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EPIDEMIOLOGIC NOTES AND REPORTS

FATAL MALARIA – New Jersey

On March 3, 1970, a 40-year-old Norwegian seaman became ill at sea with headache, fever, chills, and dizziness. On the following day, however, he felt well enough to return to his duties. On March 5 he experienced a recurrence of the symptoms and was confined to bed. On the following day the ship docked in New Jersey, and the seaman was seen by a physician. On March 7 because of persistent symptoms, the patient was transferred to a Bayonne, New Jersey, hospital, where he was noted to be seriously ill with a temperature of 103°F., jaundice, and dyspnea. A peripheral blood smear revealed a very heavy infection with *Plasmodium falciparum*. Chloroquine phosphate was given promptly, and in 6 hours he became more alert and was afebrile; however, later that evening he became hypotensive, did not respond to emergency supportive measures, and expired.

Postmortem examination revealed acute congestion of all organs. Heavy deposition of malarial pigment was seen

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TABLE I. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	13th WEEK ENDED		MEDIAN	CUMULATIVE, FIRST 13 WEEKS		
	April 4, 1970	March 29, 1969	1965 - 1969	1970	1969	MEDIAN 1965 - 1969
Aseptic meningitis	25	26	27	354	377	370
Brucellosis	5	7	5	40	28	49
Diphtheria	2	6	6	87	38	37
Encephalitis, primary:						
Arthropod-borne & unspecified	26	21	21	251	259	293
Encephalitis, post-infectious	9	6	13	94	64	172
Hepatitis, serum	164	116	895	1,668	1,300	10,883
Hepatitis, infectious	1,149	881		14,027	11,898	
Malaria	72	56	49	867	606	529
Measles (rubeola)	1,569	1,030	2,660	14,732	6,931	29,969
Meningococcal infections, total	57	92	92	877	1,114	1,114
Civilian	57	73	78	805	1,020	1,020
Military	–	19	16	72	94	92
Mumps	2,801	2,775	- - -	33,395	31,152	- - -
Poliomyelitis, total	–	–	–	1	1	6
Paralytic	–	–	–	1	1	4
Rubella (German measles)	1,980	2,080	- - -	19,090	14,010	- - -
Tetanus	3	2	1	22	25	26
Tularemia	6	1	1	25	24	32
Typhoid fever	4	–	7	59	47	66
Typhus, tick-borne (Rky. Mt. spotted fever)	–	–	–	–	1	6
Rabies in animals	77	101	132	818	950	1,090

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	1	Psittacosis:	8
Botulism:	1	Rabies in Man:	–
Leprosy: Calif.-2, Hawaii-1	27	Rubella congenital syndrome: Calif.-1	18
Leptospirosis:	9	Trichinosis: Mass.-2	22
Plague:	–	Typhus, murine:	1

FATAL MALARIA – *(Continued from front page)*

in the spleen and liver, and parasitized red blood cells were seen in smears of the spleen.

The tanker aboard which the patient worked had anchored in the river at Bonny, Nigeria, from Feb. 9 to 14, 1970, after which it stopped in Trinidad February 26-28 before sailing to New Jersey. The crew was not allowed ashore while at Bonny but many of the seamen, including the patient, slept on deck. No other seamen reported any illness, and none had taken malarial chemosuppressives on this recent visit or any previous stops at Bonny.

(Reported by John Bedrick, M.D., Attending Surgeon, Bayonne Hospital, Bayonne, New Jersey; Angelo Gnassi, M.D., Pathologist, Hudson County Medical Examiner's Office, New Jersey; the Foreign Quarantine Program, NCDC; and an EIS Officer.)

Editorial Comment:

This case illustrates the importance of malarial chemoprophylaxis for travelers to malarious areas. The ship's anchorage offshore a West African port was well within the flight range of the Anopheline mosquito, so that the seaman was infected without having gone ashore. This case also illustrates the possibility of introducing malaria into a formerly malarious area. Trinidad has been free of malaria for the past decade, but infected travelers such as this seaman could, under favorable circumstances, cause the reestablishment of this infection.

