



Morbidity and Mortality

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE
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EPIDEMIOLOGIC NOTES AND REPORTS
INTRODUCED MALARIA - California

Five cases of malaria, caused by *Plasmodium vivax* and related epidemiologically, have recently been reported to CDC from California and are summarized below. A sixth case, possibly related to the other 5, is also recorded.
Case 1

On May 14, 1974, a 14-year-old boy was seen by a private physician in Yuba City, Sutter County, California, for an 11-day history of fever, chills, and sweats. On physical examination his spleen was firm and enlarged. *P. vivax* were seen on blood smear. He was treated with quinacrine and primaquine and is now asymptomatic, his spleen is still slightly enlarged. Results of indirect fluorescent antibody (IFA) tests on this patient and his family are pending.

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The boy had emigrated to the United States from Punjab State, India, arriving in San Francisco on April 21, 1974; he stayed in San José for 1 week before joining his family on April 28 in a rural area near Gridley, Butte County, California. One year earlier, while in India, he had had an illness charac-

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

DISEASE	33rd WEEK ENDING		MEDIAN 1969-1973	CUMULATIVE, FIRST 33 WEEKS		
	August 17, 1974	August 18, 1973		1974	1973	MEDIAN 1969-1973
Aseptic meningitis	122	228	228	1,626	2,270	2,196
Brucellosis	2	6	5	101	126	126
Chickenpox	367	308	—	98,641	144,256	—
Diphtheria	2	4	4	162	118	101
Encephalitis:						
Primary: Arthropod-borne and unspecified	15	39	44	545	813	813
Post-Infectious	2	5	7	174	198	221
Hepatitis, Viral:						
Type B	180	187	162	5,994	5,048	5,041
Type A	698	894	931	26,833	31,983	34,902
Type unspecified	177	—	—	5,314	—	—
Malaria	4	4	37	122	151	1,735
Measles (rubeola)	68	89	186	19,472	23,787	26,480
Meningococcal infections, total	11	12	29	922	998	1,684
Civilian	11	12	29	897	974	1,496
Military	—	—	—	25	24	183
Mumps	278	381	524	43,511	54,298	66,485
Pertussis	41	—	—	986	—	—
Rubella (German measles)	89	117	213	9,400	25,686	37,748
Tetanus	5	3	3	54	52	73
Tuberculosis, new active	650	506	—	19,560	20,037	—
Tularemia	2	6	3	91	104	90
Typhoid fever	8	6	6	236	442	193
Typhus, tick-borne (Rky. Mt. spotted fever)	23	27	25	566	466	324
Venereal Diseases:						
Gonorrhea	21,593	18,625	—	55,675	509,854	—
Syphilis, primary and secondary	505	481	—	15,432	15,523	—
Rabies in animals	71	73	73	1,875	2,376	2,376

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	2	Poliomyelitis, total:	3
Botulism:	9	Paralytic:	3
Congenital rubella syndrome: N.Y. Ups. 1	37	Psittacosis:	76
Leprosy: D.C. 1, Texas 1, Hawaii 1	68	Rabies in man:	—
Leptospirosis:	25	Trichinosis: Conn. 1	65
Plague:	1	Typhus, murine: Texas 1	15

MALARIA – Continued

terized by fever every other day; he was treated with an unknown medication for a few days and became asymptomatic. Prior to the onset of his recent illness he had visited on several occasions in a home less than 1/2 mile from the home of Case 3.

Case 2

On June 26, 1974, a 52-year-old man from northwestern Yuba County was admitted to a hospital in Yuba City with a 6-day history of fever, chills, eye pains, headache, and myalgia. Physical examination on admission revealed a temperature of 106° F. and no palpable spleen. *P. vivax* were seen on a blood smear. IFA titer was 1:256 for *P. vivax* and negative for *Plasmodium falciparum* and *Plasmodium malariae*. Treatment with chloroquine and primaquine resulted in recovery.

In 1943, while in North Africa, the man had been treated for malaria. He has not been outside the United States since 1949 and gave no history of blood transfusion or illicit drug use. He lives on a ranch in a rural area north of Marysville, California, near the Feather River and rice fields where mosquitoes, including *Anopheles freeborni*, are abundant. Also, he operates an earth leveling business and travels over a 3-county area.

Case 3

On July 8, 1974, an 11-year-old boy was admitted to a hospital in Yuba City with a 4-day history of vomiting, headache, and fever. *P. vivax* were seen on a blood smear. His spleen was recorded as questionably enlarged. He was treated with chloroquine and primaquine and became asymptomatic. He and his family had no history of malaria, and all family members had IFA titers negative for *P. vivax*. In December 1973, the boy emigrated from Punjab State, India, and now lives in a rural area west of Yuba City, within 1/4 mile of the home that Case 1 visited prior to his illness.

Case 4

On August 7, 1974, a 51-year-old woman was admitted to a hospital in Yuba City with a 6-day history of fever, chills, myalgia, sweats, diarrhea, and weight loss. Her spleen was not enlarged. *P. vivax* were seen on a blood smear. She was treated with amodiaquine and primaquine and has recovered. She has not been out of the country since 1942 and has received no blood transfusions. She lives less than 1 mile from Case 2 and in the 4-week period preceding her illness did not travel outside the area, other than to Marysville and Yuba City.

