	–	–	2
Springfield, Mass.	60	33	21	2	4	3
Waterbury, Conn.	33	23	7	–	–	–
Worcester, Mass.	63	43	14	4	2	4
MIDDLE ATLANTIC	2,991	1,889	759	181	81	126
Albany, N. Y.	49	27	18	1	1	1
Allentown, Pa.	29	21	6	1	1	5
Buffalo, N. Y.	169	105	46	5	10	9
Camden, N. J.	41	26	11	1	2	3
Elizabeth, N. J.	31	18	10	1	2	1
Erie, Pa.	35	27	6	–	–	6
Jersey City, N. J.	43	31	10	2	–	–
Newark, N. J.	49	28	14	4	2	2
New York City, N. Y.†	1,467	931	343	109	38	52
Paterson, N. J.	32	23	4	3	–	–
Philadelphia, Pa.	400	235	114	29	10	8
Pittsburgh, Pa.	197	110	73	7	4	15
Reading, Pa.	36	21	9	3	1	1
Rochester, N. Y.	157	113	28	8	4	8
Schenectady, N. Y.	22	15	6	1	–	1
Scranton, Pa.	56	37	16	–	2	4
Syracuse, N. Y.	90	61	22	4	2	3
Trenton, N. J.	40	24	13	1	2	3
Utica, N. Y.	22	18	3	1	–	3
Yonkers, N. Y.	26	18	7	–	–	1
EAST NORTH CENTRAL	2,524	1,448	677	149	131	74
Akron, Ohio	60	38	11	3	3	–
Canton, Ohio	35	20	11	2	1	–
Chicago, Ill.	681	373	186	56	39	16
Cincinnati, Ohio	149	98	31	11	3	4
Cleveland, Ohio	204	111	63	12	11	3
Columbus, Ohio	135	73	38	10	10	1
Dayton, Ohio	81	45	25	3	3	2
Detroit, Mich.	325	166	96	17	29	9
Evansville, Ind.	64	42	13	3	2	5
Fort Wayne, Ind.	44	29	10	2	–	4
Gary, Ind.	32	18	10	1	1	1
Grand Rapids, Mich.	62	39	18	–	2	7
Indianapolis, Ind.	152	83	41	8	8	3
Madison, Wis.	45	24	12	1	4	5
Milwaukee, Wis.	144	94	27	10	4	1
Peoria, Ill.	43	24	10	3	3	–
Rockford, Ill.	52	28	15	3	3	7
South Bend, Ind.	25	17	8	–	–	1
Toledo, Ohio	131	88	34	3	3	3
Youngstown, Ohio	60	38	18	1	2	2
WEST NORTH CENTRAL	712	446	177	41	29	23
Des Moines, Iowa	40	28	8	3	1	–
Duluth, Minn.	18	15	3	–	–	3
Kansas City, Kans.	33	20	7	3	2	1
Kansas City, Mo.	128	74	37	8	7	2
Lincoln, Nebr.	21	17	3	–	–	–
Minneapolis, Minn.	97	65	19	7	2	5
Omaha, Nebr.	93	57	27	3	3	3
St. Louis, Mo.	160	93	42	10	10	3
St. Paul, Minn.	92	59	21	5	4	3
Wichita, Kans.	30	18	10	2	–	3
SOUTH ATLANTIC	1,132	627	327	85	41	47
Atlanta, Ga.	147	80	40	14	10	5
Baltimore, Md.	224	117	73	17	8	3
Charlotte, N. C.	49	26	14	4	2	–
Jacksonville, Fla.	93	52	24	6	3	1
Miami, Fla.	62	33	17	5	5	1
Norfolk, Va.	57	30	19	4	2	4
Richmond, Va.	104	58	33	8	3	8
Savannah, Ga.	45	27	13	2	2	6
St. Petersburg, Fla.	106	87	13	1	2	4
Tampa, Fla.	69	33	22	6	1	6
Washington, D. C.	121	59	39	13	3	7
Wilmington, Del.	55	25	20	5	–	2
EAST SOUTH CENTRAL	696	412	190	41	23	29
Birmingham, Ala.	118	66	26	13	6	–
Chattanooga, Tenn.	45	21	16	1	5	5
Knoxville, Tenn.	35	22	10	–	2	1
Louisville, Ky.	116	68	34	8	5	9
Memphis, Tenn.	181	105	52	9	3	1
Mobile, Ala.	37	25	9	2	1	3
Montgomery, Ala.	39	28	7	2	1	1
Nashville, Tenn.	125	77	36	6	–	9
WEST SOUTH CENTRAL	1,234	656	358	99	68	36
Austin, Tex.	47	24	15	5	–	–
Baton Rouge, La.*	49	27	14	4	3	2
Corpus Christi, Tex.	34	26	5	–	2	3
Dallas, Tex.	167	85	47	16	9	3
El Paso, Tex.	63	34	16	7	3	6
Fort Worth, Tex.	89	44	29	6	6	1
Houston, Tex.	264	121	86	23	22	9
Little Rock, Ark.	78	39	23	6	8	3
New Orleans, La.	145	81	44	8	5	–
San Antonio, Tex.	143	77	38	15	6	5
Shreveport, La.	81	47	26	3	3	–
Tulsa, Okla.	74	51	15	6	1	4
MOUNTAIN	570	330	147	42	21	24
Albuquerque, N. Mex.	42	24	12	4	–	3
Colorado Springs, Colo.	42	29	8	4	–	2
Denver, Colo.	128	84	26	5	7	7
Las Vegas, Nev.	20	9	7	2	2	–
Ogden, Utah	24	13	7	2	–	1
Phoenix, Ariz.	143	78	47	11	4	1
Pueblo, Colo.	34	21	9	1	–	8
Salt Lake City, Utah	56	25	15	6	6	2
Tucson, Ariz.	81	47	16	7	2	–
PACIFIC	1,705	1,075	416	112	46	43
Berkeley, Calif.	21	11	8	2	–	–
Fresno, Calif.	58	34	15	4	2	1
Glendale, Calif.	36	26	7	2	1	–
Honolulu, Hawaii	54	30	17	1	3	6
Long Beach, Calif.	103	65	26	11	–	1
Los Angeles, Calif.	498	325	109	32	18	14
Oakland, Calif.	106	68	20	11	3	2
Pasadena, Calif.	39	27	7	3	1	1
Portland, Oreg.	130	81	33	8	3	–
Sacramento, Calif.	57	35	20	2	–	1
San Diego, Calif.	139	77	39	8	7	2
San Francisco, Calif.	174	110	46	9	2	2
San Jose, Calif.	58	34	14	6	2	4
Seattle, Wash.	130	76	37	7	3	3
Spokane, Wash.	64	48	10	5	–	6
Tacoma, Wash.	38	28	8	1	1	–
Total	12,273	7,310	3,259	779	462	442
Expected Number	12,025	7,022	3,289	796	419	368