TRANSFUSION MALARIA –New York City

On Aug. 8, 1969, *Plasmodium vivax* parasites were found in sections of an open lung biopsy specimen taken from a 38-year-old man with chronic myelocytic leukemia who was hospitalized in New York City. The lung biopsy was performed because of recurring fever of obscure etiology and diffuse, nonspecific radiologic changes in the lung fields. The patient, a Korean war veteran, had not traveled outside the United States since 1954 and had no history of previous malaria-like illness. The diagnosis of leukemia was made in 1964, and the patient had done fairly well until February 1969. Between that date and August 1969, because of blastic crises, he had received several courses of antineoplastic agents, 20 units of whole blood or packed cells, 99 units of fresh white cells, and 84 units of platelets.

Many peripheral blood smears were available for review, and malarial parasites were seen only in a blood specimen taken on Aug. 6, 1969. All donors of whole blood, packed cells, and all blood products given in the 6-week period before the patient's onset of symptoms were contacted. None gave a history of recent travel to a malarious area; only one donor, who was the only whole blood donor, gave a history of having had malaria. He also was a Korean war veteran who had contracted malaria in 1952. This donor's sera had an indirect fluorescent antibody titer of 1:16 to *P. malariae* but was negative for *P. vivax*, and he admitted having occasional episodes of fever and chills recently. His peripheral blood smears showed no parasites. At the present time, this donor does not appear to be the source of the patient's infection.

(Reported by Ralph Zalusky, M.D., Associate Professor of Medicine, Mt. Sinai School of Medicine, City University of New York; C. C. Wang, M.D., and Howard B. Shookhoff, M.D., Tropical Disease Division, and Vincent F. Guinee, M.D., Director, Bureau of Preventable Diseases, New York City Health Department; and an EIS Officer.)

Editorial Comment:

Since the duration of vivax malaria is generally no more than 4 years, activation of malaria acquired while the patient served in Korea seemed quite unlikely as the source of infection. In addition, the donor with the positive history and serology for *P. malariae* infection could not be implicated in this vivax infection.

Two possible explanations for the inability to determine the source of infection are: (1) during the investigation, errors in recording blood product numbers were observed, suggesting that the donor of the infected blood might never be found; and (2) the inability to exclude the possibility of transmission by red cell contaminants of platelet or white cell fractions.

DIAZINON POISONING – Hawaii

In August 1969 in Oahu, Hawaii, eight children in two related incidents were poisoned nonfatally with the organic phosphate pesticide chemical diazinon.* In both incidents, the implicated source of the poison was oatmeal contaminated by home spraying with a 25 percent concentrate of diazinon in Spectracide,** a pesticide product intended for lawn and garden use. All eight children had nausea, vomiting, and abdominal cramps. Four of the five children

in the first incident also had diaphoresis, muscular weakness, and rolling eye movements; two also had ataxia, and one had muscle cramps.

The first episode, on August 22, involved five siblings (Family 1) who became ill within 30 minutes after eating oatmeal, sugar, and evaporated milk. They were promptly taken to a physician who suspected organic phosphate poisoning, hospitalized the children, and administered atropine intramuscularly. All five were asymptomatic within 24 hours. The parents, who did not eat oatmeal, did not become ill. The oldest sibling, age 10 years, who consumed only half a bowl of oatmeal, had the mildest symptoms.

The second outbreak occurred on August 27 and involved three siblings (Family 2) who were cousins of the children in the first outbreak. Within 3 hours after eating a breakfast of oatmeal, these children also had nausea, vomiting, and abdominal pain, but their symptoms were less severe than those of the children in the first outbreak. The three children were treated with atropine by the same physician who had treated their cousins, and all three were well within 12 hours. Other children in the household did not eat oatmeal and did not develop symptoms.

Approximately 2 weeks prior to the first outbreak, the first family had moved from an apartment in which concentrated diazinon had been sprayed intermittently for several months and also painted with a brush around baseboards for control of cockroaches. The kitchen cupboards and shelves had been sprayed without prior removal of cans and boxes of food. The pesticide had been used directly from the can, despite instructions for a dilution of several hundredfold with water.

During the last 3 months in the old apartment, the first family had not served oatmeal. However, two boxes of oatmeal, one unopened and the other previously opened (but apparently covered), were on a kitchen shelf during this period and were subjected to an unknown number of sprayings. At the time of moving, the oatmeal from the opened box was transferred to a closed glass jar and was first eaten at the new apartment on the morning of August 22. The unopened box of oatmeal was given to the second family and was used to prepare the oatmeal served on August 27.