Case 5

On August 9, 1974, an 8-year-old boy, who had emigrated from León, Guanajuato State, Mexico, 1 and 1/2 months previously, was admitted to a Yuba City hospital with fever, chills, and myalgia of 8 days' duration. On admission he was afebrile and had no organomegaly. A peripheral blood smear was positive for *P. vivax*. Therapy was begun with chloroquine and primaquine, and he soon became asymptomatic. Results of IFA tests on the patient and his immediate family are pending.

There was no apparent history of malaria in the patient or his family. His father is a peach picker and on July 22, 23, and 24 (the 8th, 9th, and 10th days prior to the boy's illness) had taken the patient to work with him on a ranch less than 1 mile from the homes of Cases 2 and 4.

Case 6

A sixth case of malaria, possibly related to the other 5, was reported from Crockett, Contra Costa County, about 100 miles from the Sutter-Yuba area. On July 7, 1974, a 22-year-old sugar refinery worker, who had been ill for 2 days, was treated for *P. vivax* malaria, diagnosed by a peripheral blood smear. His spleen was not noted to be enlarged.

In 1971, he had emigrated from Punjab State, India, to the United States and from July to September 1973 had returned for a visit. He did not become ill while there, but he reported that there was malaria in the area and that some of the people he visited were ill. Also, he traveled to the Sutter-Yuba area 5 or 6 times between his return and the onset of his illness.

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Editorial Note

This is the eleventh outbreak of introduced malaria in the United States that has been reported to CDC since 1952. *P. vivax* has been the species identified in all of these cases.

One large outbreak of mosquito-transmitted malaria involving 35 cases occurred in California in 1952. The index case and probable source of infection at that time was a returning veteran of the Korean War. In 1956 and 1957 (also in the Sutter-Yuba area), 2 small outbreaks occurred in California involving mosquito-transmitted malaria with Mexican laborers as the probable sources of infection.

The index case in this outbreak and the large community of recent Punjab immigrants in the immediate area make this group a prime suspect as a source of infection. However, there is a mobile Mexican laborer population in the community which also could represent a source of infection. An active surveillance and case detection program is currently being conducted in the community. *Anopheles freeborni* mosquitoes have been trapped and identified in this region, but to date no parasites have been identified within these mosquitoes. An active mosquito trapping and adulticide program is currently being carried out by the Sutter-Yuba and Butte County Mosquito Abatement District.

FOLLOW-UP ON ANTHRAX – Texas, Oklahoma**Texas**

A laboratory-confirmed bovine anthrax death occurred in eastern Falls County, Texas, on June 25, 1974 (MMWR, Vol. 23, No. 28). During the ensuing 5-week period, live-

stock owners reported an estimated 260 animal deaths in Falls County. *Bacillus anthracis* (gamma-phage positive) was isolated from 35 animals which had died, including 32 cattle,

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**TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING AUGUST 17, 1974 AND AUGUST 18, 1973 (33rd WEEK)**

AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod- borne and Unspecified		Post In- fectious	Type B	Type A	Type Unspecified	1974	Cum. 1974
						1974	1973	1974	1974	1974	1974		
UNITED STATES	122	2	367	2	162	15	39	2	180	698	177	4	122
NEW ENGLAND	5	-	48	-	-	-	1	-	3	29	21	-	6
Maine	-	-	-	-	-	-	-	-	2	-	6	-	-
New Hampshire *	-	-	-	-	-	-	-	-	-	2	-	-	-
Vermont	-	-	-	-	-	-	-	-	-	1	-	-	-
Massachusetts	3	-	25	-	-	-	1	-	-	9	15	-	2
Rhode Island	2	-	12	-	-	-	-	-	1	10	-	-	3
Connecticut	-	-	11	-	-	-	-	-	-	7	-	-	1
MIDDLE ATLANTIC	14	-	57	-	1	2	7	1	29	74	30	1	17
Upstate New York	1	-	11	-	-	1	1	1	1	13	2	-	4
New York City	1	-	46	-	-	-	-	-	7	8	-	1	7
New Jersey	9	-	-	-	-	-	-	-	10	18	23	-	3
Pennsylvania	3	-	-	-	1	1	6	-	11	35	5	-	3
EAST NORTH CENTRAL	10	-	121	-	2	5	7	-	26	109	6	-	11
Ohio	-	-	33	-	1	1	3	-	8	19	-	-	4
Indiana	-	-	11	-	-	-	-	-	1	17	-	-	-
Illinois	-	-	-	-	1	2	1	-	6	9	2	-	2
Michigan	10	-	42	-	-	2	3	-	8	48	4	-	4
Wisconsin	-	-	35	-	-	-	-	-	3	16	-	-	1
WEST NORTH CENTRAL	14	1	12	-	-	4	-	-	17	32	23	-	3
Minnesota	2	-	2	-	-	-	-	-	9	3	-	-	1
Iowa	12	1	7	-	-	2	-	-	2	-	-	-	-
Missouri	-	-	-	-	-	2	-	-	3	7	22	-	1
North Dakota	-	-	1	-	-	-	-	-	-	2	-	-	-
South Dakota	-	-	-	-	-	-	-	-	-	6	-	-	1
Nebraska	-	-	-	-	-	-	-	-	-	2	1	-	-
Kansas	-	-	2	-	-	-	-	-	3	12	-	-	-
SOUTH ATLANTIC	9	-	54	-	1	-	9	-	17	147	34	-	21
Delaware	-	-	-	-	-	-	-	-	-	2	-	-	-
Maryland	-	-	10	-	-	-	2	-	2	6	2	-	3
District of Columbia	-	-	-	-	-	-	-	-	2	-	-	-	2
Virginia	4	-	10	-	-	-	-	-	1	8	5	-	6
West Virginia	-	-	34	-	-	-	2	-	-	1	-	-	-
North Carolina	1	-	NN	-	1	-	-	-	6	18	16	-	4
South Carolina	-	-	-	-	-	-	3	-	-	6	-	-	-
Georgia	-	-	-	-	-	-	-	-	-	19	-	-	1
Florida	4	-	-	-	-	-	2	-	6	87	11	-	5
EAST SOUTH CENTRAL	8	-	4	-	-	2	2	1	6	39	-	-	4
Kentucky *	2	-	2	-	-	-	-	-	-	-	-	-	3
Tennessee	4	-	NN	-	-	2	-	-	5	35	-	-	1
Alabama	1	-	2	-	-	-	2	1	-	3	-	-	-
Mississippi	1	-	-	-	-	-	-	-	1	1	-	-	-
WEST SOUTH CENTRAL	14	-	18	-	9	-	2	-	26	88	8	-	10
Arkansas	-	-	6	-	-	-	-	-	-	5	2	-	1
Louisiana *	14	-	NN	-	-	-	-	-	-	14	2	-	1
Oklahoma *	-	-	2	-	-	-	1	-	3	8	4	-	3
Texas	-	-	10	-	9	-	1	-	23	61	-	-	5
MOUNTAIN	-	-	20	-	28	-	1	-	4	27	16	-	6
Montana	---	---	---	---	---	---	1	---	---	---	---	---	---
Idaho	-	-	-	-	-	-	-	-	-	3	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	1	-	-	-
Colorado	-	-	8	-	-	-	-	-	-	-	7	-	4
New Mexico	-	-	12	-	10	-	-	-	1	8	-	-	1
Arizona	-	-	-	-	18	-	-	-	1	8	6	-	-
Utah	-	-	-	-	-	-	-	-	2	2	3	-	-
Nevada	-	-	-	-	-	-	-	-	-	5	-	-	1
PACIFIC	48	1	33	2	121	2	10	-	52	153	39	3	44
Washington	-	-	23	2	112	-	-	-	1	16	19	-	-
Oregon	-	-	3	-	-	-	-	-	4	21	3	-	1
California	47	1	-	-	5	2	10	-	47	111	17	3	42
Alaska	-	-	1	-	4	-	-	-	-	5	-	-	-
Hawaii	1	-	6	-	-	-	-	-	-	-	-	-	1
Guam *	-	-	-	-	-	-	-	-	-	-	-	-	2
Puerto Rico	-	-	3	-	-	-	-	-	-	-	4	-	1
Virgin Islands	---	---	---	---	---	---	---	---	---	---	---	---	---

*Delayed reports: Brucellosis: Okla. delete 1
 Encephalitis, primary: Guam 1
 Hepatitis B: La. delete 1
 Hepatitis A: N.H. 1, Ky. delete 1, Guam 2
 Hepatitis unspecified: Ky. delete 1, Guam 10