†Delayed report for week ending May 4, 1974

*Estimate based on average percent of divisional total

HEPATITIS – Continued

source of this outbreak and administration of prophylaxis to most of the population at risk. This rapid action probably prevented many additional primary and secondary cases.

Although hepatitis A foodborne outbreaks have been relatively rare, this is the second reported to CDC in the past 6 months in which sandwiches have been incriminated (MMWR, Vol. 23, No. 9). In neither outbreak was the method of food contamination determined. In previous outbreaks with food-handlers, fecal contamination has been rarely associated and even then only indirectly. These data emphasize the need for increased awareness of illness in food-handlers and exposure of food-handlers to known hepatitis cases.

HUMAN *SALMONELLA DUBLIN* INFECTIONS ASSOCIATED WITH CONSUMPTION OF CERTIFIED RAW MILK – California

Between April 1971 and March 1974, *Salmonella dublin* was isolated from 79 persons in California, 37 of whom had underlying debilitating conditions requiring medical treatment. Patients' ages ranged from 1 month to 88 years; 54 (68%) were more than 19 years of age, compared to 32% in these age groups for all salmonellosis cases reported nationally. In 52 (66%) of the cases, *S. dublin* was cultured from deep tissue sites including blood (46 cases), urine (3 cases), and other tissues (3 cases). Fifty-nine (75%) of the patients were hospitalized, and 16 (20%) died. Thirteen of the deaths occurred in patients with pre-existing disease conditions such as malignancies and hematopoietic disorders.

Previous *S. dublin* outbreaks in California in 1958 (47 cases) *(1)* and 1964 (2 cases) had been associated with consumption of certified raw milk, and histories of milk consumption were obtained from patients who had isolates obtained between April 1971 and March 1974. Certified raw milk produced at a single large dairy had been consumed in households of 31 (42%) of 74 patients contacted; this dairy produces less than 0.5% of all milk in California. Milk from this same dairy had been implicated in the 1958 and 1964 outbreaks.

Beginning in 1973, all human Group D salmonella infections in Los Angeles County were extensively investigated prior to obtaining definitive serotyping. In the 36 Group D salmonella patients studied through March 1974, eventual serotyping revealed 16 *S. dublin* infections and 20 infections due to Group D salmonellae other than *S. dublin*. When food preference histories of the 16 *S. dublin* patients were compared with those of the 20 control patients who had other Group D infections, only 1 food item could be implicated as a vehicle of infection: certified raw milk produced at the dairy incriminated previously was consumed in 10 (63%) of the 16 households in which *S. dublin* cases occurred; none of the 20 control households had used this milk (p=.000032).

