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EPIDEMIOLOGIC NOTES AND REPORTS

PRIMARY AMEBIC MENINGOENCEPHALITIS – Virginia

Three cases of primary amebic meningoencephalitis associated with swimming have occurred in Richmond, Virginia, this year. In early May, a 17-year-old boy was admitted to a Richmond area hospital with a diagnosis of purulent meningitis. No organism was cultured and he died within 72 hours after admission in spite of antibiotic therapy. Histologic examination of the brain found amebae covering the cerebellum. Preliminary information revealed that the youth had swum in the James River 4 days prior to the onset of symptoms. Epidemiologic investigation is continuing.

The second case, a 14-year-old boy, was admitted to the Medical College of Virginia hospital on July 11. He frequently swam at inland lakes near Richmond, and on July 2 he went to Lake Chester for the first time where he did a considerable amount of diving and underwater swimming. On July 9 he had the onset of headache and fever and sought medical attention on July 10 because his symptoms increased in severity. Primary amebic meningoencephalitis was diagnosed on admission after motile amebae were detected on microscopic examination of a fresh, unstained specimen of spinal fluid. The patient was treated with intraventricular and intravenous amphotericin B, metronidazole, and chloroquine, but expired

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

DISEASE	28th WEEK ENDED		MEDIAN	CUMULATIVE, FIRST 28 WEEKS		
	July 12, 1969	July 13, 1968	1964 - 1968	1969	1968	MEDIAN 1964 - 1968
Aseptic meningitis	119	77	57	944	1,020	862
Brucellosis	4	9	9	89	107	127
Diphtheria	4	5	3	80	93	87
Encephalitis, primary:						
Arthropod-borne & unspecified	31	24	25	531	481	722
Encephalitis, post-infectious	12	8	14	180	298	487
Hepatitis, serum	84	67	566	2,768	2,208	22,103
Hepatitis, infectious	730	828		25,016	23,389	
Malaria	40	54	7	1,410	1,161	165
Measles (rubeola)	318	320	1,871	18,721	18,037	182,610
Meningococcal infections, total	46	36	38	2,102	1,727	1,727
Civilian	44	36	- - -	1,907	1,561	- - -
Military	2	–	- - -	195	166	- - -
Mumps	930	1,271	- - -	62,891	118,376	- - -
Poliomyelitis, total	1	3	2	4	33	31
Paralytic	1	3	2	4	33	29
Rubella (German measles)	708	431	- - -	45,981	41,009	- - -
Streptococcal sore throat & scarlet fever	4,259	4,916	4,515	268,457	265,764	265,764
Tetanus	3	2	6	68	75	102
Tularemia	1	11	10	79	113	113
Typhoid fever	3	9	8	146	155	197
Typhus, tick-borne (Rky. Mt. spotted fever)	22	9	14	200	102	102
Rabies in animals	57	85	85	1,998	2,046	2,449

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	2	Rabies in man:	1
Botulism:	10	Rubella congenital syndrome:	5
Leptospirosis: Calif.-2, Ohio-1	34	Trichinosis: Ky.-1, N.Y.C.-1	148
Plague: N. Mex.-2	2	Typhus, murine:	15
Psittacosis: Tenn.-1	21		

AMEBIC MENINGOENCEPHALITIS – *(Continued from front page)*

after 72 hours without any response to treatment. Motile amebae were found in postmortem cisternal and ventricular fluid.

On July 12, a 24-year-old man was admitted to Richmond Memorial Hospital where following a spinal tap, primary amebic meningoencephalitis was diagnosed. He was then transferred to the medical College of virginia. The patient had had the onset of headache, nausea, and vomiting on July 10 which increased in severity through July 12. Following the diagnosis, the patient was immediately begun on intracisternal and intravenous amphotericin B, metronidazole, and chloroquine. Subsequent cisternal taps revealed nonmotile ameba which remained viable on culture. His condition gradually deteriorated over the next 2 days, he developed decerebrate posturing and required artificial ventilation, and he expired on the evening of July 15. On July 4 he had gone to Lake Chester where he too had done a considerable amount of underwater swimming and diving.

A sister of the second case who had also swum in Lake Chester on July 3 was examined and her spinal fluid was cultured after she developed a headache and fever, but no evidence of amebic meningoencephalitis was found. Companions of the second case were also examined, but no evidence of disease was noted.