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING AUGUST 17, 1974 AND AUGUST 18, 1973 (33rd 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	68	19,472	23,787	11	922	998	278	43,511	41	89	9,400	54
NEW ENGLAND	5	905	7,335	-	50	46	15	5,807	2	9	940	1
Maine	-	41	64	-	2	1	-	783	-	4	269	-
New Hampshire	-	197	857	-	12	6	1	277	-	-	16	1
Vermont	-	57	118	-	2	3	-	28	-	-	18	-
Massachusetts *	5	379	3,896	-	14	12	3	946	-	3	328	-
Rhode Island	-	59	603	-	7	3	7	2,361	-	1	19	-
Connecticut	-	172	1,797	-	13	21	4	1,412	2	1	290	-
MIDDLE ATLANTIC	22	7,912	2,402	5	134	133	27	3,494	-	10	1,026	5
Upstate New York	8	910	789	2	53	46	6	849	-	3	231	2
New York City	-	561	879	3	24	27	11	599	-	5	139	1
New Jersey *	5	5,505	389	-	42	32	3	652	-	-	433	1
Pennsylvania	9	936	345	-	15	28	7	1,394	-	2	223	1
EAST NORTH CENTRAL	23	7,523	8,387	-	105	124	92	12,511	12	28	3,109	9
Ohio	2	3,021	278	-	36	54	21	3,092	-	1	487	2
Indiana	3	218	619	-	9	4	5	969	-	9	516	-
Illinois	6	1,943	2,023	-	10	24	7	1,082	3	-	494	3
Michigan	2	1,893	4,336	-	34	37	42	5,357	5	10	1,163	3
Wisconsin	10	448	1,131	-	16	5	17	2,011	4	8	449	1
WEST NORTH CENTRAL	-	685	436	-	71	78	16	2,656	2	1	208	9
Minnesota	-	83	19	-	22	7	4	40	-	-	11	1
Iowa	-	134	277	-	13	18	2	1,616	-	-	15	-
Missouri	-	261	49	-	18	32	4	375	2	1	34	2
North Dakota	-	28	58	-	3	3	1	29	-	-	11	3
South Dakota	-	27	-	-	3	4	-	2	-	-	25	-
Nebraska	-	2	6	-	3	7	1	78	-	-	6	-
Kansas	-	150	27	-	9	7	4	516	-	-	106	3
SOUTH ATLANTIC	4	480	1,190	1	184	168	48	5,184	10	10	1,047	12
Delaware	-	7	8	-	3	1	-	89	-	-	27	-
Maryland	-	22	12	-	18	22	5	102	-	2	4	-
District of Columbia	-	3	5	-	1	4	-	49	-	-	4	-
Virginia	1	22	414	-	29	30	29	558	2	1	40	3
West Virginia	3	157	196	-	7	4	6	2,884	-	5	187	-
North Carolina	-	5	4	-	40	36	NN	NN	8	-	53	3
South Carolina	-	48	58	-	16	11	-	109	-	-	578	1
Georgia	-	4	149	-	8	21	-	1	-	-	2	-
Florida	-	212	344	1	62	39	8	1,392	-	2	152	5
EAST SOUTH CENTRAL	1	203	594	1	97	91	29	5,458	2	15	510	2
Kentucky	1	139	366	-	38	32	5	2,196	1	8	181	-
Tennessee	-	34	165	1	44	37	20	2,399	1	7	257	1
Alabama	-	17	9	-	9	15	4	493	-	-	57	-
Mississippi *	-	13	54	-	6	7	-	370	-	-	15	1
WEST SOUTH CENTRAL	4	180	645	2	155	156	17	3,040	2	6	311	5
Arkansas	-	6	69	-	11	13	2	127	-	-	8	-
Louisiana *	-	13	84	-	32	33	2	201	-	-	58	3
Oklahoma	-	24	52	1	17	27	4	360	-	3	41	-
Texas	4	137	440	1	95	83	9	2,352	2	3	204	2
MOUNTAIN	1	725	587	-	28	32	8	1,025	-	2	394	-
Montana	---	372	16	---	1	6	---	171	---	---	65	-
Idaho	1	51	252	-	2	4	-	156	-	-	13	-
Wyoming	-	1	80	-	3	-	-	9	-	-	-	-
Colorado	-	30	103	-	7	11	6	496	-	-	158	-
New Mexico	-	54	114	-	2	3	2	170	-	-	109	-
Arizona	-	15	19	-	4	4	-	-	-	-	-	-
Utah	-	3	2	-	6	2	-	19	-	2	16	-
Nevada	-	199	1	-	3	2	-	4	-	-	33	-
PACIFIC	8	859	2,211	2	98	170	26	4,336	11	8	1,855	11
Washington	-	62	1,008	1	11	17	-	1,522	-	1	332	1
Oregon	-	-	454	1	12	12	6	751	1	2	203	1
California	7	736	665	-	69	135	18	1,910	10	3	1,303	9
Alaska	-	-	65	-	3	6	1	97	-	-	-	-
Hawaii	1	61	19	-	3	-	1	56	-	2	17	-
Guam *	-	14	48	-	1	-	-	349	-	-	5	-
Puerto Rico	4	565	1,757	1	6	8	17	879	-	-	28	3
Virgin Islands	---	24	-	---	-	-	---	30	---	---	-	1

*Delayed reports: Measles: Mass. delete 1, Guam 1
Pertussis: N.J. 5, Miss. 25
Rubella: La. delete 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDING AUGUST 17, 1974 AND AUGUST 18, 1973 (33rd WEEK) - Continued

