CENTER FOR DISEASE CONTROL

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MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

Primary Resistance to Antituberculosis Drugs — United States

Since March 1975, CDC has been conducting a study to determine the incidence of primary resistance to antituberculosis drugs in the United States. As part of that study (*1*),* 19 city and state laboratories throughout the country submit cultures to CDC for drug-susceptibility testing.

The current primary drug-resistance (PDR) rate for all study areas combined is 7.1%. Geographically, the rates range from 3.3% in Massachusetts to 15.1% in Harlingen, Texas (Table 1). Resistance rates for streptomycin, isoniazid, and para-aminosalicylic acid are 3.9%, 4.1%, and 0.8%, respectively. The rates for rifampin, ethambutol, and the other drugs tested remain less than 1%. The rates for Asians and Hispanics—12.7% and 12.6%, respectively—are significantly higher than for other racial/ethnic groups, which have a combined rate of 5.6% (Table 2). Younger age groups tend to have higher resistance rates. The rate of resistance varies inversely with age, from 13.1% among persons 0-10 years of age, to 3.2% for those over 90.

Reported by the Tuberculosis Control Div, Bur of State Services, and Mycobacteriology Br, Bacteriology Div, Bur of Laboratories, CDC.

TABLE 1. Primary drug-resistance rates, by state/city laboratory, as of June 30, 1980

State/city laboratory	Total tested	Number resistant	Percent resistant
Alabama	813	36	4.4
Los Angeles, California†	628	74	11.8
San Francisco, California	488	40	8.2
Chicago, Illinois	240	24	10.0
Maryland	542	37	6.8
Massachusetts	514	17	3.3
Detroit, Michigan	294	11	3.7
Minnesota	139	7	5.0
Mississippi	666	64	9.6
New York, New York	142	13	9.2
Cleveland, Ohio	249	10	4.0
Oklahoma	504	26	5.2
Philadelphia, Pennsylvania	245	15	6.1
South Carolina	801	40	5.0
Harlingen, Texas	332	50	15.1
San Antonio, Texas	527	50	9.5
Washington	362	17	4.7
Wisconsin	61	3	4.9
TOTAL	**7,547**	**534**	**7.1**

† Two laboratories.

*A detailed description of the materials and methods used has been published (*1*).

Antituberculosis Drugs — Continued

TABLE 2. Tuberculosis primary drug resistance, by race/ethnic group and drugs, as of June 30, 1980

Drugs	Race/ethnic group													
	Caucasian		Black		Asian		Hispanic		Am. Ind.		Other		Total	
	No. (N=3,050)	%	No. (N=2,712)	%	No. (N=355)	%	No. (N=1,229)	%	No. (N=162)	%	No. (N=39)	%	No. (N=7,547)	%
Streptomycin	82	2.7	84	3.1	27	7.6	94	7.6	5	3.1	2	5.1	294	3.9
Isoniazid	84	2.8	90	3.3	30	8.5	98	8.0	6	3.7	1	2.6	309	4.1
Para-aminosalicylic acid	15	0.5	28	1.0	7	2.0	10	0.8	2	1.2	0	0.0	62	0.8
Rifampin	4	0.1	7	0.3	0	0.0	4	0.3	0	0.0	0	0.0	15	0.2
Ethambutol	6	0.2	7	0.3	1	0.3	9	0.7	0	0.0	0	0.0	23	0.3
Cycloserine	2	0.1	3	0.1	0	0.0	4	0.3	0	0.0	0	0.0	9	0.1
Ethionamide	13	0.4	19	0.7	7	2.0	19	1.5	2	1.2	0	0.0	60	0.8
Kanamycin	1	0.0	2	0.1	1	0.3	3	0.2	0	0.0	0	0.0	7	0.1
Capreomycin	4	0.1	2	0.1	1	0.3	3	0.2	0	0.9	0	0.0	10	0.1
Overall resistance rate to ≥ 1 drug	158	5.2	164	6.0	45	12.7	155	12.6	9	5.6	3	7.7	534	7.1

Editorial Note: Data from this study indicate there is no trend toward increasing PDR rates in the survey areas. However, there are marked variations in PDR rates from one area to another. PDR, as defined in this study, refers to drug resistance among persons with no prior history of treatment with antituberculosis drugs. Therefore, persons who have never received antituberculosis drugs as well as those who have received them but have no records of the treatment are included in the calculation of resistance rates. This may, in part, explain the higher PDR rates among populations such as Asians, Hispanics, and persons in the U.S.-Mexico Border area, since large percentages of these groups are immigrants from whom it may be difficult to obtain an accurate history of treatment. However, since many of these persons come from areas where drug resistance is prevalent, the high rates probably also reflect transmission of drug-resistant organisms to persons who have never received antituberculosis drugs.

These data underline the importance of determining local PDR patterns so that the drug regimens most likely to be successful in treating a particular population of patients can be selected when therapy is initiated. For example, in areas where the prevalence of resistance to isoniazid and/or streptomycin is high, treatment with other drugs to which organisms are rarely resistant—such as rifampin and ethambutol—is recommended. The patient's treatment can subsequently be modified as necessary, based upon the results of drug-susceptibility tests and the patient's response to therapy.

Reference

1. Kopanoff DE, Kilburn JO, Glassroth JL, Snider DE Jr, Farer LS, Good RC. A continuing survey of tuberculosis primary drug resistance in the United States. March 1975 to November 1977. A United States Public Health Service cooperative study. Am Rev Respir Dis 1978;118:835-42.

Epidemiologic Notes and Reports

Follow-up on Mount St. Helens and Mount Hood

On July 22, Mount St. Helens erupted for the fourth time this year. Details of the effects of this explosion will be reported in a future issue.

