MMWR
MORBIDITY AND MORTALITY WEEKLY REPORT

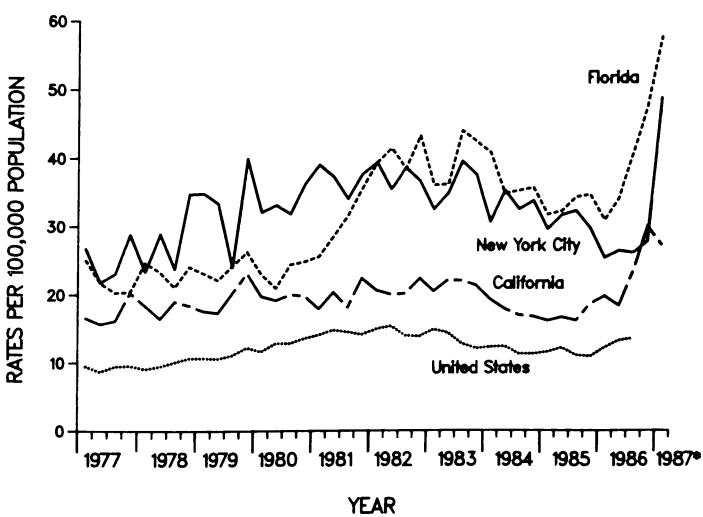
Current Trends

Increases in Primary and Secondary Syphilis — United States

After a 5-year trend of decreasing incidence of primary and secondary syphilis in the United States, 8,274 cases were reported during the first 3 months of 1987. This is an increase of 1,549 cases (23%) over the 6,725 cases reported during the first 3 months of 1986. The estimated annual rate per 100,000 population rose from 10.9 cases to 13.3 cases (Figure 1). An increase of this magnitude has not been observed in over 10 years.

Increases of 20 or more cases over the number reported during the first 3 months of 1986 were observed in eight states, four major metropolitan areas, and the Commonwealth of Puerto Rico (Table 1). The three areas reporting the largest numerical increases were California, Florida, and New York City. In California, increases of 10 or more cases occurred in Los Angeles, Long Beach, and seven

FIGURE 1. Incidence rates of primary and secondary syphilis, by quarter — United States and selected areas, 1977-1st quarter 1987



*1987 data are estimated.

Syphilis – Continued

smaller counties*. Ten counties in Florida experienced increases, the largest being in Dade, Orange, and Palm Beach counties. In New York City, all boroughs except Richmond experienced substantial increases.

All three areas with the largest increases had collected demographic data and information on the sexual preferences of patients with cases reported during the periods January-March 1986 and January-March 1987 (Table 2). In California and New York City, increases in primary and secondary syphilis occurred exclusively among heterosexuals. In addition, blacks experienced greater increases than whites in these two areas. In Florida, the increase occurred in each demographic group and in each group with similar sexual preferences. The ratio of cases among males to cases among females in the three areas fell from 2.6:1 to 2.1:1. For several other areas experiencing increases in total cases, the incidence declined for white men citing at least one male sexual partner.

*San Francisco continued a 5-year trend of decreasing incidence.

TABLE 1. States and metropolitan areas reporting increases of ≥20 cases of primary and secondary syphilis – United States, January-March 1986 and January-March 1987

Reporting Area	Number of Cases		Change (%)
	January-March 1986	January-March 1987	
California			
Los Angeles	508	970	(91)
Other	784	847	(8)
Total	1,292	1,817	(41)
Florida	877	1,679	(92)
New York			
New York City	510	875	(72)
Other	55	90	(64)
Total	565	965	(71)
Georgia	383	417	(9)
Commonwealth of Puerto Rico	207	229	(11)
Pennsylvania			
Philadelphia	118	187	(58)
Other	33	38	(15)
Total	151	225	(49)
Mississippi	131	162	(24)
Maryland			
Baltimore	56	95	(70)
Other	40	53	(33)
Total	96	148	(54)
Arizona	63	95	(51)
Oregon	27	48	(78)
Nevada	20	41	(105)

Syphilis — Continued

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Editorial Note: Although primary and secondary syphilis had been declining since 1982 (*1*), they now appear to be on the upsurge in some areas. While 70% of cases among males occurred among homosexual and bisexual men during the 1970s (*2*), cases among these groups now appear to be on the decline in some areas (Table 2).

TABLE 2. Cases of primary and secondary syphilis, by patient characteristics — United States, January-March 1986 and January-March 1987

Reporting Area/ Patient Characteristic*	Number of Cases		Change (%)
	January-March 1986	January-March 1987	
Florida			
Sex			
Female	314	595	(90)
Male	565	1,078	(91)
Race			
Black	694	1,331	(92)
White and other	185	342	(85)
Sexual preference (male)†			
Heterosexual	347	521	(50)
Homosexual/bisexual	38	79	(108)
California			
Sex			
Female	260	507	(95)
Male	953	1,296	(36)
Race			
Black	368	849	(131)
White and other	845	954	(13)
Sexual preference (male)†			
Heterosexual	643	1130	(76)
Homosexual/bisexual	277	148	(-47)
New York City			
Sex			
Female	158	290	(84)
Male	349	585	(68)
Race			
Black	246	475	(93)
White and other	261	400	(53)
Sexual preference (male)†			
Heterosexual	125	250	(100)
Homosexual/bisexual	45	22	(-51)

*Demographic data were available for 99% of patients with reported cases.
†Excludes men whose sexual preference was not determined. These comprised 2% of men with syphilis in California, 40% in Florida, and 53% in New York City.

Syphilis – Continued

As with two smaller outbreaks in the 1980s (*3,4*), the current increases appear to be largely among heterosexuals.

The increases in primary and secondary syphilis have prompted two major concerns. First, this trend is likely to have a severe adverse effect on efforts to control congenital syphilis. While sexually acquired syphilis that is diagnosed in its early stages can be effectively treated with long-acting penicillin preparations, congenitally acquired syphilis is responsible for high rates of infant morbidity and mortality (*5*). After an 8-year decline, the incidence of congenital syphilis among infants began rising in 1983 (*6*). The areas with the largest increases in primary and secondary syphilis already have some of the highest rates of congenital syphilis in the nation (*6*). Any increases in acquired syphilis among heterosexual adults in these areas are certain to be followed by further increases in congenital syphilis.