Family members of the third case who had accompanied him to Lake Chester but had not done underwater swimming or diving were examined, and nasal cultures for free-living ameba were obtained. No evidence of disease was noted; however, results of the cultures are pending. Because of the association of swimming in Lake Chester with previous and the present fatal cases of amebic meningoencephalitis, county officials closed the lake for swimming on July 13.

(Reported by William P. Wagner, M.D., Director, Chesterfield County Health Department, Chesterfield, Virginia; and Richard J. Duma, M.D., and Read F. McGehee, M.D., Infectious Disease Division, and Cary G. Suter, M.D., Chief, Neurology Division, Department of Medicine, Medical College of Virginia, Richmond.)

Editorial Comment:

Since 1951-1952, a total of 13 cases of primary amebic meningoencephalitis have been diagnosed in the Richmond, Virginia, area. This is a uniformly fatal disease due to a free-living ameba recently identified as *Naegleria gruberi*. A prior history of swimming or other aquatic activity is common to almost all cases of this disease. Epidemiologic investigations are currently in progress to define the role of swimming in the transmission of this disease. Antibiotics, antiparasitic agents, and antimetabolites have all been tried unsuccessfully in the chemotherapy of this disease.

FOLLOW-UP PLAGUE – New Mexico

The 3-year-old boy in Jemez Springs, New Mexico, with confirmed plague (MMWR, Vol. 18, No. 27) has shown marked improvement following treatment. No other cases have been reported.

Moderate populations of chipmunks, pack rats, mice (Genus *Peromyscus)*, and a few rock squirrels were noted in the area. No dead animals were found. There have been no indications of plague in any of the animals processed to date. Flea control measures with bait boxes placed on the ground were initiated on July 14, 1969.

(Reported by Bruce Storrs, M.D., Director, and T. H. Tomlinson, Jr., M.D., Division of Medical Services, Neil Weber, Mammalogist, and Daniel Johnson, Ph.D., the Public Health Laboratory, New Mexico Department of Health; and the Ecological Investigations Program, NCDC, Kansas City, Kansas, and Fort Collins, Colorado.)

INTERNATIONAL NOTES

DENGUE – Puerto Rico

The outbreak of dengue in Puerto Rico is continuing. During the week ending July 12, a total of 1,275 cases were reported, bringing the total to date to over 6,000 cases. Few cases have been reported from the southern part of the island where previous *Aedes aegypti* eradication efforts had been concentrated. Illnesses have been mild with many affected persons continuing to work, and there have been no cases reported with hemorrhagic manifestations. A control program of ground spraying is underway in areas reporting illness and additional measures were begun in areas with high incidence of disease.

Aerial spraying was started in Manati and surrounding areas on July 16, and is being considered for a heavily populated river valley in eastern Puerto Rico where many cases have occurred. A survey conducted between July 8 and 14 of 2,544 persons in these areas, found 21.2 percent reporting a dengue-like illness during the previous 4 weeks (Table 1). The aerial spraying is an attempt to reduce the total number of adult and infected mosquitoes and to interrupt the cycle of infection. Two cycles of spraying at 5-day intervals are being used. The interval is based on the anticipated duration of viremia in infected

Table 1
Cases of Dengue-like Illness During 4 Weeks Prior to July 8 in the 4-Area Survey

Age Group	Number Surveyed	Number Ill	Percent Ill
0-4	334	56	16.8
5-9	411	82	20.0
10-19	665	143	21.5
20-39	587	150	25.6
40+	547	109	19.9
Total	2,544	540	21.2

individuals and the time for development of newly hatched *Aedes aegypti* mosquitoes.

(Reported by Dr. Ernesto Colon-Yordan, Secretary of Health, Dr. Raphael Correa-Coronas, Auxiliary Secretary of Health for Preventive Medicine, Dr. Luis Mainardi, Chief, Communicable Diseases Control Program, and Dr. Angel Alberto Colon, Director, Institute of Laboratories of Health, Puerto Rico Department of Health; and a team from NCDC.)

CURRENT TRENDS
ENCEPHALITIS – California

Record precipitation during the past winter in California particularly in some parts of the San Joaquin Valley has provided optimum conditions for an outbreak of arthropodborne encephalitis there this summer. Large areas of normally arid land will remain under water throughout the summer enhancing the production of the *Culex tarsalis* mosquito, the vector of Western equine (WE) and St. Louis (SLE) encephalitis, both of which are endemic in large areas of California.