Diazinon was identified in the following specimens: 20 ppm in vomitus from a child who became ill in the first outbreak; 57.7 ppm in the cooked oatmeal which the first family had served; 244 ppm in the dry oatmeal in the glass jar which the first family had used; and 2.5 ppm in the dry oatmeal which the second family had used. Food and vomitus specimens from the first outbreak were negative for staphylococci. Urine samples from the eight ill children and from six other members of both households who had not become ill showed monoethyl or diethyl phosphates (expected metabolites of diazinon) persisting in all persons 52 to 58 days following the poisonings.

It is of interest that the three children from the second family after eating breakfast on August 27 had visited the household of the first family about 1 hour before developing symptoms. While visiting, they had not eaten anything, but they had all sipped water from one plastic cup without rinsing the cup between uses. Their mother, who did not become ill and did not eat oatmeal, also drank from the same cup but rinsed it after the children had drunk from it. An index of the general level of pesticide contamination of the first family's kitchen goods and a possible contributing source of diazinon poisoning are suggested by the later recovery of 3 μg of diazinon from a plastic cup in the first family's kitchen, following a single rinse with ethyl acetate. This diazinon was detected although all dishes in that kitchen had been washed twice with soap and water between August 22 and August 27. Similarly recovered with a single rinse of ethyl acetate were 73.8 μg of diazinon from the glass jar in which the most heavily contaminated dry oatmeal had been stored.

Inquiries around Honolulu stores revealed that concentrated diazinon is sold in large volume to housewives for home use because they have heard by word-of-mouth spread that the concentrate is highly effective against cockroaches.

A public education campaign about correct use of this and other pesticides was launched in November by the state health department with the assistance of Hawaii's largest newspaper. Over 200 calls were subsequently received by the health department from families who had been using concentrated diazinon in their kitchens. On Oahu four persons have attempted suicide by drinking concentrated diazinon since the newspaper series; these persons were successfully treated with lavage, 2-PAM, and atropine. Continued sales of the product in urban drugstores have raised questions as to the sufficiency of the newspaper education approach, and the possibility of marketing restrictions by new public health regulations is being considered.

(Reported by Ira D. Hirschy, M.D., M.P.H., Executive Officer, Communicable Disease Division, Henri Minette, D.P.H., Laboratory Director, and Harold Matsuura, Epidemiological Specialist, Hawaii Department of Health; Erida Reichert, M.D., Howard Klemmer, Ph.D., and William Yauger, Ph.D., University of Hawaii Community Studies on Pesticides; William B. Short, M.D., Windward Hospital and Clinic, Oahu; and an EIS Officer.)

*0,0-diethyl-0-(2-isopropyl-4-methyl-6-pyrimidyl) phosphorothioate.

**Trade names are provided for identification only, and inclusion does not imply endorsement by the Public Health Service or the U.S. Department of Health, Education, and Welfare.

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

APRIL 4, 1970 AND MARCH 29, 1969 (13th WEEK)

AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	DIPHTHERIA	ENCEPHALITIS			HEPATITIS			MALARIA	
				Primary including unsp. cases		Post Infectious	Serum	Infectious			
	1970	1970	1970	1970	1969	1970	1970	1970	1969	1970	Cum. 1970
UNITED STATES	25	5	2	26	21	9	164	1,149	881	72	867
NEW ENGLAND	2	–	–	1	3	–	7	71	67	–	28
Maine	–	–	–	–	–	–	–	11	4	–	1
New Hampshire	–	–	–	–	–	–	–	3	7	–	–
Vermont	–	–	–	–	–	–	–	3	2	–	1
Massachusetts	1	–	–	–	–	–	4	32	22	–	15
Rhode Island	1	–	–	–	–	–	–	12	16	–	5
Connecticut	–	–	–	1	3	–	3	10	16	–	6
MIDDLE ATLANTIC	5	–	–	3	5	2	69	239	163	2	103
New York City	1	–	–	–	4	–	37	87	50	–	23
New York, Up-State	–	–	–	–	–	2	12	38	30	1	26
New Jersey	3	–	–	2	1	–	13	49	31	–	29
Pennsylvania	1	–	–	1	–	–	7	65	52	1	25
EAST NORTH CENTRAL	5	–	–	5	7	2	31	215	129	2	43
Ohio	1	–	–	1	4	2	3	75	40	–	10
Indiana*	–	–	–	–	–	–	–	6	3	–	3
Illinois	2	–	–	2	–	–	8	39	28	1	6
Michigan	2	–	–	–	3	–	20	83	50	1	24
Wisconsin	–	–	–	2	–	–	–	12	8	–	–
WEST NORTH CENTRAL	–	1	–	–	–	–	1	47	32	4	62
Minnesota	–	–	–	–	–	–	–	8	12	–	–
Iowa	–	1	–	–	–	–	–	8	3	–	7
Missouri	–	–	–	–	–	–	–	18	9	–	5
North Dakota	–	–	–	–	–	–	–	1	2	–	1
South Dakota	–	–	–	–	–	–	–	–	3	–	–
Nebraska	–	–	–	–	–	–	–	2	–	–	1
Kansas	–	–	–	–	–	–	1	10	3	4	48
SOUTH ATLANTIC	4	2	–	2	–	2	8	131	125	10	163
Delaware	–	–	–	–	–	–	3	3	1	–	1
Maryland	1	–	–	–	–	–	–	7	18	3	20
Dist. of Columbia	–	–	–	–	–	–	1	1	2	–	–
Virginia	–	2	–	–	–	–	–	9	8	–	13
West Virginia	–	–	–	–	–	–	–	12	1	–	1
North Carolina	1	–	–	–	–	–	1	8	9	5	79
South Carolina	–	–	–	1	–	–	–	13	3	–	14
Georgia	–	–	–	–	–	–	–	31	41	2	25
Florida	2	–	–	1	–	2	3	47	42	–	10
EAST SOUTH CENTRAL	1	–	–	3	1	1	–	60	31	–	63
Kentucky	1	–	–	–	–	–	–	21	9	–	55
Tennessee	–	–	–	2	1	–	–	24	15	–	–
Alabama*	–	–	–	–	–	1	–	5	3	–	7
Mississippi	–	–	–	1	–	–	–	10	4	–	1
WEST SOUTH CENTRAL	3	1	2	4	–	2	5	69	62	40	180
Arkansas*	–	1	–	1	–	–	–	3	–	–	1
Louisiana	1	–	–	1	–	1	1	8	14	1	9
Oklahoma	1	–	–	2	–	–	–	6	7	2	22
Texas	1	–	2	–	–	1	4	52	41	37	148
MOUNTAIN	2	–	–	4	1	–	–	70	36	–	68
Montana	–	–	–	4	–	–	–	1	3	–	2
Idaho	–	–	–	–	–	–	–	12	–	–	1
Wyoming	–	–	–	–	–	–	–	3	4	–	–
Colorado	2	–	–	–	1	–	–	35	1	–	62
New Mexico	–	–	–	–	–	–	–	10	5	–	1
Arizona	–	–	–	–	–	–	–	7	13	–	2
Utah	–	–	–	–	–	–	–	2	10	–	–
Nevada	–	–	–	–	–	–	–	–	–	–	–
PACIFIC	3	1	–	4	4	–	43	247	236	14	157
Washington	–	–	–	–	1	–	–	16	14	–	5
Oregon	–	–	–	–	–	–	1	18	8	1	9
California	3	1	–	4	3	–	42	209	194	12	125
Alaska*	–	–	–	–	–	–	–	2	5	–	–
Hawaii	–	–	–	–	–	–	–	2	15	1	18
Puerto Rico.*	–	–	–	–	–	–	–	22	79	–	–
Virgin Islands	–	–	–	–	–	–	–	–	–	–	–

*Delayed reports: Aseptic meningitis: Ind. delete 1
Encephalitis, primary: Ark. delete 1
Hepatitis, infectious: Ala. 1, Alaska 5, P.R. 15