Mount St. Helens – Continued

Radionuclide concentrations of the volcanic ash

The Eastern Environmental Radiation Facility, Office of Radiation Programs, Environmental Protection Agency (EPA), has analyzed a sample of the Mount St. Helens volcanic ash and found that its radionuclide content does not differ significantly from normal values for non-contaminated soil. The sample was collected on May 19 in Hanford, Washington, a site approximately 150 miles east-northeast of Mount St. Helens.

Radioanalytical analyses are currently being completed on air particulate samples from the Environmental Radiation Ambient Monitoring System—a nationwide operation of the Office of Radiation Programs, EPA. These samples were collected for the week of May 18 at stations in Bismark, North Dakota; Boise and Idaho Falls, Idaho; Cheyenne, Wyoming; Portland, Oregon; Seattle and Spokane, Washington; and Miami, Florida. Preliminary results indicate minimal radiologic impact on health due to volcanic ash from Mount St. Helens.

Several chemical, radiochemical, and physical measurements on the Mount St. Helens ash have also been made at the Lawrence Livermore National Laboratory, using X-ray fluorescence analysis for stable elements and gamma-ray spectroscopy for the radioactive constituents of the ash.

The gamma-emitting radionuclides determined in the ash by solid-state gamma-ray analysis were ^{40}K, ^{226}Ra, ^{228}Ra, and ^{228}Th. The ^{40}K was present at approximately the same specific activity level as on the earth's surface, namely at 1000 pCi per gram of potassium. The other 3 radionuclides are part of the decay chains of the natural radionuclides, uranium and thorium. The activity levels of these radionuclides appear to be approximately the same as, or slightly less than, those found in surface soil and rock materials.

Experiments with the Mount St. Helens ash to determine availability or leachability of ash constituents have shown that iron, manganese, calcium, potassium, and sodium are available in distilled water. In low normalities of acid, higher concentrations of aluminum, copper, iron, manganese, phosphorus, calcium, potassium, and magnesium are mobilized. Except for its nitrogen content, which was not determined, the Mount St. Helens ash appears to have the properties of a weak fertilizer, supplying modest amounts of the required elements—calcium, iron, phosphorus, manganese, potassium, and magnesium.

Earthquake activity – Mount Hood, Oregon

On July 11, the U.S. Geological Survey (USGS) reported that a series of more than 50 earthquakes had been detected under Mount Hood (elevation 11,235 feet), a volcano in the Cascades Range situated approximately 50 miles east-southeast of Portland and 60 miles south-southeast of Mount St. Helens. The major portion of the earthquake activity occurred on July 6 and 7, with a peak magnitude of 3.3 on the Richter Scale.

USGS has since installed a group of portable seismic stations and a telemetered station at strategic points on the mountain to closely monitor any further activity. The quantity and magnitude of earthquake activity clearly diminished following the initial swarm on July 6 and 7 and ceased on July 12. Measurements taken above the mountain on and after July 12 for sulfur dioxide, carbon dioxide, and hydrogen have not detected any emissions.

The USGS issued a formal hazard watch expressing heightened concern because of the earthquake activity but emphasized that the earthquake activity by itself could not be interpreted as a definite precursor to a volcanic eruption. In the Mount Hood area,

Mount St. Helens – Continued

episodes of earthquake activity unassociated with volcanic eruptions have apparently occurred frequently in the past, although usually the number of earthquakes has been much smaller.

Approximately 20,000-30,000 individuals are in the Mount Hood area, including tourists who frequent this area in the summer to ski. The U.S. Forest Service did not curtail activities, although it did recommend that climbers avoid the top of the mountain because of concerns about loose rocks from earthquakes and melting snow.

Contingency plans for volcanic activity at Mount Hood have been developed. Most directly involved in such plans are the State of Oregon (Emergency Services Division); Clackamas, Multnomah, and Hood River Counties; the city of Portland; and the U.S. Forest Service-Mount Hood National Forest. The CDC Mount St. Helens field unit has been in close contact with the Oregon State Health Department, the University of Oregon Health Sciences Center, and with involved federal agencies and local groups. Thirteen hospitals located in 8 counties surrounding Mount Hood National Forest were contacted and arrangements made to institute rapidly a surveillance system for these hospitals in the event of an eruption on Mount Hood.

Reported by J Koranda, PhD, Lawrence Livermore Laboratory, University of California; JA Googins, MD, State Epidemiologist, Oregon Dept of Human Resources; C Phillips, Las Vegas Laboratory, EPA; Chronic Diseases Div, Bur of Epidemiology, CDC.

TABLE I. Summary – cases of specified notifiable diseases, United States

[Cumulative totals include revised and delayed reports through previous weeks.]

DISEASE	29th WEEK ENDING		MEDIAN 1975-1979	CUMULATIVE, FIRST 29 WEEKS		
	July 19, 1980	July 21, 1979		July 19, 1980	July 21, 1979	MEDIAN 1975-1979
Aseptic meningitis	157	211	139	2,088	2,029	1,542
Brucellosis	5	10	7	99	79	113
Chickenpox	1,578	996	949	152,550	168,468	147,823
Diphtheria	–	–	–	2	6	54
Encephalitis: Primary (arthropod-borne & unspec.)	12	27	27	333	323	379
Post-infectious	5	5	5	116	148	148
Hepatitis, Viral: Type B	370	288	288	9,351	7,837	8,281
Type A	583	614	614	14,707	16,249	17,337
Type unspecified	258	213	179	6,523	5,564	4,954
Malaria	69	26	19	1,018	348	267
Measles (rubeola)	127	149	289	12,237	11,127	22,436
Meningococcal infections: Total	37	27	31	1,665	1,707	1,122
Civilian	37	27	30	1,658	1,690	1,115
Military	–	–	–	7	17	17
Mumps	51	299	299	6,677	10,554	15,092
Pertussis	60	24	27	670	706	706
Rubella (German measles)	37	98	152	3,037	10,222	14,274
Tetanus	1	2	2	35	35	35
Tuberculosis	550	585	651	15,128	15,392	16,772
Tularemia	7	7	5	78	104	76
Typhoid fever	18	5	9	224	250	207
Typhus fever, tick-borne (Rky. Mt. spotted)	72	58	52	535	492	492
Venereal diseases:						
Gonorrhea: Civilian	20,409	20,033	21,423	530,060	533,774	530,099
Military	493	547	541	14,746	15,109	15,135
Syphilis, primary & secondary: Civilian	463	452	448	14,202	13,214	13,214
Military	5	2	6	171	161	167
Rabies in animals	115	120	63	3,705	2,694	1,673