To lessen the possibility of an epidemic of encephalitis, in addition to the usual annual measures of surveillance of water conditions and mosquito production and testing specimens from suspected cases for confirmation of viruses, special efforts are being made. Mosquito control efforts and surveillance of equine cases have been intensified, and a special surveillance program for human cases has been established. Under this surveillance program, by early July, over 50 hospitals in the 20 counties of the Sacramento and San Joaquin Valleys (Figure 1) began submitting daily reports of hospital admissions with certain central nervous system conditions to the health officials of their respective counties. The county officials send the reports weekly to the state health officials. This information directs epidemiologists to areas where cases are occurring. Also a more intensified effort is being made by state and federal vector control specialists and the School of Public Health, Berkeley, and the Division of Infectious and Tropical Diseases, UCLA, to test mosquitoes from various locations in the Central Valley and Imperial and Owens Valleys for arthropodborne viruses. Weekly encephalitis bulletins are issued to feed back promptly all the information collected.

As of July 12, no laboratory confirmed human cases have been detected, and no WE or SLE viruses have been isolated from the mosquito pools tested.

Figure 1
HOSPITALS IN SURVEILLANCE PROGRAM FOR CASES OF ENCEPHALITIS IN HUMANS CALIFORNIA – 1969

(Reported by Richard W. Emmons, M.D., and R. Marlor, M.D., Epidemiologists, Bureau of Communicable Disease Control, G. Humphrey, D.V.M., Chief, Veterinary Public Health Section, E. H. Lennette, M.D., Chief, Viral and Rickettsial Disease Laboratory, and R. Peters, Chief, Bureau of Vector Control, California Department of Public Health.)

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED
JULY 12, 1969 AND JULY 13, 1968 (28th WEEK)

AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	DIPHTHERIA	ENCEPHALITIS			HEPATITIS			MALARIA	
				Primary including unsp. cases		Post-Infectious	Serum	Infectious			
	1969	1969	1969	1969	1968	1969	1969	1969	1968	1969	Cum. 1969
UNITED STATES...	119	4	4	31	24	12	84	730	828	40	1,410
NEW ENGLAND.....	15	1	–	3	–	1	2	35	34	2	46
Maine*.....	–	–	–	–	–	–	–	4	3	1	3
New Hampshire.....	–	–	–	–	–	–	–	2	–	–	2
