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Epidemiologic Notes and Reports

Human Rabies — California, 1992

On May 8, 1992, an 11-year-old boy died of rabies encephalitis in Fresno County, California. This was the 10th case of human rabies in the United States since 1980 known to be acquired outside the country and the first case reported in California since 1987. This report summarizes the investigation of the case.

On April 21, 1 day after he sustained a shoulder injury, the boy was evaluated at an outpatient clinic and treated with acetaminophen and codeine. On April 22, he refused to drink water with his medication; the next morning, he could not bathe because he was afraid of water. His hydrophobia and anxiety increased, and he was examined in another outpatient clinic; that evening he was evaluated in an emergency room, where he began hallucinating. Because of combativeness, excessive salivation, and respiratory distress, the patient required sedation, intubation, and ventilatory assistance. A fever of 105.4 F (40.8 C) was recorded on April 24; computed tomography of the brain and cerebrospinal fluid (CSF) analysis were normal. He subsequently experienced two episodes of cardiac arrest and was successfully resuscitated. Because rabies had been considered in the differential diagnosis, on April 24, 1 dose (800 IU) of human rabies immune globulin (HRIG) and 1 mL of human diploid cell rabies vaccine (HDCV) were administered intramuscularly, and he was transferred to a pediatric hospital.

At the pediatric hospital, the patient was hemodynamically unstable, and studies were consistent with myocarditis. Carnitine and acyclovir were administered for cardiomyopathy and rabies encephalitis, respectively. The patient's neurologic condition worsened during the next 14 days; after evidence that brain and brainstem activity had ceased, the patient was pronounced dead on May 8.

Serum specimens obtained before the administration of HRIG and HDCV were negative for rabies antibody at the California Department of Health Services' Viral and Rickettsial Disease Laboratory (VRDL). Although a skin biopsy obtained from the nape of the neck on April 24 was negative for rabies antigen by a direct fluorescent antibody (DFA) test at CDC, a skin biopsy taken on April 28 was positive. Antemortem

Human Rabies – Continued

tests for other causes of encephalitis were negative, and postmortem DFA tests on brain samples were positive for rabies antigen in the Fresno County Public Health Laboratory, the VRDL, and CDC. Characterization of the virus isolate from the patient by monoclonal antibody assay and nucleotide sequence analysis showed the virus to be similar to that found in dogs in Pakistan and India.

The patient was born in India and moved to the United States 2 years before onset of illness. He traveled to India in December 1991 and returned to the United States in February 1992. During that visit, he was bitten on the finger by a stray dog. A local pharmacist gave him a bandage to apply to the wound site. He did not receive proper wound care or rabies postexposure treatment and did not report the bite to his parents. No other family member who traveled to India with the patient had contact with the dog.

During April 8–10, the patient traveled to Tuolumne County in central California with his classmates and teacher for a camping trip. Extensive interviews with his teacher, friends, family members, and local animal-control officials did not reveal any exposure to a wild or domestic animal during this trip.

Based on extensive interviews and evaluation, three family members and 14 health-care workers from the two facilities where the patient was hospitalized were identified as having contact with potentially infectious material (e.g., saliva, CSF, or nerve tissue) from the patient. Rabies postexposure treatment was initiated for all 17 persons.

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Editorial Note: Diagnosis of human rabies is difficult because of the nonspecific initial clinical presentation. This patient's hydrophobia, copious salivation, and hallucinations resulted in an early suspicion of rabies even in the initial absence of a definite history of exposure to rabies. Early suspicion of rabies, as in this case, permits the rapid institution of isolation measures, therefore reducing the number of persons potentially exposed to the rabies virus and the overall costs of postexposure treatment.

Rabies should be considered in any case of encephalitis or myelitis of unknown etiology, even in the absence of an exposure history, especially in persons who have lived or traveled outside the United States. In the United States, state and local health departments should be consulted for assistance in reviewing the techniques for diagnosing rabies and treating any person potentially exposed to rabies. U.S. citizens requiring assistance outside the United States can contact a U.S. embassy or consulate.

The risk for rabies transmission to health-care workers caring for patients with rabies is low (*1,2*). Postexposure treatment is recommended after contact with human rabies only if a bite or nonbite exposure (e.g., contamination of abraded skin or mucous membranes with saliva, nerve tissue, urine sediments, or other potentially infectious material) can be documented. Persons who have been bitten by animals suspected or proven rabid should begin treatment within 24 hours. Because vaccine and HRIG administered after onset of disease is of no known benefit, postexposure treatment for patients after onset of clinical rabies is not recommended.

Human Rabies — Continued

In experimental studies, interferon alpha has offered protection against rabies virus only when administered before or shortly after virus challenge (*3,4*). Once clinical disease develops, the use of carnitine, acyclovir, or any other drug for rabies treatment is not recommended because there is no evidence that any pharmacologic intervention is effective for the treatment of human rabies.

This case emphasizes the importance of providing rabies preexposure prophylaxis to travelers who plan visits of more than 30 days to India or other countries where rabies is enzootic (*5*).

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Current Trends

Update: Acquired Immunodeficiency Syndrome — United States, 1991

During 1991, state and territorial health departments reported 45,506 cases (17.9 per 100,000 population) of acquired immunodeficiency syndrome (AIDS) to CDC. As in previous years, most cases (52.7%) were attributable to human immunodeficiency virus (HIV) transmission among homosexual/bisexual men. The proportion of cases among these men during 1991 decreased from that in 1990, while the proportions among women and heterosexual men who were injecting-drug users (IDUs) increased, representing nearly one fourth of reported cases in 1991. This report summarizes the characteristics of persons reported with AIDS in 1991 and compares these data with 1990 (Table 1).*

The number of reported AIDS cases increased by 5%, from 43,352 in 1990 to 45,506 in 1991. Because cases reported in one year may have been diagnosed in earlier years, the number of cases can also be counted based on year of diagnosis with adjustment for reporting delays (*1*); based on this analysis, the number of diagnosed cases increased an estimated 10% from 1990 to 1991.

Larger proportionate increases in reported cases occurred among women compared with men and among blacks and Hispanics compared with non-Hispanic whites (Table 1). Among regions, the South† reported the largest number of cases in 1991, as well as the greatest proportionate increase in cases from 1990 (Table 1). However, rates remained highest in the Northeast§ and in the U.S. territories (in which 99% of cases were reported from Puerto Rico).

*Single copies of this report will be available free until July 3, 1993, from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231.

†South Atlantic, East South Central, and West South Central regions.

§New England and Middle Atlantic regions.

AIDS — Continued

TABLE 1. Characteristics of reported persons with AIDS and percent change in the number of cases, by year of report — United States, 1990 and 1991

Category	1991 Reported cases No.	(%)	Rate*	1990 Reported cases	% Change 1990–1991 reported cases
Sex					
Male	39,461	(86.7)	31.8	38,094	3.6
Female	6,045	(13.3)	4.6	5,258	15.0
Age (yrs)					
0– 4	528	(1.2)	2.8	626	– 15.7
5–12	155	(0.3)	0.5	162	– 4.3
13–19	160	(0.4)	0.6	170	– 5.9
20–29	8,110	(17.8)	19.8	8,334	– 2.7
30–39	20,755	(45.6)	48.0	19,728	5.2
40–49	11,032	(24.2)	33.8	10,023	10.1
50–59	3,353	(7.4)	15.3	3,020	11.0
≥60	1,413	(3.1)	3.3	1,289	9.6
Race/Ethnicity†					
White	22,216	(48.8)	11.8	22,326	– 0.5
Black	14,561	(32.0)	49.2	13,211	10.2
Hispanic	8,196	(18.0)	30.7	7,353	11.5
Asian/Pacific Islander	275	(0.6)	3.7	271	1.5
American Indian/ Alaskan Native	79	(0.2)	4.3	79	0
Region					
Northeast§	13,435	(29.5)	26.3	13,551	– 0.9
Midwest¶	4,428	(9.7)	7.4	4,078	8.6
South**	15,761	(34.6)	18.2	14,301	10.2
West††	10,048	(22.1)	18.7	9,686	3.7
U.S. territories	1,834	(4.0)	45.4	1,736	5.7
HIV exposure category					
Male homosexual/ bisexual contact	23,960	(52.7)	—	24,053	– 0.4
History of injecting-drug use					
Women and heterosexual men	11,155	(24.5)	—	10,161	9.8
Male homosexual/ bisexual contact	2,366	(5.2)	—	2,445	– 3.2
Persons with hemophilia					
Adult/adolescent	324	(0.7)	—	338	– 4.1
Child (aged <13 yrs)	23	(0.1)	—	31	– 25.8
Transfusion recipients					
Adult/adolescent	706	(1.6)	—	846	– 16.6
Child (aged <13 yrs)	41	(0.1)	—	38	7.9
Heterosexual contacts§§	3,387	(7.4)	—	2,799	21.0
Perinatal	596	(1.3)	—	693	– 14.0
No identified risk	2,948	(6.5)	—	1,948	—
Total	**45,506**	**(100.0)**	**17.9**	**43,352**	**5.0**

*Per 100,000 population. 1991 population counts were estimated from 1990 U.S. Census Bureau data. For categories of sex, age, race/ethnicity, and HIV exposure, denominator was population in 50 states and Puerto Rico (excluding other U.S. territories).

