



Morbidity and Mortality

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

MALARIA - United States and Puerto Rico 1968

A total of 2,610 cases of malaria with onset of illness in 1968 in the United States or Puerto Rico were reported to the Parasitic Diseases Branch, NCDC. This compares with 2,855 cases reported in 1967. Military personnel, including recently discharged veterans, accounted for 2,487 cases and civilians for the remaining 123. The number of military cases in 1968 was slightly less than in 1967 but considerably in excess of the annual totals for 1959 through 1966; the number of civilian cases was similar to totals for the past 5 years (Figure 1). Of the 2,610 cases, 2,598 were imported*, while 12 were acquired in the United States; five of the 12 were classified as introduced and seven as induced. Cases were reported from all 50 states and Puerto Rico, but California, Colorado, Georgia, Kentucky, North Carolina, and Texas accounted for 53

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percent of the total, reflecting the location within these states of military bases receiving large numbers of Vietnam returnees.

The *Plasmodium* species were identified in 2,555 of the 2,610 cases (97.9 percent). *P. vivax* accounted for 81.4 percent of the infections (2,125 cases), while *P. falciparum* was diagnosed in 13.2 percent (344 cases); these percentages are identical to those reported in 1967.

(Continued on page 206)

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

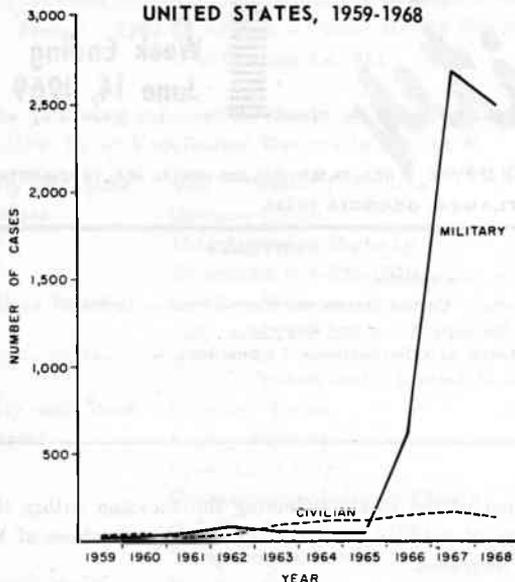
DISEASE	24th WEEK ENDED		MEDIAN 1964 - 1968	CUMULATIVE, FIRST 24 WEEKS		
	June 14, 1969	June 15, 1968		1969	1968	MEDIAN 1964 - 1968
Aseptic meningitis	46	67	41	668	755	693
Brucellosis	4	4	6	64	70	110
Diphtheria	1	-	1	67	84	79
Encephalitis, primary:						
Arthropod-borne & unspecified	14	19	27	453	398	600
Post-infectious	8	8	16	140	256	414
Hepatitis, serum	133	90	646	2,423	1,854	19,374
Hepatitis, infectious	891	789	5	21,910	20,163	133
Malaria	40	42	5	1,201	971	172,735
Measles (rubeola)	757	671	4,472	16,642	16,483	1,551
Meningococcal infections, total	48	45	46	1,925	1,551	1,551
Civilian	47	40	---	1,740	1,400	---
Military	1	5	---	185	151	---
Mumps	2,182	3,001	---	58,206	112,005	---
Poliomyelitis, total	1	1	1	3	23	18
Paralytic	1	1	1	3	23	16
Rubella (German measles)	1,897	1,644	---	41,364	37,756	---
Streptococcal sore throat & scarlet fever	6,547	6,325	6,350	248,183	246,215	246,215
Tetanus	2	3	8	52	58	81
Tularemia	8	4	4	68	82	82
Typhoid fever	5	11	9	127	127	160
Typhus, tick-borne (Rky. Mt. spotted fever)	27	8	10	120	63	55
Rabies in animals	62	46	94	1,758	1,772	2,151

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	2	Rabies in man:	1
Botulism:	10	Rubella congenital syndrome:	5
Leptospirosis:	29	Trichinosis: Md.-1, R.I.-6	46
Plague:	-	Typhus, murine: Ohio-1	8
Psittacosis: Conn.-1	14		

MALARIA - (Continued from front page)

Figure 1
MILITARY AND CIVILIAN CASES OF MALARIA
UNITED STATES, 1959-1968



P. malariae accounted for 1.2 percent (32 cases) in 1968 while 0.3 percent (8 cases) were due to *P. ovale*. Mixed infections, generally due to *P. vivax* and *P. falciparum*, accounted for 1.8 percent (46 cases) in 1968. The species was undetermined for 2.1 percent (55 cases) of infections.

U.S. citizens accounted for 81 of the 123 civilian cases and foreign visitors for the remaining 42 cases. College students or teachers accounted for more civilian cases than any other occupational group (40 cases), followed by merchant seamen (14 cases). Only six cases were reported in Peace Corps Volunteers.

