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Epidemiologic Notes and Reports

Arboviral Encephalitis — United States, 1982

Sixteen cases of arboviral encephalitis in humans have been reported from four states (Florida, Georgia, New York, and Wisconsin) in 1982.

In Florida, a fatal case of eastern equine encephalitis (EEE) was confirmed in a 75-year-old resident of Orlando, with onset of illness on June 12. A second suspected case in a 14-year-old male from central Florida, onset July 23, is currently under investigation. Evidence of EEE viral activity was provided by seroconversions between May 31 and July 16 in 26 of 1494 sentinel chickens in nine counties. Approximately 150 clinical cases of encephalitis have occurred among horses in northern and central Florida; EEE virus has been isolated from the brains of four animals, and 58 cases have serologic evidence for EEE infection. The incidence of equine cases far exceeds that for 1981 (eight cases with serologic evidence).

In south Georgia, two human cases of EEE have been reported: one from Lowndes County (47-year-old female, with illness onset July 18, fatal outcome) and one from Brantley County (2-year-old male, onset July 10, recovered). Equine cases appeared in late June and continue to be reported from the southern part of the state; of approximately 50 cases recognized to date, 18 have been confirmed by virus isolation. EEE has affected penned quail and pheasants on six farms, resulting in over 4,000 deaths, principally among young birds.

Coincident with increased activity of EEE virus in Georgia is an unusual incidence of California encephalitis. In May and June, five serologically confirmed cases occurred in children 3 months to 10 years of age residing in Bibb County (one case), Coffee County (two), and Jeff Davis County (two). For three of the cases, La Crosse virus was identified by neutralization tests as the etiologic agent. Other cases are currently under investigation, and active surveillance has been initiated.

New York has reported one confirmed and six presumed cases of California encephalitis. One patient, a 3-year-old female from Rensselaer County, onset July 20, has been confirmed as having a case of La Crosse encephalitis. The other cases have been diagnosed presumptively (on the basis of antibody in a single serum sample) as Jamestown Canyon virus (two patients who died, ages 45 and 79, from Albany

Arboviral Encephalitis – Continued

County, onsets June 1 and 2; one who died, age 86, from Suffolk County, onset July 8; one who recovered, age 4, from Niagara County, onset June 2; one who recovered, age 33, from Saratoga County, onset July 8; and one who recovered, age 70, from Ulster County, onset June 25).

In Wisconsin, one serologically confirmed case of La Crosse encephalitis has been reported in a 10-year-old girl from Prairie du Chien, onset July 10.

Other states have reported arboviral encephalitis in domestic animals but not humans. Single cases of western equine encephalitis (WEE) have occurred in Arizona, California, Colorado, and Texas; and seven cases of unspecified etiology (presumably WEE) have been reported from North Dakota. Equine cases of EEE have been documented in South Carolina and Maryland.

Although no human cases of St. Louis encephalitis (SLE) have been recognized, low prevalences of SLE antibodies have been detected in juvenile wild birds in Kentucky, Mississippi, Ohio, and Tennessee.

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Editorial Note: EEE is a rare disease of man in the United States; in the past decade, the annual incidence has been ≤ eight cases (*1*). The disease occurs principally along the Atlantic and Gulf coasts, as well as inland near fresh-water swamps. The virus is maintained in a cycle involving *Culiseta melanura* mosquitoes and wild birds, but epidemic transmission to horses and humans may involve other vectors, including species of *Aedes* and *Coquillettidia*. The excess of cases in central Florida and Georgia in 1982 is believed to be due to heavy rains, resulting in high populations of mosquito vectors. A peculiar aspect of the epidemiology of EEE is the occurrence of epornitics in penned exotic birds (quail, pheasants, chukar partridges), with attack rates of up to 50% and serious economic losses. In these flocks, EEE virus is transmitted directly from bird-to-bird by pecking and cannibalism.

Arboviral Encephalitis – Continued

The high incidence of California encephalitis in Georgia due to La Crosse virus is also unusual. This virus is responsible for 50 to 150 cases annually in the United States; although previously reported in Georgia and elsewhere in the southern United States, La Crosse encephalitis predominantly affects the northcentral states. The principal vector is *A. triseriatus*, which breeds in tree-holes and peridomestic containers. Excessive rainfall in the area may be a factor in increased vector density and viral activity.

Jamestown Canyon virus, also a member of the California virus serogroup, has been clearly implicated as a human pathogen only since 1980. In addition to the reports from New York, isolated encephalitis cases have been found in Indiana and Ontario, Canada. Of interest is the age distribution of the New York patients (five of six cases among adults, three over 70 years of age) and the high case-fatality rate. In contrast, La Crosse virus principally affects children under 12 years of age and has a low case-fatality rate (under 1%). It should be emphasized that the New York cases were presumptively diagnosed on the basis of antibody in a single serum, a finding that may reflect remote infection unrelated to the current illness. In New York, Jamestown Canyon virus is transmitted by *A. communis* group mosquitoes; deer are the primary vertebrate host in the cycle, but transovarial transmission in the vector is important in maintenance of the virus.

Reference

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Cercarial Dermatitis among Bathers in California; Katayama Syndrome among Travelers to Ethiopia

Cercarial dermatitis—California: In late August 1981, four persons sought medical attention for dermatitis after swimming or wading in a cove of the Mad River at Camp Bauer in Humboldt County, California, 10 miles from the Pacific coast. Subsequent investigation uncovered 12 additional cases later diagnosed as cercarial dermatitis. Interviews with 14 patients revealed that all were exposed between August 29 and September 2, and that the most common complaint was pruritis occurring within 1½ hours after water contact. Discomfort ranged from moderate to severe. In a few persons, pruritis persisted several days; those patients were treated with antipruritics.

These clinical reports led to a search for evidence of parasites at the site of exposure, a 100-yard stretch of beach bordering a large pool of sluggishly moving water. Snails of the genus *Physa* were noted in the pool's shallows. They were taken to the Humboldt County Health Department laboratory, where furcocercous cercariae were observed emerging from snails held in dishes of water. As a control measure, authorities posted warning signs on the beach.

Cecarial Dermatitis – Continued

Katayama syndrome—Ethiopia: On January 11, 1982, a physician in Gunnison, Colorado, requested diagnostic advice for a patient with a history of intermittent fever, cough, lethargy, and myalgias associated with an absolute eosinophilia. The patient had been ill for 5 weeks, with onset of illness on December 6, 1981, one week after he returned from rafting the Omo River in Ethiopia. Preliminary investigation revealed that, among eleven travelers, five had similar illnesses—four with fever and eosinophilia and one with malaise and eosinophilia. Onset dates ranged from December 6 to December 21. All five patients had sought medical care in December 1981, but various diagnostic evaluations, including thick blood film examination, serology for malaria and schistosomiasis, and stool examination for ova and parasites, had not provided a diagnosis.