Vermont.....	–	–	–	–	–	–	–	3	–	–	–
Massachusetts.....	1	1	–	1	–	1	–	12	14	–	33
Rhode Island.....	14	–	–	–	–	–	1	6	10	1	3
Connecticut.....	–	–	–	2	–	–	1	8	7	–	5
MIDDLE ATLANTIC.....	13	–	–	5	1	3	29	124	150	2	154
New York City.....	6	–	–	2	1	–	16	12	53	–	13
New York, up-State.	–	–	–	–	–	–	3	28	25	2	25
New Jersey*.....	6	–	–	1	–	–	7	42	35	–	54
Pennsylvania.....	1	–	–	2	–	3	3	42	37	–	62
EAST NORTH CENTRAL...	–	1	–	6	7	–	8	80	156	5	138
Ohio.....	–	–	–	4	3	–	2	22	39	–	14
Indiana.....	–	–	–	–	1	–	–	5	13	–	10
Illinois.....	–	1	–	–	2	–	1	16	49	5	78
Michigan.....	–	–	–	2	1	–	5	32	44	–	35
Wisconsin.....	–	–	–	–	–	–	–	5	11	–	1
WEST NORTH CENTRAL...	3	–	–	3	3	–	1	61	47	2	90
Minnesota.....	2	–	–	–	2	–	1	2	11	–	7
Iowa.....	–	–	–	2	–	–	–	8	7	–	7
Missouri.....	–	–	–	1	1	–	–	37	17	1	24
North Dakota.....	1	–	–	–	–	–	–	1	–	–	2
South Dakota.....	–	–	–	–	–	–	–	–	1	–	–
Nebraska.....	–	–	–	–	–	–	–	–	1	–	3
Kansas.....	–	–	–	–	–	–	–	13	10	1	47
SOUTH ATLANTIC.....	4	–	–	3	2	2	1	88	65	17	442
Delaware.....	–	–	–	–	1	–	–	–	3	–	2
Maryland.....	2	–	–	1	–	–	–	11	20	2	18
Dist. of Columbia..	–	–	–	–	–	1	–	3	2	–	1
Virginia.....	–	–	–	–	1	–	–	8	3	1	17
West Virginia.....	–	–	–	–	–	–	–	7	1	–	–
North Carolina.....	1	–	–	2	–	–	–	3	6	4	201
South Carolina.....	1	–	–	–	–	–	–	15	2	2	41
Georgia.....	–	–	–	–	–	–	–	17	5	7	139
Florida.....	–	–	–	–	–	1	1	24	23	1	23
EAST SOUTH CENTRAL...	6	–	–	3	–	–	–	45	48	–	52
Kentucky*.....	–	–	–	–	–	–	–	11	12	–	42
Tennessee.....	2	–	–	–	–	–	–	31	29	–	–
Alabama.....	4	–	–	2	–	–	–	3	3	–	8
Mississippi.....	–	–	–	1	–	–	–	–	4	–	2
WEST SOUTH CENTRAL...	6	–	–	–	3	–	3	71	50	2	40
Arkansas.....	–	–	–	–	–	–	–	–	–	–	6
Louisiana.....	3	–	–	–	2	–	3	14	12	–	28
Oklahoma.....	–	–	–	–	1	–	–	16	7	2	6
Texas.....	3	–	–	–	–	–	–	41	31	–	–
MOUNTAIN.....	2	–	4	3	2	–	1	26	36	1	108
Montana.....	2	–	–	3	1	–	–	–	12	–	–
Idaho.....	–	–	–	–	–	–	–	1	2	–	3
Wyoming.....	–	–	–	–	–	–	–	–	–	–	–
Colorado.....	–	–	–	–	–	–	–	5	–	1	93
New Mexico.....	–	–	–	–	1	–	–	1	5	–	6
Arizona.....	–	–	4	–	–	–	1	12	12	–	1
Utah.....	–	–	–	–	–	–	–	7	4	–	1
Nevada.....	–	–	–	–	–	–	–	–	1	–	4
PACIFIC.....	70	2	–	5	6	6	39	200	242	9	340
Washington.....	4	1	–	–	1	–	1	21	11	–	5
Oregon.....	–	–	–	–	–	–	–	24	12	1	7
California.....	10	1	–	5	4	6	38	153	214	4	258
Alaska.....	56	–	–	–	–	–	–	–	3	–	2
Hawaii.....	–	–	–	–	1	–	–	2	2	4	68
Puerto Rico.....	–	–	–	–	–	–	–	40	15	–	1