The onset of illness occurred more than 30 days after arrival in the United States in 74 percent of the 2,368 cases for which both date of onset and date of arrival in this country were known. As in previous years, a marked difference in time of onset was observed between falciparum and vivax malaria: 69.5 percent of the falciparum cases became ill within 1 month after arrival compared with 19.6 percent of the vivax cases.

There were six malaria fatalities in the United States in 1968, all due to *P. falciparum*, giving an overall malaria case fatality ratio of 0.23 percent and a falciparum case fatality ratio of 1.74 percent.

During 1968, a total of 247 malaria relapses were reported; 191 relapses were second attacks, 44 were third attacks, 10 were fourth attacks, and two were fifth attacks. Thus, a total of 2,857 malaria attacks (2,610 primary attacks plus 247 relapses) were reported in 1968.

Infections acquired in Vietnam accounted for 2,444 of the 2,598 imported cases (94.1 percent). Only nine of these 2,444 cases were nonmilitary personnel. *P. vivax* was the etiologic agent in 2,016 of the 2,444 cases (82.5 percent), *P. falciparum* in 312 cases (12.8 percent), *P. malariae* in 21 cases (0.8 percent), and mixed Plasmodium species in 44 cases (1.8 percent). No *P. ovale* cases were reported and in 51 cases (2.1 percent) the Plasmodium species was

not identified. Army personnel accounted for 86 percent of the military cases from Vietnam, Marines for 10.2 percent, and Navy and Air Force personnel for less than one percent of the cases.

Of the 2,008 military returnees from Vietnam who developed vivax malaria in the United States in 1968, 103 later suffered a vivax relapse, for a relapse rate of 5.1 percent; the corresponding rate for 1967 was 18.4 percent, and for 1966, 29.8 percent. The relapse rate for falciparum infections in military Vietnam returnees in 1968 was 0.96 percent (three relapses in 312 infections) as compared with 6.5 percent in 1967 and 8.8 percent in 1966. The 1968 relapse rates should be considered preliminary estimates since relapses of 1968 cases will continue to occur in the future.

Of the cases acquired in the United States, the five introduced cases were all caused by *P. vivax*. Four were epidemiologically related and acquired at a drive-in movie theater in eastern Alabama in late July; the index case was not identified and the vector appeared to be *Anopheles quadrimaculatus*. The fifth case occurred in a serviceman at Fort Stewart, Georgia, in early August; one suspect index case, a Vietnam returnee, was identified; the vector appeared to be *A. crucians*. Of the seven induced cases, all had received blood transfusions. Three were due to *P. falciparum*, three to *P. malariae*, and one to *P. vivax*. One of the falciparum cases was fatal. The infective donor was identified in all except one *P. malariae* case: Three of the donors were Vietnam returnees, two were visitors from West Africa, and one was an immigrant from the Philippines.

(Reported by the Parasitic Diseases Branch, Epidemiology Program, NCDC.)

A copy of the original report from which these data were derived is available on request from

National Communicable Disease Center
Attn: Chief, Parasitic Diseases Branch
Epidemiology Program
Atlanta, Georgia 30333

*Terminology

The terminology used in this report is derived from the recommendations of the World Health Organization.^{1,2}

1. Autochthonous
 - a) Indigenous - malaria acquired by mosquito transmission in an area where malaria is a regular occurrence.
 - b) Introduced - malaria acquired by mosquito transmission from an imported case in an area where malaria is not a regular occurrence.
2. Imported
Malaria acquired outside of a specific area (United States and Puerto Rico in this report).
3. Induced
Malaria acquired through artificial means, i.e., blood transfusion, common syringes, malariotherapy.
4. Relapsing
Renewal of clinical activity occurring after an interval from the primary attack greater than that due merely to periodicity.

References:

- ¹Terminology of malaria and of Malaria Eradication. World Health Organization, 1963, p. 32.
- ²WHO Expert Committee on Malaria - Tenth Report. WHO Technical Report Series No. 272, p. 34.

EPIDEMIOLOGIC NOTES AND REPORTS
 OUTBREAK OF SALMONELLOSIS - Louisiana

During May and June 1969, an extensive outbreak of salmonellosis due to *Salmonella infantis* occurred among patients and personnel at a large hospital in Louisiana. Between May 1 and 12, 13 patients and one employee developed gastroenteritis with cultures positive for *S. infantis*; 11 had fever and diarrhea as initial symptoms. In the 7-month period prior to this time, this organism had been recovered from only four hospitalized patients, the last being on March 2.

To evaluate the extent of infection among patients, a stool culture survey of 214 symptomatic and asymptomatic patients was performed between May 14 and 21. Infection was documented in 54 persons from all areas of the hospital except in the premature nursery where all 44 infants cultured were negative. Thirty percent of the positive patients were asymptomatic; 10 percent had fever without diarrhea. The positive patients had been admitted between January 31 and May 12. They ranged in age from 2 months to 76 years (median 44 years). No common procedures or medications could be implicated in the spread of infection.

Approximately 25 percent of the physicians and nurses from various services in the hospital had also noted gastroenteritis between May 1 and 14. In a culture survey of staff personnel, two of 22 physicians and 12 of 215 nurses were positive for *S. infantis*.