Second, a history of sexually transmitted disease is associated with increased risk for human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS) among both homosexuals (*7,8*) and heterosexuals (*9*). New York City and Florida have increased incidences of syphilis as well as high rates of AIDS among heterosexuals, particularly among those who abuse intravenous drugs (*10*). Because genital ulceration is associated with higher rates of HIV infection (*11,12*), the increases in primary and secondary syphilis in these areas may be the forerunner of future increases in HIV-related morbidity and mortality. Moreover, on the basis of case reports of treatment failures (*13*) and an atypical course in one patient (*14*), concerns have been raised about the effects of HIV-infection on the natural history and response to treatment of syphilis. These reports suggest the potential for problems in the management of patients with both infections.

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Syphilis — Continued

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Epidemiologic Notes and Reports

Acanthamoeba Keratitis in Soft-Contact-Lens Wearers

Within a 9-month period from mid-1985 to February 1986, CDC received reports of 24 cases of *Acanthamoeba* keratitis, a much higher number than previously reported during similar time periods. Twenty (83%) of the patients wore contact lenses. Of these, two wore hard lenses (one hard, the other rigid gas-permeable); four wore extended-wear lenses; and 14 wore daily-wear soft lenses. Between July and October 1986, CDC performed a case-control study of soft-contact-lens wearers to identify the risk factors associated with *Acanthamoeba* keratitis (*1*).

Patients were selected for the study from persons with *Acanthamoeba* keratitis reported to CDC before August 1986 and who wore soft contact lenses, had onset of keratitis symptoms after June 1985, and had species of *Acanthamoeba* isolated from corneal smears or biopsy and/or demonstrated in stained corneal scrapings or tissue. Controls were selected from the files of the ophthalmologist or optometrist originally prescribing contact lenses for the patient and were matched with the patient by general contact-lens type (daily-wear soft contact lenses [DWSL] or extended-wear soft contact lenses [EWSL]), age (±5 years), and city of residence.

CDC personnel used a standardized telephone questionnaire to obtain information from patients and controls on the specific brands of contact lenses and associated solutions they used, their routine lens-cleaning procedures, and their behavioral activities. To study the prevalence of *Acanthamoeba* and other microbial contaminants, investigators asked controls to submit contact-lens solutions and lens-care hardware* to CDC to be examined for contamination with *Acanthamoeba*, bacteria, and fungi (*2,3*). Similar materials were not available from patients because they had not been wearing their lenses for as long as 12 months.

Twenty-seven patients with *Acanthamoeba* keratitis and 81 uninfected, matched controls were interviewed. The 27 patients resided in 12 states†. All of the patients had onsets of symptoms between June 1985 and June 1986, with no seasonal predilection. Twenty patients (74%) and 59 controls (73%) wore DWSL. The remainder in both groups wore EWSL. There was a significantly higher proportion of males among patients than among controls (14/27 [52%] compared with 14/81 [17%], odds ratio§ [OR] = 7.25, 95% confidence interval [CI] = 2.53-20.76).

Patients were significantly more likely than controls not to disinfect their lenses as frequently as recommended by lens manufacturers (18/25 [72%] compared with 26/81 [32%], OR = 5.83, CI = 2.22-15.32). Significantly more patients than controls used homemade saline solutions¶ instead of commercially prepared saline solutions (21/27 [78%] compared with 14/81 [17%], OR = ∞, CI = ∞-∞). Because most persons using

*Lens cases used for storage or to neutralize disinfectant chemicals on lenses.
†New York, North Carolina, Pennsylvania, and Texas each had one case; Georgia and Washington each had two cases; Florida, Minnesota, New Jersey, Oklahoma, and Tennessee each had three; and California had four.
§Odds ratios based on an analysis of matched sets.
¶Prepared from commercial salt tablets reconstituted in nonsterile distilled water.

Keratitis — Continued

homemade solutions used them for several purposes, no distinction could be made as to whether a particular usage was more likely to be associated with infection than other usages. No association was noted between any of the commercially prepared contact-lens solutions or contact lenses and infection.

Patients were significantly more likely than controls to wear their lenses while swimming (17/27 [63%] compared with 24/81 [30%], OR = 6.24, CI = 1.90-20.46). This association remained statistically significant after controlling for sex. Patients were not more likely than controls to place their lenses in their mouths, wear their lenses in a hot tub, or report an injury to the eye.

Seventy-two (89%) controls submitted at least one specimen for microbiologic study. All solutions and hardware had been previously opened and used by the participant. All of the 11 homemade saline specimens submitted were colonized with bacteria and fungi. Eight (73%) showed relatively high levels of contamination ($\geq 10^5$ colony-forming units [CFU] of bacteria and fungi per milliliter). Acanthamoebae were

(Continued on page 403)

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

Disease	25th Week Ending			Cumulative, 25th Week Ending		
	June 27, 1987	June 21, 1986	Median 1982-1986	June 27, 1987	June 21 1986	Median 1982-1986
Acquired Immunodeficiency Syndrome (AIDS)	495	174	N	8,783	5,885	N
Aseptic meningitis	211	215	169	2,541	2,325	2,153
Encephalitis: Primary (arthropod-borne & unspec)	21	21	22	408	379	439
Post-infectious	5	1	2	56	57	57
Gonorrhea: Civilian	14,152	19,639	17,052	377,169	403,287	403,887
Military	236	319	371	7,840	7,548	10,218
Hepatitis: Type A	384	460	376	11,769	10,544	10,404
Type B	489	495	495	12,128	12,214	11,924
Non A, Non B	64	94	N	1,484	1,716	N
Unspecified	50	45	142	1,532	2,257	2,664
Legionellosis	21	6	N	375	261	N
Leprosy	4	3	3	97	133	126
Malaria	9	30	16	334	411	370
Measles: Total*	144	237	82	2,492	4,044	1,687
Indigenous	138	233	N	2,197	3,840	N
Imported	6	3	N	295	198	N
Meningococcal infections: Total	55	27	45	1,675	1,469	1,625
Civilian	55	27	45	1,674	1,467	1,622
Military	-	-	-	1	2	6
Mumps	209	135	72	9,146	2,260	2,050
Pertussis	43	51	36	835	1,297	900
Rubella (German measles)	9	13	17	203	315	411
Syphilis (Primary & Secondary): Civilian	586	546	546	15,945	12,321	13,282
Military	1	-	8	81	90	167
Toxic Shock syndrome	4	11	N	142	172	N
Tuberculosis	499	482	485	9,819	9,880	9,985
Tularemia	4	11	11	60	48	83
Typhoid Fever	6	13	8	138	126	153
Typhus fever, tick-borne (RMSF)	35	26	46	187	194	270
Rabies, animal	55	144	144	2,390	2,764	2,764