*Delayed reports: Hepatitis, serum: N.J. delete 15, Ky. 1 (1968)
Hepatitis, infectious: Me. 2, N.J. delete 5

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

JULY 12, 1969 AND JULY 13, 1968 (28th WEEK) - CONTINUED

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS	POLIOMYELITIS			RUBELLA
		Cumulative			Cumulative			Total	Paralytic		
	1969	1969	1968	1969	1969	1968	1969	1969	1969	Cum. 1969	1969
UNITED STATES...	318	18,721	18,037	46	2,102	1,727	930	1	1	4	708
NEW ENGLAND.....	42	987	1,082	–	70	88	141	–	–	1	67
Maine.*	–	5	35	–	6	6	27	–	–	–	5
New Hampshire.....	–	228	141	–	2	7	–	–	–	–	1
Vermont.....	–	2	1	–	–	1	2	–	–	–	3
Massachusetts.*	12	181	334	–	31	38	68	–	–	–	28
Rhode Island.....	–	22	1	–	6	7	–	–	–	–	2
Connecticut.....	30	549	570	–	25	29	44	–	–	1	28
MIDDLE ATLANTIC.....	120	7,067	3,466	4	335	304	83	–	–	–	28
New York City.....	47	4,672	1,635	2	69	65	68	–	–	–	17
New York, Up-State.	15	566	1,155	–	51	48	NN	–	–	–	7
New Jersey.*	18	835	571	1	142	111	15	–	–	–	2
Pennsylvania.....	40	994	105	1	73	80	NN	–	–	–	2
EAST NORTH CENTRAL...	22	1,902	3,539	12	288	208	247	–	–	–	187
Ohio.....	7	344	279	9	107	56	46	–	–	–	23
Indiana.*	–	453	616	–	34	26	29	–	–	–	28
Illinois.....	6	405	1,319	1	40	47	18	–	–	–	5
Michigan.....	–	197	238	1	89	62	58	–	–	–	98
Wisconsin.....	9	503	1,087	1	18	17	96	–	–	–	33
WEST NORTH CENTRAL...	8	489	361	3	111	86	42	–	–	–	6
Minnesota.....	–	5	15	1	24	19	1	–	–	–	1
Iowa.....	4	324	93	–	15	6	19	–	–	–	2
Missouri.....	–	16	80	2	48	31	15	–	–	–	2
North Dakota.....	2	9	123	–	–	3	3	–	–	–	1
South Dakota.....	–	3	4	–	1	4	NN	–	–	–	–
Nebraska.....	2	128	36	–	9	6	2	–	–	–	–
Kansas.....	–	4	10	–	14	17	2	–	–	–	–
SOUTH ATLANTIC.....	24	2,359	1,370	10	373	351	100	1	1	1	150
Delaware.....	7	369	14	–	4	6	1	–	–	–	–
Maryland.....	–	63	82	–	33	26	5	–	–	–	4
Dist. of Columbia..	–	–	6	–	9	13	7	–	–	–	1
Virginia.....	1	854	289	–	46	28	14	–	–	–	37
West Virginia.....	2	164	249	1	18	9	55	–	–	–	49
North Carolina.....	8	299	281	4	66	69	NN	–	–	–	–
South Carolina.....	1	110	12	2	54	55	14	–	–	–	6
Georgia.....	–	1	4	3	64	61	–	–	–	–	–
Florida.....	5	499	433	–	79	84	4	1	1	1	53
EAST SOUTH CENTRAL...	–	100	464	2	132	148	44	–	–	–	37
Kentucky.....	–	59	95	–	46	57	16	–	–	–	10
Tennessee.....	–	17	55	1	50	49	28	–	–	–	20
Alabama.....	–	3	85	1	21	22	–	–	–	–	–
Mississippi.....	–	21	229	–	15	20	–	–	–	–	7
WEST SOUTH CENTRAL...	62	4,141	4,482	5	285	286	81	–	–	2	66
Arkansas.....	–	16	2	–	28	19	–	–	–	–	–
Louisiana.....	–	120	5	–	74	81	1	–	–	–	–
Oklahoma.....	5	135	110	1	29	49	3	–	–	–	1
Texas.....	57	3,870	4,365	4	154	137	77	–	–	2	65
MOUNTAIN.....	28	726	929	1	37	27	86	–	–	–	40
Montana.*	–	10	57	–	5	3	8	–	–	–	2
Idaho.....	4	88	20	–	6	11	–	–	–	–	1
Wyoming.....	–	–	50	–	–	–	–	–	–	–	2
Colorado.....	–	115	479	–	6	8	5	–	–	–	15
New Mexico.....	5	217	85	–	6	–	3	–	–	–	2
Arizona.....	19	289	212	1	10	1	69	–	–	–	15
Utah.....	–	6	21	–	2	1	1	–	–	–	3
Nevada.....	–	1	5	–	2	3	–	–	–	–	–
PACIFIC.....	12	950	2,344	9	471	229	106	–	–	–	127
Washington.....	–	57	514	–	50	37	10	–	–	–	2
Oregon.....	1	191	454	–	11	17	17	–	–	–	16
California.....	7	667	1,340	9	389	162	68	–	–	–	58
Alaska.....	–	8	2	–	11	2	2	–	–	–	–
Hawaii.....	4	27	34	–	10	11	9	–	–	–	51
Puerto Rico.....	58	1,164	347	–	15	19	22	–	–	–	78

*Delayed reports: Measles: Mass. delete 1, N.J. delete 1
Meningococcal Infections: Ind. delete 1
Mumps: Me. 7
Rubella: Me. 13, Mont. 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