All patients involved in the outbreak were on a regular or low residue diet except those under 1 year of age. In addition, most of the involved physicians regularly ate meals in the hospital; however, this was not the case for many of the nurses involved. Although the patients' food is cooked and served separately from employees' food, the menus are often identical and are prepared in the same kitchen. Of 282 kitchen personnel stool cultured between May 16 and 20, six employees were positive for *S. infantis*. One of these prepared food for patients and one prepared salads for both patients and staff. In an environmental culture survey of the kitchen areas and a ward pantry conducted on May 19, 20, and June 4, *S. infantis* was recovered from a wooden block used for cutting cooked meats. Water samples were negative for coliforms and *S. infantis*. Cultures of chicken, turkey, sausage, frozen egg whites and yolks, yeast, flour, ice cream, tube feedings, other foods, and ice obtained from the kitchen are in progress.

To evaluate the continued transmission of infection, a surveillance system for diarrhea among patients was instituted on May 22. Between May 22 and June 3, 66 patients developed diarrhea and were cultured; four were positive for *S. infantis*. The hospital bacteriology laboratory identified four other positive patients. All eight had been admitted prior to May 12. Another culture survey on June 3 and 4 of 136 asymptomatic patients admitted between May 16 and June 1 identified five infected patients (Table 1). Four of the five patients had been in the hospital between May 1 and 12 and had been readmitted. This rapid decline in cases in mid-May suggests that the main

source of infection was no longer present in the hospital and that continued person-to-person transmission was not occurring frequently.

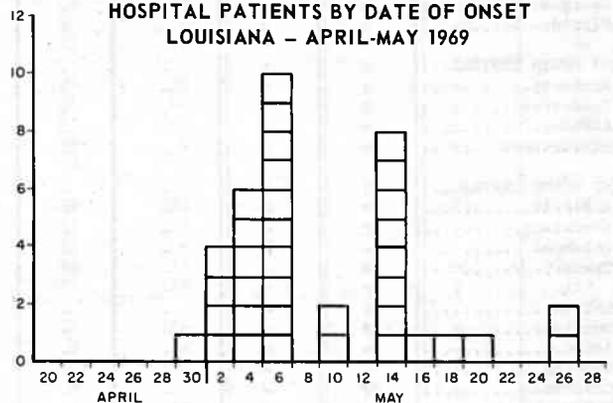
Table 1
 Prevalence of *Salmonella infantis*, Phage type C₁ in Patients by Date of Admission*, a Hospital, Louisiana

Date of Admission	Number Cultured	Number Positive	Percent
Prior to May 15	23	7	30
May 15 - May 21**	47	2	4
May 22 - May 28**	79	4	5
After May 28	38	0	0
Total	187	13	

*Does not include 15 patients who developed diarrhea after May 21 and had negative cultures.
 **Five of six positive patients had been in the hospital before May 21 and were readmitted.

The sharp clustering and rapid falloff of cases (Figure 2) and the identification of *S. infantis* in the environment of the kitchen suggest a common source outbreak related to the central kitchen. It has not been established whether this source of infection was a single contaminated food item served at several meals or if the kitchen environment became contaminated primarily by a food or a carrier with subsequent secondary contamination of prepared food or if food was contaminated by a foodhandler shown to be a carrier. A common food vehicle could not account for the index cases on pediatric wards, however, because one infant was receiving only commercially prepared formula and the other three were receiving prepared baby food. For these cases, infection could have been transmitted by infected nurses.

Figure 2
 SALMONELLOSIS DUE TO *S. INFANTIS* AMONG HOSPITAL PATIENTS BY DATE OF ONSET
 LOUISIANA - APRIL-MAY 1969



(Reported by Charles T. Caraway, D.V.M., Chief, Section of Epidemiology, Louisiana State Department of Health; and a team from NCDC.)

Editorial Comment:

It has never been shown that a salmonella outbreak of this magnitude could be initiated by one or more stool carriers through person-to-person transmission. Although some of the professional staff could have become infected secondarily, it is more likely that they were exposed to the same common vehicle.