In 1972, a screening program was conducted to detect salmonella-infected cattle in the 2 geographically separated herds (herd A and herd B) maintained by the implicated dairy. Two serial fecal culture surveys revealed salmonella infections in 31 (1.5%) of the 2,100 cattle in herd A, including 13 *S. dublin* infections. All cattle found to be shedding salmonellae were immediately culled from the herd. No salmonellae were recovered from the 1,000 cattle in herd B.

Because of a sudden increase in the number of human *S. dublin* cases reported from California in January and February 1974, additional bacteriologic sampling of milk from this dairy was undertaken. In March 1974, after more than 40 quarts of certified raw milk had been cultured with negative results, *S. dublin* was recovered from 1 quart of raw milk. Three additional fecal culture surveys of the 2,100 cattle in herd A were therefore performed in March and April 1974. Although no *S. dublin* shedders were identified, 16 cattle were shedding *S. typhimurium* and one *S. livingstone*.

(Reported by Ichiro Kamei, M.D., Chief, Acute Communicable Disease Control Division, Louis Mahoney, M.D., Director, Immunization Project, and Ralph R. Sachs, M.D., Deputy Director, Los Angeles County Community Health Services, and Edward Aaron, D.V.M., Chief of Veterinary Public Health, Los Angeles County Comparative Medicine and Veterinary Public Health Services, Los Angeles County Department of Health Services; S. Benson Werner, M.D., Medical Epidemiologist, Infectious Disease Section, and George L. Humphrey, D.V.M., Chief Public Health Veterinarian and Chief, Veterinary Section, California Department of Health; and an EIS Officer.)

Editorial Note

Human and animal *S. dublin* infections are rare in areas of the United States east of the Rocky Mountains. Since 1963, a total of 116 human infections have been reported to the Salmonella Surveillance Activity, CDC, from the entire United States; of these, 95 (82%) were reported from California. In the same period, 399 non-human isolates of *S. dublin* were reported, including 333 (83%) from California. Of 382 isolates in which the source was known, 370 (97%) were of bovine origin, indicating the marked host specificity of *S. dublin* for cattle.

In cattle as well as in humans, this organism is frequently invasive, resulting in high mortality rates in infected calves and abortions in cows *(2)*. *S. dublin* has been isolated from the udders of cattle with chronic mastitis *(3)*, suggesting that milk may be contaminated without exposure to feces or other exogenous sources of contamination.

Cattle which shed fecal salmonellae intermittently, or which have localized infections in sites such as the udder, often would not be identified by fecal culture surveys. Milk pasteurization would eliminate the human health hazard associated with such bovine infections.

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3. Zagaevskii IS: Sources of contamination of milk with salmonella on dairy farms. Voprosy Pitaniya 21:86-87, 1962

INTERNATIONAL NOTES

CHOLERA – Portugal

On May 11, 1974, Portuguese authorities reported 3 cases of cholera to the World Health Organization. As of May 15 a total of 8 cases had been reported – all in the south-coast town of Tavira.

(Reported by the World Health Organization, Geneva, Switzerland.)

Editorial Note

Cholera vaccination is not required for entry into the United States or other countries observing the current modifications of the International Health Regulations (MMWR, Vol. 23, No. 2). However, travelers to Portugal or other cholera-infected areas may find that having a validated International Certificate of Vaccination still facilitates subsequent travel to countries that may have requirements for cholera vaccination.

EPIDEMIOLOGIC NOTES AND REPORTS

BOTULINAL TOXIN IN AN OPENED CAN OF COMMERCIAL TUNA FISH

On May 11, 1974, the Food and Drug Administration (FDA) confirmed that Starkist Foods Inc., Terminal Island, California, was recalling 1 lot of its StarKist Chunk Light Tuna packed in 6½-oz cans. The recall was issued after an FDA analysis revealed *Clostridium botulinum* toxin in 1 can of tuna that had been opened by a consumer. The involved lot has the code $\frac{921GI}{EE489}$ embossed on 1 end of the can and was only distributed in the western New York State area. Of 136 cases of product in this lot, 80 have been located; the remaining 56 cases were presumably distributed for sale beginning in February 1974.

No human illness has been associated with consumption of tuna fish from this lot. Persons with cans from this lot should return them to the store where they were purchased.

(Reported by the Food and Drug Administration; and the Bacterial Diseases Division, Bureau of Epidemiology, CDC.)

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

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

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