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1987		Cum. 1987
Anthrax	-	Leptospirosis	8
Botulism: Foodborne	3	Plague	3
Infant (Oreg. 1, Alaska 1)	31	Poliomyelitis, Paralytic	-
Other	-	Psittacosis (Md. 1, Tex. 1)	44
Brucellosis (Fla. 1, Tex. 2, Calif. 1)	51	Rabies, human	-
Cholera	-	Tetanus	13
Congenital rubella syndrome	3	Trichinosis	25
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine) (Tex. 3)	13
Diphtheria	1		

*Two of the 144 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending June 27, 1987 and June 21, 1986 (25th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis(Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1987	1987	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1986	1987	1987	1987	1987	1987	Cum. 1987
UNITED STATES	8,783	211	408	56	377,169	403,287	384	489	64	50	21	97
NEW ENGLAND	374	9	16	2	12,066	9,036	11	27	1	2	-	8
Maine	13	1	1	-	361	445	-	4	-	-	-	-
N.H.	9	1	-	-	197	242	-	-	-	-	-	2
Vt.	4	-	2	-	95	124	-	-	-	-	-	-
Mass.	222	3	9	1	4,418	3,969	7	21	1	2	-	5
R.I.	32	2	3	1	989	808	1	2	-	-	-	-
Conn.	94	2	1	-	6,006	3,448	3	-	-	-	-	1
MID. ATLANTIC	2,370	20	54	5	60,742	66,164	22	43	6	-	1	5
Upstate N.Y.	337	8	20	3	7,921	7,897	17	14	4	-	1	-
N.Y. City	1,324	-	4	-	32,444	38,277	-	-	-	-	-	5
N.J.	486	9	6	-	7,619	8,504	3	18	2	-	-	-
Pa.	223	3	24	2	12,758	11,486	2	11	-	-	-	-
E.N. CENTRAL	553	26	116	10	54,094	56,260	29	38	4	4	9	3
Ohio	72	7	46	4	11,769	13,791	5	11	2	-	8	1
Ind.	43	5	9	-	4,193	5,767	1	8	-	2	-	-
Ill.	288	4	18	6	16,891	14,442	1	4	-	1	-	-
Mich.	106	9	34	-	16,715	16,453	22	15	2	1	1	1
Wis.	44	1	9	-	4,526	5,807	-	-	-	-	-	1
W.N. CENTRAL	192	5	15	-	15,377	17,290	17	18	2	-	3	-
Minn.	46	1	9	-	2,431	2,403	11	3	1	-	-	-
Iowa	15	-	1	-	1,488	1,742	1	3	-	-	-	-
Mo.	92	4	-	-	7,968	8,969	4	12	-	-	1	-
N. Dak.	1	-	-	-	133	154	-	-	-	-	-	-
S. Dak.	2	-	-	-	285	357	1	-	1	-	2	-
Nebr.	11	-	3	-	920	1,278	-	-	-	-	-	-
Kans.	25	-	2	-	2,152	2,387	-	-	-	-	-	-
S. ATLANTIC	1,395	26	51	18	99,451	102,803	19	96	7	4	3	5
Del.	9	1	1	1	1,504	1,621	-	-	-	-	-	-
Md.	152	2	8	4	12,068	11,988	2	7	1	-	2	2
D.C.	196	-	-	-	6,656	7,858	-	-	-	-	-	-
Va.	102	-	19	2	7,348	8,270	-	4	1	1	-	-
W. Va.	9	1	6	-	726	1,108	-	2	-	-	-	-
N.C.	57	1	8	-	14,963	15,990	4	17	2	-	-	-
S.C.	34	4	-	-	8,270	9,102	-	15	-	-	-	1
Ga.	210	3	-	-	16,861	18,097	3	20	1	2	1	-
Fla.	626	14	9	11	31,055	28,769	10	31	2	1	-	2
E.S. CENTRAL	102	1	20	4	28,049	32,915	5	43	10	-	3	-
Ky.	19	-	9	1	2,844	3,751	-	5	2	-	1	-
Tenn.	8	-	4	-	9,733	12,781	-	18	-	-	2	-
Ala.	63	1	7	-	9,074	9,282	5	20	8	-	-	-
Miss.	12	-	-	3	6,398	7,101	-	-	-	-	-	-
W.S. CENTRAL	897	32	40	3	42,759	49,302	61	62	2	17	2	4
Ark.	20	-	-	1	4,393	4,519	-	-	-	-	-	-
La.	112	2	6	-	7,599	8,759	7	21	-	-	-	-
Okla.	37	6	12	1	4,640	5,704	6	4	2	1	-	-
Tex.	728	24	22	1	26,127	30,320	48	37	-	16	2	4
MOUNTAIN	244	9	13	3	9,940	11,989	56	35	9	2	-	1
Mont.	2	-	-	-	251	342	2	1	-	1	-	-
Idaho	4	-	-	-	369	400	9	3	-	-	-	-
Wyo.	2	-	-	-	208	285	-	-	-	-	-	-
Colo.	100	1	1	-	2,116	3,111	7	7	-	1	-	-
N. Mex.	15	3	1	-	1,071	1,223	4	1	4	-	-	-
Ariz.	76	2	9	1	3,440	3,967	22	15	4	-	-	-
Utah	14	3	-	2	314	518	8	2	1	-	-	-
Nev.	31	-	2	-	2,171	2,143	4	6	-	-	-	1
PACIFIC	2,656	83	83	11	54,691	57,528	164	127	23	21	-	71
Wash.	100	-	8	1	4,003	4,472	10	3	-	-	-	3
Oreg.	61	-	-	-	2,052	2,300	19	12	1	-	-	-
Calif.	2,437	78	71	10	47,332	48,716	134	110	22	21	-	53
Alaska	8	5	2	-	855	1,399	-	1	-	-	-	-
Hawaii	50	-	2	-	449	641	1	1	-	-	-	15
Guam	-	-	-	-	103	66	-	-	-	-	-	-
P.R.	65	2	-	1	1,057	1,118	-	13	3	3	-	5
V.I.	-	-	-	-	126	108	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	235	165	-	-	-	-	-	38
Amer. Samoa	-	-	-	-	44	22	-	-	-	-	-	-