†Excludes persons with unspecified race/ethnicity (179 [0.4%] in 1991, 112 [0.3%] in 1990).

§New England and Middle Atlantic regions.

¶East North Central and West North Central regions.

**South Atlantic, East South Central, and West South Central regions.

††Mountain and Pacific regions.

§§Includes persons born in countries where heterosexual transmission is believed to be the predominant transmission mode (510 in 1991, 413 in 1990).

AIDS — Continued

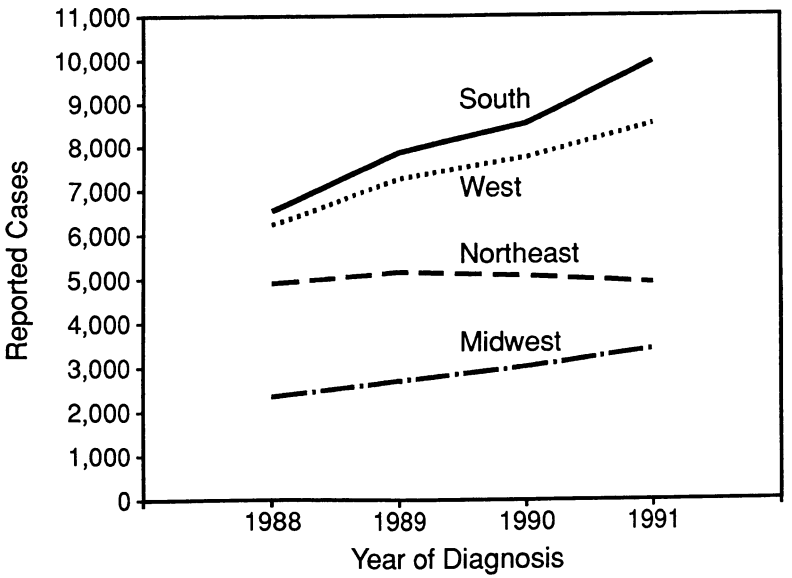
Among the 10 metropolitan areas[¶] with the largest number of AIDS cases diagnosed in 1991 (adjusted for reporting delays), the two areas with the greatest percentage increase were the District of Columbia (24.3%) and Miami (22.9%). Other metropolitan areas with large increases were Philadelphia (19.2%), Chicago (11.3%), Newark (10.4%), Atlanta (7.9%), and San Francisco (7.3%).

During 1988–1991, the largest number of cases and the most rapid increase in cases among homosexual/bisexual men occurred in the South (Figure 1). In contrast, in the Northeast, the annual number of diagnosed cases among homosexual/bisexual men remained relatively stable or decreased. The most rapid rate of increase in cases among women and heterosexual men who are IDUs occurred in the South, although the number of AIDS cases among IDUs remained highest in the Northeast (Figure 2). In other regions, cases among IDUs increased more moderately or were stable (Figure 2). Cases among persons exposed to HIV through heterosexual contact increased in all regions (Figure 3) and almost all ethnic groups. The largest number of such cases in 1991 and the most rapid increase in cases during 1988–1991 occurred among persons from the South.

Reported by: Local, state, and territorial health departments. Div of HIV/AIDS, National Center for Infectious Diseases, CDC.

[¶]Metropolitan statistical areas typically include the main city as well as the surrounding urban and suburban areas.

FIGURE 1. Reported AIDS cases among homosexual/bisexual men, excluding injecting-drug users, by region* and year of diagnosis — United States, 1988–1991



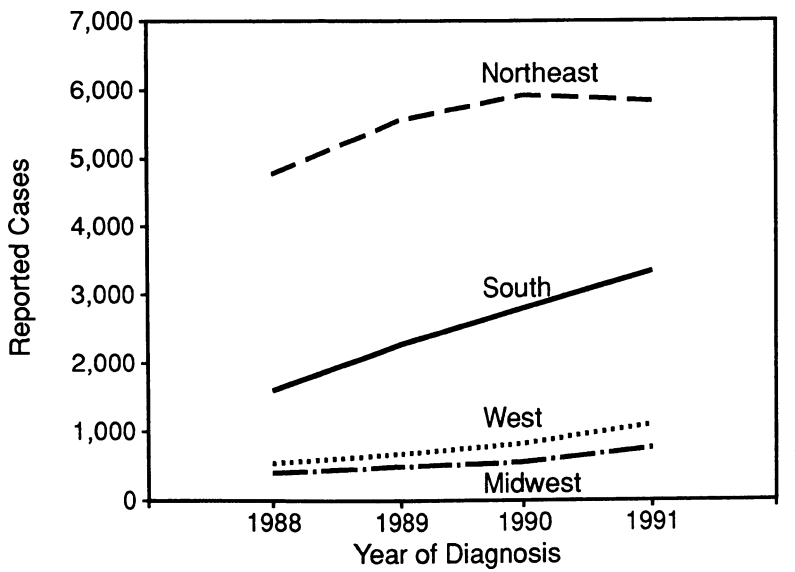
*South comprises the South Atlantic, East South Central, and West South Central regions; West comprises the Mountain and Pacific regions; Northeast comprises the New England and Middle Atlantic regions; and Midwest comprises the East North Central and West North Central regions.

AIDS — Continued

Editorial Note: The findings in this report reflect the evolving nature of the HIV epidemic in the United States, which is a composite of multiple epidemics in different regions and among different groups. During 1991, the proportions of reported AIDS cases increased most among women, blacks and Hispanics, persons exposed to HIV through heterosexual contact, and persons in the South. In contrast, small declines occurred in the number of reported cases among whites, persons in the Northeast, and persons exposed to HIV through homosexual/bisexual contact. Cases attributed to homosexual/bisexual contact still account for more than half of all AIDS cases nationally.

Trends in the occurrence of AIDS reflect earlier trends in HIV infection in various populations and regions. Reductions in HIV transmission by blood and blood products as a result of screening and other procedures implemented in 1985 are now reflected by decreases in AIDS cases among persons with hemophilia and transfusion recipients. Furthermore, reports of HIV infection and other sexually transmitted diseases (STDs)—a proxy marker for behaviors associated with sexual HIV transmission—have declined among homosexual/bisexual men in some regions (*2–4*). These declines in the incidence of HIV infection, beginning in the mid-1980s, contribute to the current slower rate of increase in AIDS cases among homosexual/bisexual men (*2*). In comparison, STD rates have increased for women, certain racial/ethnic minorities, and persons in younger age groups (*5–7*). Syphilis rates are highest in the Northeast and South, the regions with the largest number of AIDS cases—especially cases associated with heterosexual contact (*6*).

FIGURE 2. AIDS cases among women and heterosexual men reporting injecting-drug use, by region* and year of diagnosis — United States, 1988–1991



*Northeast comprises the New England and Middle Atlantic regions; South comprises the South Atlantic, East South Central, and West South Central regions; West comprises the Mountain and Pacific regions; and Midwest comprises the East North Central and West North Central regions.