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1980		CUM. 1980
Anthrax	–	Poliomyelitis: Total	6
Botulism (Oreg. 1)	26	Paralytic	4
Cholera	9	Psittacosis	44
Congenital rubella syndrome (Calif. 1)	38	Rabies in man	–
Leprosy (Md. 1, Calif. 1)	105	Trichinosis	71
Leptospirosis	32	Typhus fever, flea-borne (endemic, murine)(Tenn. 1, Tex. 3)	39
Plague (Calif. 1)	7		

All delayed reports will be included in the following week's cumulative totals.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending July 19, 1980, and July 21, 1979 (29th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKEN-POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1980	1980	1980	1980	CUM. 1980	1980	1979	1980	1980	1980	1980	1980	CUM. 1980
UNITED STATES	157	5	1,578	–	2	12	27	5	370	583	258	69	1,018
NEW ENGLAND	5	–	183	–	–	–	1	1	7	8	9	4	67
Maine	–	–	6	–	–	–	–	–	1	1	1	–	12
N.H.	–	–	7	–	–	–	–	–	–	1	–	1	7
Vt.	–	–	11	–	–	–	–	–	1	1	–	–	–
Mass.	2	–	97	–	–	–	–	–	2	3	8	3	33
R.I.	3	–	9	–	–	–	–	–	–	2	–	–	6
Conn.	–	–	53	–	–	–	1	1	3	–	–	–	9
MID. ATLANTIC	12	–	218	–	1	1	–	–	60	48	22	6	138
Upstate N.Y.	6	–	77	–	–	–	–	–	9	21	6	1	21
N.Y. City	–	–	139	–	1	1	–	–	10	4	–	2	37
N.J.	NA	–	NN	–	–	–	–	–	25	17	14	2	36
Pa.	6	–	2	–	–	–	–	–	16	6	2	1	44
E.N. CENTRAL	5	–	832	–	1	–	2	–	51	48	18	7	51
Ohio	–	–	19	–	–	–	2	–	9	8	6	–	8
Ind.	3	–	62	–	–	–	–	–	9	8	4	–	3
Ill.	–	–	515	–	–	–	–	–	24	23	4	5	18
Mich.	2	–	44	–	1	–	–	–	6	7	4	2	16
Wis.	–	–	192	–	–	–	–	–	3	2	–	–	6
W.N. CENTRAL	3	2	85	–	–	–	3	–	6	11	7	2	37
Minn.	–	–	–	–	–	–	–	–	2	4	1	2	15
Iowa	1	1	18	–	–	–	3	–	1	1	3	–	4
Mo.	2	–	59	–	–	–	–	–	1	2	2	–	9
N. Dak.	–	–	5	–	–	–	–	–	–	–	–	–	–
S. Dak.	–	–	1	–	–	–	–	–	–	–	–	–	2
Nebr.	–	–	2	–	–	–	–	–	–	–	–	–	4
Kans.	–	1	–	–	–	–	–	–	2	4	1	–	3
S. ATLANTIC	29	–	110	–	–	4	1	–	79	94	34	6	103
Del.	–	–	13	–	–	–	–	–	2	–	–	–	–
Md.	–	–	27	–	–	–	–	–	20	6	20	–	20
D.C.	–	–	–	–	–	–	–	–	2	–	2	–	1
Va.	10	–	8	–	–	4	1	–	8	9	1	3	36
W. Va.	–	–	41	–	–	–	–	–	3	4	1	–	3
N.C.	5	–	NN	–	–	–	–	–	9	4	2	–	5
S.C.	2	–	–	–	–	–	–	–	7	–	2	–	5
Ga.	–	–	–	–	–	–	–	–	17	31	–	–	13
Fla.	12	–	21	–	–	–	–	–	11	40	6	3	20
E.S. CENTRAL	34	2	7	–	–	2	2	–	19	56	13	1	10
Ky.	–	–	4	–	–	–	–	–	6	34	1	–	2
Tenn.	2	2	NN	–	–	1	–	–	3	8	2	–	–
Ala.	32	–	3	–	–	–	1	–	9	11	10	–	6
Miss.	–	–	–	–	–	1	1	–	1	3	–	1	2
W.S. CENTRAL	25	–	66	–	–	–	8	–	30	82	39	6	105
Ark.	–	–	1	–	–	–	–	–	4	5	1	–	6
La.	3	–	NN	–	–	–	4	–	6	18	5	2	39
Okla.	4	–	–	–	–	–	–	–	6	12	2	1	10
Tex.	18	–	65	–	–	–	4	–	14	47	31	3	50
MOUNTAIN	5	–	24	–	–	1	1	1	18	68	49	5	42
Mont.	–	–	13	–	–	–	–	–	–	3	–	–	–
Idaho	–	–	–	–	–	–	–	–	–	1	–	–	1
Wyo.	1	–	–	–	–	1	–	–	–	–	–	–	2
Colo.	4	–	11	–	–	–	–	–	2	14	1	2	21
N. Mex.	–	–	–	–	–	–	1	–	–	–	–	–	2
Ariz.	–	–	NN	–	–	–	–	–	12	39	40	–	10
Utah	–	–	–	–	–	–	–	1	3	7	4	–	–
Nev.	–	–	–	–	–	–	–	–	1	4	4	3	6
PACIFIC	39	1	53	–	–	4	9	3	100	168	67	32	465
Wash.	2	–	25	–	–	–	2	1	10	7	5	–	32
Oreg.	5	–	2	–	–	–	1	–	8	16	1	1	28
Calif.	26	1	–	–	–	3	6	2	80	142	61	29	386
Alaska	1	–	9	–	–	1	–	–	–	–	–	1	5
Hawaii	5	–	17	–	–	–	–	–	2	3	–	1	14
Guam	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	2
P.R.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	1
V.I.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Pac. Trust Terr.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–