JULY 12, 1969 AND JULY 13, 1968 (28th 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	Cum. 1969
UNITED STATES...	4,259	3	68	1	79	3	146	22	200	57	1,998
NEW ENGLAND.....	697	–	–	–	14	–	5	–	–	2	11
Maine*.....	6	–	–	–	–	–	1	–	–	–	5
New Hampshire.....	13	–	–	–	–	–	–	–	–	–	1
Vermont.....	13	–	–	–	14	–	–	–	–	–	1
Massachusetts.....	70	–	–	–	–	–	3	–	–	–	1
Rhode Island.....	56	–	–	–	–	–	1	–	–	–	–
Connecticut.....	539	–	–	–	–	–	–	–	–	2	3
MIDDLE ATLANTIC.....	242	1	11	–	3	1	15	4	24	9	81
New York City.....	13	–	5	–	1	–	6	–	–	–	–
New York, Up-State.	204	–	2	–	2	–	5	–	5	9	76
New Jersey.....	NN	1	2	–	–	–	–	3	6	–	–
Pennsylvania.....	25	–	2	–	–	1	4	1	13	–	5
EAST NORTH CENTRAL...	289	–	9	–	7	–	13	–	–	3	131
Ohio.....	23	–	–	–	–	–	7	–	–	–	35
Indiana.....	81	–	–	–	1	–	–	–	–	–	40
Illinois.....	39	–	6	–	2	–	2	–	–	2	25
Michigan.....	112	–	3	–	–	–	4	–	–	1	4
Wisconsin.....	34	–	–	–	4	–	–	–	–	–	27
WEST NORTH CENTRAL...	153	–	4	1	8	–	4	–	2	9	372
Minnesota.....	7	–	–	–	–	–	1	–	–	2	91
Iowa.....	39	–	–	–	–	–	–	–	1	–	54
Missouri.....	10	–	1	1	5	–	2	–	–	3	105
North Dakota.....	52	–	–	–	–	–	–	–	–	1	50
South Dakota.....	17	–	–	–	–	–	–	–	1	–	13
Nebraska.....	28	–	–	–	–	–	1	–	–	–	10
Kansas.....	–	–	3	–	3	–	–	–	–	3	49
SOUTH ATLANTIC.....	500	1	14	–	19	–	26	9	108	8	535
Delaware.....	–	–	–	–	–	–	1	–	2	–	–
Maryland.*.....	41	–	–	–	–	–	4	–	25	–	–
Dist. of Columbia..	2	–	2	–	–	–	1	–	–	–	–
Virginia.....	73	–	–	–	3	–	–	3	36	7	278
West Virginia.....	193	–	1	–	2	–	1	–	4	1	84
North Carolina.....	NN	–	2	–	5	–	4	1	29	–	4
South Carolina.....	46	–	1	–	2	–	1	1	6	–	–
Georgia.....	1	–	–	–	3	–	7	4	6	–	48
Florida.....	144	1	8	–	4	–	7	–	–	–	121
EAST SOUTH CENTRAL...	917	1	10	–	9	1	16	5	32	7	311
Kentucky.....	75	–	3	–	–	–	2	–	5	2	163
Tennessee.....	778	–	4	–	8	1	12	5	26	1	111
Alabama.....	36	1	2	–	–	–	–	–	1	1	34
Mississippi.....	28	–	1	–	1	–	2	–	–	3	3
WEST SOUTH CENTRAL...	420	–	13	–	11	1	20	4	21	11	271
Arkansas.....	–	–	–	–	1	–	10	–	4	1	21
Louisiana.....	3	–	5	–	2	1	1	–	–	1	17
Oklahoma.....	13	–	1	–	5	–	–	4	14	1	41
Texas.*.....	404	–	7	–	3	–	9	–	3	8	192
MOUNTAIN.....	902	–	1	–	8	–	20	–	8	1	92
Montana.*.....	25	–	–	–	–	–	–	–	–	–	–
Idaho.....	49	–	–	–	–	–	3	–	1	–	–
Wyoming.....	1	–	–	–	2	–	5	–	–	1	48
Colorado.....	603	–	1	–	–	–	2	–	7	–	3
New Mexico.....	106	–	–	–	1	–	5	–	–	–	9
Arizona.....	81	–	–	–	–	–	4	–	–	–	22
Utah.....	37	–	–	–	5	–	–	–	–	–	2
Nevada.....	–	–	–	–	–	–	1	–	–	–	8
PACIFIC.....	139	–	6	–	–	–	27	–	5	7	194
Washington.....	73	–	1	–	–	–	1	–	3	–	1
Oregon.....	49	–	–	–	–	–	6	–	–	–	1
California.....	---	–	5	–	–	–	20	–	2	7	192
Alaska.....	17	–	–	–	–	–	–	–	–	–	–
Hawaii.....	–	–	–	–	–	–	–	–	–	–	–
Puerto Rico.....	4	1	4	–	–	–	3	–	–	–	18

