



# Morbidity and Mortality

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE / PUBLIC HEALTH SERVICE HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

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## EPIDEMIOLOGIC NOTES AND REPORTS INFECTIOUS HEPATITIS OUTBREAK

College of the Holy Cross, Worcester, Massachusetts

Between Sept. 20 and Oct. 4, 1969, 26 icteric cases of infectious hepatitis (Figure 1) developed among the members and staff of the varsity football team of the College of the Holy Cross in Worcester, Massachusetts. The illnesses were of abrupt onset and were characterized by malaise, weakness, fever, nausea, abdominal pain, dark urine, and jaundice. Appropriate tests of hepatic function were consistent with the diagnosis of infectious hepatitis. The jaundiced patients, all males, were between 19 and 22 years of age with the exception of the team trainer who was 40. Liver function studies were performed on the remaining asymptomatic varsity football players, coaches, and managers (total 65). Of the 65, 59 (91 percent) were

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found to have significantly increased serum glutamic pyruvic transaminase (SGPT) levels (greater than 100 units). Other athletes, including members of the freshman football and rugby teams, were symptom free and had normal laboratory tests. The clustering of cases over a short period of time coupled with the absence of known exposure to other hepatitis cases, ingestion of raw shellfish, or inoculations supported the hypothesis of a common source outbreak. The varsity football team reported for practice on August 26  
*(Continued on page 358)*

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

DISEASE	41st WEEK ENDED		MEDIAN 1964 - 1968	CUMULATIVE, FIRST 41 WEEKS		
	October 11, 1969	October 12, 1968		1969	1968	MEDIAN 1964 - 1968
Aseptic meningitis	165	159	80	2,689	3,431	2,302
Brucellosis	6	5	6	182	182	202
Diphtheria	3	4	4	138	166	153
Encephalitis, primary:						
Arthropod-borne & unspecified	39	57	47	999	1,089	1,472
Post-infectious	3	4	4	259	401	621
Hepatitis, serum	95	108	681	4,126	3,500	30,442
Hepatitis, infectious	923	1,041		36,816	35,328	
Malaria	69	101	18	2,304	1,834	342
Measles (rubeola)	135	122	679	21,000	20,122	191,496
Meningococcal infections, total	29	30	35	2,469	2,135	2,191
Civilian	29	28	---	2,263	1,951	---
Military	---	2	---	206	184	---
Mumps	774	1,107	---	70,639	128,390	---
Poliomyelitis, total	2	---	---	15	48	48
Paralytic	2	---	---	14	48	48
Rubella (German measles)	337	265	---	50,351	44,889	---
Streptococcal sore throat & scarlet fever	6,409	7,047	6,266	330,398	331,141	331,141
Tetanus	2	8	6	121	138	180
Tularemia	1	2	2	115	157	157
Typhoid fever	10	12	11	245	305	333
Typhus, tick-borne (Rky. Mt. spotted fever)	5	1	4	415	262	243
Rabies in animals	41	58	65	2,729	2,788	3,496

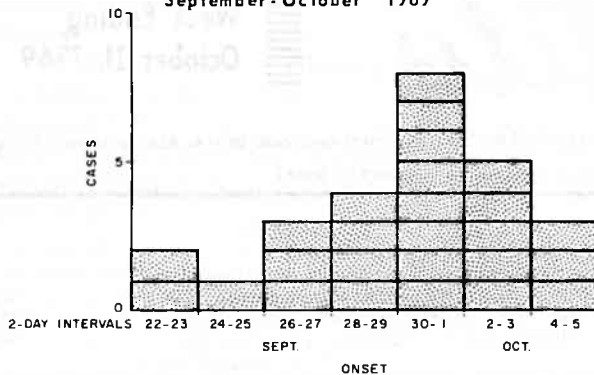
TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	3	Rabies in man:	1
Botulism:	12	Rubella congenital syndrome:	9
Leptospirosis: * Fla.-2	64	Trichinosis: Fla.-1	163
Plague:	3	Typhus, murine:	35
Psittacosis: Calif.-1, Fla.-1, Wis.-1	35		

\*Delayed Reports: Leptospirosis: S.C. 1

## HEPATITIS - (Continued from front page)

Figure 1  
26 Icteric Cases of Infectious Hepatitis by Date of Onset  
College of the Holy Cross, Worcester, Massachusetts  
September - October 1969



and the freshman team on September 3. Both teams used the same athletic and dining facilities, and consequently since no cases occurred in freshman players, the exposure period was presumed to be between these two dates.

Epidemiologic investigation has failed to incriminate any events or foods which could have been responsible for the outbreak, but has focused attention on the practice football field at the College. Several inadequacies in the field's water system were recognized. The faucet used to provide drinking water is at the end of a series of five

irrigation outlets, which are positioned 6 inches below ground surface. The drinking water faucet lies in the dependent portion of the system, 5 1/2 ft. below the level of the irrigation outlets. Dye studies conducted at the field have shown that under certain circumstances surface water may directly enter the water line.