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending June 27, 1987 and June 21, 1986 (25th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986
UNITED STATES	334	138	2,197	6	295	4,044	1,675	209	9,146	43	835	1,297	9	203	315
NEW ENGLAND	25	8	87	3	142	45	152	-	21	-	20	65	-	1	9
Maine	-	-	3	-	-	-	11	-	-	-	1	2	-	1	-
N.H.	1	-	49	-	102	17	14	-	8	-	2	28	-	-	1
Vt.	-	-	7	-	14	-	8	-	2	-	3	3	-	-	1
Mass.	9	7	13	3§	20	24	74	-	1	-	5	16	-	-	4
R.I.	5	1	1	-	1	2	14	-	2	-	1	1	-	-	2
Conn.	10	-	14	-	5	2	31	-	8	-	8	15	-	-	1
MID. ATLANTIC	32	4	409	-	43	1,263	202	2	151	1	109	105	1	10	27
Upstate N.Y.	14	4	20	-	9	51	73	-	71	-	82	70	1	8	19
N.Y. City	3	-	356	-	14	300	15	-	-	-	-	3	-	1	5
N.J.	8	-	12	-	3	890	39	2	39	-	6	7	-	1	3
Pa.	7	-	21	-	17	22	75	-	41	1	21	25	-	-	-
E.N. CENTRAL	15	4	242	1	18	814	233	132	5,333	9	99	198	-	20	49
Ohio	6	-	1	-	4	8	83	1	71	8	34	74	-	-	-
Ind.	2	-	-	-	-	-	25	119	754	-	1	22	-	-	-
Ill.	1	4	97	-	12	503	46	7	2,380	-	5	25	-	19	44
Mich.	6	-	26	-	-	22	64	5	776	1	28	21	-	1	4
Wis.	-	-	118	1†	2	276	15	-	1,352	-	31	56	-	-	1
W.N. CENTRAL	11	4	130	1	21	215	73	21	1,166	2	47	64	-	1	10
Minn.	5	-	14	1§	19	43	25	9	664	-	9	27	-	-	-
Iowa	2	-	-	-	-	32	3	10	354	1	8	9	-	1	1
Mo.	4	4	116	-	1	21	21	-	19	1	17	5	-	-	1
N. Dak.	-	-	-	-	-	21	1	-	6	-	1	3	-	-	-
S. Dak.	-	-	-	-	-	-	1	2	80	-	2	8	-	-	-
Nebr.	-	-	-	-	-	1	3	-	2	-	-	2	-	-	7
Kans.	-	-	-	-	1	97	19	-	41	-	10	10	-	12	3
S. ATLANTIC	57	6	77	-	6	466	272	6	200	3	171	484	-	2	-
Del.	1	4	27	-	-	1	4	-	-	-	-	219	-	2	-
Md.	12	-	2	-	-	27	25	1	18	-	6	117	-	-	-
D.C.	6	-	-	-	1	-	5	-	-	-	-	-	-	1	-
Va.	12	1	1	-	-	48	45	-	56	-	37	15	-	-	-
W. Va.	2	-	-	-	-	2	-	-	27	2	35	5	-	-	-
N.C.	7	-	1	-	1	2	34	2	12	1	65	18	-	-	-
S.C.	3	-	-	-	-	301	28	-	11	-	-	8	-	-	-
Ga.	2	-	-	-	-	70	52	-	40	-	17	74	-	1	3
Fla.	12	1	46	-	4	15	79	3	36	-	11	28	-	6	1
E.S. CENTRAL	4	-	2	-	-	28	79	30	1,179	2	14	21	-	2	1
Ky.	1	-	-	-	-	-	15	1	210	-	1	1	-	2	-
Tenn.	1	-	-	-	-	26	28	24	919	2	5	5	-	-	-
Ala.	-	-	-	-	-	-	30	5	50	-	6	15	-	-	-
Miss.	2	-	2	-	-	2	6	-	-	-	2	-	-	-	-
W.S. CENTRAL	22	-	192	-	3	560	111	2	682	3	55	94	-	5	53
Ark.	1	-	-	-	-	283	11	-	278	-	2	5	-	2	-
La.	-	-	-	-	-	1	10	2	197	1	12	5	-	-	-
Okla.	4	-	1	-	1	12	17	N	N	2	41	56	-	3	53
Tex.	17	-	191	-	2	264	73	-	207	-	-	28	-	19	16
MOUNTAIN	13	6	427	1	15	281	58	5	184	6	81	120	-	3	1
Mont.	-	-	122	-	1	7	2	-	4	-	3	5	-	1	-
Idaho	1	-	-	-	-	1	5	-	3	1	26	27	-	1	-
Wyo.	-	-	-	-	2	-	-	-	-	-	2	1	-	-	1
Colo.	4	-	5	-	-	7	18	1	26	-	20	34	-	-	-
N. Mex.	-	3	287	-	9	29	3	N	N	1	6	11	-	4	1
Ariz.	6	3	13	-	1	236	21	-	134	4	23	28	-	10	10
Utah	-	-	-	1†	1	1	6	2	8	-	1	14	-	-	3
Nev.	2	-	-	-	1	-	3	2	9	-	-	-	-	133	147
PACIFIC	155	106	631	-	47	372	495	11	230	17	239	146	8	-	6
Wash.	13	1	5	-	-	82	62	-	32	1	33	51	-	1	-
Oreg.	4	-	2	-	33	5	21	N	N	-	14	8	-	88	139
Calif.	134	105	624	-	10	265	401	10	180	8	96	82	-	1	-
Alaska	3	-	-	-	-	-	4	1	6	-	3	2	-	43	2
Hawaii	1	-	-	-	4	20	7	-	12	8	93	3	8	-	2
Guam	-	-	2	-	-	3	4	-	5	-	-	-	-	1	58
P.R.	1	-	562	-	-	18	3	-	5	-	12	7	-	2	-
V.I.	-	-	-	-	-	-	-	-	9	-	-	-	-	1	1
Pac. Trust Terr.	-	-	1	-	-	-	1	-	4	-	1	-	-	-	
Amer. Samoa	-	-	-	-	-	2	-	-	3	-	-	-	-		