AREA	TUBERCULOSIS (New Active)		TULA- REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (Rky. Mt. spotted fever)		VENEREAL DISEASES					RABIES IN ANIMALS	
	1974	Cum. 1974		1974	Cum. 1974	1974	Cum. 1974	GONORRHEA		SYPHILIS (Pri. & Sec.)		Cum. 1974		
			1974					Cumulative	1974	Cumulative				
								1974	1973	1974	1973			
UNITED STATES	650	19,560	91	8	236	23	566	21,593	555,675	509,854	505	15,432	15,523	1,875
NEW ENGLAND	28	794	-	-	7	-	7	544	13,469	14,195	2	314	451	11
Maine	2	65	-	-	-	-	-	49	1,206	806	-	24	20	1
New Hampshire	-	19	-	-	1	-	-	17	467	486	-	9	5	2
Vermont	1	17	-	-	-	-	-	11	395	215	-	2	13	1
Massachusetts	13	428	-	-	3	-	5	176	5,559	6,856	1	127	208	4
Rhode Island	5	73	-	-	2	-	2	55	1,295	1,448	-	11	10	3
Connecticut	7	192	-	-	1	-	-	236	4,547	4,384	1	141	195	-
MIDDLE ATLANTIC	126	3,509	2	-	33	4	52	2,603	67,402	72,174	110	3,417	3,598	39
Upstate New York	40	499	2	-	6	4	26	622	12,680	12,806	3	322	227	15
New York City	43	1,350	-	-	21	-	1	1,044	29,494	33,622	61	1,978	2,226	-
New Jersey *	17	664	-	-	5	-	3	359	9,223	10,164	27	545	626	13
Pennsylvania	26	996	-	-	1	-	22	578	16,005	15,582	19	572	519	11
EAST NORTH CENTRAL	99	2,661	5	-	20	3	18	4,990	80,954	59,888	83	1,130	842	140
Ohio *	25	738	-	-	5	3	11	1,010	23,667	19,428	9	183	173	26
Indiana	14	385	-	-	1	-	1	394	8,384	7,233	9	126	191	11
Illinois	27	762	3	-	7	-	6	2,600	20,550	8,590	63	487	121	24
Michigan	30	706	-	-	6	-	-	716	19,654	18,380	1	265	308	1
Wisconsin	3	70	2	-	1	-	-	270	8,699	6,257	1	69	49	78
WEST NORTH CENTRAL	24	723	16	-	7	1	6	1,305	29,155	27,876	11	380	232	513
Minnesota	3	121	-	-	3	-	-	337	6,857	5,758	1	52	69	176
Iowa	6	80	-	-	1	-	1	177	3,706	3,705	1	24	57	91
Missouri	5	344	11	-	1	1	4	432	9,257	9,393	7	257	82	23
North Dakota	-	17	2	-	-	-	-	21	434	425	-	3	1	86
South Dakota	-	37	3	-	-	-	-	38	1,379	1,409	-	2	4	91
Nebraska	-	31	-	-	-	-	-	84	2,447	2,835	-	8	3	4
Kansas	10	93	-	-	2	-	1	216	5,075	4,351	2	34	16	42
SOUTH ATLANTIC	135	4,126	8	-	31	10	324	5,699	142,802	127,695	158	4,957	4,559	236
Delaware	1	63	-	-	-	1	9	59	1,918	1,801	1	52	63	1
Maryland	20	538	-	-	2	-	39	417	14,780	10,873	4	485	469	18
District of Columbia	6	250	-	-	1	-	-	320	10,432	10,692	20	414	564	-
Virginia	14	515	3	-	1	7	105	301	12,307	12,775	25	541	481	63
West Virginia	6	189	-	-	8	-	4	56	1,646	1,919	-	9	16	23
North Carolina	14	642	3	-	3	2	86	829	18,878	18,742	20	611	383	25
South Carolina	18	404	-	-	3	-	45	365	14,832	13,242	13	548	692	3
Georgia	12	561	2	-	2	-	34	1,726	30,014	24,462	21	548	697	75
Florida	44	964	-	-	11	-	2	1,626	37,995	33,189	54	1,749	1,194	28
EAST SOUTH CENTRAL	59	1,736	9	1	16	1	82	1,590	47,549	42,556	37	793	978	177
Kentucky	10	396	2	-	34	-	11	286	5,912	5,202	8	183	355	110
Tennessee	8	536	5	1	16	1	53	588	18,707	16,258	14	313	278	41
Alabama	21	513	2	-	3	-	7	397	13,191	12,140	9	147	117	25
Mississippi	20	291	-	-	3	-	11	319	9,739	8,956	6	150	228	1
WEST SOUTH CENTRAL	63	2,384	40	-	21	3	68	1,810	75,724	69,740	45	1,463	1,784	433
Arkansas *	7	278	25	-	1	-	7	144	7,286	8,160	1	69	103	57
Louisiana	10	323	2	-	8	-	1	381	15,459	14,777	9	408	541	21
Oklahoma	-	207	11	-	2	1	52	-	6,550	6,916	-	89	115	105
Texas	46	1,576	2	-	10	2	8	1,285	46,429	39,887	35	897	1,025	250
MOUNTAIN	5	618	7	1	13	-	6	785	21,361	18,295	10	364	459	101
Montana	---	51	-	---	-	---	1	---	1,125	1,027	---	3	3	5
Idaho	-	22	-	-	-	-	1	22	1,172	1,196	-	8	7	-
Wyoming	-	13	3	-	3	-	1	16	419	324	-	5	21	9
Colorado	-	114	-	-	-	-	1	303	5,979	4,860	4	83	139	27
New Mexico	-	127	2	-	2	-	1	83	3,160	3,217	-	51	49	28
Arizona *	3	222	1	-	6	-	-	168	6,320	5,282	2	139	95	31
Utah	2	30	1	-	2	-	1	68	1,175	964	-	11	9	1
Nevada	-	39	-	1	2	-	-	125	2,011	1,425	4	64	136	-
PACIFIC	111	3,009	4	6	68	1	3	2,267	77,259	77,435	49	2,614	2,620	225
Washington	8	209	-	-	12	1	1	161	6,958	7,083	-	53	98	-
Oregon	10	131	-	-	-	-	2	179	6,809	6,820	1	55	43	8
California	88	2,379	4	6	53	-	-	1,872	60,150	60,224	48	2,471	2,377	209
Alaska	-	56	-	-	2	-	-	28	1,694	1,860	-	11	45	8
Hawaii	5	234	-	-	1	-	-	27	1,648	1,448	-	24	57	-
Guam *	-	27	-	-	-	-	-	-	189	245	-	2	2	-
Puerto Rico	23	346	-	-	3	-	-	23	1,956	2,742	8	543	470	40
Virgin Islands	---	3	-	---	-	---	-	---	201	143	---	31	16	-

*Delayed reports: Tuberculosis: Ohio delete 2, Ariz. delete 1
RMSF: Ark. delete 1
Gonorrhea: Guam 11
Rabies: N.J. 2

Week No.