Katayama syndrome (acute schistosomiasis) was suspected, and stool, urine, and serum specimens taken between January 10 and February 10, 1982, were examined from 10 of 11 travelers; the eleventh traveler had similar but independent evaluation in Sweden in early January. At least three 1-gram stool samples from each of nine patients were processed by the modified Ritchie concentration technique (MRCT). Formal-ether concentrations were done on single stool specimens from the other two. All symptomatically ill travelers and one asymptomatic one had *Schistosoma mansoni* eggs in their stools, with counts ranging from three to 15 eggs/gram of stool. The five remaining asymptomatic travelers had no eggs on examination of the entire sediment from at least 3 grams of stool. All egg-positive persons had positive IFA tests for schistosomiasis, while all egg-negative persons had negative tests. Those with proven *S. mansoni* were treated with a single dose of oxamniquine (30 mg/kg). Repeat stool examinations (at least 3 gm by the MRCT) 1 month post-treatment were negative. Concurrently, five of six patients who initially had negative tests were retested and remained egg- and IFA-negative.

The rafting trip had begun on November 7, 1981. In addition to occasional contact with the Omo River, the travelers often bathed in tributary streams entering the Omo canyon. They iodinated drinking water and most iodinated shower water, especially during the latter part of the trip. They were aware of the risk of contracting schistosomiasis from the lower stretches of river and particularly from the Mui River, where their trip ended on November 26; consequently, they iodinated all Mui River water used for bathing or drinking. Thereafter they avoided any contact with untreated natural waters.

A survey of the entire group revealed no specific mode or site of exposure. Among multiple bathing sites, three pools were used by all infected travelers, as well as by some uninfected ones. Those who towel-dried had a reduced likelihood of infection, but that was not statistically significant; and one person who repeatedly towel-dried was infected.

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Cecarial Dermatitis – Continued

Editorial Note: Schistosome life cycles are characterized by asexual reproduction in an extremely restricted range of snails (intermediate host) and sexual reproduction (oviposition) in a restricted range of vertebrates (definitive host). Vertebrates become infected when free-swimming furcocercous (fork-tailed) cercariae emerge from snails and penetrate the skin, losing their tails and becoming schistosomulae (juvenile worms).

Man was not a suitable, definitive host in the first outbreak, and the schistosomulae died in the skin, initiating cercarial dermatitis (schistosome dermatitis, swimmer's itch, clam digger's itch, sea bather's itch). Many species of schistosomes throughout the world may produce this syndrome, including some parasites of sea birds and marine snails. Usually, onset of pruritic, papular rash occurs within a few hours after bathing and may be preceded by a stinging sensation just after exposure. Symptoms are probably due to the host's reaction to the dead and dying schistosomulae and may persist for several days but always resolve spontaneously. Treatment with antihistamines or antipruritics may provide relief.

Katayama syndrome (acute schistosomiasis), as described in the second outbreak, resulted from infection by *S. mansoni* of man, an appropriate host. The syndrome usually occurs with primary infections by *S. mansoni* and *S. japonicum* but has been reported with heavy secondary infections by these two species and, rarely, with primary *S. hematobium* infections. After single-source exposures, incubation ranges from 2 to 10 weeks; onset of illness corresponds to late maturation of juvenile worms and onset of oviposition (at 4-6 weeks). Since egg excretion in the stool is further delayed, a parasitologic diagnosis of early Katayama syndrome is virtually impossible in all but the few cases with delayed onset.

As with chronic schistosomiasis, severity of Katayama syndrome parallels worm burden (*1*). Unlike chronic schistosomiasis, symptoms often occur with very light infections. Thus, a sensitive stool-concentration technique, such as the MRCT, with examination of the entire sediment from at least 1 gram of stool, is recommended to confirm the diagnosis. While safe and effective schistosomocidal drugs are now available, they lack evaluation in prepatent schistosomiasis.

In the cercarial dermatitis outbreak, the demonstration of infected snails at the suspected site of exposure was convincing evidence for that diagnosis, as well as for incrimination of the river as the first source of that type of infection documented in California. In the Katayama syndrome outbreak, no specific site of infection could be determined. However, natural pools in stream beds used for swimming or bathing have been incriminated previously as sites of infection in Africa and other endemic areas (*2*). In addition to such pools in tributary streams, shallows without appreciable flow in the Omo River may have harbored infected snails; water from the main current of the river is a highly improbable source.

The Katayama syndrome outbreak is by no means unique. The waters of the Mui River were implicated as the source for two previous outbreaks among game park visitors (*3*), and CDC has received anecdotal reports of infected river-rafters from other trips.

Cecarial Dermatitis – Continued

Preventive measures for both syndromes are aimed at preventing penetration by cercariae. Avoiding potentially infected water (including drinking water), although entirely effective, may not be practical. Iodinating (1 part per million for 30 minutes), chlorinating, or heating the water kills the cercariae. Frequent towel drying is effective, but because Katayama syndrome requires only a small worm load, this practice could reduce symptomology without completely preventing disease. Molluscicides are too expensive to be practical, except in the most frequently visited and infected water-contact sites. With the increasing popularity of rafting on African rivers and the unavoidable water contact, in addition to other exposures of tourists to endemic areas, physicians should suspect acute schistosomiasis when they obtain typical clinical evidence and compatible exposure histories. In the United States (except in Puerto Rico), there are no suitable snail hosts for human schistosomes; therefore, only cercarial dermatitis may be acquired.