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending June 27, 1987 and June 21, 1986 (25th Week)

Reporting Area	Syphilis (Civilian) (Primary& Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1987
UNITED STATES	15,945	12,321	4	9,819	9,880	60	138	187	2,390
NEW ENGLAND	255	252	-	316	316	-	13	1	2
Maine	1	15	-	17	26	-	1	-	1
N.H.	2	10	-	8	10	-	-	-	-
Vt.	1	6	-	7	10	-	1	-	-
Mass.	123	129	-	168	144	-	9	1	-
R.I.	7	16	-	25	24	-	1	-	1
Conn.	121	76	-	91	102	-	1	-	-
MID. ATLANTIC	2,927	1,740	-	1,653	1,961	-	17	5	177
Upstate N.Y.	96	88	-	256	301	-	7	3	13
N.Y. City	2,084	984	-	784	964	-	-	-	-
N.J.	321	325	-	313	353	-	10	1	5
Pa.	426	343	-	300	343	-	-	1	159
E.N. CENTRAL	436	490	1	1,195	1,225	1	18	23	78
Ohio	53	64	1	229	210	1	6	19	3
Ind.	28	58	-	120	139	-	4	-	11
Ill.	246	269	-	477	548	-	5	-	28
Mich.	79	74	-	318	272	-	2	4	11
Wis.	30	25	-	51	56	-	1	-	25
W.N. CENTRAL	72	117	1	292	285	19	8	19	528
Minn.	8	18	-	67	71	-	3	-	123
Iowa	11	6	1	17	22	3	2	-	158
Mo.	35	63	-	163	141	13	3	5	28
N. Dak.	-	3	-	1	4	-	-	-	69
S. Dak.	7	1	-	16	13	2	-	-	107
Nebr.	7	11	-	12	5	-	-	-	15
Kans.	4	15	-	16	29	1	-	14	28
S. ATLANTIC	5,447	3,641	-	2,099	1,911	3	11	58	658
Del.	45	22	-	20	21	1	-	-	-
Md.	291	214	-	183	135	-	2	23	226
D.C.	168	157	-	66	70	-	-	-	27
Va.	135	196	-	195	171	1	1	3	207
W. Va.	5	9	-	57	53	-	1	3	26
N.C.	301	244	-	232	259	1	1	10	2
S.C.	347	312	-	200	243	-	-	14	33
Ga.	756	724	-	336	276	-	-	5	98
Fla.	3,399	1,763	-	810	683	-	6	-	39
E.S. CENTRAL	952	798	1	782	886	3	1	22	187
Ky.	8	39	-	222	215	1	-	2	94
Tenn.	403	299	1	163	272	1	1	12	51
Ala.	243	269	-	249	288	-	-	6	42
Miss.	298	191	-	148	111	1	-	2	-
W.S. CENTRAL	2,034	2,552	-	1,136	1,221	18	9	51	354
Ark.	109	134	-	132	164	8	1	2	77
La.	350	428	-	133	186	2	-	-	9
Okla.	79	70	-	106	117	8	2	43	17
Tex.	1,496	1,920	-	765	754	-	6	6	251
MOUNTAIN	340	293	-	234	225	8	7	7	186
Mont.	8	5	-	9	11	1	-	6	96
Idaho	3	5	-	17	10	1	-	-	-
Wyo.	1	-	-	-	-	-	-	1	43
Colo.	50	79	-	12	15	1	-	-	-
N. Mex.	32	33	-	44	49	1	7	-	1
Ariz.	161	121	-	134	105	3	-	-	39
Utah	15	7	-	6	20	1	-	-	2
Nev.	70	43	-	12	15	-	-	-	4
PACIFIC	3,482	2,438	1	2,112	1,850	8	54	1	221
Wash.	46	67	1	124	97	3	5	-	-
Oreg.	126	55	-	58	67	3	-	-	-
Calif.	3,301	2,296	-	1,798	1,567	1	46	1	219
Alaska	2	-	-	32	27	1	-	-	2
Hawaii	7	20	-	100	92	-	3	-	-
Guam	2	1	-	25	30	-	-	-	-
P.R.	488	402	-	143	134	-	-	-	37
V.I.	3	-	-	2	1	-	-	-	-
Pac. Trust Terr.	105	142	-	89	25	-	15	-	-
Amer. Samoa	2	-	-	-	3	-	1	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending June 27, 1987 (25th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	620	426	106	48	14	25	43
Boston, Mass.	154	92	28	17	7	10	18
Bridgeport, Conn.	41	32	4	3	1	1	2
Cambridge, Mass.	23	21	1	1	-	-	5
Fall River, Mass.	32	26	5	1	-	-	-
Hartford, Conn.	55	29	14	6	2	3	1
Lowell, Mass.	29	19	5	4	1	-	1
Lynn, Mass.	15	14	1	-	-	-	2
New Bedford, Mass.	36	27	6	2	1	-	2
New Haven, Conn.	44	29	6	5	-	4	3
Providence, R.I.	52	37	9	2	1	3	-
Somerville, Mass.	4	3	1	-	-	-	-
Springfield, Mass.	35	26	8	-	-	1	2
Waterbury, Conn.	30	22	6	1	1	-	5
Worcester, Mass.	70	49	12	6	-	3	2
MID. ATLANTIC	2,802	1,775	574	276	77	100	123
Albany, N.Y.	47	38	6	-	1	2	2
Allentown, Pa.	17	13	4	-	-	-	-
Buffalo, N.Y.	101	64	23	7	4	3	15
Camden, N.J.	42	19	11	8	4	-	1
Elizabeth, N.J.	19	16	2	1	-	-	1
Erie, Pa.†	37	23	9	1	-	4	2
Jersey City, N.J.	62	37	10	10	-	5	3
N.Y. City, N.Y.	1,445	880	313	168	45	39	52
Newark, N.J.	61	18	10	11	5	17	-
Paterson, N.J.	46	24	7	5	3	7	1
Philadelphia, Pa.	492	310	114	45	10	13	20
Pittsburgh, Pa.†	58	37	16	4	-	1	2
Reading, Pa.	37	31	4	1	-	1	2
Rochester, N.Y.	124	100	16	4	3	1	10
Schenectady, N.Y.	19	18	1	-	-	-	-
Scranton, Pa.†	22	14	4	4	-	-	-
Syracuse, N.Y.	96	75	14	3	2	2	5
Trenton, N.J.	29	17	5	2	-	5	1
Utica, N.Y.	24	22	2	-	-	-	2
Yonkers, N.Y.	24	19	3	2	-	-	4
E.N. CENTRAL	2,247	1,469	486	144	61	87	82
Akron, Ohio	75	50	15	4	1	5	-
Canton, Ohio	22	15	5	1	1	-	3
Chicago Ill§	564	362	125	45	10	22	16
Cincinnati, Ohio	105	66	19	10	2	8	5
Cleveland, Ohio	159	105	32	12	3	7	1
Columbus, Ohio	170	102	42	9	8	9	7
Dayton, Ohio	116	75	23	13	4	1	6
Detroit, Mich.	238	141	52	19	12	14	10
Evansville, Ind.	35	21	8	5	-	1	1
Fort Wayne, Ind.	58	42	11	-	3	2	4
Gary, Ind.	20	12	6	2	-	-	2
Grand Rapids, Mich.	57	36	15	-	1	5	1
Indianapolis, Ind.	133	84	33	11	3	2	2
Madison, Wis.	33	21	6	2	3	1	4
Milwaukee, Wis.	134	96	31	3	1	3	2
Peoria, Ill.	57	42	7	2	3	3	5
Rockford, Ill.	39	26	12	-	-	1	4
South Bend, Ind.	72	57	11	1	2	1	3
Toledo, Ohio	89	64	18	3	3	1	6
Youngstown, Ohio	71	52	15	2	1	1	-
W.N. CENTRAL	666	432	139	49	27	19	46
Des Moines, Iowa	62	42	8	7	4	1	6
Duluth, Minn.	17	13	4	-	-	-	-
Kansas City, Kans.	46	25	14	3	2	2	6
Kansas City, Mo.	123	79	27	9	2	6	2
Lincoln, Nebr.	31	25	6	-	-	-	3
Minneapolis, Minn.	64	40	14	5	1	4	7
Omaha, Nebr.	63	44	8	6	4	1	6
St. Louis, Mo.	127	67	32	16	10	2	10
St. Paul, Minn.	64	50	10	-	1	3	-
Wichita, Kans.	69	47	16	3	3	-	6