TABLE IV. DEATHS IN 121 UNITED STATES CITIES FOR WEEK ENDING AUGUST 17, 1974

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

Area	All Causes					Pneumonia and Influenza All Ages	Area	All Causes					Pneumonia and Influenza All Ages
	All Ages	65 years and over	45-64 years	25-44 years	Under 1 year			All Ages	65 years and over	45-64 years	25-44 years	Under 1 year	
NEW ENGLAND	638	387	158	30	36	31	SOUTH ATLANTIC	1,170	569	390	97	70	42
Boston, Mass.	208	111	65	11	7	10	Atlanta, Ga.	157	67	56	19	7	2
Bridgeport, Conn.	34	24	5	2	1	2	Baltimore, Md.	201	106	54	16	14	3
Cambridge, Mass.	24	22	1	1	—	4	Charlotte, N. C.	70	36	19	6	5	—
Fall River, Mass.	21	17	4	—	—	—	Jacksonville, Fla.	64	29	23	7	3	2
Hartford, Conn.	59	31	19	3	6	1	Miami, Fla.	130	66	51	6	1	5
Lowell, Mass.	13	8	5	—	—	2	Norfolk, Va.	57	22	24	5	4	5
Lynn, Mass.	16	13	1	1	—	—	Richmond, Va.	111	38	39	8	25	4
New Bedford, Mass.	22	16	5	—	1	—	Savannah, Ga.	45	23	18	2	1	5
New Haven, Conn.	50	24	9	1	12	1	St. Petersburg, Fla.	58	42	11	1	4	4
Providence, R. I.	60	34	15	3	4	7	Tampa, Fla.	64	38	16	8	1	6
Somerville, Mass.	6	3	2	1	—	—	Washington, D. C.	161	70	66	16	3	3
Springfield, Mass.	51	34	11	4	2	2	Wilmington, Del.	52	32	13	3	2	3
Waterbury, Conn.	23	12	7	2	1	—	EAST SOUTH CENTRAL	624	326	180	56	33	22
Worcester, Mass.	51	38	9	1	2	2	Birmingham, Ala.	104	45	36	5	12	2
MIDDLE ATLANTIC	2,803	1,634	758	209	100	93	Chattanooga, Tenn.	50	27	14	7	2	2
Albany, N. Y.	62	34	18	6	3	2	Knoxville, Tenn.	28	16	8	3	—	1
Allentown, Pa.	29	18	10	1	—	—	Louisville, Ky.	104	64	26	9	—	5
Buffalo, N. Y.	111	56	32	15	4	5	Memphis, Tenn.	162	83	52	9	11	5
Camden, N. J.	40	26	9	2	2	1	Mobile, Ala.	42	22	9	5	1	1
Elizabeth, N. J.	26	16	6	3	1	—	Montgomery, Ala.	44	24	11	5	3	3
Erie, Pa.	34	21	12	—	—	1	Nashville, Tenn.	90	45	24	13	4	3
Jersey City, N. J.	57	33	18	2	3	4	WEST SOUTH CENTRAL	1,127	657	269	85	49	29
Newark, N. J.	81	29	23	8	16	7	Austin, Tex.	36	22	9	—	1	4
New York City, N. Y. †	1,323	791	334	104	33	46	Baton Rouge, La.	38	22	8	2	3	1
Paterson, N. J.	33	23	5	1	1	1	Corpus Christi, Tex.	41	27	8	1	2	—
Philadelphia, Pa.	493	281	147	35	18	5	Dallas, Tex.	152	88	36	10	12	—
Pittsburgh, Pa.	193	100	66	13	7	9	El Paso, Tex.	47	32	7	3	1	5
Reading, Pa.	35	22	9	2	2	1	Fort Worth, Tex.	86	48	22	5	6	3
Rochester, N. Y.	104	67	22	9	4	5	Houston, Tex.	237	127	58	32	6	7
Schenectady, N. Y.	17	11	6	—	—	—	Little Rock, Ark.	59	40	11	4	1	—
Scranton, Pa.	22	10	11	1	—	1	New Orleans, La.	141	71	45	10	5	1
Syracuse, N. Y.	72	51	12	3	4	2	San Antonio, Tex.	155	98	31	12	4	2
Trenton, N. J. *	36	21	11	2	1	1	Shreveport, La.	50	30	15	1	2	1
Utica, N. Y.	13	12	—	1	—	1	Tulsa, Okla.	85	52	19	5	6	5
Yonkers, N. Y.	22	12	7	1	1	1	MOUNTAIN	462	253	116	35	34	8
EAST NORTH CENTRAL	2,274	1,286	617	157	117	51	Albuquerque, N. Mex.	51	35	10	4	—	4
Akron, Ohio	82	43	25	9	3	—	Colorado Springs, Colo.	29	22	3	1	1	—
Canton, Ohio	32	22	9	1	—	1	Denver, Colo.	106	58	23	9	14	1
Chicago, Ill.	580	315	161	55	22	11	Las Vegas, Nev.	17	8	7	—	2	—
Cincinnati, Ohio	137	78	39	6	8	3	Ogden, Utah	22	14	5	—	1	1
Cleveland, Ohio	155	83	52	5	6	1	Phoenix, Ariz.	115	62	30	12	5	1
Columbus, Ohio	136	79	36	9	9	1	Pueblo, Colo.	11	4	4	2	—	—
Dayton, Ohio	100	48	34	8	4	1	Salt Lake City, Utah	51	24	13	—	8	1
Detroit, Mich.	300	149	84	24	32	9	Tucson, Ariz.	60	26	21	7	3	—
Evansville, Ind.	37	24	8	2	2	2	PACIFIC	1,531	907	409	91	55	30
Fort Wayne, Ind.	43	28	11	1	1	1	Berkeley, Calif.	24	16	6	1	—	—
Gary, Ind.	31	15	8	2	—	1	Fresno, Calif.	49	28	16	2	1	—
Grand Rapids, Mich.	48	28	11	3	5	2	Glendale, Calif.	23	20	3	—	—	1
Indianapolis, Ind.	151	86	44	12	5	2	Honolulu, Hawaii	38	17	13	2	5	1
Madison, Wis.	27	11	9	2	—	4	Long Beach, Calif.	97	57	32	3	1	1
Milwaukee, Wis.	121	87	19	8	6	4	Los Angeles, Calif.	470	288	119	29	13	12
Peoria, Ill.	47	26	10	2	7	—	Oakland, Calif.	78	36	24	11	4	—
Rockford, Ill.	45	28	8	3	1	6	Pasadena, Calif.	38	25	7	3	2	—
South Bend, Ind.	33	27	4	—	1	1	Portland, Oreg.	130	81	33	4	6	1
Toledo, Ohio	112	75	28	1	3	1	Sacramento, Calif.	46	25	12	3	3	2
Youngstown, Ohio	57	34	17	4	2	—	San Diego, Calif.	114	56	35	11	4	—
WEST NORTH CENTRAL	770	498	172	46	25	36	San Francisco, Calif.	164	90	45	9	5	3
Des Moines, Iowa	68	40	22	2	1	—	San Jose, Calif.	55	34	15	3	2	1
Duluth, Minn.	21	18	2	1	—	1	Seattle, Wash.	111	68	28	7	7	3
Kansas City, Kans.	33	17	9	5	1	—	Spokane, Wash.	56	39	13	3	1	4
Kansas City, Mo.	112	74	21	6	2	1	Tacoma, Wash.	38	27	8	—	1	1
Lincoln, Nebr.	41	30	9	1	—	4	Total	11,399	6,517	3,069	806	519	342
Minneapolis, Minn.	91	63	18	4	4	4	Expected Number	11,618	6,691	3,162	807	430	332
Omaha, Nebr.	84	50	21	5	2	1							
St. Louis, Mo.	189	119	48	12	7	15							
St. Paul, Minn.	68	44	14	5	3	5							
Wichita, Kans.	63	43	8	5	5	5							