Children living adjacent to the practice field customarily use it as a playground. They frequently turn on the irrigation outlets and bathe in the spray. The children are reported to occasionally use the area as a bathroom facility and have been seen urinating; acts of defecation are suspected. Within the 6 weeks prior to the onset of the outbreak, five cases of hepatitis occurred in persons living in a deteriorated, unsanitary house immediately adjacent to the field. Four of these individuals were under 14 years of age and regularly play on the practice field. Continued investigation is in progress.

(Reported by Leonard J. Morse, M.D., Head, Section of Infectious Diseases, St. Vincent Hospital, Assistant Professor of Medicine, Georgetown University School of Medicine, and Consultant to the Worcester Department of Public Health; Arnold Gurwitz, M.D., Commissioner of Health, Worcester Department of Public Health; Eugene E. Reilly, Jr., Epidemiologist, and Nicholas Fiumara, M.D., Director, Division of Communicable Diseases, Massachusetts State Health Department; and an EIS Officer.)

## HEPATITIS - South Carolina

Between Sept. 16 and 23, 1969, 14 members of a Boy Scout Troop at Shaw AFB, Sumter, South Carolina, were admitted to the base hospital with infectious hepatitis. One was an adult, age 23, and the rest were between 11 and 15 years of age. All had participated in a camp-out held between August 14 and 17 on an island in a nearby recreation area; all had attended the camp for a majority of the 4 days and had spent at least one night there. The first four patients had had acute onset of malaise, fever, weakness, and anorexia followed by dark urine; all had abnormal liver function tests. The remaining 10 cases were found by a liver function test survey of the 36 other campers, who had attended the camp for varying periods of time. These 10 had elevated serum transaminase and recalled having slight malaise, anorexia, and darkening of the urine within the previous 7 to 10 days.

There was no known occasion other than the camp-out where all 14 patients could have been exposed. None of the 14 recalled having had contact with a known case of viral hepatitis or gave a history of raw shellfish ingestion or blood transfusion within the 2 months prior to illness. No illnesses suggesting hepatitis were reported among their household members. These facts together with the clustering of onsets of illness and the interval between attendance at the camp-out and onset of symptoms (28 to 32 days) suggest a common source exposure occurring sometime during the camp-out.

At the camp-out, cooking and eating were done in small groups of three to six persons. No single food except watermelon was eaten by a majority of patients, but it was eaten just as frequently by persons who did not become ill. There is no water supply on the island and water for drinking, cooking, and dishwashing was obtained from an approved source on the mainland; however, some persons (both ill and not ill) drank, cooked, and washed dishes in untreated lake water. All campers swam in the lake during the camp-out. Water samples, obtained periodically from the lake, have demonstrated elevated coliform counts.

No additional cases were identified by a survey of civilians in the surrounding community near the base, and the outbreak appears to be limited to the Boy Scout group. The exact means of exposure remains unclear.

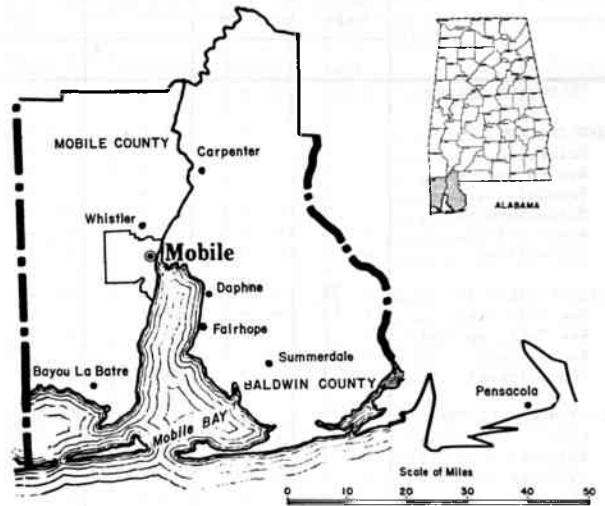
(Reported by Brig. Gen. Q. J. Serenati, Commanding Surgeon, Headquarters Tactical Air Command, Langley AFB, Virginia; Col. Lawrence R. Sutherland, Capt. James Lehmann, and Capt. Lou Meta, MC USAF, Capt. Jerry P. Dougherty, USAF Bioenvironmental Engineering, and M/Sgt. William C. Counts, USAF Military Public Health, Shaw AFB, Sumter; D. H. Robinson, M.D., Chief, Preventive Health Services, South Carolina State Board of Health; and three EIS Officers.)