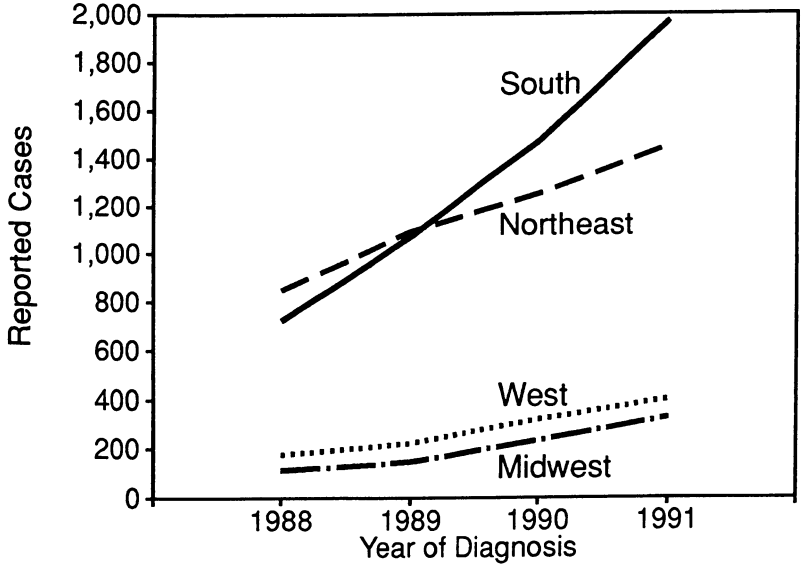
AIDS – Continued

A variety of other factors may also influence national and regional trends in the number of AIDS cases reported, including temporal differences in the introduction of HIV, the extent of use of therapies that delay the onset of AIDS-indicator diseases among HIV-infected persons (*8*), migration of HIV-infected persons before diagnosis with AIDS, and variations in local reporting practices. Adjustments for estimated reporting delays result in an increase in diagnosed cases of AIDS among homosexual/bisexual men and among persons in the 13–19- and 20–29-year age groups in 1991, when compared with 1990.

Ongoing investigation suggests that differences in reporting practices may be the major cause for the apparent decrease in perinatal cases. Because the incidence of AIDS in women has increased steadily (*9*), and approximately 6000 births per year are to HIV-infected women (*10*), it is unlikely that the number of cases of perinatal transmission that occurred in 1991 was less than in 1990.

AIDS cases initially reported as resulting from undetermined means of exposure to HIV are investigated by local or state health officials to determine a possible means of exposure. The increased proportion of such cases during the most recent reporting periods (Table 1) reflects the large number of cases still under investigation.

FIGURE 3. AIDS cases among persons reporting heterosexual contact with persons with or at high risk for HIV infection,* by region† and year of diagnosis – United States, 1988–1991§



*Adjusted for reporting delays.

†South comprises the South Atlantic, East South Central, and West South Central regions; Northeast comprises the New England and Middle Atlantic regions; West comprises the Mountain and Pacific regions; and Midwest comprises the East North Central and West North Central regions.

§Each group analyzed includes a percentage of persons with no identified risk (NIR) that belong to the same geographic categories. The redistribution of NIR cases is based on sex- and race/ethnicity-specific exposure category distributions of cases diagnosed from 1984 through 1988 that were initially assigned to NIR category but were subsequently reclassified.

AIDS — Continued

The results of public health surveillance for AIDS, combined with HIV surveillance and reporting and other measures of the HIV epidemic, illustrate the increasing diversity of persons affected by the HIV epidemic. Persons with AIDS reflect the larger population of HIV-infected persons who are asymptomatic or have other HIV-associated diseases. Trends in AIDS cases highlight the continuing need for HIV prevention and care.

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Epidemiologic Notes and Reports

Congenital Rubella Syndrome Among the Amish — Pennsylvania, 1991–1992

From February through May 1991, an outbreak of rubella occurred among the Amish in Pennsylvania that was part of a widespread rubella outbreak reported among the Amish in at least six states during 1991 (*1*). The Pennsylvania Department of Health (PDH), in cooperation with CDC, conducted an investigation to document cases of rubella among pregnant Amish women in Lancaster County and a cohort study to estimate the risk for congenital rubella syndrome (CRS) among infants born to Amish mothers from November 1, 1991, through January 31, 1992. This report summarizes investigation and study findings.

A case of maternal rubella was defined as the report of a rubella-like illness or serologic evidence of acute rubella infection during pregnancy. A case of CRS was defined as specified by the Council of State and Territorial Epidemiologists (*2*). Medical personnel involved in the obstetric care of Amish women obtained cord blood specimens for infants born of Amish mothers residing in Lancaster County

Congenital Rubella Syndrome — Continued

(1990 total population: 422,822; Amish population 16,000–18,000) from November 1, 1991, through January 31, 1992; this period coincided with the expected delivery dates of most of the pregnant women who were in the first trimester of pregnancy during the rubella outbreak. In addition, the local family-practice residency program and a private obstetric practice obtained cord blood specimens from a systematic sample of non-Amish infants during the same period. The Pennsylvania Bureau of Laboratories tested all specimens for rubella-specific total (by latex agglutination) and IgM (by capture enzyme immunoassay) antibodies.

The PDH and CDC identified 89 Amish women from Lancaster and surrounding counties as having a rubella-like illness during pregnancy. Vaccination histories were available for 51 of these women, one of whom had a history of prior rubella vaccination. Of the 89 women, 18 (20%) had laboratory-confirmed acute rubella; for 31, specimens were insufficient for analysis (i.e., recent rubella infection could not be verified or excluded); and no specimens were obtained for the remaining 40. In addition to the 89, routine prenatal testing identified five Amish women who had serologic evidence of acute rubella, none of whom had experienced clinical illness.

The outcome of pregnancy was determined for the 94 Amish mothers who reported illness or had serologic evidence of maternal rubella (Table 1). CRS occurred in 10 infants, all of whom were born to mothers who had histories of rubella-like illness in the first trimester; seven had possible manifestations of CRS; nine were miscarried/stillborn; and 68 infants appeared normal at birth. During the study period, medical personnel identified one additional infant with CRS from Lancaster County whose mother was a conservative Mennonite.

Clinical abnormalities for the 11 infants with CRS included congenital heart disease (nine), deafness (six), purpura (four), long bone radiolucencies (four), cataracts (three), thrombocytopenia (three), hepatosplenomegaly (two), intracranial calcifications (two), encephalitis (one), microcephaly (one), failure to thrive (one), seizures (one), and disseminated intravascular coagulation (one).

For the cohort study, cord blood samples were collected from 103 infants born to Amish mothers (57% of the estimated 181 infants born to Amish mothers during the period) and 219 infants whose mothers were not Amish. Specimens for 15 (15%) of the 103 infants born to Amish mothers were positive for antirubella IgM antibody; in comparison, specimens from all 219 infants born to non-Amish mothers were

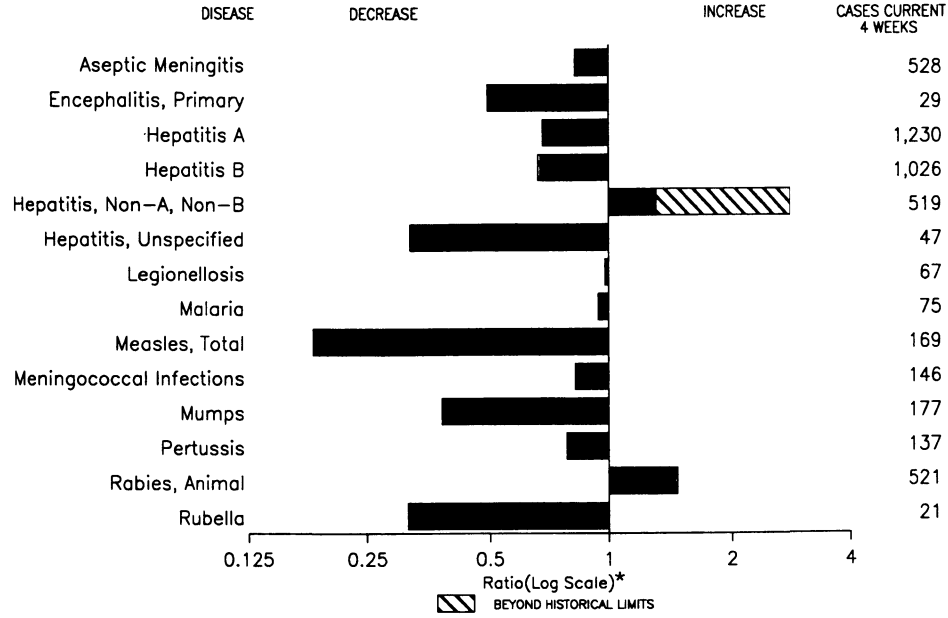
(Continued on page 475)