NN: Not notifiable. NA: Not available.
All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending July 19, 1980, and July 21, 1979 (29th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1980	CUM. 1980	CUM. 1979	1980	CUM. 1980	CUM. 1979	1980	CUM. 1980	1980	1980	CUM. 1980	CUM. 1980
UNITED STATES	127	12,237	11,127	37	1,665	1,707	51	6,677	60	37	3,037	35
NEW ENGLAND	3	656	280	–	95	85	2	541	–	–	198	1
Maine	–	33	17	–	4	4	1	284	–	–	68	1
N.H.	1	321	29	–	6	9	–	19	–	–	31	–
Vt.	–	226	116	–	13	5	–	7	–	–	3	–
Mass.	2	52	13	–	31	29	–	118	–	–	74	–
R.I.	–	2	102	–	7	5	–	20	–	–	9	–
Conn.	–	22	3	–	34	33	1	93	–	–	13	–
MID. ATLANTIC	29	3,613	1,325	10	307	252	5	741	3	17	477	3
Upstate N.Y.	4	647	559	6	103	93	2	90	3	6	170	1
N.Y. City	15	1,128	673	–	78	62	3	75	–	3	86	1
N.J.	10	797	53	–	60	62	–	91	–	8	76	–
Pa.	–	1,041	40	4	66	35	–	485	–	–	145	1
E.N. CENTRAL	30	2,218	2,949	3	185	171	15	2,613	18	8	746	2
Ohio	–	346	250	–	65	67	3	1,104	–	–	6	1
Ind.	2	89	191	–	32	37	1	102	8	3	316	–
Ill.	12	316	1,309	–	29	4	6	340	9	1	156	–
Mich.	2	230	773	3	47	46	1	786	1	–	121	1
Wis.	14	1,237	426	–	12	17	4	281	–	4	147	–
W.N. CENTRAL	21	1,291	1,488	–	63	56	2	241	3	2	213	3
Minn.	20	1,070	985	–	20	10	–	21	–	–	51	2
Iowa	–	–	16	–	8	8	–	37	–	2	7	–
Mo.	1	64	408	–	23	29	–	69	3	–	41	–
N. Dak.	–	–	18	–	1	1	–	4	–	–	5	–
S. Dak.	–	–	1	–	4	3	–	1	–	–	–	–
Nebr.	–	83	–	–	–	–	–	9	–	–	1	–
Kans.	–	74	60	–	7	5	2	100	–	–	108	1
S. ATLANTIC	14	1,834	1,653	14	402	421	11	848	15	3	295	6
Del.	–	3	1	–	2	5	–	37	–	–	1	–
Md.	–	70	7	–	42	38	7	290	–	–	70	–
D.C.	–	–	–	–	1	–	–	3	–	–	–	–
Va.	1	300	246	1	35	61	–	47	2	–	49	2
W. Va.	1	17	50	1	14	8	–	68	2	2	22	1
N.C.	1	124	108	–	75	57	2	83	3	–	42	–
S.C.	1	157	149	1	51	50	–	198	–	–	49	2
Ga.	–	798	357	4	72	63	–	1	4	–	–	–
Fla.	10	365	735	7	110	139	2	121	4	1	62	1
E.S. CENTRAL	–	333	171	2	154	126	–	819	4	–	76	3
Ky.	–	51	24	–	49	24	–	724	–	–	35	1
Tenn.	–	176	48	–	42	38	–	24	2	–	36	1
Ala.	–	22	79	2	40	30	–	14	2	–	4	1
Miss.	–	84	20	–	23	34	–	57	–	–	1	–
W.S. CENTRAL	5	904	869	1	182	272	1	228	3	–	108	9
Ark.	1	13	7	–	15	24	–	20	–	–	3	1
La.	–	13	243	–	66	103	–	64	–	–	9	2
Okla.	–	740	22	–	16	24	–	–	3	–	4	–
Tex.	4	138	597	1	85	121	1	144	–	–	92	6
MOUNTAIN	11	415	294	–	50	68	2	172	9	3	121	–
Mont.	–	1	53	–	2	6	1	49	–	–	32	–
Idaho	–	–	18	–	4	5	–	15	–	–	17	–
Wyo.	–	–	36	–	2	1	–	–	–	–	1	–
Colo.	–	22	53	–	12	4	–	44	–	1	8	–
N. Mex.	–	9	38	–	7	4	–	–	3	–	5	–
Ariz.	10	329	70	–	8	31	1	29	6	1	30	–
Utah	–	46	15	–	2	8	–	26	–	–	23	–
Nev.	1	8	11	–	13	9	–	9	–	1	5	–
PACIFIC	14	973	2,098	7	227	256	13	474	5	4	803	8
Wash.	–	169	1,119	2	44	42	1	120	4	–	67	–
Oreg.	–	1	56	–	37	18	3	57	–	–	50	–
Calif.	14	792	843	4	140	183	8	276	1	3	670	8
Alaska	–	5	17	1	5	5	–	11	–	–	10	–
Hawaii	–	6	63	–	1	8	1	10	–	1	6	
Guam	NA	3	3	–	1	1	NA	7	NA	NA	–	–
P.R.	NA	85	307	–	7	3	NA	111	NA	NA	11	7
V.I.	NA	6	4	–	1	3	NA	2	NA	NA	–	–
Pac. Trust Terr.	NA	6	6	–	–	1	NA	13	NA	NA	1	–