"DAPHNE SORE" - Alabama

In the past 8 to 10 years, chronic skin granulomas of the elbow or knee have been seen in children and occasionally adults with a history of swimming in salt water in the Mobile, Alabama, area. The lesions have been called "daphne sores" because several patients lived in or near the town of Daphne, Alabama, on the east side of Mobile Bay (Figure 2). The medical records of 21 patients with this lesion were recently reviewed. The usual history included swimming in Mobile Bay, often sustaining an injury while swimming, which was followed 1 to 3 weeks later by the development of a raised lesion on the elbow or knee. The lesion was usually about 1 cm in diameter, often was crusted, and did not heal. There were no systemic symptoms or enlarged lymph nodes. Only the chronicity of the lesion and occasionally secondary infection or bleeding, resulting from further trauma, caused the individuals to see a physician.

Most of the patients were between 10 and 19 years of age; 10 were males and 11 were females (Table 1). They had been ill from 7 weeks to 2 years before seeking assistance from a physician. Of the 21 medical records, 10 indicated that the patient had a history of trauma, four stated that the patient had no trauma, and seven did not mention trauma. Of the 18 patients on whom skin biopsies were known to have been performed, two were positive for acid-fast bacilli. *Mycobacterium marinum* was cultured from the biopsy specimens from four people, Runyon Group III *M. triviale* was cultured from one, and one other culture had original growth that could not be further characterized.

Figure 2  
GEOGRAPHIC DISTRIBUTION OF  
*MYCOBACTERIUM MARINUM*  
ALABAMA - 1960-1969



Records also indicated that of three children who had been tuberculin skin tested two had positive reactions. (Reported by Edward Goldsmith, M.D., Health Officer, Baldwin County, and George Newburn, M.D., Health Officer, Mobile County, Alabama; Frederick S. Wolf, M.D., Director, Bureau of Preventable Diseases, and Thomas Hosty, (Continued on page 364)

Table 1  
Line Listing of Culture Proven and Other Probable Southern Alabama *Mycobacterium marinum* Cases

Sex	Age	Residence	Location of Lesion	Interval From Onset to Diagnosis	Trauma	When Seen	Compatible Biopsy	Mycobacterial Culture	Skin Test
M	15	Daphne	Knee	5 Mo.	+	Dec. 60	+	<i>marinum</i>	ND
M	10	Fairhope	Heel	7 Wk.	+	Nov. 64	+	<i>marinum</i>	?
M	58	Mobile	Hand	7 Mo.	-	Apr. 67	+	<i>marinum</i>	ND
M	16	Fairhope	Elbow	8 Mo.	+	Apr. 69	+	<i>marinum</i>	ND
M	66	Chapman	Finger	2 Yr.	+	Mar. 68	AFB +	+	ND
F	11	Fairhope	Knee	3 Mo.	+	Nov. 68	AFB +	ND	+
F	51	Fairhope	Arm	7 Wk.	+	Apr. 63	+	-	ND
F	15	Mobile	Knee	1 Yr.	-	Mar. 66	+	-	ND
F	11	Mobile	Knee	1 Yr.	?	Apr. 66	+	-	+
F	14	?	Knee	?	?	Sept. 67	?	-	ND
F	18	Mobile	Knee	4 Mo.	-	Dec. 68	+	?	ND
M	12	Summerdale	Knee	1 yr.	?	Aug. 69	+	?	ND
F	6	Mobile	Leg	2 Mo.	-	Jan. 69	+	<i>triviale</i>	ND
M	15	Daphne	Knee	5 Mo.	+	Dec. 60	+	ND	ND
M	7	Fairhope	Knee	10 Mo.	+	Apr. 67	ND	ND	-
F	13	Daphne	Knee	?	?	Apr. 68	+	ND	ND
F	5	Bayou la Batre	Leg	2 Mo.	?	Jul. 68	ND	ND	ND
M	2	Mobile	Arm	?	?	Feb. 69	+	ND	ND
F	7	Daphne		?	?	Apr. 69	+	ND	ND
M	16	Fairhope	Elbow	8 Mo.	+	Apr. 69	+	ND	ND
M	16	Daphne	Knee	8 Mo.	+	Jun. 69	+	ND	ND

AFB - Acid-fast bacilli  
ND - Not done  
+ - Positive  
- - Negative  
? - Unknown

## Morbidity and Mortality Weekly Report

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

OCTOBER 11, 1969 AND OCTOBER 12, 1968 (41st WEEK)

AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	DIPHThERIA	ENCEPHALITIS			HEPATITIS			MALARIA	
				Primary including unsp. cases		Post- Infectious	Serum	Infectious		1969	Cum. 1969
				1969	1968	1969	1969	1969	1968		
UNITED STATES...	165	6	3	39	57	3	95	923	1,041	69	2,299
NEW ENGLAND.....	4	-	-	6	1	-	2	81	68	-	77
Maine*.....	-	-	-	-	-	-	-	-	5	-	6
New Hampshire.....	-	-	-	-	-	-	-	4	-	-	2
Vermont.....	-	-	-	-	-	-	-	2	3	-	-
Massachusetts.....	4	-	-	5	1	-	-	53	35	-	47
Rhode Island.....	-	-	-	-	-	-	-	15	11	-	9
Connecticut.....	-	-	-	1	-	-	2	7	14	-	13
MIDDLE ATLANTIC.....	32	-	-	4	8	1	37	140	201	12	265
New York City.....	10	-	-	-	2	-	23	35	50	-	22
New York, up-State.	6	-	-	1	2	-	4	28	34	2	43
New Jersey*.....	13	-	-	2	2	-	7	24	79	7	107
Pennsylvania.....	3	-	-	1	2	1	3	53	38	3	93
EAST NORTH CENTRAL...	18	-	-	18	34	-	14	152	137	13	256
Ohio.....	8	-	-	11	20	-	6	41	48	-	22
Indiana.....	3	-	-	-	2	-	-	3	8	-	20
Illinois.....	-	-	-	1	6	-	2	43	8	12	160
Michigan.....	7	-	-	3	5	-	6	57	61	1	53
Wisconsin.....	-	-	-	3	1	-	-	8	12	-	1
WEST NORTH CENTRAL...	25	1	-	2	3	-	1	42	47	3	159
Minnesota.....	25	-	-	-	-	-	1	8	18	-	8
Iowa.....	-	-	-	-	3	-	-	10	5	-	16
Missouri.....	-	-	-	-	-	-	-	17	19	-	41
North Dakota.....	-	-	-	-	-	-	-	-	1	-	3
South Dakota.....	-	1	-	-	-	-	-	1	-	1	1
Nebraska.....	-	-	-	-	-	-	-	1	-	-	3
Kansas.....	-	-	-	2	-	-	-	5	4	2	87
SOUTH ATLANTIC.....	23	4	-	3	2	2	8	74	134	7	579
Delaware.....	-	-	-	-	-	-	-	2	2	-	3
Maryland.....	2	-	-	-	1	-	1	11	11	1	31
Dist. of Columbia..	-	-	-	-	-	-	-	2	-	-	2
Virginia.....	10	4	-	-	-	-	-	7	63	-	25
West Virginia.....	1	-	-	1	-	-	-	10	2	-	-
North Carolina.....	3	-	-	-	1	-	2	5	7	4	260
South Carolina.....	5	-	-	-	-	-	-	5	8	2	51
Georgia.....	-	-	-	-	-	-	-	9	18	-	174
Florida.....	2	-	-	2	-	2	5	23	23	-	33
EAST SOUTH CENTRAL...	20	-	1	-	-	-	-	68	42	-	110
Kentucky.....	1	-	-	-	-	-	-	27	8	-	85
Tennessee.....	3	-	-	-	-	-	-	29	19	-	-
Alabama.....	9	-	1	-	-	-	-	11	8	-	22
Mississippi.....	7	-	-	-	-	-	-	1	7	-	3
WEST SOUTH CENTRAL...	3	-	1	2	-	-	3	105	83	20	174
Arkansas.....	-	-	-	-	-	-	-	4	2	-	13
Louisiana*.....	1	-	1	-	-	-	2	21	17	-	43
Oklahoma.....	-	-	-	-	-	-	-	8	12	1	54
Texas.....	2	-	-	2	-	-	1	72	52	19	64
MOUNTAIN.....	-	-	-	1	5	-	1	42	37	1	127
Montana*.....	-	-	-	-	2	-	-	1	9	-	3
Idaho.....	-	-	-	-	-	-	-	2	1	-	3
Wyoming.....	-	-	-	-	-	-	-	2	6	-	-
Colorado.....	-	-	-	1	1	-	1	24	-	1	108
New Mexico.....	-	-	-	-	-	-	-	1	5	-	7
Arizona.....	-	-	-	-	1	-	-	-	13	-	1
Utah.....	-	-	-	-	1	-	-	1	2	-	1
Nevada.....	-	-	-	-	-	-	-	11	1	-	4
PACIFIC.....	40	1	1	3	4	-	29	219	292	13	552
Washington.....	19	-	-	-	1	-	-	31	25	-	5
Oregon.....	2	-	-	-	-	-	-	12	16	1	14
California.....	18	1	1	2	3	-	29	173	249	12	437
Alaska.....	-	-	-	-	-	-	-	1	-	-	3
Hawaii.....	1	-	-	1	-	-	-	2	2	-	93
Puerto Rico.....	-	-	-	-	-	-	-	30	37	-	2

\*Delayed reports: Aseptic meningitis: La. delete 1  
 Encephalitis, primary: Mont. delete 2  
 Hepatitis, serum: N.J. 12  
 Hepatitis, infectious: Me. 8, N.J. 18

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDED  
OCTOBER 11, 1969 AND OCTOBER 12, 1968 (41st WEEK) - CONTINUED