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

APRIL 4, 1970 AND MARCH 29, 1969 (13th WEEK) - CONTINUED

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		POLIOMYELITIS		
		Cumulative			Cumulative			Cum.	Total	Paralytic	
	1970	1970	1969	1970	1970	1969	1970	1970	1970	1970	Cum. 1970
UNITED STATES	1,569	14,732	6,931	57	877	1,114	2,801	33,395	–	–	1
NEW ENGLAND	30	332	291	2	37	32	316	4,506	–	–	–
Maine	–	2	2	–	–	2	21	505	–	–	–
New Hampshire	–	13	70	–	3	–	1	195	–	–	–
Vermont	–	1	1	–	3	–	9	403	–	–	–
Massachusetts*	28	270	39	2	14	16	90	1,392	–	–	–
Rhode Island	–	14	17	–	3	3	69	506	–	–	–
Connecticut	2	32	162	–	14	11	126	1,505	–	–	–
MIDDLE ATLANTIC	288	2,165	2,137	8	135	165	345	3,348	–	–	–
New York City	54	333	1,401	5	37	28	118	1,018	–	–	–
New York, Up-State	9	73	202	2	26	19	–	4	–	–	–
New Jersey	43	875	341	–	42	80	79	930	–	–	–
Pennsylvania	182	884	193	1	30	38	148	1,396	–	–	–
EAST NORTH CENTRAL	248	3,217	768	9	110	122	738	8,358	–	–	–
Ohio	150	1,051	90	2	49	39	129	1,243	–	–	–
Indiana	13	132	220	–	12	17	48	809	–	–	–
Illinois	31	1,482	144	3	25	21	38	773	–	–	–
Michigan	31	308	80	3	20	37	164	2,026	–	–	–
Wisconsin	23	244	234	1	4	8	359	3,507	–	–	–
WEST NORTH CENTRAL	84	1,365	220	4	47	57	65	2,036	–	–	–
Minnesota	1	22	1	1	5	9	1	189	–	–	–
Iowa	–	48	134	–	4	8	32	1,311	–	–	–
Missouri	45	261	11	1	34	22	7	52	–	–	–
North Dakota	38	129	5	1	2	–	4	172	–	–	–
South Dakota	–	41	–	–	–	–	–	2	–	–	–
Nebraska	–	819	69	1	2	6	20	266	–	–	–
Kansas	–	45	–	–	–	12	1	44	–	–	–
SOUTH ATLANTIC	494	2,459	1,162	11	194	199	441	3,461	–	–	–
Delaware	14	144	65	–	2	3	12	83	–	–	–
Maryland	64	335	11	–	15	18	27	235	–	–	–
Dist. of Columbia	11	288	–	–	1	3	3	92	–	–	–
Virginia	234	733	460	–	16	29	86	715	–	–	–
West Virginia	16	95	114	–	4	10	93	1,048	–	–	–
North Carolina	43	265	91	2	36	29	NN	NN	–	–	–
South Carolina	35	200	50	1	11	32	30	318	–	–	–
Georgia	–	2	1	–	24	28	–	–	–	–	–
Florida	77	397	370	8	85	47	190	970	–	–	–
EAST SOUTH CENTRAL	20	206	45	4	55	54	92	2,077	–	–	–
Kentucky	4	108	19	1	17	15	13	766	–	–	–
Tennessee	13	58	11	2	27	25	72	1,191	–	–	–
Alabama	1	24	–	1	8	8	4	107	–	–	–
Mississippi	2	16	15	–	3	6	3	13	–	–	–
WEST SOUTH CENTRAL	309	3,618	1,713	6	138	158	337	3,267	–	–	1
Arkansas	2	18	2	–	14	17	5	48	–	–	–
Louisiana	2	38	51	1	33	38	–	5	–	–	–
Oklahoma	16	117	105	–	9	17	108	1,058	–	–	–
Texas	289	3,445	1,555	5	82	86	224	2,156	–	–	1
MOUNTAIN	39	615	163	4	13	29	123	1,497	–	–	–
Montana	3	13	3	–	–	4	28	247	–	–	–
Idaho	–	5	36	1	3	5	2	54	–	–	–
Wyoming	–	–	–	–	1	–	–	11	–	–	–
Colorado	1	16	19	2	5	6	48	518	–	–	–
New Mexico	7	79	57	–	–	5	34	331	–	–	–
Arizona*	28	494	46	1	2	6	11	267	–	–	–
Utah	–	4	1	–	2	1	–	69	–	–	–
Nevada	–	4	1	–	–	2	–	–	–	–	–
PACIFIC	57	755	432	9	148	298	344	4,845	–	–	–
Washington	–	69	34	–	18	36	143	2,000	–	–	–
Oregon	–	112	99	1	11	8	23	359	–	–	–
California	54	529	294	8	118	244	137	1,936	–	–	–
Alaska	–	1	4	–	–	4	4	221	–	–	–
Hawaii	3	44	1	–	1	6	37	329	–	–	–
Puerto Rico.*	49	595	154	–	2	6	45	334	–	–	–
Virgin Islands	–	4	1	–	1	–	–	1	–	–	–