TABLE 1. Trimester of maternal rubella infection or clinical illness and clinical outcomes among 94 Amish infants — Lancaster County, Pennsylvania, 1991–1992

	Clinical outcome			
Trimester	CRS*	Possible CRS†	Miscarried/ Stillborn	None§
First	10	4	7	23
Second	0	3	2	28
Third	0	0	0	9
Unspecified	0	0	0	8
Total	**10**	**7**	**9**	**68**

*Congenital rubella syndrome.
†Clinical signs and symptoms present but insufficient to definitively diagnose CRS.
§No clinical evidence of CRS.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending June 27, 1992, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending June 27, 1992 (26th Week)

	Cum. 1992		Cum. 1992
AIDS*	20,284	Measles: imported	76
Anthrax	-	indigenous	1,113
Botulism: Foodborne	8	Plague	2
Infant	25	Poliomyelitis, Paralytic†	-
Other	1	Psittacosis	47
Brucellosis	31	Rabies, human	-
Cholera	36	Syphilis, primary & secondary	16,895
Congenital rubella syndrome	6	Syphilis, congenital, age < 1 year§	697
Diphtheria	3	Tetanus	7
Encephalitis, post-infectious	66	Toxic shock syndrome	125
Gonorrhea	230,588	Trichinosis	16
Haemophilus influenzae (invasive disease)	783	Tuberculosis	9,996
Hansen Disease	68	Tularemia	54
Leptospirosis	16	Typhoid fever	153
Lyme Disease	2,106	Typhus fever, tickborne (RMSF)	125

*Updated monthly; last update May 30, 1992.
†Two cases of suspected poliomyelitis have been reported in 1992; 6 of the 9 suspected cases with onset in 1991 were confirmed and 5 of the 8 suspected cases with onset in 1990 were confirmed; all were vaccine associated.
§Updates for first quarter 1992.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending June 27, 1992, and June 29, 1991 (26th Week)

Reporting Area	AIDS*	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	20,284	2,643	246	66	230,588	287,874	9,605	7,772	3,735	340	618	2,106
NEW ENGLAND	681	132	15	-	5,008	7,214	300	292	33	18	35	265
Maine	27	12	-	-	40	79	29	17	4	-	1	-
N.H.	22	5	2	-	10	154	25	20	11	1	3	11
Vt.	9	6	2	-	13	25	4	8	4	-	2	2
Mass.	382	53	8	-	1,856	3,029	146	217	11	17	19	44
R.I.	41	56	3	-	378	595	64	17	3	-	10	50
Conn.	200	-	-	-	2,711	3,332	32	13	-	-	-	158
MID. ATLANTIC	4,844	287	15	7	24,620	35,615	739	1,001	182	13	188	1,428
Upstate N.Y.	642	134	-	-	4,784	6,272	181	238	118	6	79	945
N.Y. City	2,651	57	4	1	8,400	13,855	257	170	3	-	3	-
N.J.	1,041	-	-	-	3,418	5,772	122	245	43	-	22	149
Pa.	510	96	11	6	8,018	9,716	179	348	18	7	84	334
E.N. CENTRAL	1,911	362	66	12	43,568	53,027	1,348	1,162	640	20	141	53
Ohio	388	103	23	1	12,116	15,868	224	126	56	4	69	23
Ind.	194	50	7	-	4,169	5,290	405	416	317	5	15	17
Ill.	808	70	17	6	14,604	16,404	240	104	31	4	8	3
Mich.	401	132	18	5	10,947	11,800	71	311	203	7	32	10
Wis.	120	7	1	-	1,732	3,665	408	205	33	-	17	-
W.N. CENTRAL	585	136	17	4	10,281	13,959	1,097	305	143	19	38	67
Minn.	101	13	1	-	1,456	1,379	351	34	12	2	2	7
Iowa	46	21	-	2	796	986	20	19	4	2	10	8
Mo.	306	53	9	-	5,311	8,640	331	202	110	14	13	44
N. Dak.	1	1	1	-	33	29	58	1	3	1	1	1
S. Dak.	3	5	-	1	88	170	168	4	-	-	-	-
Nebr.	19	10	2	1	8	906	82	12	5	-	11	1
Kans.	109	33	4	-	2,589	1,849	87	33	9	-	1	6
S. ATLANTIC	4,849	540	45	32	71,206	85,330	599	1,286	485	48	94	131
Del.	53	20	4	-	804	1,209	21	128	96	1	15	64
Md.	561	69	10	-	7,304	8,757	115	199	20	5	16	23
D.C.	387	12	1	-	3,579	4,944	11	45	199	-	7	-
Va.	275	86	10	8	9,040	8,673	54	92	20	18	10	24
W. Va.	25	4	3	-	451	565	4	29	3	9	-	1
N.C.	306	60	13	-	12,362	16,107	43	197	44	-	14	6
S.C.	165	6	-	-	5,631	6,105	12	29	-	-	16	-
Ga.	641	66	2	-	23,945	21,445	81	162	48	-	5	2
Fla.	2,436	217	2	24	8,090	17,525	258	405	55	15	11	11
E.S. CENTRAL	622	160	10	-	23,478	26,430	148	662	1,156	1	26	31
Ky.	82	58	7	-	2,472	2,895	38	38	1	-	15	7
Tenn.	190	45	1	-	7,111	10,057	70	561	1,148	-	9	21
Ala.	229	43	1	-	8,152	6,567	24	61	7	1	2	3
Miss.	121	14	1	-	5,743	6,911	16	2	-	-	-	-
W.S. CENTRAL	1,812	317	21	4	25,710	34,623	909	969	59	78	10	40
Ark.	95	4	7	-	4,065	3,635	50	40	5	3	-	8
La.	320	22	2	1	6,449	7,811	61	74	23	2	1	1
Okla.	100	-	1	2	2,487	3,296	106	101	20	3	4	13
Tex.	1,297	291	11	1	12,709	19,881	692	754	11	70	5	18
MOUNTAIN	595	90	11	3	5,448	6,104	1,395	354	140	30	43	2
Mont.	9	-	1	1	56	57	40	22	27	-	8	-
Idaho	13	14	-	-	61	76	30	47	3	-	3	1
Wyo.	2	-	-	-	28	53	3	2	5	-	1	-
Colo.	217	25	6	1	1,832	1,753	407	53	47	14	7	-
N. Mex.	52	9	3	-	451	558	136	102	13	7	2	-
Ariz.	159	26	1	-	2,051	2,295	578	68	15	4	12	-
Utah	46	-	-	1	137	166	166	9	19	5	2	1
Nev.	97	16	-	-	832	1,146	35	51	11	-	8	-
PACIFIC	4,385	619	46	4	21,269	25,572	3,070	1,741	897	113	43	89
Wash.	217	-	-	-	1,879	2,246	352	162	70	6	5	2
Oreg.	130	-	-	-	780	1,028	181	151	41	6	-	-
Calif.	3,971	568	43	3	17,988	21,600	2,380	1,414	637	95	37	87
Alaska	8	3	3	-	371	370	26	6	2	1	-	-
Hawaii	59	48	-	1	251	328	131	8	147	5	1	-
Guam	-	-	-	-	36	-	5	1	-	2	-	1
P.R.	735	85	1	-	91	330	17	217	52	13	1	-
V.I.	2	-	-	-	54	251	2	4	-	-	-	-
Amer. Samoa	-	-	-	-	17	23	-	1	-	-	-	-
C.N.M.I.	-	-	-	-	25	27	-	-	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands
*Updated monthly; last update May 30, 1992.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending June 27, 1992, and June 29, 1991 (26th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	1992	Cum. 1992	Cum. 1991
UNITED STATES	389	70	1,113	2	76	7,324	1,237	34	1,510	40	706	1,083	1	109	1005
NEW ENGLAND	22	6	44	-	7	47	75	-	10	8	73	173	-	6	2
Maine	-	-	-	-	-	-	7	-	-	1	3	44	-	1	-
N.H.	3	-	14	-	-	-	5	-	2	2	20	12	-	-	1
Vt.	-	-	-	-	-	5	2	-	-	-	1	3	-	-	-
Mass.	10	6	11	-	3	17	28	-	2	2	35	98	-	-	1
R.I.	4	-	19	-	-	2	-	-	-	-	-	-	-	4	-
Conn.	5	-	-	-	4	23	33	-	6	3	14	16	-	1	-
MID. ATLANTIC	106	5	163	1	9	4,258	139	4	106	5	76	112	-	15	558
Upstate N.Y.	16	-	76	1§	3	361	70	1	46	1	23	63	-	11	534
N.Y. City	58	5	38	-	5	1,475	12	3	18	2	11	13	-	-	2
N.J.	17	-	44	-	1	998	17	-	11	-	14	9	-	3	1
Pa.	15	-	5	-	-	1,424	40	-	31	2	28	27	-	1	21
E.N. CENTRAL	25	1	24	-	9	74	187	1	185	-	52	201	-	7	164
Ohio	4	-	2	-	3	1	49	-	72	-	26	62	-	-	147
Ind.	8	1	20	-	-	1	26	-	7	-	12	44	-	-	1
Ill.	5	-	1	-	4	24	52	-	50	-	5	42	-	7	4
Mich.	7	-	1	-	1	39	45	1	54	-	3	22	-	-	11
Wis.	1	-	-	-	1	9	15	-	2	-	6	31	-	-	1
W.N. CENTRAL	22	-	5	1	4	36	65	1	50	2	52	72	-	4	15
Minn.	10	-	4	1§	3	8	7	1	15	-	17	25	-	-	6
Iowa	2	-	-	-	1	15	7	-	9	-	1	8	-	-	5
Mo.	7	-	-	-	-	-	23	-	18	2	19	25	-	-	4
N. Dak.	-	U	-	U	-	-	-	U	2	U	8	1	U	-	-
S. Dak.	1	-	-	-	-	-	1	-	-	-	4	2	-	-	-
Nebr.	-	-	-	-	-	-	13	-	4	-	2	5	-	-	-
Kans.	2	-	1	-	-	13	14	-	2	-	1	6	-	4	-
S. ATLANTIC	75	1	113	-	10	414	216	5	595	1	66	92	-	11	5
Del.	4	-	3	-	-	21	2	-	4	-	-	-	-	-	-
Md.	20	1	9	-	7	164	26	-	55	-	14	14	-	7	1
D.C.	6	-	-	-	-	-	-	-	3	-	-	-	-	1	1
Va.	17	-	8	-	3	24	35	-	33	-	4	10	-	-	-
W. Va.	-	-	-	-	-	-	14	-	22	-	2	6	-	-	-
N.C.	6	-	25	-	-	31	35	-	124	-	13	15	-	-	-
S.C.	-	-	29	-	-	12	18	-	46	-	9	9	-	-	-
Ga.	3	-	-	-	-	14	33	-	56	-	8	21	-	-	-
Fla.	19	-	39	-	-	148	53	5	252	1	16	17	-	3	3
E.S. CENTRAL	13	1	437	-	17	1	87	-	38	1	13	30	-	1	100
Ky.	1	1	435	-	1	-	27	-	-	-	-	-	-	-	-
Tenn.	8	-	-	-	-	1	28	-	13	-	5	13	-	1	100
Ala.	4	-	-	-	-	-	26	-	7	1	8	16	-	-	-
Miss.	-	-	2	-	16	-	6	-	18	-	-	1	-	-	-
W.S. CENTRAL	11	56	241	-	-	55	95	4	269	-	22	23	-	-	4
Ark.	-	-	-	-	-	5	8	-	6	-	9	3	-	-	1
La.	-	-	-	-	-	-	20	-	15	-	-	9	-	-	-
Okla.	2	-	11	-	-	-	12	-	15	-	13	11	-	-	-
Tex.	9	56	230	-	-	50	55	4	233	-	-	-	-	-	3
MOUNTAIN	10	-	2	-	6	800	64	6	84	16	134	118	-	4	4
Mont.	-	-	-	-	-	-	12	-	2	-	1	-	-	-	-
Idaho	-	-	-	-	-	287	8	-	2	3	17	20	-	1	-
Wyo.	-	U	1	U	-	-	2	U	-	U	-	3	U	-	-
Colo.	4	-	1	-	6	5	11	6	11	2	22	61	-	-	1
N. Mex.	1	-	-	-	-	94	5	N	N	-	30	10	-	-	1
Ariz.	4	-	-	-	-	312	14	-	48	11	48	8	-	2	-
Utah	-	-	-	-	-	86	4	-	16	-	15	14	-	1	-
Nev.	1	U	-	U	-	16	8	U	5	U	1	2	U	-	2
PACIFIC	105	-	84	-	14	1,639	309	13	173	7	218	262	1	61	153
Wash.	7	-	-	-	10	4	41	-	8	2	58	65	-	6	-
Oreg.	9	-	4	-	1	59	45	N	N	-	14	37	-	2	2
Calif.	83	-	42	-	-	1,559	212	12	153	3	134	115	-	36	146
Alaska	1	-	8	-	1	1	6	-	1	-	-	11	-	-	-
Hawaii	5	-	30	-	2	16	5	1	11	2	12	34	1	17	5
Guam	1	U	10	U	-	-	-	U	6	U	-	-	U	1	-
P.R.	-	-	244	-	-	81	3	-	1	-	8	22	-	-	1
V.I.	-	-	-	-	-	2	-	-	13	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	24	-	U	-	U	6	-	U	-	-
C.N.M.I.	-	U	-	U	-	-	-	U	-	U	1	-	U	-	-