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS	POLIOMYELITIS			RUBELLA	
	1969	Cumulative		1969	Cumulative			1969	Total	Paralytic		
		1969	1968		1969	1968			1969	1969		Cum. 1969
UNITED STATES...	135	21,000	20,122	29	2,469	2,135	774	2	2	14	337	
NEW ENGLAND.....	2	1,120	1,164	2	97	125	87	-	-	2	24	
Maine*.....	-	9	38	-	6	6	5	-	-	1	2	
New Hampshire.....	-	239	141	-	3	7	5	-	-	-	3	
Vermont.....	-	3	2	-	-	1	6	-	-	-	1	
Massachusetts.....	2	222	363	1	38	64	28	-	-	-	3	
Rhode Island.....	-	27	6	1	13	9	3	-	-	-	4	
Connecticut.....	-	620	614	-	37	38	40	-	-	1	11	
MIDDLE ATLANTIC.....	16	7,564	4,157	4	405	384	73	-	-	2	28	
New York City.....	8	4,937	2,174	1	77	78	59	-	-	-	5	
New York, Up-State.....	3	605	1,233	2	79	69	NN	-	-	1	11	
New Jersey.....	4	923	636	-	160	132	14	-	-	-	4	
Pennsylvania.....	1	1,099	114	1	89	105	NN	-	-	1	8	
EAST NORTH CENTRAL...	37	2,350	3,886	6	340	258	207	-	-	-	113	
Ohio.....	3	393	297	-	124	70	26	-	-	-	14	
Indiana.....	1	468	685	5	45	36	21	-	-	-	19	
Illinois.....	14	576	1,379	-	49	58	31	-	-	-	10	
Michigan.....	11	311	284	1	97	74	65	-	-	-	47	
Wisconsin.....	8	602	1,241	-	25	20	64	-	-	-	23	
WEST NORTH CENTRAL...	12	600	393	-	126	115	41	-	-	1	30	
Minnesota.....	-	8	16	-	28	27	-	-	-	-	-	
Iowa.....	-	332	103	-	18	8	32	-	-	-	18	
Missouri*.....	-	30	81	-	52	37	2	-	-	-	3	
North Dakota.....	-	15	137	-	2	3	1	-	-	-	2	
South Dakota.....	-	3	4	-	1	5	NN	-	-	-	-	
Nebraska.....	12	205	42	-	9	8	3	-	-	-	-	
Kansas.....	-	7	10	-	16	27	3	-	-	1	7	
SOUTH ATLANTIC.....	8	2,575	1,526	7	427	429	77	-	-	1	21	
Delaware.....	-	393	16	-	12	8	1	-	-	-	-	
Maryland.....	-	77	102	1	40	35	11	-	-	-	2	
Dist. of Columbia*.....	-	25	6	-	9	15	-	-	-	-	1	
Virginia.....	1	885	299	-	54	40	7	-	-	-	3	
West Virginia.....	2	211	293	1	19	13	47	-	-	-	4	
North Carolina.....	2	318	283	2	72	82	NN	-	-	-	1	
South Carolina.....	2	125	12	-	57	58	10	-	-	-	3	
Georgia.....	-	2	4	1	72	86	-	-	-	-	-	
Florida.....	1	539	511	2	92	92	1	-	-	1	7	
EAST SOUTH CENTRAL...	-	113	497	2	150	194	28	-	-	1	8	
Kentucky.....	-	66	100	-	51	89	6	-	-	-	1	
Tennessee.....	-	17	62	2	58	56	22	-	-	-	5	
Alabama.....	-	6	95	-	24	26	-	-	-	1	2	
Mississippi.....	-	24	240	-	17	23	-	-	-	-	-	
WEST SOUTH CENTRAL...	50	4,683	4,889	4	331	313	67	2	2	6	18	
Arkansas.....	-	16	2	-	31	20	-	-	-	-	-	
Louisiana.....	2	122	24	1	89	88	1	-	-	-	-	
Oklahoma.....	-	142	125	1	31	50	25	-	-	-	1	
Texas.....	48	4,403	4,738	2	180	155	41	2	2	6	17	
MOUNTAIN.....	-	917	1,007	2	49	37	30	-	-	-	23	
Montana.....	-	35	58	-	8	6	4	-	-	-	9	
Idaho.....	-	89	21	2	11	11	3	-	-	-	-	
Wyoming.....	-	-	52	-	-	2	-	-	-	-	-	
Colorado.....	-	141	515	-	8	11	10	-	-	-	5	
New Mexico.....	-	264	113	-	6	-	13	-	-	-	3	
Arizona.....	---	377	222	---	10	3	---	---	---	---	---	
Utah.....	-	10	21	-	4	1	-	-	-	-	6	
Nevada.....	-	1	5	-	2	3	-	-	-	-	-	
PACIFIC.....	10	1,078	2,603	2	544	280	164	-	-	1	72	
Washington.....	1	62	546	-	56	44	46	-	-	-	26	
Oregon.....	1	200	534	-	18	22	16	-	-	-	14	
California.....	8	766	1,479	2	449	199	82	-	-	1	16	
Alaska.....	-	9	9	-	11	3	4	-	-	-	9	
Hawaii.....	-	41	35	-	10	12	16	-	-	-	7	
Puerto Rico.....	49	1,626	434	-	19	20	31	-	-	-	-	