References

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

Disease	32nd Week Ending			Cumulative, First 32 Weeks		
	August 14, 1982	August 15, 1981	Median 1977-1981	August 14, 1982	August 15, 1981	Median 1977-1981
Aseptic meningitis	333	379	230	3,567	3,918	2,818
Brucellosis	4	2	3	98	91	111
Encephalitis: Primary (arthropod-borne & unspec.)	30	36	36	570	614	472
Post-infectious	1	2	4	43	63	139
Gonorrhea: Civilian	17,571	21,097	22,031	556,596	609,452	595,812
Military	600	575	575	15,655	18,000	16,689
Hepatitis: Type A	403	465	554	13,299	15,679	17,472
Type B	452	417	351	12,693	12,540	10,107
Non A, Non B	44	N	N	1,302	N	N
Unspecified	203	229	217	5,541	6,717	6,144
Legionellosis	23	N	N	267	N	N
Leprosy	-	1	3	120	160	107
Malaria	26	34	31	594	884	451
Measles (rubeola)	28	44	203	1,157	2,515	12,668
Meningococcal infections: Total	42	48	45	1,976	2,419	1,837
Civilian	42	48	45	1,964	2,410	1,819
Military	-	-	-	12	9	13
Mumps	24	49	89	4,031	3,062	10,830
Pertussis	63	39	51	759	705	830
Rubella (German measles)	11	11	76	1,879	1,673	10,448
Syphilis (Primary & Secondary): Civilian	690	662	443	19,969	18,411	14,528
Military	10	2	4	257	232	186
Tuberculosis	443	617	617	15,642	16,354	17,077
Tularemia	6	6	6	134	139	117
Typhoid fever	4	9	9	230	307	282
Typhus fever, tick-borne (RMSF)	52	34	60	701	852	759
Rabies, animal	135	153	122	3,837	4,719	3,050

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1982		Cum. 1982
Anthrax	-	Poliomyelitis: Total	3
Botulism (Utah 1, Calif 1, Hawaii 2)	54	Paralytic	3
Cholera	-	Psittacosis	82
Congenital rubella syndrome	5	Rabies, human	-
Diphtheria	2	Tetanus (Ohio 1, Minn. 1, W.Va. 1, Calif. 1)	48
Leptospirosis	34	Trichinosis	61
Plague (Colo. 2)	10	Typhus fever, flea-borne (endemic, murine) (Ga. 1, Tex. 3)	24

TABLE III. Cases of specified notifiable diseases, United States, weeks ending August 14, 1982 and August 15, 1981 (32nd week)

Reporting Area	Aseptic Meningitis	Brucellosis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	1982	Cum. 1982	Cum. 1982	Cum. 1982	Cum. 1982	Cum. 1981	1982	1982	1982	1982	1982	Cum. 1982
UNITED STATES	333	98	570	43	556,596	609,452	403	452	44	203	23	120
NEW ENGLAND	37	3	20	4	13,701	14,962	11	30	-	12	-	1
Maine	3	-	-	-	658	776	3	3	-	-	-	-
N.H.	7	-	1	-	389	543	-	-	-	-	-	-
Vt.	1	-	-	-	259	259	3	-	-	-	-	-
Mass.	16	-	7	-	6,391	6,229	2	10	-	12	-	-
R.I.	4	-	-	-	917	819	-	2	-	-	-	-
Conn.	6	3	12	4	5,087	6,336	3	15	-	-	-	1
MID. ATLANTIC	37	3	61	9	71,526	72,003	52	81	4	18	-	4
Upstate N.Y.	13	3	22	3	11,542	11,933	10	18	1	4	-	1
N.Y. City	2	-	11	-	30,011	29,910	1	7	-	-	-	1
N.J.	15	-	13	-	12,963	13,631	19	27	3	8	-	1
Pa.	7	-	15	6	17,010	16,529	22	29	-	6	-	1
E.N. CENTRAL	45	1	123	10	78,231	91,945	63	55	2	23	18	3
Ohio	15	1	42	4	22,913	30,542	9	23	1	3	3	-
Ind.	4	-	29	3	9,451	8,023	30	14	-	17	-	-
Ill.	-	-	9	1	18,799	25,449	2	3	1	1	-	3
Mich.	24	-	38	-	19,610	19,647	20	14	-	2	14	-
Wis.	2	-	5	2	7,458	8,284	2	1	-	-	1	-
W.N. CENTRAL	12	14	46	3	27,378	28,965	13	18	2	6	-	3
Minn.	2	1	19	1	4,092	4,557	4	5	-	1	-	1
Iowa	-	3	16	1	2,874	3,167	-	5	1	3	-	-
Mo.	6	4	6	-	12,869	13,371	6	8	1	1	-	1
N. Dak.	2	-	-	-	367	393	-	-	-	-	-	-
S. Dak.	-	1	-	1	741	786	2	-	-	-	-	1
Nebr.	-	2	2	-	1,659	2,238	1	-	-	-	-	-
Kans.	2	3	3	-	4,776	4,453	-	-	-	1	-	-
S. ATLANTIC	45	18	98	7	132,017	149,997	36	84	12	25	3	7
Del.	-	-	-	-	2,415	2,374	-	1	-	1	-	-
Md.	4	-	15	-	18,606	17,144	4	22	5	2	-	3
D.C.	-	-	-	-	8,366	8,949	-	2	-	-	-	-
Va.	6	7	20	1	12,372	13,478	1	12	2	1	1	1
W. Va.	3	-	4	-	1,675	2,244	1	1	2	-	-	-
N.C.	15	-	11	1	24,084	23,156	4	10	-	15	-	-
S.C.	1	2	-	-	14,694	14,460	2	10	-	1	-	-
Ga.	-	1	8	-	9,483	30,912	U	U	U	U	2	-
Fla.	16	8	40	5	40,322	37,280	24	26	3	5	-	3
E.S. CENTRAL	11	11	32	2	49,640	50,962	14	26	2	5	1	-
Ky.	3	-	-	-	6,674	6,389	2	3	-	2	1	-
Tenn.	1	6	15	-	19,311	19,046	9	13	1	2	-	-
Ala.	7	4	12	2	14,920	15,626	3	9	1	1	-	-
Miss.	-	1	5	-	8,735	9,901	-	1	-	-	-	-
W.S. CENTRAL	69	25	72	1	80,161	80,646	70	41	-	60	-	18
Ark.	-	4	3	-	6,496	5,870	3	-	-	7	-	-
La.	3	6	10	-	15,018	13,546	9	2	-	1	-	-
Okla.	1	4	18	-	8,843	8,580	14	13	-	5	-	-
Tex.	65	11	41	1	49,804	52,650	44	26	-	47	-	18
MOUNTAIN	31	-	19	3	19,702	23,729	46	23	4	12	1	2
Mont.	1	-	-	-	806	872	-	1	-	-	-	-
Idaho	1	-	-	-	911	1,072	-	1	-	-	-	1
Wyo.	-	-	-	-	585	553	-	-	-	-	-	-
Colo.	9	-	9	1	5,236	6,398	10	5	1	1	-	-
N. Mex.	1	-	-	-	2,564	2,589	13	4	-	3	-	-
Ariz.	-	-	6	-	5,309	7,139	18	8	3	4	-	-
Utah	18	-	-	2	938	1,120	2	4	-	4	1	1
Nev.	1	-	4	-	3,353	3,986	3	-	-	-	-	-
PACIFIC	46	23	99	4	84,240	96,243	98	94	18	42	-	82
Wash.	2	-	9	-	7,020	7,883	8	13	4	1	-	7
Oreg.	3	-	3	-	4,796	5,654	7	4	-	-	-	1
Calif.	36	22	83	4	68,847	78,370	83	72	14	41	-	52
Alaska	3	1	3	-	2,053	2,418	-	3	-	-	-	1
Hawaii	2	-	1	-	1,524	1,918	-	2	-	-	-	21
Guam	U	-	-	-	72	77	U	U	U	U	U	-
P.R.	2	-	1	-	1,722	1,992	2	2	-	3	-	-
V.I.	-	-	-	-	142	124	-	-	-	-	-	-
Pac. Trust Terr.	U	-	-	-	187	279	U	U	U	U	U	10