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

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending June 27, 1992, and June 29, 1991 (26th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	16,895	21,731	125	9,996	10,745	54	153	125	3,981
NEW ENGLAND	300	569	10	214	298	-	17	3	375
Maine	-	-	-	48	27	-	-	-	-
N.H.	-	12	6	-	-	-	1	-	1
Vt.	1	1	-	3	3	-	-	-	16
Mass.	156	268	3	74	144	-	11	1	3
R.I.	18	33	1	24	33	-	-	1	-
Conn.	125	255	-	65	91	-	5	1	355
MID. ATLANTIC	2,498	3,877	16	2,378	2,498	-	44	5	1,142
Upstate N.Y.	171	331	6	158	266	-	6	1	638
N.Y. City	1,330	1,851	-	1,474	1,499	-	19	3	-
N.J.	327	686	-	438	413	-	12	-	352
Pa.	670	1,009	10	308	320	-	7	1	152
E.N. CENTRAL	2,445	2,486	36	1,061	1,085	1	14	12	72
Ohio	365	319	11	157	151	-	3	8	8
Ind.	147	75	8	87	84	-	-	2	8
Ill.	1,107	1,188	5	522	576	1	10	-	11
Mich.	529	647	12	248	223	-	1	1	8
Wis.	297	257	-	47	51	-	-	1	37
W.N. CENTRAL	537	364	18	188	272	19	1	8	671
Minn.	41	40	3	47	55	-	-	-	101
Iowa	20	33	4	19	37	-	-	-	113
Mo.	393	245	3	65	113	15	1	7	7
N. Dak.	1	1	1	2	6	-	-	-	77
S. Dak.	-	1	-	15	20	3	-	-	60
Nebr.	1	9	3	13	11	1	-	-	6
Kans.	81	35	4	27	30	-	-	1	307
S. ATLANTIC	4,784	6,381	13	1,964	1,968	3	12	26	887
Del.	102	83	3	19	16	-	-	3	120
Md.	359	522	1	130	186	1	2	1	263
D.C.	216	403	-	62	108	-	1	1	10
Va.	356	515	1	136	158	2	-	1	151
W. Va.	7	17	1	31	39	-	1	1	21
N.C.	1,213	964	3	247	249	-	-	12	2
S.C.	654	796	1	214	208	-	1	2	68
Ga.	979	1,541	1	441	386	-	-	3	182
Fla.	898	1,540	2	684	618	-	7	2	70
E.S. CENTRAL	2,233	2,301	1	593	722	6	2	24	70
Ky.	72	37	-	194	161	1	-	2	38
Tenn.	615	802	1	90	203	5	-	21	-
Ala.	884	834	-	216	201	-	-	1	32
Miss.	662	628	-	93	157	-	2	-	-
W.S. CENTRAL	3,061	4,018	1	937	1,252	13	6	42	423
Ark.	414	323	-	85	97	7	-	6	19
La.	1,279	1,235	-	87	104	-	-	-	-
Okla.	124	99	-	70	80	6	-	36	203
Tex.	1,244	2,361	1	695	971	-	6	-	201
MOUNTAIN	196	304	10	252	293	12	2	4	80
Mont.	3	2	-	-	3	6	-	2	10
Idaho	1	3	1	13	4	-	1	-	-
Wyo.	1	3	-	-	3	2	-	-	24
Colo.	24	50	4	16	33	1	1	-	5
N. Mex.	24	19	1	39	31	3	-	1	5
Ariz.	97	196	2	112	155	-	-	-	34
Utah	5	4	2	43	25	-	-	1	1
Nev.	41	27	-	29	39	-	-	-	1
PACIFIC	841	1,431	20	2,409	2,357	-	55	1	261
Wash.	49	95	-	159	149	-	4	-	-
Oreg.	25	38	-	60	51	-	-	-	-
Calif.	761	1,291	20	2,040	2,016	-	48	1	249
Alaska	2	3	-	30	38	-	-	-	12
Hawaii	4	4	-	120	103	-	3	-	-
Guam	2	-	-	34	-	-	1	-	-
P.R.	164	243	-	120	94	-	1	-	29
V.I.	32	62	-	3	1	-	-	-	-
Amer. Samoa	-	-	-	-	2	-	1	-	-
C.N.M.I.	4	-	-	12	6	-	1	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending June 27, 1992 (26th Week)