NA: Not available.
All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending July 19, 1980, and July 21, 1979 (29th week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1980	CUM. 1980	CUM. 1980	1980	CUM. 1980	1980	CUM. 1980	1980	CUM. 1980	CUM. 1979	1980	CUM. 1980	CUM. 1979	CUM. 1980
UNITED STATES	550	15,128	78	18	224	72	535	20,409	530,060	533,774	463	14,202	13,214	3,705
NEW ENGLAND	14	416	1	1	5	–	9	434	13,315	13,514	6	356	254	35
Maine	–	30	–	–	–	–	–	35	787	940	–	4	7	17
N.H.	–	9	–	–	–	–	–	21	442	496	–	1	13	6
Vt.	–	11	–	–	–	–	–	9	306	316	–	4	1	–
Mass.	6	225	–	1	3	–	5	170	5,493	5,415	3	227	147	5
R.I.	5	48	–	–	1	–	2	53	835	1,103	–	17	9	–
Conn.	3	93	1	–	1	–	2	146	5,452	5,244	3	103	77	7
MID. ATLANTIC	80	2,468	1	1	49	4	26	1,680	57,359	56,739	56	2,049	2,031	30
Upstate N.Y.	14	476	–	–	7	4	7	248	10,546	9,149	3	165	136	17
N.Y. City	31	884	1	–	20	–	2	665	22,181	22,539	38	1,357	1,397	–
N.J.	19	525	–	1	10	–	8	279	10,564	10,583	5	252	269	5
Pa.	16	583	–	–	12	–	9	488	14,068	14,468	10	275	229	8
E.N. CENTRAL	87	2,163	1	2	17	–	15	2,523	80,717	82,730	53	1,331	1,805	553
Ohio	27	374	–	–	4	–	9	1,000	21,955	23,024	8	220	339	28
Ind.	8	223	–	–	–	–	2	95	7,646	7,472	–	98	122	55
Ill.	23	783	–	1	7	–	4	426	24,958	25,240	39	738	1,032	333
Mich.	24	659	1	–	4	–	–	657	18,302	19,352	4	220	259	4
Wis.	5	124	–	1	2	–	–	345	7,856	7,642	2	55	53	133
W.N. CENTRAL	19	560	10	–	16	2	22	940	24,268	25,452	11	175	171	1,176
Minn.	1	103	1	–	1	–	–	115	3,974	4,210	4	62	47	105
Iowa	3	55	1	–	1	1	1	66	2,628	3,149	1	9	23	231
Mo.	14	256	7	–	12	–	12	398	10,616	10,945	6	85	73	279
N. Dak.	–	25	–	–	–	–	–	16	357	438	–	3	2	139
S. Dak.	–	29	–	–	1	–	–	32	746	874	–	2	1	249
Nebr.	–	24	1	–	–	–	–	40	1,956	1,776	–	7	2	58
Kans.	1	68	–	–	1	1	9	273	3,991	4,060	–	7	23	115
S. ATLANTIC	141	3,399	9	–	24	56	349	5,936	132,801	129,510	114	3,400	3,185	252
Del.	3	53	–	–	1	–	1	79	1,829	2,113	–	10	17	1
Md.	10	428	2	–	2	10	39	618	14,158	15,807	9	235	215	12
D.C.	10	196	–	–	3	–	–	352	9,123	8,329	9	242	245	–
Va.	9	370	–	–	4	7	39	549	11,515	12,322	14	304	282	8
W. Va.	9	126	–	–	1	–	2	53	1,616	1,782	–	12	40	11
N.C.	21	588	3	–	2	19	146	706	19,139	18,463	12	240	267	10
S.C.	6	301	–	–	3	20	100	401	12,544	12,050	9	192	153	39
Ga.	39	463	4	–	–	–	18	1,143	24,956	25,022	20	977	864	123
Fla.	34	874	–	–	8	–	4	2,035	37,921	33,622	41	1,188	1,102	48
E.S. CENTRAL	42	1,402	6	–	6	6	40	1,403	42,757	46,340	33	1,144	851	214
Ky.	7	303	–	–	2	–	2	245	6,400	6,053	–	76	91	97
Tenn.	7	474	6	–	–	5	28	439	15,313	16,595	17	477	371	92
Ala.	17	384	–	–	1	–	6	408	12,342	13,850	8	246	162	25
Miss.	11	241	–	–	3	1	4	311	8,702	9,842	8	345	227	–
W.S. CENTRAL	66	1,597	38	3	29	4	61	2,917	68,718	69,248	132	2,785	2,367	979
Ark.	3	152	24	2	2	1	10	192	5,204	5,443	–	85	80	125
La.	28	295	–	–	–	–	1	777	12,445	12,364	31	660	551	7
Okla.	–	168	11	–	1	3	35	258	6,768	6,478	4	56	47	163
Tex.	35	982	3	1	26	–	15	1,690	44,301	44,963	97	1,984	1,689	684
MOUNTAIN	7	400	10	1	16	–	9	817	20,415	20,837	17	343	252	119
Mont.	–	16	2	–	1	–	3	29	752	1,034	–	1	6	24
Idaho	1	19	1	–	1	–	1	9	905	865	4	22	19	1
Wyo.	–	15	3	–	–	–	2	58	611	520	–	8	5	5
Colo.	4	52	3	–	2	–	–	185	5,506	5,446	6	94	55	21
N. Mex.	1	85	–	–	2	–	2	121	2,547	2,694	–	55	49	24
Ariz.	–	163	1	1	7	–	–	166	5,480	5,849	–	107	76	44
Utah	–	30	–	–	3	–	1	41	956	1,081	1	10	3	–
Nev.	1	20	–	–	–	–	–	208	3,658	3,348	6	46	39	–
PACIFIC	94	2,723	2	10	62	–	4	3,759	89,710	89,404	41	2,619	2,298	347
Wash.	10	240	–	1	1	–	–	NA	7,007	7,673	NA	123	130	–
Oreg.	–	101	–	–	8	–	1	301	6,313	5,609	3	62	102	–
Calif.	83	2,303	2	9	53	–	3	3,310	72,399	71,620	36	2,325	1,993	303
Alaska	–	41	–	–	–	–	–	101	2,170	2,902	–	8	15	44
Hawaii	1	38	–	–	–	–	–	47	1,821	1,600	2	101	58	–
Guam	NA	24	–	NA	–	NA	–	NA	50	68	NA	–	–	–
P.R.	NA	103	–	NA	1	NA	–	NA	1,400	1,155	NA	291	267	25
V.I.	NA	–	–	NA	–	NA	–	NA	108	96	NA	10	6	–
Pac. Trust Terr.	NA	26	–	NA	–	NA	–	NA	214	272	NA	–	1	–