N: Not notifiable U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending August 14, 1982 and August 15, 1981 (32nd week)

Reporting Area	Malaria		Measles (Rubeola)			Meningococcal Infections (Total)		Mumps		Pertussis	Rubella		
	1982	Cum. 1982	1982	Cum. 1982	Cum. 1981	1982	Cum. 1982	1982	Cum. 1982	1982	1982	Cum. 1982	Cum. 1981
UNITED STATES	26	594	28	1,157	2,515	42	1,976	24	4,031	63	11	1,879	1,673
NEW ENGLAND	2	32	1	10	75	2	104	4	166	-	1	18	111
Maine	-	-	-	-	5	1	7	1	36	-	-	-	33
N.H.	1	1	-	2	6	-	14	-	12	-	-	8	43
Vt.	-	-	-	2	2	-	6	-	7	-	-	-	-
Mass.	-	21	1	3	54	-	27	3	81	-	1	6	23
R.I.	-	2	-	-	-	-	11	-	14	-	-	1	-
Conn.	1	8	-	3	8	1	39	-	16	-	-	3	12
MID. ATLANTIC	6	85	3	156	802	12	356	1	252	13	1	91	196
Upstate N.Y.	-	20	3	110	205	4	126	1	55	1	1	44	90
N.Y. City	2	26	-	38	69	-	59	-	42	-	-	31	49
N.J.	1	23	-	4	54	1	74	-	36	-	-	16	46
Pa.	3	16	-	4	474	7	97	-	119	12	-	-	11
E.N. CENTRAL	-	37	4	71	77	3	234	3	2,137	8	2	156	351
Ohio	-	9	-	1	15	-	87	2	1,554	4	-	-	3
Ind.	-	1	-	2	8	-	22	-	37	-	-	26	122
Ill.	-	4	-	23	23	-	63	-	168	-	-	55	85
Mich.	-	21	4	45	30	3	50	-	294	-	1	48	34
Wis.	-	2	-	-	1	-	12	1	84	4	1	27	107
W.N. CENTRAL	2	17	-	49	10	1	87	2	541	4	-	58	76
Minn.	-	2	-	-	3	-	21	2	416	4	-	8	7
Iowa	-	5	-	-	1	-	5	-	30	-	-	-	4
Mo.	1	5	-	2	1	1	26	-	15	-	-	38	2
N. Dak.	1	1	-	-	-	-	6	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	4	-	1	-	-	1	-
Nebr.	-	3	-	3	4	-	11	-	-	-	-	-	1
Kans.	-	1	-	44	1	-	14	-	79	-	-	11	62
S. ATLANTIC	5	93	-	36	349	9	395	3	230	7	-	69	127
Del.	1	4	-	-	-	-	-	-	10	-	-	1	1
Md.	2	14	-	2	4	1	25	1	24	3	-	33	1
D.C.	-	3	-	1	1	-	2	-	-	-	-	-	-
Va.	1	27	-	14	6	1	46	-	32	1	-	14	5
W. Va.	-	6	-	2	9	-	8	2	85	-	-	1	22
N.C.	-	3	-	-	3	-	76	-	11	2	-	1	5
S.C.	-	4	-	-	2	1	47	-	13	-	-	1	8
Ga.	1	12	-	-	108	-	81	-	11	-	-	6	35
Fla.	-	20	-	17	216	6	110	-	44	1	-	12	50
E.S. CENTRAL	-	7	-	8	5	3	129	1	39	2	-	43	27
Ky.	-	4	-	1	1	1	21	-	12	-	-	25	18
Tenn.	-	-	-	6	2	2	55	1	15	2	-	2	8
Ala.	-	-	-	-	2	-	45	-	6	-	-	-	1
Miss.	-	3	-	1	-	-	8	-	6	-	-	16	-
W.S. CENTRAL	1	45	4	34	824	6	234	4	161	5	1	100	138
Ark.	-	3	-	-	1	-	12	-	6	-	-	1	3
La.	-	3	-	2	2	-	42	-	5	-	-	1	9
Okla.	-	6	4	16	5	1	25	-	-	-	-	3	-
Tex.	1	33	-	16	816	5	155	4	150	5	1	95	126
MOUNTAIN	-	17	2	8	33	1	96	-	74	7	3	74	80
Mont.	-	1	-	-	-	-	4	-	3	-	-	5	3
Idaho	-	1	-	-	1	-	6	-	3	3	-	6	3
Wyo.	-	-	-	-	-	-	5	-	2	-	-	7	7
Colo.	-	8	1	6	9	-	41	-	14	-	-	6	30
N. Mex.	-	2	-	-	8	-	14	-	-	-	-	5	5
Ariz.	-	3	1	2	5	1	16	-	33	4	2	14	19
Utah	-	2	-	-	-	-	8	-	14	-	-	20	4
Nev.	-	-	-	-	10	-	2	-	5	-	1	11	9
PACIFIC	10	261	14	785	340	5	341	6	431	17	3	1,270	567
Wash.	1	14	-	32	3	-	36	-	61	1	-	37	88
Oreg.	-	9	-	15	3	2	67	-	-	-	-	6	49
Calif.	9	236	14	733	332	3	225	6	356	2	3	1,214	415
Alaska	-	-	-	1	-	-	10	-	6	-	-	5	1
Hawaii	-	2	-	4	2	-	3	-	8	14	-	8	14
Guam	U	1	U	6	6	U	2	U	3	U	U	2	1
P.R.	-	4	2	83	258	-	7	1	47	1	-	7	3
V.I.	-	-	-	-	24	-	-	-	1	-	-	-	1
Pac. Trust Terr.	U	-	U	-	1	U	-	U	1	U	U	-	1