Reporting Area	All Causes, By Age (Years)						P&I†	Reporting Area	All Causes, By Age (Years)						P&I†
	All Ages	≥65	45-64	25-44	1-24	<1	Total		All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	598	412	96	50	23	17	51	S. ATLANTIC	1,275	758	299	139	46	32	70
Boston, Mass.	149	93	22	21	7	6	24	Atlanta, Ga.	158	83	44	20	6	5	4
Bridgeport, Conn.	45	31	8	1	5	-	1	Baltimore, Md.	272	162	60	30	11	8	26
Cambridge, Mass.	19	17	2	-	-	-	1	Charlotte, N.C.	107	66	26	11	4	-	11
Fall River, Mass.	29	20	5	2	1	1	-	Jacksonville, Fla.	123	77	28	11	4	3	5
Hartford, Conn.	55	39	10	3	1	2	3	Miami, Fla.	94	57	24	8	1	4	1
Lowell, Mass.	25	22	-	3	-	-	1	Norfolk, Va.	50	23	10	10	4	3	2
Lynn, Mass.	19	17	1	1	-	-	-	Richmond, Va.	74	43	20	8	1	2	1
New Bedford, Mass.	28	20	3	2	2	1	2	Savannah, Ga.	60	35	15	6	3	1	4
New Haven, Conn.	45	31	9	3	2	-	6	St. Petersburg, Fla.	61	47	7	4	-	3	-
Providence, R.I.	40	29	4	6	1	-	1	Tampa, Fla.	148	91	42	8	7	-	13
Somerville, Mass.	7	4	2	1	-	-	1	Washington, D.C.	108	58	20	23	5	2	3
Springfield, Mass.	47	29	11	5	-	2	1	Wilmington, Del.	20	16	3	-	-	1	-
Waterbury, Conn.	28	22	4	1	-	1	4								
Worcester, Mass.	62	38	15	1	4	4	6	E.S. CENTRAL	744	466	151	63	29	35	58
								Birmingham, Ala.	89	57	12	7	3	10	4
MID. ATLANTIC	1,746	1,127	337	203	34	44	91	Chattanooga, Tenn.	72	50	14	4	1	3	7
Albany, N.Y.	51	40	11	-	-	-	8	Knoxville, Tenn.	71	52	17	1	-	1	5
Allentown, Pa.	21	16	4	1	-	-	1	Louisville, Ky.	U	U	U	U	U	U	U
Buffalo, N.Y.	100	45	27	24	2	2	1	Memphis, Tenn.	225	128	50	19	11	17	21
Camden, N.J.	43	27	9	4	1	2	2	Mobile, Ala.	103	61	26	13	3	-	9
Elizabeth, N.J.	31	19	10	2	-	-	-	Montgomery, Ala.	64	41	11	8	3	1	2
Erie, Pa.§	31	24	7	-	-	-	-	Nashville, Tenn.	120	77	21	11	8	3	10
Jersey City, N.J.	58	36	9	12	-	1	1								
New York City, N.Y.	681	432	139	81	14	15	20	W.S. CENTRAL	1,435	892	274	167	56	43	78
Newark, N.J.	68	26	15	16	7	4	11	Austin, Tex.	58	35	12	7	3	1	4
Paterson, N.J.	14	10	1	3	-	-	-	Baton Rouge, La.	45	24	12	7	2	-	-
Philadelphia, Pa.	312	206	53	37	7	9	22	Corpus Christi, Tex.	45	34	7	4	-	-	3
Pittsburgh, Pa.§	39	23	8	5	-	3	7	Dallas, Tex.	186	112	29	29	4	12	5
Reading, Pa.	18	11	4	-	-	3	2	El Paso, Tex.	70	51	11	4	2	1	11
Rochester, N.Y.	112	91	10	9	1	1	4	Ft. Worth, Tex.	110	74	16	10	5	5	4
Schenectady, N.Y.	17	12	3	2	-	-	1	Houston, Tex.	357	205	83	45	13	11	24
Scranton, Pa.§	28	18	8	2	-	-	3	Little Rock, Ark.	76	42	18	9	2	5	5
Syracuse, N.Y.	89	69	12	2	1	4	5	New Orleans, La.	150	83	25	19	16	5	-
Trenton, N.J.	21	12	5	3	1	-	1	San Antonio, Tex.	204	138	35	24	5	2	12
Utica, N.Y.	12	10	2	-	-	-	2	Shreveport, La.	46	31	12	1	2	-	5
Yonkers, N.Y.	U	U	U	U	U	U	U	Tulsa, Okla.	88	63	14	8	2	1	5
E.N. CENTRAL	2,046	1,217	452	209	117	51	90	MOUNTAIN	742	490	155	60	20	17	46
Akron, Ohio	53	34	10	4	3	2	-	Albuquerque, N.M.	64	40	16	4	2	2	2
Canton, Ohio	39	27	9	2	-	1	1	Colo. Springs, Colo.	46	29	11	3	2	1	9
Chicago, Ill.	441	182	99	79	72	9	16	Denver, Colo.	101	61	20	12	3	5	8
Cincinnati, Ohio	128	90	25	7	3	3	8	Las Vegas, Nev.	125	73	32	15	4	1	7
Cleveland, Ohio	161	99	38	12	8	4	2	Ogden, Utah	31	23	6	1	1	-	1
Columbus, Ohio	145	101	23	15	2	4	5	Phoenix, Ariz.	138	96	27	11	1	3	8
Dayton, Ohio	101	69	22	6	3	1	7	Pueblo, Colo.	32	25	6	1	-	-	1
Detroit, Mich.	205	103	52	32	11	7	4	Salt Lake City, Utah	85	51	17	8	5	4	6
Evansville, Ind.	46	28	13	3	-	2	3	Tucson, Ariz.	120	92	20	5	2	1	4
Fort Wayne, Ind.	61	38	14	6	2	1	6								
Gary, Ind.	17	10	-	6	-	1	2	PACIFIC	1,925	1,239	342	214	75	47	111
Grand Rapids, Mich.	52	37	11	1	1	2	8	Berkeley, Calif.	10	7	2	-	-	1	1
Indianapolis, Ind.	131	84	30	9	5	3	9	Fresno, Calif.	68	46	10	5	4	3	5
Madison, Wis.	26	13	8	2	1	2	1	Glendale, Calif.	24	17	4	2	1	-	2
Milwaukee, Wis.	134	99	27	6	1	1	9	Honolulu, Hawaii	70	47	14	3	4	2	6
Peoria, Ill.	44	24	11	2	2	5	2	Long Beach, Calif.	66	38	17	7	-	4	8
Rockford, Ill.	45	28	8	7	1	1	2	Los Angeles, Calif.	567	360	94	78	24	4	27
South Bend, Ind.	53	39	11	2	1	-	2	Pasadena, Calif.	19	11	4	2	1	1	-
Toledo, Ohio	100	69	26	3	-	2	2	Portland, Oreg.	130	94	23	6	3	4	6
Youngstown, Ohio	64	43	15	5	1	-	1	Sacramento, Calif.	157	91	38	19	7	2	9
								San Diego, Calif.	182	114	38	19	6	5	21
W.N. CENTRAL	757	567	118	38	17	17	31	San Francisco, Calif.	157	86	26	34	5	5	5
Des Moines, Iowa	45	37	7	1	-	-	-	San Jose, Calif.	161	102	32	12	7	8	15
Duluth, Minn.	34	24	6	3	-	1	-	Santa Cruz, Calif.	13	10	3	-	-	-	2
Kansas City, Kans.	19	10	9	-	-	-	1	Seattle, Wash.	157	113	13	20	8	3	-
Kansas City, Mo.	99	74	15	3	3	4	6	Spokane, Wash.	55	37	14	1	2	1	3
Lincoln, Nebr.	37	34	2	1	-	-	2	Tacoma, Wash.	89	66	10	6	3	4	1
Minneapolis, Minn.	190	137	27	16	7	3	13								
Omaha, Nebr.	86	62	16	3	-	5	5	TOTAL	11,268¶	7,168	2,224	1,143	417	303	626
St. Louis, Mo.	126	99	18	4	2	3	-								
St. Paul, Minn.	58	42	8	4	4	-	4								
Wichita, Kans.	63	48	10	3	1	1	-								