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED
JUNE 14, 1969 AND JUNE 15, 1968 (24th 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...	46	4	1	14	19	8	133	891	789	40	1,201
NEW ENGLAND.....	-	-	-	-	-	-	31	63	21	-	40
Maine*	-	-	-	-	-	-	-	1	2	-	2
New Hampshire.....	-	-	-	-	-	-	-	4	-	-	2
Vermont.....	-	-	-	-	-	-	-	3	-	-	-
Massachusetts.....	-	-	-	-	-	-	29	28	11	-	30
Rhode Island*	-	-	-	-	-	-	-	14	2	-	2
Connecticut.....	-	-	-	-	-	-	2	13	6	-	4
MIDDLE ATLANTIC.....	4	2	-	5	4	3	38	128	132	9	138
New York City.....	1	-	-	1	3	-	24	44	53	-	11
New York, up-State..	-	2	-	1	-	2	6	20	20	-	23
New Jersey.....	2	-	-	2	1	-	7	18	31	5	49
Pennsylvania.....	1	-	-	1	-	1	1	46	28	4	55
EAST NORTH CENTRAL...	4	-	-	5	5	1	6	143	114	5	116
Ohio.....	1	-	-	3	-	-	-	30	21	1	14
Indiana.....	2	-	-	-	-	-	-	15	11	-	7
Illinois.....	-	-	-	-	4	1	1	25	33	4	63
Michigan.....	1	-	-	2	-	-	5	68	41	-	31
Wisconsin.....	-	-	-	-	1	-	-	5	8	-	1
WEST NORTH CENTRAL...	1	-	-	-	2	1	-	32	51	1	82
Minnesota.....	1	-	-	-	-	1	-	4	9	-	7
Iowa.....	-	-	-	-	-	-	-	6	6	-	6
Missouri.....	-	-	-	-	1	-	-	18	21	-	23
North Dakota.....	-	-	-	-	-	-	-	1	2	-	2
South Dakota.....	-	-	-	-	-	-	-	1	-	-	-
Nebraska.....	-	-	-	-	-	-	-	-	3	-	3
Kansas.....	-	-	-	-	1	-	-	2	10	1	41
SOUTH ATLANTIC.....	7	1	-	2	-	1	9	94	73	9	375
Delaware.....	-	-	-	-	-	-	-	-	2	-	2
Maryland.....	1	-	-	-	-	-	5	19	13	1	11
Dist. of Columbia..	-	-	-	-	-	-	1	-	-	-	1
Virginia.....	-	-	-	1	-	-	1	9	12	-	15
West Virginia.....	-	-	-	-	-	-	-	6	3	-	-
North Carolina.....	3	-	-	-	-	-	1	12	6	6	175
South Carolina*	-	-	-	-	-	-	-	5	2	1	30
Georgia.....	-	1	-	-	-	-	-	16	22	-	122
Florida.....	3	-	-	1	-	1	1	27	13	1	19
EAST SOUTH CENTRAL...	4	1	-	-	-	1	2	71	42	-	32
Kentucky.....	1	-	-	-	-	1	-	37	5	-	26
Tennessee.....	3	1	-	-	-	-	2	21	21	-	-
Alabama.....	-	-	-	-	-	-	-	6	4	-	6
Mississippi.....	-	-	-	-	-	-	-	7	12	-	-
WEST SOUTH CENTRAL...	3	-	-	-	3	-	8	74	66	1	34
Arkansas.....	-	-	-	-	-	-	-	-	-	-	5
Louisiana.....	1	-	-	-	3	-	6	14	20	1	26
Oklahoma.....	-	-	-	-	-	-	-	7	10	-	3
Texas.....	2	-	-	-	-	-	2	53	36	-	-
MOUNTAIN.....	6	-	-	-	-	-	1	42	34	5	91
Montana.....	3	-	-	-	-	-	-	1	8	-	-
Idaho.....	-	-	-	-	-	-	-	1	2	-	2
Wyoming.....	-	-	-	-	-	-	-	-	1	-	-
Colorado.....	2	-	-	-	-	-	1	18	14	5	79
New Mexico.....	-	-	-	-	-	-	-	4	2	-	4
Arizona.....	1	-	-	-	-	-	-	9	6	-	1
Utah.....	-	-	-	-	-	-	-	9	1	-	1
Nevada.....	-	-	-	-	-	-	-	-	-	-	4
PACIFIC.....	17	-	1	2	5	1	38	244	256	10	293
Washington.....	10	-	-	1	1	-	-	26	37	-	5
Oregon.....	-	-	-	-	-	-	3	19	16	-	6
California.....	7	-	1	1	4	1	35	196	203	6	226
Alaska*	---	---	---	---	-	---	---	---	-	---	1
Hawaii.....	-	-	-	-	-	-	-	3	-	4	55
Puerto Rico.....	-	-	-	-	-	-	-	16	21	-	1

*Delayed reports: Hepatitis, infections: Me. 2, S.C. delete 2, Alaska 2
Malaria: R.I. 1