*Delayed reports: SST: Me. 8
Tularemia: Tex. delete 1, Mont. delete 1
RMSF: Md. Delete 1

Week No. 28

TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED JULY 12, 1969

(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:	747	446	38	30
Boston, Mass.	242	148	16	9
Bridgeport, Conn.	47	32	6	1
Cambridge, Mass.	30	23	4	2
Fall River, Mass.	29	16	–	2
Hartford, Conn.	45	21	–	1
Lowell, Mass.	35	20	2	1
Lynn, Mass.	24	11	2	–
New Bedford, Mass.	39	25	1	1
New Haven, Conn.	55	28	–	4
Providence, R. I.	59	33	1	2
Somerville, Mass.	9	6	–	–
Springfield, Mass.	29	21	3	1
Waterbury, Conn.	28	19	–	1
Worcester, Mass.	76	43	3	5
MIDDLE ATLANTIC:	3,319	1,932	145	137
Albany, N. Y.	54	22	1	6
Allentown, Pa.	28	18	1	–
Buffalo, N. Y.	156	104	3	5
Camden, N. J.	38	15	2	4
Elizabeth, N. J.	37	21	2	1
Erie, Pa.	40	30	3	–
Jersey City, N. J.	79	48	5	1
Newark, N. J.	79	29	3	9
New York City, N. Y.	1,669	960	68	63
Paterson, N. J.	37	19	3	1
Philadelphia, Pa.	401	230	13	21
Pittsburgh, Pa.	227	124	11	8
Reading, Pa.	56	40	1	–
Rochester, N. Y.	118	84	7	8
Schenectady, N. Y.	38	22	2	1
Scranton, Pa.	56	39	5	–
Syracuse, N. Y.	99	56	2	7
Trenton, N. J.	35	19	3	1
Utica, N. Y.	31	26	8	–
Yonkers, N. Y.	41	26	2	1
EAST NORTH CENTRAL:	2,701	1,528	95	156
Akron, Ohio	82	45	–	2
Canton, Ohio	41	20	3	3
Chicago, Ill.	692	370	27	38
Cincinnati, Ohio	170	100	6	3
Cleveland, Ohio	211	113	5	16
Columbus, Ohio	142	88	3	8
Dayton, Ohio	81	58	2	4
Detroit, Mich.	360	191	8	26
Evansville, Ind.	47	30	4	2
Flint, Mich.	72	34	3	6
Fort Wayne, Ind.	52	34	1	–
Gary, Ind.	40	21	4	1
Grand Rapids, Mich.	54	33	6	2
Indianapolis, Ind.	163	99	3	9
Madison, Wis.	32	16	2	3
Milwaukee, Wis.	161	97	4	15
Peoria, Ill.	33	15	–	5
Rockford, Ill.	38	25	1	1
South Bend, Ind.	41	22	3	1
Toledo, Ohio	127	81	9	5
Youngstown, Ohio	62	36	1	6
WEST NORTH CENTRAL:	913	555	25	52
Des Moines, Iowa	61	37	2	5
Duluth, Minn.	20	11	1	2
Kansas City, Kans.	43	23	2	9
Kansas City, Mo.	162	97	1	12
Lincoln, Nebr.	30	21	1	–
Minneapolis, Minn.	113	72	–	6
Omaha, Nebr.	70	33	–	6
St. Louis, Mo.	275	169	7	5
St. Paul, Minn.	76	53	2	3
Wichita, Kans.	63	39	9	4
SOUTH ATLANTIC:	1,282	686	43	47
Atlanta, Ga.	137	57	2	4
Baltimore, Md.	229	130	10	9
Charlotte, N. C.	53	30	1	1
Jacksonville, Fla.	100	45	1	2
Miami, Fla.	109	61	–	6
Norfolk, Va.	57	28	3	2
Richmond, Va.	92	64	7	3
Savannah, Ga.	51	23	2	5
St. Petersburg, Fla.	97	74	4	3
Tampa, Fla.	77	47	7	1
Washington, D. C.	240	104	5	8
Wilmington, Del.	40	23	1	3
EAST SOUTH CENTRAL:	696	410	29	24
Birmingham, Ala.	78	46	1	3
Chattanooga, Tenn.	57	41	5	1
Knoxville, Tenn.	46	33	2	2
Louisville, Ky.	123	77	9	4
Memphis, Tenn.	179	105	3	3
Mobile, Ala.	63	30	4	8
Montgomery, Ala.	39	23	–	–
Nashville, Tenn.	111	55	5	3
WEST SOUTH CENTRAL:	1,320	701	45	72
Austin, Tex.	49	29	3	1
Baton Rouge, La.	51	17	1	3
Corpus Christi, Tex.	38	21	–	3
Dallas, Tex.	166	69	4	11
El Paso, Tex.	49	23	8	5
Fort Worth, Tex.	99	49	3	10
Houston, Tex.	194	97	4	13
Little Rock, Ark.	63	30	2	6
New Orleans, La.	217	132	1	5
Oklahoma City, Okla.	96	53	3	2
San Antonio, Tex.	158	97	2	5
Shreveport, La.	67	41	7	4
Tulsa, Okla.	73	43	7	4
MOUNTAIN:	496	281	25	34
Albuquerque, N. Mex.	48	20	1	5
Colorado Springs, Colo.	27	18	4	1
Denver, Colo.	127	72	8	6
Ogden, Utah	25	14	4	2
Phoenix, Ariz.	100	53	4	13
Pueblo, Colo.	40	23	1	2
Salt Lake City, Utah	65	41	1	3
Tucson, Ariz.	64	40	2	2
PACIFIC:	1,772	1,062	39	68
Berkeley, Calif.	26	18	4	1
Fresno, Calif.	66	36	1	2
Glendale, Calif.	39	21	–	4
Honolulu, Hawaii	54	22	–	4
Long Beach, Calif.	108	62	1	3
Los Angeles, Calif.	652	392	9	25
Oakland, Calif.	82	42	1	7
Pasadena, Calif.	42	34	–	–
Portland, Oreg.	97	59	6	8
Sacramento, Calif.	65	35	1	1
San Diego, Calif.	81	45	–	–
San Francisco, Calif.	177	104	3	4
San Jose, Calif.	33	23	6	–
Seattle, Wash.	152	96	3	5
Spokane, Wash.	58	41	1	1
Tacoma, Wash.	40	32	3	3
Total	13,246	7,601	484	620