ReportingArea	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-84	25-44	1-24	<1	Total
S. ATLANTIC	1,122	712	233	98	34	45	33
Atlanta, Ga.	146	87	34	17	6	2	1
Baltimore, Md.	180	121	36	12	8	3	4
Charlotte, N.C.	73	44	18	5	3	3	3
Jacksonville, Fla.	105	65	22	10	2	6	2
Miami, Fla.§	96	54	25	12	2	3	-
Norfolk, Va.	49	25	10	7	1	6	3
Richmond, Va.	86	51	23	9	-	3	7
Savannah, Ga.	63	45	12	3	-	3	2
St. Petersburg, Fla.	91	79	8	4	-	-	6
Tampa, Fla.	69	41	16	4	3	5	4
Washington, D.C.	133	76	23	14	9	11	1
Wilmington, Del.	31	24	6	1	-	-	-
E.S. CENTRAL	875	542	194	68	31	40	41
Birmingham, Ala.	126	65	29	14	5	13	1
Chattanooga, Tenn.	76	51	15	3	3	4	6
Knoxville, Tenn.	81	58	15	3	5	-	8
Louisville, Ky.	95	59	16	8	3	9	4
Memphis, Tenn.	200	132	44	16	7	1	11
Mobile, Ala.	111	73	25	8	2	3	8
Montgomery, Ala.	55	23	21	5	-	6	2
Nashville, Tenn.	131	81	29	11	6	4	1
W.S. CENTRAL	1,339	825	275	131	59	49	55
Austin, Tex.	67	46	12	6	1	2	5
Baton Rouge, La.	60	37	16	3	4	-	4
Corpus Christi, Tex.	50	35	10	4	-	1	1
Dallas, Tex.	190	112	37	28	5	8	5
El Paso, Tex.	57	36	6	5	6	4	3
Fort Worth, Tex	95	54	17	7	9	8	3
Houston Tex§	308	176	74	34	13	11	7
Little Rock, Ark.	97	63	18	10	4	2	14
New Orleans, La.	92	54	19	14	3	2	1
San Antonio, Tex.	194	126	42	11	9	6	3
Shreveport, La.	64	37	13	6	5	3	3
Tulsa, Okla.	65	49	11	3	-	2	6
MOUNTAIN	654	406	139	54	26	29	30
Albuquerque, N. Mex.	68	37	15	7	5	4	2
Colo. Springs, Colo.	36	21	7	4	2	2	3
Denver, Colo.	120	79	16	9	5	11	9
Las Vegas, Nev.	94	57	24	7	4	2	3
Ogden, Utah	20	14	3	1	-	2	1
Phoenix, Ariz.	145	79	40	15	4	7	3
Pueblo, Colo.	20	13	4	3	-	-	1
Salt Lake City, Utah	35	23	5	1	5	1	-
Tucson, Ariz.	116	83	25	7	1	-	1
PACIFIC	1,995	1,291	399	172	68	56	110
Berkeley, Calif.	23	18	4	1	-	-	2
Fresno, Calif.	98	65	21	9	2	1	7
Glendale, Calif.	24	13	7	3	-	1	2
Honolulu, Hawaii	70	45	16	7	1	1	8
Long Beach, Calif.	105	70	19	10	-	6	6
Los Angeles Calif.	516	308	119	48	25	8	17
Oakland, Calif.	73	49	13	8	3	-	5
Pasadena, Calif.	42	32	5	1	2	2	4
Portland, Oreg.	140	95	31	4	6	4	5
Sacramento, Calif.	138	91	33	8	5	-	5
San Diego, Calif.	163	104	25	15	9	10	18
San Francisco, Calif.	169	103	34	21	3	8	4
San Jose, Calif.	166	107	33	17	4	5	16
Seattle, Wash.	168	119	26	14	5	4	5
Spokane, Wash.	44	30	10	1	-	3	5
Tacoma, Wash.	56	42	3	5	3	3	1
TOTAL	12,320††	7,878	2,545	1,040	397	450	563