NA: Not available.
All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE IV. Deaths in 121 U.S. cities,* week ending July 19, 1980 (29th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	≥65	45-64	25-44	<1	
NEW ENGLAND	646	418	151	29	27	29
Boston, Mass.	173	98	49	9	10	9
Bridgeport, Conn.	48	33	10	1	1	3
Cambridge, Mass.	27	21	6	–	–	2
Fall River, Mass.	24	21	2	1	–	1
Hartford, Conn.	41	24	9	1	3	1
Lowell, Mass.	21	14	6	–	1	1
Lynn, Mass.	16	13	2	1	–	–
New Bedford, Mass.	29	22	7	–	–	–
New Haven, Conn.	64	37	15	8	2	1
Providence, R.I.	51	30	14	3	3	2
Somerville, Mass.	7	7	–	–	–	–
Springfield, Mass.	53	34	10	2	6	5
Waterbury, Conn.	23	17	4	1	–	1
Worcester, Mass.	69	47	17	2	1	3
MID. ATLANTIC	2,529	1,611	569	183	80	92
Albany, N.Y.	52	31	14	3	1	1
Allentown, Pa.	20	16	4	–	–	–
Buffalo, N.Y.	109	64	25	10	4	8
Camden, N.J.	40	25	12	2	1	2
Elizabeth, N.J.	38	25	10	3	–	2
Erie, Pa.†	32	20	8	–	2	–
Jersey City, N.J.	73	50	14	5	3	2
Newark, N.J.	64	36	18	4	3	–
N.Y. City, N.Y.	1,314	850	278	106	36	43
Paterson, N.J.	25	10	6	4	4	–
Philadelphia, Pa.†	343	206	87	28	13	14
Pittsburgh, Pa.†	67	37	22	3	1	4
Reading, Pa.	37	27	5	3	2	3
Rochester, N.Y.	111	81	21	3	3	6
Schenectady, N.Y.	23	15	4	1	–	1
Scranton, Pa.†	22	16	4	2	–	–
Syracuse, N.Y.	83	53	17	3	6	3
Trenton, N.J.	33	18	11	2	–	–
Utica, N.Y.	19	12	5	–	1	–
Yonkers, N.Y.	24	19	4	1	–	3
E.N. CENTRAL	2,295	1,368	574	166	84	54
Akron, Ohio	63	47	10	4	1	–
Canton, Ohio	37	27	10	–	–	1
Chicago, Ill.	550	308	133	53	23	13
Cincinnati, Ohio	145	94	29	10	6	7
Cleveland, Ohio	186	99	52	13	8	–
Columbus, Ohio	133	80	36	7	7	5
Dayton, Ohio	91	59	21	9	1	2
Detroit, Mich.	305	167	79	30	12	5
Evansville, Ind.	48	32	10	2	2	1
Fort Wayne, Ind.	55	34	16	1	2	1
Gary, Ind.	19	7	7	2	2	1
Grand Rapids, Mich.	81	49	22	3	3	1
Indianapolis, Ind.	141	80	42	10	4	2
Madison, Wis.	32	23	6	1	–	4
Milwaukee, Wis.	120	76	31	6	6	2
Peoria, Ill.	43	26	10	3	1	4
Rockford, Ill.	50	38	5	4	–	2
South Bend, Ind.	46	25	11	4	2	1
Toledo, Ohio	95	60	29	2	3	2
Youngstown, Ohio	55	37	15	2	1	–
W.N. CENTRAL	1,101	714	243	59	45	30
Des Moines, Iowa	68	41	17	5	1	–
Duluth, Minn.	31	18	9	2	2	4
Kansas City, Kans.	65	40	18	3	3	2
Kansas City, Mo.	236	159	51	10	9	8
Lincoln, Nebr.	27	22	2	2	1	3
Minneapolis, Minn.	103	61	21	9	5	2
Omaha, Nebr.	97	62	23	6	5	2
St. Louis, Mo.	344	226	78	15	13	3
St. Paul, Minn.	81	58	14	4	2	2
Wichita, Kans.	49	27	10	3	4	4
S. ATLANTIC	1,095	603	266	97	77	36
Atlanta, Ga.	147	90	34	18	1	1
Baltimore, Md.	136	69	30	18	10	2
Charlotte, N.C.	76	31	25	6	9	3
Jacksonville, Fla.	98	56	30	3	3	4
Miami, Fla.	104	57	26	14	–	1
Norfolk, Va.	66	38	20	4	1	4
Richmond, Va.	75	35	11	3	24	4
Savannah, Ga.	35	15	7	9	–	3
St. Petersburg, Fla.	86	69	12	–	4	5
Tampa, Fla.	94	53	18	11	7	6
Washington, D.C.	141	71	43	9	15	3
Wilmington, Del.	37	19	10	2	3	–
E.S. CENTRAL	784	491	181	45	37	36
Birmingham, Ala.	113	64	32	3	6	–
Chattanooga, Tenn.	67	39	19	5	2	4
Knoxville, Tenn.	33	22	9	2	–	1
Louisville, Ky.	121	76	28	9	5	13
Memphis, Tenn.	261	168	49	12	21	10
Mobile, Ala.	42	27	9	2	2	3
Montgomery, Ala.	38	21	12	4	–	1
Nashville, Tenn.	109	74	23	8	1	4
W.S. CENTRAL	1,144	626	329	78	49	32
Austin, Tex.	49	27	12	3	2	1
Baton Rouge, La.	41	15	13	6	4	1
Corpus Christi, Tex.	45	20	12	6	5	1
Dallas, Tex.	163	84	49	15	6	1
El Paso, Tex.	51	31	15	–	–	3
Fort Worth, Tex.	95	69	22	4	–	4
Houston, Tex.	120	54	40	11	3	–
Little Rock, Ark.	89	59	18	4	5	4
New Orleans, La.	160	81	48	10	15	–
San Antonio, Tex.	176	101	50	10	5	9
Shreveport, La.	47	27	16	3	1	–
Tulsa, Okla.	108	58	34	6	3	8
MOUNTAIN	624	348	155	56	33	12
Albuquerque, N. Mex.††	64	33	16	8	2	2
Colo. Springs, Colo.	33	22	7	3	–	3
Denver, Colo.	109	58	36	5	5	–
Las Vegas, Nev.	89	37	25	18	5	2
Ogden, Utah	21	13	1	3	1	3
Phoenix, Ariz.	149	87	36	10	12	1
Pueblo, Colo.	22	15	6	–	–	1
Salt Lake City, Utah	50	30	8	3	6	–
Tucson, Ariz.	87	53	20	6	2	–
PACIFIC	1,852	1,152	428	140	67	46
Berkeley, Calif.	17	13	2	2	–	1
Fresno, Calif.	79	50	13	5	5	3
Glendale, Calif.	22	20	1	1	–	2
Honolulu, Hawaii	54	26	16	5	4	5
Long Beach, Calif.	95	63	24	2	2	3
Los Angeles, Calif.	588	358	131	56	16	12
Oakland, Calif.	53	32	17	2	–	3
Pasadena, Calif.	30	23	7	–	–	1
Portland, Oreg.	144	93	30	8	10	–
Sacramento, Calif.	80	47	24	6	1	4
San Diego, Calif.	144	101	29	11	2	1
San Francisco, Calif.	138	86	32	11	6	1
San Jose, Calif.	138	80	33	14	7	–
Seattle, Wash.	150	93	37	12	3	3
Spokane, Wash.	76	39	23	2	7	3
Tacoma, Wash.	44	28	9	3	4	4
TOTAL	12,070	7,331	2,896	853	499	367