U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending August 14, 1982 and August 15, 1981 (32nd week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Tuberculosis		Tula-remia	Typhoid Fever		Typhus Fever (Tick-borne) (RMSF)		Rabies, Animal
	Cum. 1982	Cum. 1981	1982	Cum. 1982	Cum. 1982	1982	Cum. 1982	1982	Cum. 1982	Cum. 1982
UNITED STATES	19,969	18,411	443	15,642	134	4	230	52	701	3,837
NEW ENGLAND	337	375	5	412	2	-	14	-	7	28
Maine	1	2	1	34	-	-	-	-	-	20
N.H.	1	12	1	12	-	-	-	-	1	-
Vt.	1	13	-	9	-	-	2	-	-	-
Mass.	229	251	3	274	2	-	10	-	3	4
R.I.	17	21	-	17	-	-	-	-	2	-
Conn.	88	76	-	66	-	-	2	-	1	4
MID. ATLANTIC	2,756	2,733	62	2,628	7	1	35	-	27	112
Upstate N.Y.	267	248	16	458	7	1	6	-	9	56
N.Y. City	1,663	1,638	19	958	-	-	20	-	1	-
N.J.	373	375	8	529	-	-	5	-	11	8
Pa.	453	472	19	683	-	-	4	-	6	48
E.N. CENTRAL	1,067	1,260	79	2,400	1	2	19	4	65	431
Ohio	196	167	12	414	-	-	8	3	60	61
Ind.	117	122	4	310	-	-	-	-	-	65
Ill.	514	693	29	988	-	-	3	1	5	220
Mich.	179	219	29	557	-	1	7	-	-	4
Wis.	61	59	5	131	1	1	1	-	-	81
W.N. CENTRAL	355	378	17	455	18	-	8	1	20	858
Minn.	67	134	1	77	-	-	5	-	-	151
Iowa	18	14	1	50	1	-	1	-	4	271
Mo.	215	200	12	217	12	-	1	1	7	78
N. Dak.	7	7	1	9	-	-	-	-	-	75
S. Dak.	1	2	-	19	-	-	-	-	3	71
Nebr.	11	5	-	20	2	-	-	-	1	100
Kans.	36	16	2	63	3	-	1	-	5	112
S. ATLANTIC	5,439	4,860	98	3,216	10	-	34	33	396	668
Del.	9	7	-	26	-	-	-	-	-	2
Md.	289	373	-	364	1	-	9	2	40	33
D.C.	306	389	9	130	-	-	-	-	-	-
Va.	377	431	18	361	2	-	3	9	60	339
W. Va.	20	15	1	100	-	-	3	1	7	34
N.C.	405	369	16	518	-	-	-	11	172	47
S.C.	317	319	7	294	6	-	3	6	87	37
Ga.	1,115	1,252	15	483	-	-	-	4	28	133
Fla.	2,601	1,705	32	940	1	-	16	-	2	43
E.S. CENTRAL	1,390	1,209	43	1,463	6	-	14	4	54	452
Ky.	76	67	14	375	-	-	-	-	-	93
Tenn.	371	448	20	485	4	-	2	2	35	273
Ala.	514	340	9	416	-	-	9	1	7	84
Miss.	429	354	-	187	2	-	3	1	12	2
W.S. CENTRAL	5,189	4,461	52	1,882	67	1	24	10	119	743
Ark.	130	83	9	203	42	-	2	-	20	102
La.	1,172	1,062	10	296	3	-	3	-	-	22
Okla.	114	103	11	247	21	-	2	8	63	139
Tex.	3,773	3,213	22	1,136	1	1	17	2	36	480
MOUNTAIN	504	468	16	439	17	-	10	-	9	152
Mont.	3	11	1	27	2	-	-	-	2	56
Idaho	22	17	1	23	1	-	-	-	2	6
Wyo.	14	7	-	2	1	-	-	-	1	13
Colo.	142	146	-	46	3	-	3	-	1	24
N. Mex.	115	88	-	84	1	-	-	-	1	11
Ariz.	115	105	14	190	-	-	5	-	-	32
Utah	15	17	-	25	9	-	1	-	-	7
Nev.	78	77	-	42	-	-	1	-	2	3
PACIFIC	2,932	2,667	71	2,747	6	-	72	-	4	393
Wash.	100	103	3	174	1	-	3	-	-	3
Oreg.	70	59	8	116	-	-	2	-	1	1
Calif.	2,678	2,450	55	2,213	4	-	64	-	3	314
Alaska	8	10	-	57	1	-	1	-	-	75
Hawaii	76	45	5	187	-	-	2	-	-	-
Guam	1	-	U	8	-	U	-	U	-	-
P.R.	369	414	5	239	-	-	2	-	-	32
V.I.	17	13	-	1	-	-	-	-	-	-
Pac. Trust Terr.	-	-	U	68	-	U	-	U	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending August 14, 1982 (32nd week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	638	426	152	30	17	13	45
Boston, Mass.	178	107	41	11	11	8	15
Bridgeport, Conn.	41	29	8	3	1	-	1
Cambridge, Mass.	28	19	6	3	-	-	4
Fall River, Mass.	30	23	7	-	-	-	-
Hartford, Conn.	70	53	11	3	2	1	7
Lowell, Mass.	21	16	3	2	-	-	1
Lynn, Mass.	20	13	7	-	-	-	-
New Bedford, Mass.	25	21	4	-	-	-	1
New Haven, Conn.	48	27	16	2	3	-	2
Providence, R.I.	41	24	12	2	-	3	4
Somerville, Mass.	8	5	3	-	-	-	-
Springfield, Mass.	34	21	11	1	-	1	2
Waterbury, Conn.	30	20	9	1	-	-	4
Worcester, Mass.	64	48	14	2	-	-	4
MID. ATLANTIC	2,473	1,585	565	182	61	78	90
Albany, N.Y.	46	27	11	2	2	4	1
Allentown, Pa.	15	13	2	-	-	-	-
Buffalo, N.Y.	126	74	36	8	4	4	7
Camden, N.J.	37	18	15	2	1	1	2
Elizabeth, N.J.	12	10	2	-	-	-	1
Erie, Pa.†	33	20	10	2	-	1	3
Jersey City, N.J.	42	30	7	3	-	2	1
N.Y. City, N.Y.	1,340	863	296	104	33	44	44
Newark, N.J.	59	25	13	13	2	4	2