*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 3 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.

Keratitis — Continued

isolated from two of these: *A. hatchetti,* from one, and *A. polyphaga,* from another. In contrast, only one (2%) of the 59 commercially prepared saline specimens was contaminated with bacteria or fungi, and none were contaminated with *Acanthamoeba.* Fluid samples from 56 (69%) of the 81 specimens of lens-care hardware had positive bacterial/fungal assays; 46 (57%) had titers between 10^5 and 10^8 CFU/ml. Acanthamoebae were isolated from three specimens. No disinfectants, daily cleaners, or eye drops/lubricants were contaminated with bacteria, fungi, or *Acanthamoeba.*

Reported by: Div of Parasitic Diseases, Hospital Infections Program, Div of Host Factors, Center for Infectious Diseases, CDC.

Editorial Note: *Acanthamoeba* keratitis is a serious infection of the cornea caused by amoebae of the genus *Acanthamoeba.* Including the patients reported here, less than 100 persons have been diagnosed as having *Acanthamoeba* keratitis in the United States since the disease was first described in 1973 (*4-15*). The mechanism by which *Acanthamoeba* infects the human cornea is unknown. Studies using animal models have been largely unsuccessful in establishing an infection comparable to that in humans. Historically, the infection has been associated with penetrating corneal trauma (*4,7,9,12,14*). More recently, an association with contact-lens wear has become apparent (*8-13*). However, a few patients have had neither a history of trauma nor of contact-lens wear (*1,6,12*).

The risk factors identified in this study suggest deviations from contact-lens wear and care procedures recommended by lens manufacturers and health-care professionals. Current U.S. Food and Drug Administration licensure of commercial salt tablets (used to make homemade saline solution) applies only to using the saline solutions before and during thermal disinfection of lenses, not as a postdisinfection rinse or wetting agent. Laboratory studies show that thermal disinfection of soft contact lenses is effective in killing *Acanthamoeba* trophozoites and cysts (*15*), suggesting that use of homemade saline solutions before and during the thermal disinfection phase is safe. This study was not able to epidemiologically evaluate the risk of using homemade saline solution for a specific lens-care activity because most persons using homemade solutions used them both before and after disinfection. However, it should be noted that 70% of patients and only 17% of controls used such solutions after disinfection.

In interpreting the results of this study, several potential biases should be considered:

1) Cases and controls may have been overmatched.
2) Patients had not been wearing their contact lenses for up to 12 months before the interview; therefore, they may have had difficulty in remembering the details of the care of their contact lenses.
3) Marketing data suggest that only 28% of soft-contact-lens wearers in the United States are male (a proportion significantly higher than that in the control group) (Dorland and Sweeney, unpublished data). Therefore, the control group may have been biased toward including more women than men. The former may have been more easily contacted by their ophthalmologist or optometrist and may have been more likely to consent to participating in the study.
4) Finally, the contact-lens solutions and associated hardware were not collected in a controlled manner.

Although *Acanthamoeba* keratitis is relatively rare, risk factors associated with the infection among soft-contact-lens wearers may also apply to more common bacterial

Keratitis – Continued

infections of the cornea. Persons wearing contact lenses should be reminded to adhere closely to recommended contact-lens wear and care procedures. These include using sterile solutions after disinfecting lenses, using solutions and disinfection methods appropriate for the specific lens type, cleaning and disinfecting lenses each time they are removed, and hand washing before handling lenses. Ophthalmologists and optometrists should explain carefully the recommended cleaning and wearing procedures and should review these recommendations with their patients periodically. Contact-lens wearers not complying with these recommendations may be increasing their risk for infection with *Acanthamoeba* and other organisms. As a result, they could develop partial or total loss of vision. However, further studies are necessary to determine the magnitude of the risk.

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Topics in Minority Health

Cigarette Smoking Among Blacks and Other Minority Populations

The *Report of the Secretary's Task Force on Black and Minority Health* documented that, compared with whites, blacks experience substantial excess mortality from cancer, cardiovascular disease, and infant death (*1*). All of these conditions are

Smoking – Continued

substantially affected by smoking; therefore, this excess mortality makes cigarette smoking a major health issue for blacks.

According to the 1985 National Health Interview Survey, 41% of black men smoke cigarettes, compared with 32% of white men. Similarly, the prevalence of smoking among black women (32%) exceeds that among white women (28%) (Table 1). Hispanic men smoke at about the same rate (31%) as white men, while Hispanic women have a much lower smoking rate (21%) than white and black women.