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

JUNE 14, 1969 AND JUNE 15, 1968 (24th WEEK) - CONTINUED

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS	POLIOMYELITIS			RUBELLA
	Cumulative		1968	Cumulative		1968		Total	Paralytic		
	1969	1969		1969	1969			1969	1969	Cum. 1969	
UNITED STATES...	757	16,642	16,483	48	1,925	1,551	2,182	1	1	3	1,897
NEW ENGLAND.....	38	833	959	3	62	80	297	1	1	1	170
Maine*.....	-	4	34	-	5	6	16	-	-	-	9
New Hampshire.....	2	226	141	1	2	7	-	-	-	-	-
Vermont.....	-	2	1	-	-	1	3	-	-	-	3
Massachusetts*.....	11	162	280	-	27	35	113	-	-	-	48
Rhode Island.....	-	10	1	-	5	7	34	-	-	-	12
Connecticut.....	25	429	502	2	23	24	131	1	1	1	98
MIDDLE ATLANTIC.....	382	6,142	2,861	11	309	268	252	-	-	-	142
New York City.....	251	4,187	1,258	5	56	55	171	-	-	-	42
New York, Up-State.....	28	507	1,039	2	48	43	NN	-	-	-	29
New Jersey*.....	51	711	471	2	136	96	81	-	-	-	3
Pennsylvania.....	52	737	93	2	69	74	NN	-	-	-	68
EAST NORTH CENTRAL...	82	1,691	3,374	8	257	174	551	-	-	-	541
Ohio.....	18	284	261	2	90	45	162	-	-	-	41
Indiana*.....	4	449	592	2	33	21	57	-	-	-	31
Illinois.....	30	337	1,264	-	39	39	-	-	-	-	141
Michigan.....	11	161	217	4	78	53	174	-	-	-	234
Wisconsin.....	19	460	1,040	-	17	16	158	-	-	-	94
WEST NORTH CENTRAL...	14	471	332	4	101	78	89	-	-	-	83
Minnesota.....	1	3	15	4	21	18	45	-	-	-	31
Iowa.....	12	315	81	-	12	5	14	-	-	-	31
Missouri.....	-	16	76	-	44	26	4	-	-	-	14
North Dakota.....	-	7	113	-	-	3	2	-	-	-	1
South Dakota.....	-	1	4	-	1	4	NN	-	-	-	-
Nebraska.....	1	125	35	-	9	6	24	-	-	-	6
Kansas.....	-	4	8	-	14	16	-	-	-	-	-
SOUTH ATLANTIC.....	55	2,143	1,211	5	335	323	230	-	-	-	348
Delaware.....	23	311	12	-	4	5	6	-	-	-	2
Maryland.....	-	32	73	-	32	22	25	-	-	-	31
Dist. of Columbia*.....	-	-	6	-	9	12	1	-	-	-	2
Virginia.....	-	824	260	-	37	23	44	-	-	-	140
West Virginia.....	-	159	208	-	14	8	120	-	-	-	123
North Carolina.....	30	237	265	1	58	65	NN	-	-	-	-
South Carolina.....	-	102	12	-	48	54	17	-	-	-	2
Georgia.....	-	1	4	2	59	59	-	-	-	-	-
Florida.....	2	477	371	2	74	75	17	-	-	-	48
EAST SOUTH CENTRAL...	4	87	423	6	119	134	110	-	-	-	56
Kentucky.....	3	50	92	2	41	51	46	-	-	-	16
Tennessee.....	-	15	54	3	44	46	60	-	-	-	40
Alabama.....	-	1	69	-	19	18	4	-	-	-	-
Mississippi*.....	1	21	208	1	15	19	-	-	-	-	-
WEST SOUTH CENTRAL...	126	3,816	4,244	5	267	263	282	-	-	2	122
Arkansas.....	-	29	2	-	27	15	3	-	-	-	-
Louisiana.....	15	118	2	-	70	71	-	-	-	-	5
Oklahoma.....	-	125	106	1	26	48	11	-	-	-	-
Texas.....	111	3,544	4,134	4	144	129	268	-	-	2	117
MOUNTAIN.....	22	585	860	1	36	24	116	-	-	-	71
Montana.....	2	10	57	1	5	2	9	-	-	-	2
Idaho.....	-	54	16	-	6	10	3	-	-	-	1
Wyoming.....	-	-	49	-	-	-	-	-	-	-	-
Colorado.....	-	112	436	-	6	7	19	-	-	-	30
New Mexico.....	3	185	80	-	6	-	14	-	-	-	5
Arizona.....	17	220	196	-	9	1	65	-	-	-	30
Utah.....	-	3	21	-	2	1	6	-	-	-	3
Nevada.....	-	1	5	-	2	3	-	-	-	-	-
PACIFIC.....	34	874	2,219	5	439	207	255	-	-	-	364
Washington.....	1	54	507	-	50	35	49	-	-	-	52
Oregon.....	3	178	417	-	10	16	5	-	-	-	26
California.....	30	615	1,260	5	359	144	170	-	-	-	286
Alaska*.....	---	7	1	---	11	1	---	---	---	---	---
Hawaii.....	-	20	34	-	9	11	31	-	-	-	-
Puerto Rico.....	63	862	315	1	14	17	9	-	-	-	27

*Delayed reports: Measles: Mass. delete 5, N.J. 3, D.C. delete 1, Miss. 1, Alaska 1
 Meningococcal infections: Ind. delete 1
 Mumps: Me. 2, Alaska 22
 Rubella: Me. 1, Alaska 10