†Delayed reports for week ending Aug. 10, 1974

*Estimate based on average percent of divisional total.

ANTHRAX — Continued

2 horses, and 1 mule. In addition, 186 bovine and 4 equine deaths were categorized as probable* anthrax cases. Death rates among bulls were significantly higher than among calves ($p < .001$) or other cattle ($p < .001$). Confirmed anthrax deaths occurred on 24 premises in Falls County and on 2 premises located several miles to the east in adjacent Limestone County. All but 3 of the 24 affected premises in Falls County were located in the southeastern quarter of the county.

Epizootics of anthrax are usually considered to be soil-borne. Although 200 soil samples collected on 4 premises with confirmed cases have not revealed *B. anthracis*, a majority of confirmed and probable anthrax deaths occurred among herds pastured on 2 of 10 general soil types found in the county. These 2 soil types are characterized by alkaline reactions and calcareous subsoils—conditions known to be favorable for the persistence of *B. anthracis* spores. An epidemiologic investigation failed to implicate alternate possible modes of infection such as transport of infected animals, use of animal-origin fertilizers, food supplements containing bone meal, or a contaminated water source.

Control measures during the outbreak consisted of: (1) quarantining livestock in eastern Falls County; (2) vaccinating livestock in and around the quarantine area; and (3) burning carcasses. The last confirmed bovine anthrax death

*Probable case = Animal dying in a herd with confirmed anthrax or in a herd with ≥ 2 deaths in any 7-day period

in Falls County occurred on July 30. On August 11, 1974, a single laboratory-confirmed anthrax death occurred in a cow in distant Hardin County, Texas. The affected premise plus 6 neighboring premises have been quarantined. No human cases of cutaneous anthrax were documented during the epizootic. **Oklahoma**

In early July, 10 to 13 suspect bovine anthrax deaths occurred in a consignment of cattle in the Oklahoma City stockyards. Cultures from one of the suspect animals failed to reveal *B. anthracis*. However, on July 23, a culture-proven anthrax death did occur in a single herd of cattle in Caddo County. Approximately 10 cattle in that herd died during a 2-week period prior to the death of the confirmed case.