Paterson, N.J.	20	14	3	3	-	-	2
Philadelphia, Pa.†	252	151	58	25	8	10	12
Pittsburgh, Pa.†	65	40	19	5	-	1	3
Reading, Pa.	34	26	7	1	-	-	4
Rochester, N.Y.	130	93	25	5	2	5	3
Schenectady, N.Y.	27	19	6	1	-	1	1
Scranton, Pa.†	27	15	9	1	2	-	-
Syracuse, N.Y.	126	84	29	6	7	-	-
Trenton, N.J.	24	16	6	1	-	1	1
Utica, N.Y.	25	21	4	-	-	-	2
Yonkers, N.Y.	33	26	7	-	-	-	1
E.N. CENTRAL	2,146	1,275	543	164	97	67	38
Akron, Ohio	93	61	16	8	5	3	-
Canton, Ohio	27	16	10	1	-	-	-
Chicago, Ill	489	283	124	55	18	9	11
Cincinnati, Ohio	136	78	41	3	4	10	3
Cleveland, Ohio	144	89	31	7	10	7	1
Columbus, Ohio	140	69	46	12	8	5	3
Dayton, Ohio	106	70	25	6	5	-	1
Detroit, Mich.	257	125	79	23	19	11	2
Evansville, Ind.	32	24	7	-	1	-	-
Fort Wayne, Ind.	50	36	8	4	2	-	2
Gary, Ind.	13	4	3	4	2	-	-
Grand Rapids, Mich.	33	26	5	1	1	-	1
Indianapolis, Ind.	173	100	45	16	6	6	-
Madison, Wis.	37	21	9	3	2	2	1
Milwaukee, Wis.	102	67	23	2	4	6	2
Peoria, Ill.	29	16	8	1	3	1	2
Rockford, Ill.	39	24	11	2	-	2	4
South Bend, Ind.	49	41	4	2	-	2	3
Toledo, Ohio	135	82	36	11	4	2	2
Youngstown, Ohio	62	43	12	3	3	1	-
W.N. CENTRAL	720	502	134	35	31	17	27
Des Moines, Iowa §	53	51	-	-	1	-	-
Duluth, Minn.	23	17	4	1	1	-	4
Kansas City, Kans.	28	20	6	1	1	-	-
Kansas City, Mo.	102	74	19	4	4	1	2
Lincoln, Nebr.	39	24	11	1	-	3	3
Minneapolis, Minn.	88	58	16	4	7	3	2
Omaha, Nebr.	92	64	19	3	2	4	3
St. Louis, Mo.	165	98	41	12	10	4	5
St. Paul, Minn.	68	58	9	-	1	-	4
Wichita, Kans.	62	38	9	9	4	2	4
S. ATLANTIC	1,347	778	327	117	58	65	37
Atlanta, Ga.	116	52	37	10	8	9	6
Baltimore, Md.	321	182	87	22	16	14	6
Charlotte, N.C.	61	29	16	4	6	4	3
Jacksonville, Fla.	101	63	22	7	3	6	5
Miami, Fla.	125	70	29	16	5	5	3
Norfolk, Va.	57	29	14	10	-	4	2
Richmond, Va.	83	50	21	7	1	4	1
Savannah, Ga.	41	24	11	5	1	-	3
St. Petersburg, Fla.	83	67	8	1	6	1	1
Tampa, Fla.	73	48	12	6	3	4	4
Washington, D.C.	231	127	58	25	8	13	1
Wilmington, Del.	55	37	12	4	1	1	2
E.S. CENTRAL	691	400	180	49	28	33	17
Birmingham, Ala.	95	52	27	4	8	4	2
Chattanooga, Tenn.	62	37	18	5	-	2	2
Knoxville, Tenn.	48	32	13	2	-	1	1
Louisville, Ky.	116	71	33	7	3	1	6
Memphis, Tenn.	159	88	37	14	7	13	-
Mobile, Ala.	80	42	21	7	6	4	1
Montgomery, Ala.	27	15	10	2	-	-	3
Nashville, Tenn.	104	63	21	8	4	8	2
W.S. CENTRAL	1,212	678	318	86	63	67	24
Austin, Tex.	57	37	8	6	4	2	-
Baton Rouge, La.	32	23	7	1	-	1	1
Corpus Christi, Tex.	33	23	5	2	3	-	-
Dallas, Tex.	186	104	55	11	9	7	1
El Paso, Tex.	53	33	16	2	2	-	5
Fort Worth, Tex.	74	43	25	-	2	4	2
Houston, Tex.	300	146	76	37	22	19	5
Little Rock, Ark.	64	38	15	1	3	7	1
New Orleans, La.	127	72	34	9	6	6	-
San Antonio, Tex.	155	84	42	8	9	12	5
Shreveport, La.	46	25	15	1	2	3	-
Tulsa, Okla.	85	50	20	8	1	6	4
MOUNTAIN	572	347	135	36	35	19	15
Albuquerque, N.Mex.	62	40	11	4	2	5	2
Colo. Springs, Colo.	37	24	9	2	1	1	1
Denver, Colo.	108	69	24	9	6	-	2
Las Vegas, Nev.	58	31	18	6	3	-	4
Ogden, Utah	15	9	4	1	-	1	1
Phoenix, Ariz.	146	87	33	9	11	6	1
Pueblo, Colo.	17	9	6	1	1	-	1
Salt Lake City, Utah	55	32	13	2	4	4	-
Tucson, Ariz.	74	46	17	2	7	2	3
PACIFIC	1,563	993	335	120	53	61	81
Berkeley, Calif.	11	8	2	-	1	-	-
Fresno, Calif.	60	31	10	11	3	5	5
Glendale, Calif.	20	15	5	-	-	-	-
Honolulu, Hawaii	52	30	14	2	2	4	2
Long Beach, Calif.	86	48	25	11	1	1	4
Los Angeles, Calif.	421	281	78	29	18	15	22
Oakland, Calif.	62	43	12	2	1	4	-
Pasadena, Calif.	34	29	2	1	-	2	2
Portland, Oreg.	116	80	24	3	2	7	6
Sacramento, Calif.	71	38	19	5	5	4	3
San Diego, Calif.	118	70	28	10	4	6	12
San Francisco, Calif.	154	90	32	22	3	6	5
San Jose, Calif.	150	87	38	13	8	4	12
Seattle, Wash.	127	92	22	8	3	2	5
Spokane, Wash.	49	29	16	1	2	1	1
Tacoma, Wash.	32	22	8	2	-	-	2
TOTAL	11,362††	6,984	2,689	819	443	420	374