*Delayed reports: Measles: Mass. delete 11, Ariz. delete 2, P.R. 9
Mumps: Alaska 32, P.R. 13

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

APRIL 4, 1970 AND MARCH 29, 1969 (13th WEEK) - CONTINUED

AREA	RUBELLA		TETANUS		TULAREMIA		TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. Spotted)		RABIES IN ANIMALS	
	1970	Cum. 1970	1970	Cum. 1970	1970	Cum. 1970	1970	Cum. 1970	1970	Cum. 1970	1970	Cum. 1970
UNITED STATES	1,980	19,090	3	22	6	25	4	59	–	–	77	818
NEW ENGLAND	92	883	1	3	–	–	–	2	–	–	4	37
Maine	12	152	–	–	–	–	–	–	–	–	3	4
New Hampshire	6	88	–	–	–	–	–	–	–	–	–	–
Vermont	–	24	–	–	–	–	–	–	–	–	1	33
Massachusetts	42	356	–	2	–	–	–	1	–	–	–	–
Rhode Island	4	30	–	–	–	–	–	–	–	–	–	–
Connecticut	28	233	1	1	–	–	–	1	–	–	–	–
MIDDLE ATLANTIC	148	1,341	–	3	–	–	3	17	–	–	10	63
New York City*	30	184	–	1	–	–	–	6	–	–	–	–
New York, Up-State	18	143	–	–	–	–	–	5	–	–	10	61
New Jersey	39	448	–	1	–	–	1	2	–	–	–	–
Pennsylvania	61	566	–	1	–	–	2	4	–	–	–	2
EAST NORTH CENTRAL	295	4,303	1	5	4	11	1	5	–	–	3	44
Ohio	35	640	–	–	–	2	–	2	–	–	–	19
Indiana	58	826	–	1	4	9	–	–	–	–	–	2
Illinois	53	465	–	2	–	–	–	1	–	–	2	11
Michigan	64	1,188	1	2	–	–	1	2	–	–	1	2
Wisconsin	85	1,184	–	–	–	–	–	–	–	–	–	10
WEST NORTH CENTRAL	168	1,703	1	1	1	4	–	1	–	–	13	114
Minnesota	5	66	–	–	–	–	–	1	–	–	3	26
Iowa	121	1,083	–	–	–	–	–	–	–	–	2	21
Missouri	13	133	–	–	–	3	–	–	–	–	3	30
North Dakota	8	76	–	–	1	1	–	–	–	–	2	12
South Dakota	–	1	1	1	–	–	–	–	–	–	–	–
Nebraska	21	326	–	–	–	–	–	–	–	–	–	2
Kansas	–	18	–	–	–	–	–	–	–	–	3	23
SOUTH ATLANTIC	437	2,330	–	6	–	4	–	11	–	–	13	216
Delaware	1	19	–	–	–	–	–	–	–	–	–	–
Maryland	16	124	–	–	–	–	–	3	–	–	–	1
Dist. of Columbia	–	9	–	1	–	–	–	–	–	–	–	–
Virginia	28	371	–	–	–	–	–	1	–	–	7	109
West Virginia	45	516	–	–	–	–	–	–	–	–	3	46
North Carolina	4	8	–	–	–	3	–	1	–	–	–	–
South Carolina	26	163	–	–	–	–	–	–	–	–	–	–
Georgia	–	–	–	1	–	–	–	4	–	–	–	35
Florida	317	1,120	–	4	–	1	–	2	–	–	3	25
EAST SOUTH CENTRAL	47	983	–	–	–	2	–	1	–	–	8	87
Kentucky	11	325	–	–	–	1	–	–	–	–	3	49
Tennessee	29	505	–	–	–	1	–	–	–	–	3	23
Alabama	7	131	–	–	–	–	–	1	–	–	2	15
Mississippi	–	22	–	–	–	–	–	–	–	–	–	–
WEST SOUTH CENTRAL	409	3,257	–	2	1	4	–	4	–	–	14	150
Arkansas	–	4	–	1	1	2	–	3	–	–	2	20
Louisiana	–	49	–	1	–	–	–	1	–	–	–	33
Oklahoma	31	536	–	–	–	1	–	–	–	–	4	23
Texas	378	2,668	–	–	–	1	–	–	–	–	8	74
MOUNTAIN	61	735	–	–	–	–	–	4	–	–	3	14
Montana	15	166	–	–	–	–	–	1	–	–	–	–
Idaho	4	27	–	–	–	–	–	–	–	–	–	–
Wyoming	6	45	–	–	–	–	–	–	–	–	–	–
Colorado	13	148	–	–	–	–	–	1	–	–	–	7
New Mexico	7	44	–	–	–	–	–	1	–	–	1	7
Arizona	12	209	–	–	–	–	–	1	–	–	2	–
Utah	4	96	–	–	–	–	–	–	–	–	–	–
Nevada	–	–	–	–	–	–	–	–	–	–	–	–
PACIFIC	323	3,555	–	2	–	–	–	14	–	–	9	93
Washington	167	1,761	–	–	–	–	–	1	–	–	–	–
Oregon	11	290	–	1	–	–	–	–	–	–	–	93
California	135	1,341	–	1	–	–	–	12	–	–	9	–
Alaska*	–	57	–	–	–	–	–	1	–	–	–	–
Hawaii	10	106	–	–	–	–	–	–	–	–	–	–
Puerto Rico	1	11	–	3	–	–	–	2	–	–	5	14
Virgin Islands	–	–	–	–	–	–	–	–	–	–	–	–