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

JUNE 14, 1969 AND JUNE 15, 1968 (24th WEEK) - CONTINUED

AREA	STREPTOCOCCAL SORE THROAT & SCARLET FEVER	TETANUS		TULAREMIA		TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. Spotted)		RABIES IN ANIMALS	
		1969	1969	Cum. 1969	1969	Cum. 1969	1969	Cum. 1969	1969	Cum. 1969	1969
UNITED STATES...	6,547	2	52	8	68	5	127	27	120	62	1,758
NEW ENGLAND.....	1,172	-	-	6	14	1	3	-	-	-	7
Maine*.....	22	-	-	-	-	-	1	-	-	-	4
New Hampshire.....	13	-	-	-	-	-	-	-	-	-	-
Vermont.....	15	-	-	6	14	-	-	-	-	-	1
Massachusetts*.....	163	-	-	-	-	1	2	-	-	-	1
Rhode Island.....	67	-	-	-	-	-	-	-	-	-	-
Connecticut.....	892	-	-	-	-	-	-	-	-	-	1
MIDDLE ATLANTIC.....	511	1	9	-	2	1	13	5	10	2	57
New York City.....	38	-	5	-	1	-	6	-	-	-	-
New York, Up-State.....	410	-	2	-	1	-	4	3	3	2	54
New Jersey.....	NN	-	1	-	-	-	-	-	-	-	-
Pennsylvania.....	63	1	1	-	-	1	3	2	7	-	3
EAST NORTH CENTRAL...	627	-	7	-	4	2	13	-	-	6	111
Ohio.*.....	131	-	-	-	-	1	7	-	-	-	30
Indiana.....	117	-	-	-	1	-	-	-	-	2	32
Illinois.....	128	-	5	-	2	-	2	-	-	2	21
Michigan.....	192	-	2	-	-	1	4	-	-	1	3
Wisconsin.....	59	-	-	-	1	-	-	-	-	1	25
WEST NORTH CENTRAL...	196	1	3	1	7	-	4	-	1	13	316
Minnesota.....	3	-	-	-	-	-	1	-	-	3	79
Iowa.....	41	-	-	-	-	-	-	-	-	2	43
Missouri.....	-	-	-	1	4	-	2	-	-	2	96
North Dakota.....	62	-	-	-	-	-	-	-	-	2	41
South Dakota.....	14	-	-	-	-	-	-	-	1	-	13
Nebraska.....	74	-	-	-	-	-	1	-	-	-	10
Kansas.....	2	1	3	-	3	-	-	-	-	4	34
SOUTH ATLANTIC.....	718	-	10	-	17	-	21	13	60	12	503
Delaware.....	3	-	-	-	-	-	1	-	-	-	-
Maryland.....	83	-	-	-	-	-	3	3	18	-	-
Dist. of Columbia..	-	-	2	-	-	-	1	-	-	-	-
Virginia.....	345	-	-	-	1	-	-	5	16	6	260
West Virginia.....	136	-	1	-	2	-	1	-	3	1	79
North Carolina.....	10	-	1	-	5	-	4	5	20	-	4
South Carolina.....	42	-	1	-	2	-	1	-	3	-	-
Georgia.....	5	-	-	-	3	-	7	-	-	1	44
Florida.....	94	-	5	-	4	-	3	-	-	4	116
EAST SOUTH CENTRAL...	990	-	4	-	8	-	12	8	25	15	289
Kentucky.....	112	-	2	-	-	-	2	4	5	4	155
Tennessee.....	763	-	2	-	7	-	8	4	19	9	102
Alabama.....	55	-	-	-	-	-	-	-	1	2	32
Mississippi.....	60	-	-	-	1	-	2	-	-	-	-
WEST SOUTH CENTRAL...	505	-	13	1	9	-	17	-	14	11	238
Arkansas.....	4	-	-	-	1	-	8	-	3	1	18
Louisiana.....	-	-	5	1	1	-	-	-	-	2	15
Oklahoma.....	24	-	1	-	5	-	-	-	8	-	37
Texas.....	477	-	7	-	2	-	9	-	3	8	168
MOUNTAIN.....	1,445	-	-	-	7	1	18	1	7	1	76
Montana.....	31	-	-	-	-	-	-	-	-	-	-
Idaho.....	63	-	-	-	-	1	2	-	1	-	-
Wyoming*.....	2	-	-	-	2	-	5	-	-	1	41
Colorado.....	1,024	-	-	-	-	-	2	1	6	-	3
New Mexico.....	108	-	-	-	1	-	5	-	-	-	8
Arizona.....	102	-	-	-	-	-	3	-	-	-	19
Utah.....	115	-	-	-	4	-	-	-	-	-	2
Nevada.....	-	-	-	-	-	-	1	-	-	-	3
PACIFIC.....	383	-	6	-	-	-	26	-	3	2	161
Washington.....	315	-	1	-	-	-	1	-	2	-	-
Oregon.....	68	-	-	-	-	-	6	-	-	-	-
California.....	---	-	5	-	-	-	19	-	1	2	161
Alaska*.....	---	---	-	---	-	---	-	---	-	---	-
Hawaii.....	-	-	-	-	-	-	-	-	-	-	-
Puerto Rico.....	-	-	2	-	-	-	3	-	-	1	16