\*Delayed reports: Measles: D.C. delete 10  
Mumps: Me. 6  
Poliomyelitis: Me. delete 1 non-paralytic, add 1 paralytic  
Rubella: Me. 3, Mo. 29

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDED  
OCTOBER 11, 1969 AND OCTOBER 12, 1968 (41st WEEK) - CONTINUED

AREA	STREPTOCOCCAL SORE THROAT & SCARLET FEVER	TETANUS		TULAREMIA		TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. Spotted)		RABIES IN ANIMALS	
		1969	Cum. 1969	1969	Cum. 1969	1969	Cum. 1969	1969	Cum. 1969	1969	Cum. 1969
UNITED STATES...	6,409	2	121	1	115	10	245	5	415	41	2,729
NEW ENGLAND.....	799	-	1	-	14	-	12	-	1	2	31
Maine.....*	7	-	-	-	-	-	1	-	-	-	6
New Hampshire.....	11	-	-	-	-	-	-	-	-	-	4
Vermont.....	11	-	-	-	14	-	-	-	-	2	11
Massachusetts.....	156	-	1	-	-	-	7	-	1	-	2
Rhode Island.....	38	-	-	-	-	-	1	-	-	-	-
Connecticut.....	576	-	-	-	-	-	3	-	-	-	8
MIDDLE ATLANTIC.....	268	-	15	-	5	1	27	-	43	9	184
New York City.....	48	-	7	-	1	-	13	-	-	-	-
New York, Up-State..	128	-	3	-	4	1	6	-	7	7	171
New Jersey.....	NN	-	3	-	-	-	3	-	14	-	-
Pennsylvania.....	92	-	2	-	-	-	5	-	22	2	13
EAST NORTH CENTRAL...	406	2	17	-	13	1	26	-	3	3	197
Ohio.....	50	2	4	-	-	-	9	-	-	-	68
Indiana.....	122	-	-	-	2	-	-	-	-	2	48
Illinois.....	30	-	8	-	4	-	12	-	3	-	31
Michigan.....	149	-	5	-	-	-	4	-	-	-	7
Wisconsin.....	55	-	-	-	7	1	1	-	-	1	43
WEST NORTH CENTRAL...	426	-	11	-	13	1	10	-	8	5	504
Minnesota.....	5	-	3	-	-	1	4	-	-	2	134
Iowa.....	130	-	-	-	-	-	1	-	7	2	76
Missouri.....	12	-	4	-	9	-	3	-	-	-	127
North Dakota.....	148	-	-	-	-	-	-	-	-	1	66
South Dakota.....	30	-	-	-	-	-	-	-	1	-	24
Nebraska.....	94	-	-	-	1	-	1	-	-	-	13
Kansas.....	7	-	4	-	3	-	1	-	-	-	64
SOUTH ATLANTIC.....	568	-	21	-	21	-	37	2	231	4	662
Delaware.....	13	-	-	-	-	-	2	-	3	-	-
Maryland.....	58	-	1	-	-	-	4	-	47	-	3
Dist. of Columbia..	2	-	2	-	-	-	1	-	-	-	-
Virginia.....*	201	-	-	-	4	-	1	-	75	1	333
West Virginia.....	136	-	1	-	2	-	2	-	5	-	94
North Carolina.....	NN	-	2	-	5	-	6	1	57	-	5
South Carolina.....	2	-	1	-	2	-	1	-	30	-	-
Georgia.....	13	-	4	-	4	-	9	1	14	1	71
Florida.....	143	-	10	-	4	-	11	-	-	2	156
EAST SOUTH CENTRAL...	1,238	-	18	-	12	2	35	1	62	1	361
Kentucky.....	125	-	7	-	-	2	8	-	13	-	186
Tennessee.....	854	-	4	-	11	-	19	1	41	1	123
Alabama.....	202	-	5	-	-	-	4	-	5	-	46
Mississippi.....	57	-	2	-	1	-	4	-	3	-	6
WEST SOUTH CENTRAL...	624	-	21	-	18	3	28	2	46	11	400
Arkansas.....	16	-	1	-	1	-	13	-	7	-	29
Louisiana.....	1	-	7	-	4	-	3	-	-	1	30
Oklahoma.....	17	-	1	-	7	-	-	-	28	2	61
Texas.....	590	-	12	-	6	3	12	2	11	8	280
MOUNTAIN.....	1,145	-	6	1	15	-	24	-	16	1	116
Montana.....	36	-	1	-	-	-	2	-	-	-	-
Idaho.....	150	-	-	-	-	-	3	-	5	-	-
Wyoming.....	98	-	-	-	2	-	5	-	-	1	53
Colorado.....	695	-	2	-	-	-	3	-	9	-	3
New Mexico.....	73	-	-	-	1	-	5	-	-	-	17
Arizona.....*	---	---	3	---	---	---	5	---	---	---	22
Utah.....	93	-	-	1	12	-	-	-	2	-	5
Nevada.....	-	-	-	-	-	-	1	-	-	-	16
PACIFIC.....	935	-	11	-	4	2	46	-	5	5	274
Washington.....	646	-	1	-	2	-	2	-	3	-	4
Oregon.....	101	-	-	-	1	-	6	-	-	-	4
California.....	---	-	10	-	1	2	35	-	2	5	266
Alaska.....	68	-	-	-	-	-	-	-	-	-	-
Hawaii.....	120	-	-	-	-	-	3	-	-	-	-
Puerto Rico.....	1	2	10	-	-	-	6	-	-	-	21