(Reported by H. Q. Sibley, D.V.M., Executive Director, Carl Watson, D.V.M., Area 8 Veterinarian, and James B. Young, D.V.M., Staff Veterinarian, Texas Animal Health Commission; A. B. Rich, D.V.M., Director, Division of Veterinary Public Health, Texas State Health Department; William L. Sippel, D.V.M., Ph.D., Executive Director, Howard W. Whitford, D.V.M., Staff Bacteriologist, Texas Veterinary Medical Diagnostic Laboratory; Stanley W. Ferguson, Ph.D., State Epidemiologist, and Patrick M. Morgan, D.V.M., Dr. P.H., Chief, Preventive Medical Services, and Director, Veterinary Public Health Division, Oklahoma State Department of Health; John W. Holcombe, D.V.M., State Public Health Veterinarian, Oklahoma State Department of Agriculture; and the Bacterial Zoonoses Branch, Bacterial Diseases Division, Bureau of Epidemiology, CDC.)

CURRENT TRENDS**STATEMENT OF THE ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES
ON THE USE OF HUMAN RABIES IMMUNE GLOBULIN**

Human Rabies Immune Globulin (HRIG) was licensed on July 12, 1974, and will be available for commercial distribution in early September. It is prepared from plasma pools with high rabies antibody titer obtained from immunized volunteers. HRIG has been shown in extensive laboratory and field evaluations to induce antibody levels equivalent to those following antirabies serum of equine origin. It will be a valuable alternative product for patients who are unable to receive antirabies serum.

At least initially, HRIG will likely be in short supply. It thus becomes particularly important that HRIG be used primarily for patients who are known to be hypersensitive to horse serum, are skin-test positive to antirabies serum of equine origin, or, in view of theoretical concern over fetus development, are pregnant.

The recommended dose of HRIG is 20 IU/kg. Up to 50% of the globulin dose should be used for infiltrating the wound and the rest for intramuscular injection.

Editorial Note

Human rabies immune globulin (HRIG) has been shown to suppress the antibody response to rabies vaccine as has

equine antirabies serum (1,2). When hyperimmune serum and vaccine is administered for postexposure rabies prophylaxis, 21 doses of vaccine plus booster doses on the 10th and 20th day after the completion of the initial course should be administered to assure an adequate antibody response (3).

Physicians may obtain this product by contacting either their state health departments or the manufacturer, Cutter Laboratories, at the distribution centers: 8610 Directors Row, Dallas, Texas 75247, or 2480 Baumann Avenue, St. Lorenzo, California 94580. Twenty-four hour, 7 day per week telephone service for emergency shipment of HRIG throughout the continental United States will be available through the Dallas Distribution Center, telephone number (214) 631-6240.

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EPIDEMIOLOGIC NOTES AND REPORTS**AMPICILLIN-RESISTANT SHIGELLA DYSENTERIAE, TYPE I — Costa Rica**

A 6-year-old girl from Guatuso, Costa Rica, was admitted to the National Children's Hospital in San José in January 1974 with a 7-day history of diarrhea with blood and mucus

and vomiting but no documented fever. On admission, she was noted to have underlying malnutrition, anemia, severe dehydration with marked electrolyte abnormalities, and con-

SHIGELLA DYSENTERIAE – Continued

vulsions. Cerebrospinal fluid was normal. The white blood cell count was 30,800/mm³ with a marked shift to the left. Urinalysis showed traces of albumin and many erythrocytes. Stool specimens for bacterial culture and parasites were obtained, and fluid therapy and ampicillin were started.

Eighteen hours later, *Shigella dysenteriae*, type 1, was cultured, and after 24 more hours, antibiotic sensitivity tests showed the strain to be resistant to ampicillin, chloramphenicol, and tetracycline and sensitive to gentamycin, kanamycin, and nalidixic acid. The microhemagglutination titer for *S. dysenteriae*, type 1, was 1:640.

By this time, the patient's condition had worsened, and renal malfunction and disseminated intravascular coagulation were noted. However, she responded to therapy, and after 26 days she was discharged.

Five days after this child was admitted, 3 more children (ages 8 to 12) from the same family were hospitalized with dysentery. The oldest had a positive stool culture for *S. dysenteriae*, type 1, with the same resistance pattern as the first isolate. The microhemagglutination titers for these 3 children were 1:160, 1:320, and 1:640. Their parents had negative cultures and negative serologic tests.

The antibiotic sensitivities of these 2 isolates were subsequently confirmed at CDC.

S. dysenteriae, type 1, (Shiga bacillus) was first reported in Costa Rica in 1970 (1). Since then, several isolated cases and small outbreaks have been recorded. In 1973, 30 isolations of *S. dysenteriae* were made from a total of 305 shigel-

losis cases reported to the Epidemiology Division of the Public Health Department (2). The 2 isolations reported here are the only ones recorded so far this year (3). Serologic studies performed by the Public Health Department Laboratory (4) have shown that 40%-80% of persons tested in towns in north-eastern Costa Rica have microhemagglutination titers to *S. dysenteriae*, type 1, of over 1:40.

(Reported by Dr. Cecilia Lizano, Head of Laboratories, and Dr. Julio Jiron, Head of Bacteriology, National Children's Hospital, San José.)

Editorial Note

This is the first report known to CDC of ampicillin resistance in strains of *S. dysenteriae*, type 1, isolated in the Central American pandemic; however, ampicillin-resistant Shiga bacilli have been reported from Bangladesh (5).

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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 cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials.

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