*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.

U: Unavailable

Congenital Rubella Syndrome — Continued

negative. Seven (47%) of the 15 infants whose cord blood was positive by IgM were classified as having confirmed CRS, four (27%) had no clinical symptoms, and four (27%) had insufficient clinical information to allow classification. Based on the findings for the 3-month study period, the rate of congenital rubella infection was 83 per 1000 Amish live births and the rate of CRS was 40 per 1000 Amish live births.

Reported by: R Anderson, MS, D Goslin, L Groff, MSN, M Howard, MSN, P Payne, PhD, R Rhoads-Martinez, D Abbott, DO, N Dragann, DO, J Rutt, MD, J Samitt, DO, DH Morton, MD, Clinic for Special Children; D Carr, Community Hospital of Lancaster; B Yingling, MD, RG Kimber, MD, Lancaster General Hospital; E Hershey, DR Tavris, MD, State Epidemiologist, Pennsylvania Dept of Health. Div of Immunization, National Center for Prevention Svcs; Div of Birth Defects and Developmental Disabilities, National Center for Environmental Health and Injury Control, CDC.

Editorial Note: The risk for CRS is greatest when maternal infection occurs early in pregnancy; when infection occurs during the first trimester, CRS occurs in up to 85% of births (*3*). Manifestations of CRS range from mild to severe, with severely affected infants having multiple abnormalities, most notably cataracts, glaucoma, patent ductus arteriosus, pulmonary artery stenosis, meningoencephalitis, microcephaly, and mental retardation. Preventing fetal infection and the serious consequences of CRS is the goal of rubella vaccination efforts (*4*). Rubella vaccination strategies to prevent CRS include 1) identification and vaccination of nonimmune women of childbearing age and 2) routine vaccination of all children aged ≥15 months to decrease circulation of wild virus.

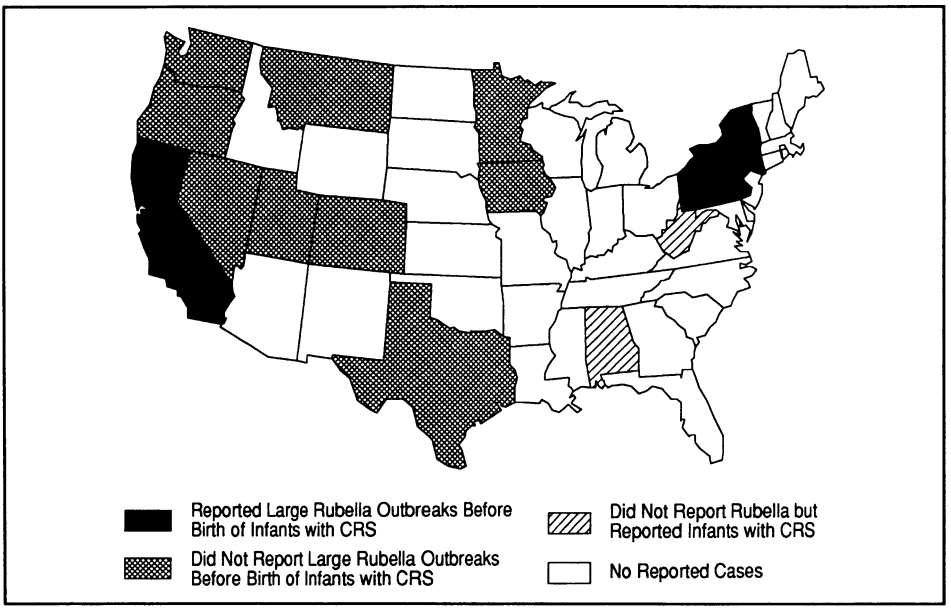
In 1988, 225 cases of postnatal rubella were reported from 23 states and Puerto Rico—the lowest number ever reported in the United States. During 1989–1991, the number of reported cases of postnatal rubella and the number of states reporting cases increased each year; these increases have reflected, in part, large outbreaks that occurred during 1990–1991 in California and among the Amish and Mennonites in six states (*1,5*).

For CRS, an annual average of two cases were reported per year from 1984 to 1989 (excluding an outbreak of eight cases in New York City during 1986). However, in 1990 and 1991, reported CRS increased markedly as did the total number of states reporting CRS cases (Figure 1). During 1986–1991, 68 cases of indigenous, confirmed, or compatible CRS (*1*) were reported to CDC's National CRS Registry. Most (49) of these were associated with three known outbreaks of CRS: New York City during 1986 (eight cases), California during 1990–91 (25 cases), and among the Amish in Pennsylvania and New York in 1991 (16 cases). However, 19 (28%) cases were reported from 11 states that did not report large rubella outbreaks during this period. These cases most likely represent inadequate diagnosis and reporting of rubella despite circulation of rubella virus. Of the 68 mothers entered in the National CRS Registry for 1986–1991, 36 (53%) had prior live-born infants; however, only six (17%) reported rubella vaccination, and only four of those without history of vaccination were reported to be immune. Overall, 26 (38%) of these mothers had prior pregnancies but were either not tested or not vaccinated for rubella as recommended by the Advisory Committee for Immunization Practices (*4*).

The increased occurrence of rubella and CRS in the United States underscores the need for heightened awareness among physicians and other health-care providers in diagnosing rubella and CRS. Suspected rubella cases should be promptly reported to local health departments to facilitate early detection of outbreaks and implementation of control measures. In addition, efforts to vaccinate children and women of

Congenital Rubella Syndrome – Continued

FIGURE 1. Reported large rubella outbreaks and infants born with congenital rubella syndrome (CRS), by state – United States, 1986–1991



childbearing age must be intensified (*4*). Postpartum vaccination of susceptible women could have prevented up to 38% of the CRS cases reported during 1986–1991. To prevent CRS, women of childbearing age who are not pregnant should be evaluated for rubella immunity (i.e., documented history of rubella vaccination or serologic evidence of rubella immunity) during any health-care visit (e.g., visits following spontaneous or therapeutic abortions, family planning, sexually transmitted disease treatment, and routine gynecologic care) and, if indicated, vaccinated.

The PDH has used these findings 1) in their efforts to promote vaccination among the state's Amish population, including publishing articles on rubella vaccination in local Amish newsletters, and 2) in encouraging state health-care providers to intensify vaccination efforts among groups who traditionally refuse vaccination.

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2. CDC. Case definitions for public health surveillance. MMWR 1990;39(no. RR-13):32.
3. Miller E, Cradock-Watson JE, Pollock TM. Consequences of confirmed maternal rubella at successive stages of pregnancy. Lancet 1982;2:781–5.
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Current Trends

Cerebrovascular Disease Mortality and Medicare Hospitalization – United States, 1980–1990

Cerebrovascular disease, the third leading cause of death in the United States, disproportionately affects older adults. In 1988, 87% of all deaths from and 74% of all hospitalizations for cerebrovascular disease occurred among persons aged ≥65 years. This report presents temporal trends and geographic patterns in mortality and Medicare hospitalizations resulting from cerebrovascular disease among persons aged ≥65 years.