* 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.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Tuberculosis — United States, 1981

During 1981, 27,373 cases of tuberculosis were reported to CDC; the case rate was 11.9 per 100,000 population, a decrease of 1.4% in the number of cases reported and 3.3% in the case rate from 1980 (Table 1).

Case rates for the 50 states ranged from 20.1 per 100,000 in Alaska to 1.1 per 100,000 in Idaho. In 21 states, 1981's tuberculosis rate was ≥ 1980's, while for 29 states and the District of Columbia, it was lower (Figure 1). The rate for California has risen during each of the past 3 years; the rates for Kansas and South Carolina have risen during each of the past 2 years.

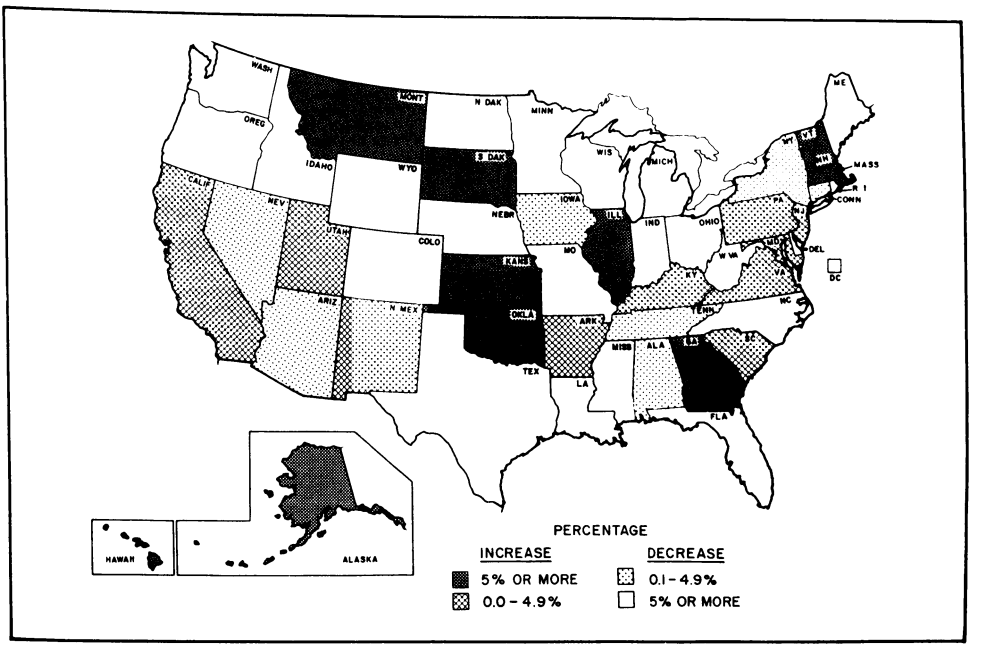
Case rates were higher in the southern half of the country (Figure 2) and in the major cities. In 56 cities with a population ≥250,000, the rate was 23.3 per 100,000 population—twice the national rate. Miami, Florida, had a rate of 87.0 per 100,000 in 1981, the highest for any major city since 1977; Omaha-Douglas County, Nebraska, had the lowest rate (3.8 per 100,000).

Reported by Tuberculosis Control Div, Center for Prevention Svcs, CDC.

Editorial Note: During the past 3 years, no substantial decline has occurred in the number of tuberculosis cases in the United States. From 1968 through 1978, the number decreased by an average of 5.6% per year; during the past 3 years, the average decline has been 1.4%. Surveys show that cases among newly arrived Indochinese refugees largely accounted for the leveling off of the decline during 1979 and

(Continued on page 446)

FIGURE 1. Change in percentage of tuberculosis case rates by state, United States, 1980-1981



Tuberculosis – Continued

TABLE 1. Tuberculosis cases and case rates by state, 1981 and 1980

State	Tuberculosis Cases		Case Rate		Rank According to Rate		Population July 1, 1981
	1981	1980	1981	1980	1981	1980	
United States	27,373	27,749	11.9	12.3	—	—	229,307,000
Alabama	640	663	16.3	17.0	9	6	3,917,000
Alaska	83	76	20.1	19.0	1	1	412,000
Arizona	342	342	12.2	12.6	21	19	2,794,000
Arkansas	381	369	16.6	16.1	7	9	2,296,000
California	4,520	4,279	18.7	18.1	3	4	24,196,000
Colorado	122	135	4.1	4.7	44	43	2,965,000
Connecticut	171	173	5.5	5.6	34	38	3,134,000
Delaware	71	76	11.9	12.8	22	17	598,000
District of Columbia*	239	341	37.9	53.5	—	—	631,000
Florida	1,553	1,647	15.3	16.9	12	7	10,183,000
Georgia	928	849	16.6	15.5	6	11	5,574,000
Hawaii	197	127	20.1	13.2	2	15	981,000
Idaho	11	33	1.1	3.5	50	46	959,000
Illinois	1,528	1,352	13.3	11.8	15	22	11,462,000
Indiana	374	429	6.8	7.8	32	32	5,468,000
Iowa	88	91	3.0	3.1	47	48	2,899,000
Kansas	120	108	5.0	4.6	38	44	2,383,000
Kentucky	596	570	16.3	15.6	10	10	3,662,000
Louisiana	534	577	12.4	13.7	18	14	4,308,000
Maine	52	58	4.6	5.2	41	41	1,133,000
Maryland	621	610	14.6	14.5	13	13	4,263,000
Massachusetts	504	452	8.7	7.9	29	31	5,773,000
Michigan	931	1,168	10.1	12.6	24	18	9,204,000
Minnesota	188	237	4.6	5.8	40	36	4,094,000
Mississippi	401	458	15.8	18.2	11	2	2,531,000
Missouri	431	466	8.7	9.5	30	27	4,941,000
Montana	35	27	4.4	3.4	42	47	793,000
Nebraska	32	44	2.0	2.8	49	49	1,577,000
Nevada	45	44	5.3	5.5	35	39	845,000
New Hampshire	34	22	3.6	2.4	46	50	936,000
New Jersey	927	906	12.5	12.3	17	20	7,404,000
New Mexico	152	146	11.4	11.2	23	23	1,328,000
New York	2,223	2,294	12.6	13.1	16	16	17,602,000
North Carolina	981	1,066	16.5	18.1	8	3	5,953,000
North Dakota	31	54	4.7	8.3	39	30	658,000
Ohio	657	747	6.1	6.9	33	35	10,781,000
Oklahoma	381	333	12.3	11.0	20	24	3,100,000
Oregon	206	218	7.8	8.3	31	29	2,651,000
Pennsylvania	1,048	1,015	8.8	8.6	28	28	11,871,000
Rhode Island	49	66	5.1	7.0	37	34	953,000
South Carolina	541	520	17.1	16.7	4	8	3,167,000
South Dakota	66	49	9.6	7.1	25	33	686,000
Tennessee	778	791	16.9	17.2	5	5	4,612,000
Texas	2,015	2,075	13.6	14.6	14	12	14,766,000
Utah	64	61	4.2	4.2	43	45	1,518,000
Vermont	27	25	5.2	4.9	36	42	516,000
Virginia	670	654	12.3	12.2	19	21	5,430,000
Washington	401	424	9.5	10.3	26	26	4,217,000
West Virginia	181	203	9.3	10.4	27	25	1,952,000
Wisconsin	192	252	4.0	5.4	45	40	4,742,000
Wyoming	11	27	2.2	5.7	48	37	492,000
American Samoa†	6	2	18.1	6.2	—	—	33,130
Guam†	47	55	44.4	52.0	—	—	105,821
Northern Mariana Is.†	26	..	154.2	..	—	—	16,862
Puerto Rico†	553	820	17.3	25.7	—	—	3,196,520
Trust Terr. Pacific Is.†	86	101††	73.5	75.5††	—	—	116,974
U.S. Virgin Is.†	4	8	3.3	8.4	—	—	120,000