\*Delayed reports: SST: Me. 12  
Tetanus: Ariz. 1  
RMSF: Va. delete 1

Week No. 41 TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED OCTOBER 11, 1969

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

Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes	Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes
	All Ages	65 years and over				All Ages	65 years and over		
NEW ENGLAND:	742	448	41	35	SOUTH ATLANTIC:	1,240	644	48	72
Boston, Mass.-----	248	133	10	22	Atlanta, Ga.-----	160	78	1	12
Bridgeport, Conn.-----	41	27	3	1	Baltimore, Md.-----	228	122	5	15
Cambridge, Mass.-----	27	18	5	—	Charlotte, N. C.-----	67	29	2	9
Fall River, Mass.-----	21	15	—	1	Jacksonville, Fla.-----	87	36	2	6
Hartford, Conn.-----	58	27	1	5	Miami, Fla.-----	112	61	—	4
Lowell, Mass.-----	31	23	2	—	Norfolk, Va.-----	59	25	6	2
Lynn, Mass.-----	25	14	2	1	Richmond, Va.-----	91	52	9	7
New Bedford, Mass.-----	28	19	2	—	Savannah, Ga.-----	31	13	3	1
New Haven, Conn.-----	50	33	—	3	St. Petersburg, Fla.-----	84	73	6	1
Providence, R. I.-----	69	36	5	1	Tampa, Fla.-----	55	31	4	3
Somerville, Mass.-----	16	12	2	—	Washington, D. C.-----	222	107	7	9
Springfield, Mass.-----	41	24	5	—	Wilmington, Del.-----	44	17	3	3
Waterbury, Conn.-----	30	25	—	1	EAST SOUTH CENTRAL:	592	311	27	31
Worcester, Mass.-----	57	42	4	—	Birmingham, Ala.-----	94	54	1	7
MIDDLE ATLANTIC:	3,254	1,908	113	121	Chattanooga, Tenn.-----	60	33	7	2
Albany, N. Y.-----	62	29	2	2	Knoxville, Tenn.-----	40	19	1	3
Allentown, Pa.-----	51	33	5	1	Louisville, Ky.-----	115	68	12	7
Buffalo, N. Y.-----	140	80	2	3	Memphis, Tenn.-----	138	58	2	6
Camden, N. J.-----	43	33	1	—	Mobile, Ala.-----	36	17	—	2
Elizabeth, N. J.-----	30	21	—	1	Montgomery, Ala.-----	33	17	2	1
Erie, Pa.-----	31	17	3	2	Nashville, Tenn.-----	76	45	2	3
Jersey City, N. J.-----	58	33	4	4	WEST SOUTH CENTRAL:	1,126	596	43	64
Newark, N. J.-----	67	26	5	6	Austin, Tex.-----	38	21	2	3
New York City, N. Y.-----	1,653	971	56	54	Baton Rouge, La.-----	52	24	3	3
Paterson, N. J.-----	41	27	1	1	Corpus Christi, Tex.-----	26	14	—	2
Philadelphia, Pa.-----	486	278	6	20	Dallas, Tex.-----	158	80	4	13
Pittsburgh, Pa.-----	193	108	12	11	El Paso, Tex.-----	33	11	4	2
Reading, Pa.-----	35	26	—	—	Fort Worth, Tex.-----	83	46	3	5
Rochester, N. Y.-----	104	66	5	8	Houston, Tex.-----	199	87	3	16
Schenectady, N. Y.-----	31	23	2	1	Little Rock, Ark.-----	55	30	3	—
Scranton, Pa.-----	41	27	—	—	New Orleans, La.-----	138	81	6	6
Syracuse, N. Y.-----	80	39	3	6	Oklahoma City, Okla.-----	87	53	1	5
Trenton, N. J.-----	52	31	3	—	San Antonio, Tex.-----	114	65	3	8
Utica, N. Y.-----	29	21	—	1	Shreveport, La.-----	64	43	8	1
Yonkers, N. Y.-----	27	19	3	—	Tulsa, Okla.-----	79	41	3	—
EAST NORTH CENTRAL:	2,629	1,494	70	153	MOUNTAIN:	489	282	19	24
Akron, Ohio-----	77	47	2	3	Albuquerque, N. Mex.-----	55	32	2	3
Canton, Ohio-----	35	21	2	1	Colorado Springs, Colo.-----	30	19	2	—
Chicago, Ill.-----	699	381	21	49	Denver, Colo.-----	138	86	4	8
Cincinnati, Ohio-----	155	92	2	8	Ogden, Utah-----	25	15	1	1
Cleveland, Ohio-----	220	129	4	15	Phoenix, Ariz.-----	103	52	1	7
Columbus, Ohio-----	138	62	—	9	Pueblo, Colo.-----	33	16	4	2
Dayton, Ohio-----	84	49	1	4	Salt Lake City, Utah-----	44	27	—	1
Detroit, Mich.-----	335	186	7	8	Tucson, Ariz.-----	61	35	5	2
Evansville, Ind.-----	32	21	2	4	PACIFIC:	1,558	906	24	62
Flint, Mich.-----	66	39	2	3	Berkeley, Calif.-----	31	20	—	1
Fort Wayne, Ind.-----	55	35	4	5	Fresno, Calif.-----	47	24	—	2
Gary, Ind.-----	37	12	—	5	Glendale, Calif.-----	26	18	—	2
Grand Rapids, Mich.-----	44	33	2	—	Honolulu, Hawaii-----	30	15	—	1
Indianapolis, Ind.-----	158	87	4	10	Long Beach, Calif.-----	95	48	2	1
Madison, Wis.-----	63	30	5	5	Los Angeles, Calif.-----	480	287	9	17
Milwaukee, Wis.-----	140	86	2	4	Oakland, Calif.-----	79	46	1	4
Peoria, Ill.-----	50	26	—	8	Pasadena, Calif.-----	35	27	1	—
Rockford, Ill.-----	40	31	7	4	Portland, Oreg.-----	154	102	1	4
South Bend, Ind.-----	39	25	2	2	Sacramento, Calif.-----	59	31	—	1
Toledo, Ohio-----	89	56	1	1	San Diego, Calif.-----	99	40	1	14
Youngstown, Ohio-----	73	46	—	5	San Francisco, Calif.-----	179	98	6	7
WEST NORTH CENTRAL:	817	503	26	34	San Jose, Calif.-----	33	21	—	1
Des Moines, Iowa-----	59	39	—	3	Seattle, Wash.-----	129	80	3	2
Duluth, Minn.-----	23	11	2	—	Spokane, Wash.-----	48	28	—	3
Kansas City, Kans.-----	73	41	4	4	Tacoma, Wash.-----	34	21	—	2
Kansas City, Mo.-----	133	84	2	6	Total	12,447	7,092	411	596
Lincoln, Nebr.-----	27	13	—	—	Expected Number	11,983	6,888	366	511
Minneapolis, Minn.-----	92	62	1	5	Cumulative Total (includes reported corrections for previous weeks)	532,145	304,108	24,367	25,131
Omaha, Nebr.-----	66	41	2	2	Las Vegas, Nev.*	20	11	1	—
St. Louis, Mo.-----	223	127	5	8					
St. Paul, Minn.-----	66	49	2	2					
Wichita, Kans.-----	55	36	8	4					