Higher death rates from heart disease and cancer, both of which are associated with tobacco use, parallel the increased prevalence of smoking among blacks. An estimated 30% of deaths from coronary heart disease and 30% of all deaths from cancer are attributable to cigarette smoking (*3,4*). Black men experience a 20% higher mortality rate from heart disease and a 58% higher incidence of lung cancer than white men. Black women have a 50% higher mortality rate from heart disease than white women (Table 2). Blacks also experience substantially higher rates of fetal death and low-birthweight babies (Table 3), both of which are associated with maternal smoking (*5*). Low birthweight is an important predictor of infant mortality, which also occurs at a much higher rate among blacks (Table 3).

Reported by: Office on Smoking and Health, Center for Health Promotion and Education, CDC.

Editorial Note: A joint committee with representatives from the Federal government and the private sector has called upon government, private health organizations, and social agencies to give higher priority to educating minority populations concerning the health hazards of tobacco use. The Interagency Committee on Smoking and Health, established by the Congress and chaired by the Surgeon General of the United States, met in Washington, D.C., on March 31, 1987, to hear testimony from experts and representatives of national organizations on the health effects of cigarette smoking among minority populations. The Committee considered such topics as the prevalence of smoking and the incidence of smoking-related diseases in minorities, possible interventions for reducing smoking in minority groups, and cigarette marketing and advertising campaigns that target minorities.

The cigarette industry is now aggressively promoting cigarettes to both blacks and Hispanics. These promotional efforts include advertisements in publications aimed at minority groups, sponsorship of entertainment and cultural events drawing large minority audiences, and extensive use of billboards in minority neighborhoods (*6,7*).

In his closing remarks to the Interagency Committee on Smoking and Health, the Surgeon General asked that the public health community and minority groups look upon cigarette smoking as an important health problem faced by minority individuals

TABLE 1. Age-adjusted rates of cigarette smoking among persons ≥20 years of age, by sex and race – United States; 1965, 1976, 1980, 1985 (*2*)

Sex/Race	1965 (%)	1976 (%)	1980 (%)	1985 (%)
Males	(52.1)	(41.6)	(37.9)	(32.7)
White	(51.3)	(41.0)	(37.1)	(31.8)
Black	(59.6)	(50.1)	(44.9)	(40.6)
Females	(34.2)	(32.5)	(29.8)	(28.3)
White	(34.5)	(32.4)	(30.0)	(28.3)
Black	(32.7)	(34.7)	(30.6)	(31.6)

Smoking – Continued

and communities. He stated, "We must place cigarette smoking in the total context of minority health, but in doing so we must give it its proper place in the hierarchy of risks. It ranks very high indeed. Two of the six leading causes of excess death observed among blacks and other minorities are cancer and cardiovascular disease, both of which are smoking-related, and a third is infant mortality, to which cigarette smoking contributes. I submit that no public or private effort aimed at improving the health of blacks and other minorities can omit the reduction of cigarette smoking as one of its major goals."

The reduction of cigarette smoking in the black population is one of the most important, immediately available options for reducing the wide disparities between the health status of minorities and that of whites.

TABLE 2. Age-adjusted mortality and incidence rates for selected smoking-related diseases, by sex and race – United States, 1983-1984

	Male		Female	
Rates	**White**	**Black**	**White**	**Black**
Incidence*				
Cancer (all sites)	402.0	505.9	311.4	303.6
Cancer of lung and bronchus	79.3	125.3	33.5	33.9
Cancer of oral cavity and pharynx	17.2	22.5	–	–
Cancer of esophagus	5.0	19.9	–	–
Mortality†				
All causes	689.9	1,011.7	391.3	585.3
Heart disease	249.5	300.1	124.0	186.6
Cerebrovascular disease	33.9	62.8	28.9	51.8
Malignant neoplasms (respiratory system)	58.4	85.9	21.6	21.4
Chronic obstructive pulmonary disease	27.6	22.8	11.8	8.1

*New cases per 100,000 population, 1983 (*2*).
†Deaths per 100,000 population, 1984 (*2*).

TABLE 3. Fetal death rate, low-birthweight rate, and infant mortality rate, by race – United States, 1984 (*2*)

	Rates		
Race	**Fetal death***	**Low birthweight†**	**Infant mortality§**
White	7.3	5.6	9.4
Black	12.7	12.4	18.4

*Deaths of fetuses ≥20 weeks gestation per 1,000 live births plus fetal deaths.
†Percentage of infants weighing <2,500 gm.
§Deaths of infants <1 year of age per 1,000 live births.

Smoking — Continued

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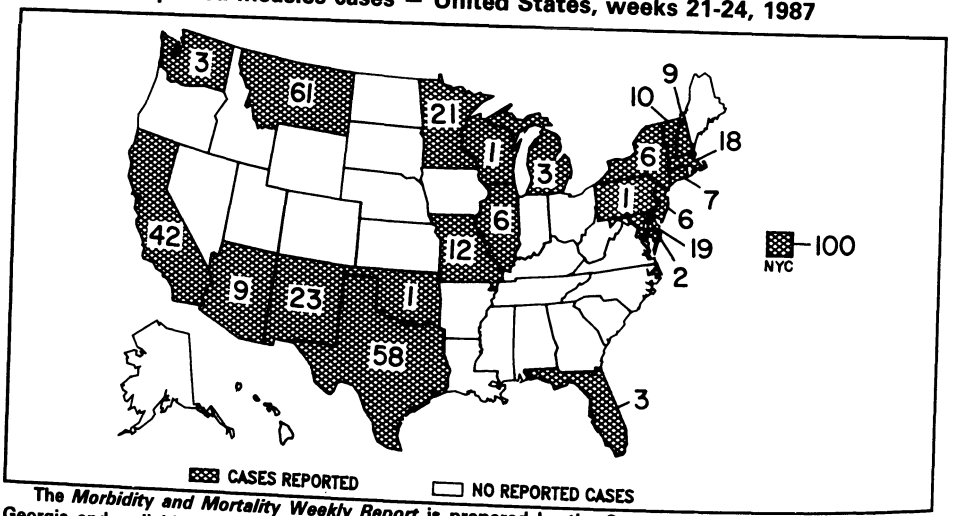
FIGURE I. Reported measles cases — United States, weeks 21-24, 1987



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The data in this report are provisional, based on weekly reports 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. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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