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza

†Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Data not available. Figures are estimates based on average percent of regional totals.

Epidemic Conjunctivitis among Indochinese Refugees

Conjunctivitis has been seen among 60 of 520 refugees arriving on a July 15 flight in Oakland, California. Cases have also been reported in the transit camp in Bangkok, Thailand. Illness generally consists of unilateral redness, swelling, and scanty discharge from the eye, with no systemic symptoms. Specimens for bacteriological cultures were taken from 10 persons. One grew *Haemophilus influenzae*; the rest were negative. Viral cultures are pending.

The clinical features of this illness suggest epidemic viral conjunctivitis caused by adenoviruses, a problem seen in Indochinese refugee camps in 1975 (*1*). Handwashing and disposal of contaminated materials have been emphasized to refugees and their sponsors. Surveillance for conjunctivitis cases has been established at all quarantine stations in the United States.

Reported by J Newman, MD, P DeLay, MD, U.S. Public Health Service Hospital, San Francisco; J Chin, MD, State Epidemiologist, California Dept of Health Services; Quarantine Div, Viral Diseases Div, Bur of Epidemiology, CDC.

Reference

1. Zweighaft RM, Hierholzer JC, Bryan JA. Epidemic keratoconjunctivitis at a Vietnamese refugee camp in Florida. Am J Epidemiol 1977;106:399-407.

Current Trends

Arboviral Activity — United States

As of July 18, 1980, few cases of arboviral disease had been reported in the United States.

One case of California encephalitis was confirmed in an 8-year-old boy from Peoria County, Illinois; his illness began on June 20. No confirmed western equine encephalitis cases have been reported. The only case of St. Louis encephalitis was in a patient who had onset of a febrile illness on March 7. The diagnosis was subsequently serologically confirmed by the Houston City, Texas, and CDC (San Juan) Laboratories.