\*Mortality data are being collected from Las Vegas, Nev., for possible inclusion in this table, however, for statistical reasons, these data will be listed only and not included in the total, expected number, or cumulative total, until 5 years of data are collected.

†Estimate - based on average percent of divisional total.

## "DAPHNE SORE" - (Continued from page 359)

Director, Laboratories, Alabama State Department of Public Health; the Mycobacteriology Unit, Bacteriology Section, Laboratory Division, and the Tuberculosis Branch, State and Community Services Division, NCDC; and an EIS Officer.)

## Editorial Comment:

The original isolation of *M. marinum* was made from fish in the Philadelphia aquarium in 1926.<sup>1</sup> Human skin infections with *M. marinum* (*balnei*) associated with swimming pool injuries have been called "swimming pool granuloma," and several large outbreaks have been described.<sup>2</sup> *M. marinum* infection following injury and swimming in pools filled with salt water has been reported from Canada<sup>3</sup>, England<sup>4</sup>, Scotland<sup>5</sup>, and following swimming in the Pacific Ocean<sup>6</sup> and in the Potomac River.<sup>7</sup>

From 1960 to the present, 14 cultures sent to the NCDC Mycobacteriology Laboratory have been identified as *M. marinum*. Review of the case histories of these 14 individuals shows that several of them had a history of trauma and association with salt water. Cases occurred in a Delaware woman injured on a barnacle, two persons from Maryland with a history of trauma while swimming in Chesapeake Bay, a Newport News, Virginia, shipyard worker, a Georgia woman injured on a North Carolina beach, a Louisiana oyster fisherman, and a Washington woman injured on coral in Acapulco, Mexico.

Association of positive skin test sensitivity to PPD-S following infection with *M. marinum* has been well described<sup>8,9</sup>; however, no study has been conducted to define the significance of this infection as a causative factor in positive tuberculin tests in children and adults in the Gulf Coast and Chesapeake Bay areas.

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