*Delayed reports: SST: Me. 6, Ohio delete 1, Alaska 32

Rabies in animals: Mass. 1, Wyo. delete 1

Morbidity and Mortality Weekly Report

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Week No. **TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED JUNE 14, 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:	672	423	33	30	SOUTH ATLANTIC:	1,138	601	37	61
Boston, Mass.-----	209	125	5	11	Atlanta, Ga.-----	109	49	1	9
Bridgeport, Conn.-----	35	20	4	3	Baltimore, Md.-----	229	119	3	14
Cambridge, Mass.-----	25	16	7	2	Charlotte, N. C.-----	36	17	—	5
Fall River, Mass.-----	35	22	2	—	Jacksonville, Fla.-----	78	44	1	3
Hartford, Conn.-----	52	27	—	1	Miami, Fla.-----	101	56	—	4
Lowell, Mass.-----	26	21	1	—	Norfolk, Va.-----	64	26	3	3
Lynn, Mass.-----	16	11	2	1	Richmond, Va.-----	84	44	3	2
New Bedford, Mass.-----	37	25	—	—	Savannah, Ga.-----	33	18	3	1
New Haven, Conn.-----	45	24	1	1	St. Petersburg, Fla.-----	77	60	6	1
Providence, R. I.-----	51	34	1	6	Tampa, Fla.-----	86	45	7	4
Somerville, Mass.-----	13	11	—	1	Washington, D. C.-----	197	98	9	10
Springfield, Mass.-----	43	29	6	2	Wilmington, Del.-----	44	25	1	5
Waterbury, Conn.-----	30	21	—	—	EAST SOUTH CENTRAL:	661	356	27	39
Worcester, Mass.-----	55	37	4	2	Birmingham, Ala.-----	95	45	—	6
MIDDLE ATLANTIC:	3,386	1,929	137	156	Chattanooga, Tenn.-----	52	29	5	1
Albany, N. Y.-----	36	17	—	3	Knoxville, Tenn.-----	45	29	2	1
Allentown, Pa.-----	42	26	7	—	Louisville, Ky.-----	150	86	15	5
Buffalo, N. Y.-----	151	89	5	5	Memphis, Tenn.-----	122	63	2	12
Camden, N. J.-----	37	19	1	1	Mobile, Ala.-----	47	25	1	4
Elizabeth, N. J.-----	28	20	1	—	Montgomery, Ala.-----	41	19	1	3
Erie, Pa.-----	55	33	4	1	Nashville, Tenn.-----	109	60	1	7
Jersey City, N. J.*-----	71	41	5	4	WEST SOUTH CENTRAL:	1,170	599	39	72
Newark, N. J.-----	62	27	2	5	Austin, Tex.-----	24	15	1	—
New York City, N. Y.-----	1,727	979	69	73	Baton Rouge, La.-----	47	25	—	4
Paterson, N. J.-----	33	17	3	5	Corpus Christi, Tex.-----	28	14	—	1
Philadelphia, Pa.-----	502	265	10	38	Dallas, Tex.-----	158	81	3	11
Pittsburgh, Pa.-----	188	96	13	13	El Paso, Tex.-----	50	25	6	4
Reading, Pa.-----	54	43	3	—	Fort Worth, Tex.-----	66	39	2	1
Rochester, N. Y.-----	125	78	2	4	Houston, Tex.-----	223	110	7	8
Schenectady, N. Y.-----	31	20	5	1	Little Rock, Ark.-----	65	38	6	2
Scranton, Pa.-----	36	25	2	—	New Orleans, La.-----	182	86	2	17
Syracuse, N. Y.-----	72	48	—	—	Oklahoma City, Okla.-----	87	41	1	3
Trenton, N. J.-----	65	40	3	2	San Antonio, Tex.-----	122	56	1	13
Utica, N. Y.-----	38	26	1	1	Shreveport, La.-----	50	24	3	4
Yonkers, N. Y.-----	33	20	1	—	Tulsa, Okla.-----	68	45	7	4
EAST NORTH CENTRAL:	2,577	1,433	78	107	MOUNTAIN:	468	233	20	34
Akron, Ohio-----	75	43	—	1	Albuquerque, N. Mex.-----	47	22	5	3
Canton, Ohio-----	48	25	1	1	Colorado Springs, Colo.-----	28	12	4	5
Chicago, Ill.-----	668	375	22	23	Denver, Colo.-----	122	68	3	12
Cincinnati, Ohio-----	168	102	3	13	Ogden, Utah-----	18	10	1	—
Cleveland, Ohio-----	227	108	2	12	Phoenix, Ariz.-----	107	46	2	5
Columbus, Ohio-----	124	60	5	3	Pueblo, Colo.-----	27	16	—	3
Dayton, Ohio-----	79	44	1	3	Salt Lake City, Utah-----	55	33	3	3
Detroit, Mich.-----	354	186	9	14	Tucson, Ariz.-----	64	26	2	3
Evansville, Ind.-----	32	25	4	—	PACIFIC:	1,647	982	34	66
Flint, Mich.-----	57	24	3	6	Berkeley, Calif.-----	24	19	2	—
Fort Wayne, Ind.-----	49	32	2	3	Fresno, Calif.-----	38	23	4	3
Gary, Ind.-----	35	18	3	4	Glendale, Calif.-----	30	22	1	2
Grand Rapids, Mich.-----	45	26	4	2	Honolulu, Hawaii-----	41	22	—	5
Indianapolis, Ind.-----	158	74	2	11	Long Beach, Calif.-----	95	60	2	3
Madison, Wis.-----	26	16	5	1	Los Angeles, Calif.-----	500	288	6	17
Milwaukee, Wis.-----	137	90	—	3	Oakland, Calif.-----	93	56	1	2
Peoria, Ill.-----	51	30	—	2	Pasadena, Calif.-----	34	24	—	2
Rockford, Ill.-----	36	19	2	—	Portland, Oreg.-----	176	113	3	5
South Bend, Ind.-----	49	29	6	2	Sacramento, Calif.-----	67	38	1	5
Toledo, Ohio-----	105	70	2	1	San Diego, Calif.-----	93	49	2	5
Youngstown, Ohio-----	54	37	2	2	San Francisco, Calif.-----	171	91	4	7
WEST NORTH CENTRAL:	881	554	23	52	San Jose, Calif.-----	60	38	5	4
Des Moines, Iowa-----	67	41	1	4	Seattle, Wash.-----	146	84	1	3
Duluth, Minn.-----	18	12	—	1	Spokane, Wash.-----	45	34	2	2
Kansas City, Kans.-----	56	30	3	5	Tacoma, Wash.-----	34	21	—	1
Kansas City, Mo.-----	130	82	—	5	Total	12,600	7,110	428	617
Lincoln, Nebr.-----	31	23	1	1	Cumulative Totals including reported corrections for previous weeks				
Minneapolis, Minn.-----	115	77	2	5	All Causes, All Ages-----				325,935
Omaha, Nebr.-----	84	56	2	5	All Causes, Age 65 and over-----				188,244
St. Louis, Mo.-----	263	156	8	22	Pneumonia and Influenza, All Ages-----				17,296
St. Paul, Minn.-----	65	47	2	3	All Causes, Under 1 Year of Age-----				14,801
Wichita, Kans.-----	52	30	4	1					