*Delayed reports: Rubella: N.Y.C. delete 36, Alaska 1

Week No. 13

TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED APRIL 4, 1970

(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
	All Ages	65 years and over		
NEW ENGLAND:	730	440	39	36
Boston, Mass.	231	125	10	18
Bridgeport, Conn.	66	43	2	4
Cambridge, Mass.	23	14	4	–
Fall River, Mass.	25	18	1	1
Hartford, Conn.	71	34	1	3
Lowell, Mass.	30	20	5	–
Lynn, Mass.	21	15	2	1
New Bedford, Mass.	19	13	2	–
New Haven, Conn.	39	26	–	–
Providence, R. I.	60	37	4	4
Somerville, Mass.	14	10	1	–
Springfield, Mass.	42	22	5	2
Waterbury, Conn.	35	24	–	2
Worcester, Mass.	54	39	2	1
MIDDLE ATLANTIC:	3,500	2,075	135	124
Albany, N. Y.	49	29	2	3
Allentown, Pa.	38	27	1	1
Buffalo, N. Y.	145	84	4	7
Camden, N. J.	51	39	1	–
Elizabeth, N. J.	34	19	–	–
Erie, Pa.	56	29	3	2
Jersey City, N. J.	75	45	12	2
Newark, N. J.	73	32	1	2
New York City, N. Y.	1,746	1,019	69	72
Paterson, N. J.	51	31	5	–
Philadelphia, Pa.	500	296	4	17
Pittsburgh, Pa.	222	123	16	8
Reading, Pa.	55	34	–	2
Rochester, N. Y.	125	87	8	3
Schenectady, N. Y.	33	23	–	–
Scranton, Pa.	35	23	2	1
Syracuse, N. Y.	79	53	3	1
Trenton, N. J.	64	36	1	2
Utica, N. Y.	27	15	1	1
Yonkers, N. Y.	42	31	2	–
EAST NORTH CENTRAL:	2,650	1,488	71	141
Akron, Ohio	65	36	–	6
Canton, Ohio	32	17	1	1
Chicago, Ill.	751	412	24	35
Cincinnati, Ohio	165	99	4	9
Cleveland, Ohio	226	121	5	18
Columbus, Ohio	129	69	–	8
Dayton, Ohio	83	41	4	4
Detroit, Mich.	339	193	5	10
Evansville, Ind.	67	46	–	6
Flint, Mich.	55	32	2	5
Fort Wayne, Ind.	44	22	4	6
Gary, Ind.	43	26	3	2
Grand Rapids, Mich.	53	38	2	1
Indianapolis, Ind.	134	65	1	8
Madison, Wis.	22	12	2	2
Milwaukee, Wis.	132	84	–	1
Peoria, Ill.	48	27	3	4
Rockford, Ill.	42	22	4	2
South Bend, Ind.	41	27	3	–
Toledo, Ohio	113	61	2	8
Youngstown, Ohio	66	38	2	5
WEST NORTH CENTRAL:	891	563	31	39
Des Moines, Iowa	49	34	1	2
Duluth, Minn.	27	18	1	2
Kansas City, Kans.	36	17	3	4
Kansas City, Mo.	131	81	2	4
Lincoln, Nebr.	27	19	1	–
Minneapolis, Minn.	112	71	2	3
Omaha, Nebr.	80	52	2	6
St. Louis, Mo.	257	156	5	11
St. Paul, Minn.	88	60	–	4
Wichita, Kans.	84	55	14	3
Las Vegas, Nev.*	21	10	2	–

Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes
	All Ages	65 years and over		
SOUTH ATLANTIC:	1,228	627	65	56
Atlanta, Ga.	119	49	5	7
Baltimore, Md.	261	140	4	17
Charlotte, N. C.	48	21	3	3
Jacksonville, Fla.	80	41	4	5
Miami, Fla.	134	70	7	7
Norfolk, Va.	59	30	8	3
Richmond, Va.	84	44	7	3
Savannah, Ga.	39	19	3	1
St. Petersburg, Fla.	77	63	6	2
Tampa, Fla.	67	38	10	–
Washington, D. C.	210	88	5	6
Wilmington, Del.	50	24	3	2
EAST SOUTH CENTRAL:	634	324	35	28
Birmingham, Ala.	77	47	3	1
Chattanooga, Tenn.	60	30	7	3
Knoxville, Tenn.	41	26	4	1
Louisville, Ky.	100	46	10	11
Memphis, Tenn.	147	72	5	1
Mobile, Ala.	54	25	1	3
Montgomery, Ala.	59	30	1	5
Nashville, Tenn.	96	48	4	3
WEST SOUTH CENTRAL:	1,241	621	52	77
Austin, Tex.	46	23	4	1
Baton Rouge, La.	60	28	–	7
Corpus Christi, Tex.	27	17	–	1
Dallas, Tex.	158	82	3	10
El Paso, Tex.	38	21	3	3
Fort Worth, Tex.	84	42	6	4
Houston, Tex.	237	103	6	20
Little Rock, Ark.	52	30	4	1
New Orleans, La.	175	78	3	11
Oklahoma City, Okla.	87	45	5	4
San Antonio, Tex.	126	67	4	7
Shreveport, La.	66	35	8	3
Tulsa, Okla.	85	50	6	5
MOUNTAIN:	479	269	26	26
Albuquerque, N. Mex.	49	32	6	2
Colorado Springs, Colo.	26	14	2	4
Denver, Colo.	130	69	4	4
Ogden, Utah	17	12	2	1
Phoenix, Ariz.	115	59	3	10
Pueblo, Colo.	19	13	4	1
Salt Lake City, Utah	53	31	1	2
Tucson, Ariz.	70	39	4	2
PACIFIC:	1,680	1,036	40	69
Berkeley, Calif.	20	14	1	1
Fresno, Calif.	48	35	–	4
Glendale, Calif.	37	31	–	1
Honolulu, Hawaii	73	37	2	5
Long Beach, Calif.	94	59	1	3
Los Angeles, Calif.	524	328	11	12
Oakland, Calif.	73	42	2	6
Pasadena, Calif.	38	27	1	–
Portland, Oreg.	148	93	3	7
Sacramento, Calif.	72	41	1	3
San Diego, Calif.	109	64	4	3
San Francisco, Calif.	161	96	4	4
San Jose, Calif.	39	27	2	2
Seattle, Wash.	123	65	3	10
Spokane, Wash.	52	34	2	5
Tacoma, Wash.	69	43	3	3
Total	13,033	7,443	494	596
Expected Number	12,935	7,598	475	491
Cumulative Total (includes reported corrections for previous weeks)	182,778	105,686	8,893	7,990

*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.

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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.