*Estimate - based on average percent of divisional total.

Cumulative Totals
including reported corrections for previous weeks

All Causes, All Ages	374,736
All Causes, Age 65 and over	215,847
Pneumonia and Influenza, All Ages	18,985
All Causes, Under 1 Year of Age	17,122

INTERNATIONAL NOTES
INFLUENZA – South America*

Outbreaks of A2/Hong Kong/68 influenza have been confirmed in Argentina, Brazil, Chile, and Uruguay. In Brazil, a progressive increase in incidence of influenza-like disease was observed in the state of Guanabara during the first 2 weeks of March 1969 and in Belem, Para State, in February and March. Four strains of A2/Hong Kong/68 influenza were isolated from residents of Rio de Janeiro, Guanabara, between March 14 and 18 and three strains were recovered from Belem. A survey of 9,002 persons in 11 establishments in Belem revealed that more than half of them had been affected since January 1, with the highest incidence occurring during the week of March 15.

In Argentina, two outbreaks of influenza-like disease were reported between May 7 and 21. The first occurred in Comodoro Rivadavia City in Patagonia. Although school and labor absenteeism remained normal for the season, cases were observed especially from May 12-15. Their number is now decreasing. The second outbreak occurred in the southern suburbs of Buenos Aires City where only a few cases were detected. In both outbreaks, the disease was mild, and several strains of A2/Hong Kong/68 were isolated. A third outbreak occurred in Cordoba City and other cities in Cordoba Province during the first week of June. Twenty-two strains of A2/Hong Kong/68 were recovered.

In Chile, isolated confirmed cases were noted at the end of May or beginning of June, and in Uruguay an epidemic began in mid-June.

(Reported by Dr. E. Pearson and Miss Manuela Vicente, Departamento de Virus, Instituto Bacteriologico de Chile; Dr. Juan C. Rivadeneira, Director, Instituto de Virologia, Universidad Nacional de Cordoba; and the WHO, International Influenza Center for the Americas, Atlanta.)

*Source: *World Health Organization Weekly Epidemiological Record, 44*(23 and 26):391, 426.

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In the list of Yellow Fever Vaccination Centers, the fee for yellow fever vaccination at the Ochsner Clinic should be changed from "No" to "$6.00 for first patient and $1.00 for each additional member of a family up to a total of five."

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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.