*Estimate - based on average percent of divisional total.

EPIDEMIOLOGIC NOTES AND REPORTS
CASE OF ANTHRAX - New Jersey

On March 19, 1969, a 45-year-old worker in a factory in Camden, New Jersey, was examined by a physician for a swollen infected lesion above his left eye. The patient was hospitalized. Exudate from the lesion was cultured and *Bacillus anthracis* was isolated. Antibiotic therapy was initiated and continued for 2 weeks until the man recovered.

The man worked at a factory that produces gelatin and calcium phosphate from hides and bone. The basic raw material is bone, ground into pieces or chips about 1 inch in diameter, purchased from India and South America. The material is imported in burlap bags. The patient worked for periods of 2 to 3 weeks when shipments were received, emptying these bags into a large storage area. The operation is excessively dusty, and the patient probably became infected by contact with dust harboring the *B. anthracis* organisms.

Another single case of anthrax was reported from this company in 1965 (MMWR, Vol. 14, No. 35). This employee, a 29-year-old man, had a lesion on his right knee. His job brought him into contact with the empty burlap bags used in shipment of the imported bones. In association with this previous case, an environmental sampling program was conducted in 1965 at this plant which revealed that 17 of 20 bone samples, three of three dust samples, and seven of 14 air samples were positive for *B. anthracis*. Additionally, in 1965, 17 production line samples were obtained and two were positive for *B. anthracis*. Both positive samples were bone that had been bathed in a 2 percent NaOH solution, the first stage in processing the bone. The subsequent processing stages, including prolonged contact with acid and heat, should destroy all *B. anthracis* organisms.

(Reported by Ronald Altman, M.D., Director, and Howard Rosenfeld, V.M.D., Division of Preventable Diseases, and E. Lynn Schall, Chief, Occupational Health Program, New Jersey State Department of Health.)

Editorial Comment:

Of 202 anthrax cases reported to NCDC since 1955, this is only the third case associated with bone; two of these three were from this company. The third case was in a stevedore in Philadelphia who became infected while unloading bags of imported bones.

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IN ADDITION TO THE ESTABLISHED PROCEDURES FOR REPORTING MORBIDITY AND MORTALITY, THE NATIONAL COMMUNICABLE DISEASE CENTER WELCOMES ACCOUNTS OF INTERESTING OUTBREAKS OR CASE INVESTIGATIONS WHICH ARE OF CURRENT INTEREST TO HEALTH OFFICIALS AND WHICH ARE DIRECTLY RELATED TO THE CONTROL OF COMMUNICABLE DISEASES. SUCH COMMUNICATIONS SHOULD BE ADDRESSED TO:

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MORBIDITY AND MORTALITY WEEKLY REPORT
ATLANTA, GEORGIA 30333

NOTE: THE DATA IN THIS REPORT ARE PROVISIONAL AND ARE BASED ON WEEKLY TELEGRAMS TO THE NCDC BY THE INDIVIDUAL 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.

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