*District of Columbia is not ranked with the states but is included in totals.
†Not included in totals.
††Cases and case rate for Trust Territory of the Pacific Islands for 1980 included Northern Mariana Islands.
(—) Not ranked.
(..) Not available.

Tuberculosis – Continued

FIGURE 2. Tuberculosis case rates by state, United States, 1981

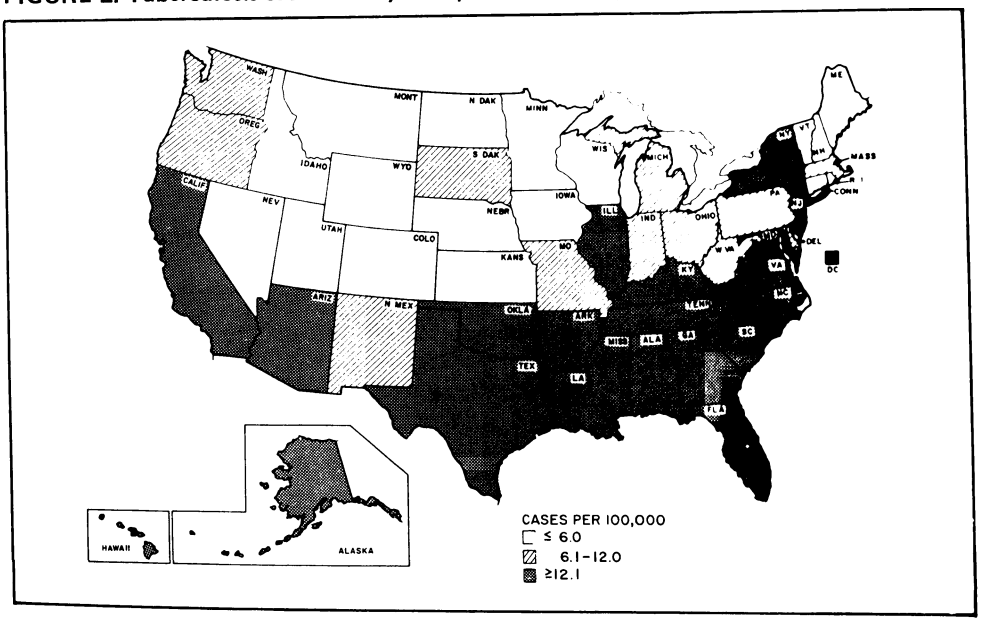
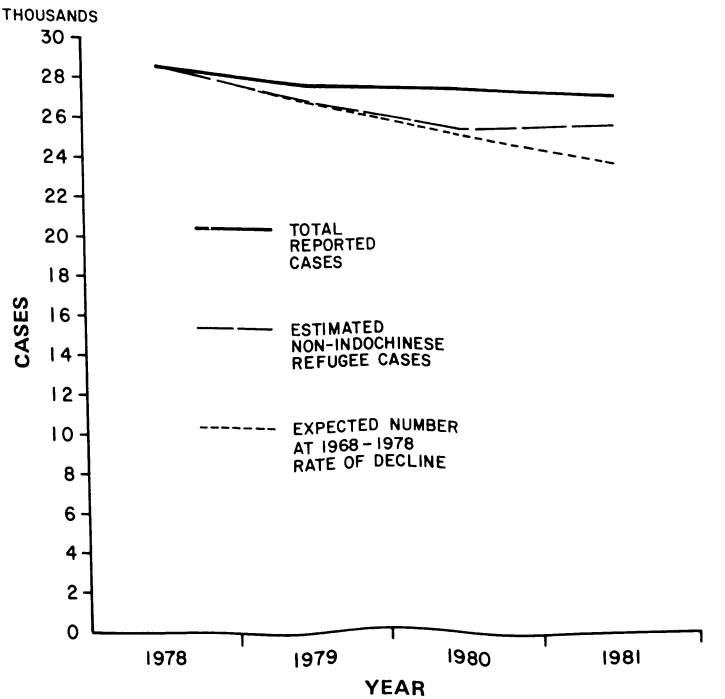


FIGURE 3. Tuberculosis cases by year, United States, 1978-1981



Tuberculosis – Continued

1980 (*1*). A similar survey has not been done for 1981, but based on data from 14 states (Colorado, Connecticut, Florida, Illinois, Kansas, Maine, Minnesota, Mississippi, Missouri, Nevada, Oklahoma, South Carolina, Washington, and Wisconsin) and two large cities (Washington, DC, and New York City), all of which reported the countries of origin of tuberculosis patients in 1981, it is estimated that Indochinese refugees accounted for fewer cases in 1981 than in 1980. This is consistent with the fact that fewer refugees arrived in 1981 (121,959) than in 1980 (155,158). The number of cases among other persons in the United States increased slightly from 25,569 to 25,841 (Figure 3). There is no evidence that this slight increase has been caused by transmission from the Indochinese refugees.

Reference

1. CDC. Tuberculosis among Indochinese refugees. MMWR 1981;30:603-6.

The Morbidity and Mortality Weekly Report, circulation 111,113, is published by the Centers 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.

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