No indigenous dengue infections have been found, despite close surveillance by the Texas State Department of Health. Unusually hot, dry summer weather has limited the populations of *Aedes aegypti*, the mosquito vector of this disease, in south Texas and in the bordering areas of Mexico, reducing the likelihood of dengue activity until the return of normal rainfall patterns.

Recent eastern equine encephalomyelitis (EEE) cases have been reported from Georgia and Florida. In southeastern Georgia, 1 confirmed and 2 suspected cases of EEE are under investigation. The patients, residents of Pierce and Ware Counties, had onset of encephalitis in the second half of June. All 3 patients were hospitalized in Jacksonville, Florida; 2 died. EEE virus infection was confirmed serologically in 1 patient, a 56-year-old woman, by the laboratories of the Florida State Department of Health and Rehabilitative Services (FSDHRS); laboratory studies are pending on the other cases. Georgia health authorities have applied insecticides near the residences of the patients. An investigation of EEE activity in humans, horses, birds, and mosquitoes in the area is underway.

The Florida State laboratories have also identified a serologically confirmed case of EEE infection in a 4-year-old boy from Escambia County, Florida, near the Florida-

Arboviral Activity – Continued

Alabama border. The patient had onset of fever and convulsions on June 16 and rapidly developed severe encephalitis. He has subsequently recovered and returned to his home, although neurologic sequelae remain.

Reports of encephalitis in horses in northern Florida have not exceeded the levels reported in 1978 and 1979. Results are pending from an arboviral surveillance system based on sentinel chicken flocks in the area.

Reported by J Baird, MPH, RA McLean, MD, Acting Director of Public Health, Houston; CR Webb Jr, MD, State Epidemiologist, Texas State Department of Health; RA Gunn, MD, State Epidemiologist, FSDHRS; RK Sikes, DVM, State Epidemiologist, Georgia Dept of Human Resources; H Ehrhard, DrPH, BJ Francis, MD, State Epidemiologist, Illinois Dept of Public Health; San Juan Laboratories, Vector-Borne Diseases Div, Bur of Laboratories, Bur of Tropical Diseases, Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: EEE virus is thought to be transmitted largely among wild birds in swamp habitats by vector mosquitoes, such as *Culiseta melanura*, which rarely bite humans or horses. Other mosquito species are believed to occasionally transmit EEE infection from wild birds to horses and humans. EEE in humans usually involves acute encephalitis with a mortality rate of approximately 50%. In most years, only a few, widely dispersed human cases of EEE are reported. The patients are typically from the Atlantic or Gulf Coast states and have onset of encephalitis in late summer when large numbers of cases in horses are occurring.

Epidemiologic Notes and Reports

Influenza – Arizona, Worldwide

As of July 21, 1980, Tucson, Arizona, had reported 61 cases of respiratory illnesses compatible with influenza; influenza A(H3N2) viruses were isolated from 8 of these cases. All but one of the cases was associated with an outbreak in a nursing home. Although sporadic isolates of influenza A have been occasionally reported in the United States during June, July, and August, outbreaks in these months are rare.

The first case was in a 6-week-old baby, who was admitted to a hospital in Tucson on July 5, with a diagnosis of sepsis and meningitis. Respiratory tract cultures obtained on July 6 yielded influenza A(H3N2) virus. No recognized influenza illnesses occurred among the infant's family or contacts.

The outbreak of febrile respiratory illness began approximately July 7 among the residents and staff of a nursing home in Tucson. During the next 2-3 days, 38 (46%) of 82 residents and 22 (35%) of 62 staff members developed respiratory symptoms compatible with influenza. Four of the residents developed pneumonia and respiratory distress and subsequently died. Preliminary investigation suggests that few of the residents or staff had received the 1979-80 influenza vaccine. Influenza A(H3N2) virus was isolated from the lung tissue obtained at autopsy from 1 of the fatal cases. An additional 6 influenza A(H3N2) viruses were isolated, 5 from respiratory tract cultures taken from 7 ill residents in the home and 1 from a 26-year-old staff member. Preliminary antigenic analysis performed by the World Health Organization (WHO) Collaborating Center for Influenza, Atlanta, indicates that the influenza A isolates appear to react equally with antisera to A/Bangkok/1/79 and A/Texas/1/77 viruses in hemagglutination-inhibition tests.

Influenza — Continued

Reported by GC Ray, MD, L Minnich, MS, University of Arizona, Tucson; J Browning, MD, Pima County Health Dept; K Starko, MD, Acting State Epidemiologist, Arizona Dept of Health Services; Immunization Div, Bur of State Services, and WHO Collaborating Center for Influenza, Virology Div, Bur of Laboratories, CDC.

Worldwide: It is currently the winter season in the southern hemisphere. Beginning in April, an A/Victoria/3/75(H3N2)-like strain was isolated in Australia; the next month, influenza A/Bangkok/1/79(H3N2)-like viruses were isolated. Also in May, H3N2 strains reacting equally with antisera to A/Bangkok/1/79 and A/Texas/1/77 were reported in Brazil, and the isolation of influenza A/Texas/1/77-like viruses was reported in Chile. The same month, outbreaks of influenza illness associated with the isolation of influenza A/Brazil/11/78(H1N1) virus were reported in Chile. This is the third season since mid-1977, when H1N1 strains first appeared in China, that both influenza A(H3N2) and A(H1N1) viruses have remained in circulation. An influenza B/Singapore/222/77-like virus was isolated in Australia in March.

Reported in the WHO Weekly Epidemiological Record, Volume 55, Numbers 14, 17, 21, and 23-26; and by the WHO Collaborating Center for Influenza, Virology Div, Bur of Laboratories, CDC.

The Morbidity and Mortality Weekly Report, circulation 88,700, is published by the Center for Disease Control, Atlanta, Georgia. 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.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Send reports to: Center for Disease Control, Attn: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

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