Public-use mortality data from CDC's National Center for Health Statistics were used to determine the annual number of cerebrovascular disease deaths listed as the underlying cause of death (*International Classification of Diseases, Ninth Revision* [ICD-9] codes 430–434 and 436–438 [*1*]) from 1980 through 1988, by decedent's age, sex, and race. Age-adjusted death rates for persons aged ≥65 years were calculated using postcensal population estimates (*2*); the 1980 U.S. population aged ≥65 years was used as the standard. The number of persons hospitalized each year with a principal diagnosis of cerebrovascular disease (ICD-9 codes 430–434, 436–437 [*1*]) was obtained for 1985–1990 from computerized Medicare Part A (hospitalization) discharge records. Age-adjusted rates for persons hospitalized were calculated using as denominators the annual number of Medicare enrollees (persons aged ≥65 years) listed in the Medicare denominator file. Race-specific rates are not reported for races other than black and white because sufficient denominators were not available.

Age-adjusted cerebrovascular disease death rates among persons aged ≥65 years declined 27.6% from 568.9 per 100,000 in 1980 to 411.8 per 100,000 in 1988 (Figure 1). Overall declines in cerebrovascular disease death rates occurred for white women (27.1%, from 525.8 to 383.3 per 100,000), white men (28.8%, from 602.6 to 428.8 per 100,000), black women (23.1%, from 664.4 to 511.1 per 100,000), and black men (27.6%, from 781.0 to 565.8 per 100,000). However, from 1987 to 1988, the death rates increased for both black men and black women. In addition, death rates for blacks were consistently higher than rates for whites.

Among Medicare recipients, the rate of persons hospitalized for cerebrovascular disease declined 8.5%, from 1436.3 per 100,000 in 1985 to 1314.4 per 100,000 in 1990 (Figure 2). The decrease was greatest for whites. For blacks, increases from 1985 to 1986 were followed by decreases for black men and a stabilization for black women.

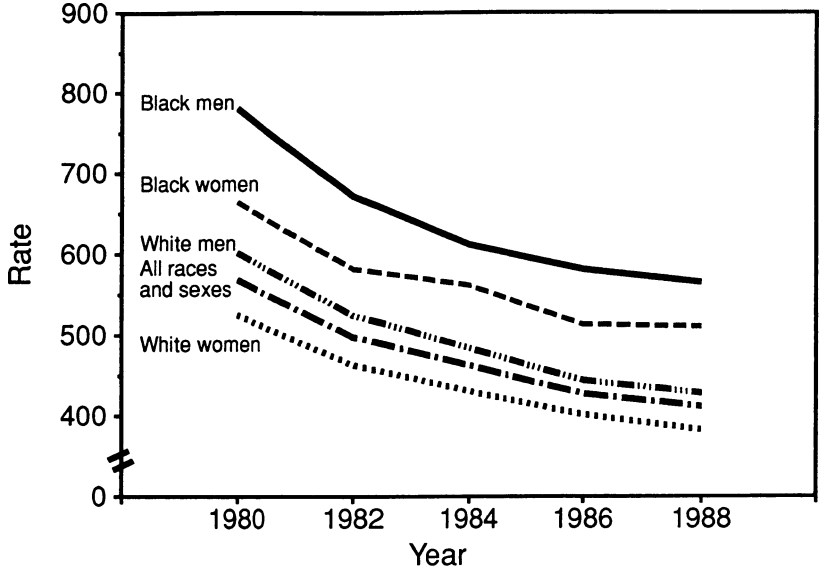
In 1988, age-adjusted rates for cerebrovascular disease mortality and hospitalization among persons aged ≥65 years were greatest primarily in the southeastern United States (Figures 3 and 4).

Reported by: Disease Surveillance Br, Office of Surveillance and Analysis, and Cardiovascular Health Br, Div of Chronic Disease Control and Community Intervention, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Despite the declines in cerebrovascular disease mortality among older adults during the 1980s, these declines may be less prominent than declines that occurred during the 1970s (*3*). In addition, cerebrovascular disease death rates for blacks increased from 1987 to 1988 and were higher in 1988 than were rates for whites in 1980. Changes in treatment of hypertension, prevalence of cigarette smoking, dietary patterns, living conditions, and educational resources may have influenced trends in cerebrovascular disease mortality.

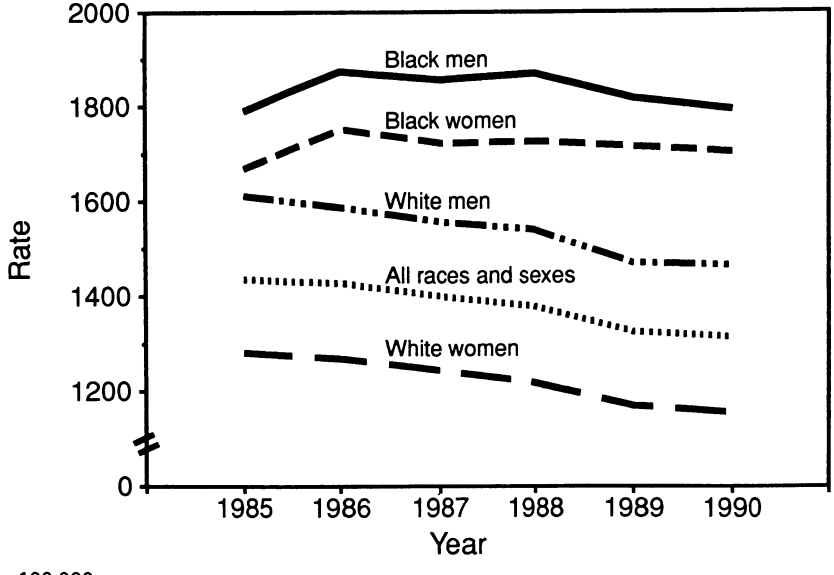
Cerebrovascular Disease — Continued

FIGURE 1. Age-adjusted death rates* for cerebrovascular disease among persons aged ≥65 years, by race and sex — United States, 1980–1988



*Per 100,000 persons.

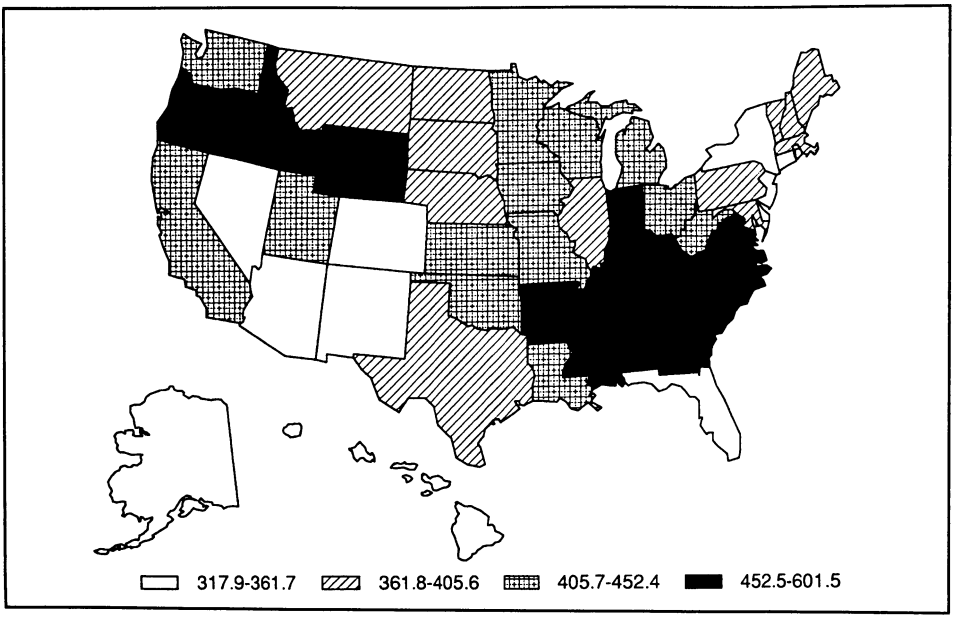
FIGURE 2. Age-adjusted rate* for persons aged ≥65 years hospitalized for cerebrovascular disease, by race and sex — United States, 1985–1990



*Per 100,000 persons.

Cerebrovascular Disease — Continued

FIGURE 3. Age-adjusted death rates* for cerebrovascular disease among persons aged ≥65 years, per quartile — United States, 1988



*Per 100,000 persons.

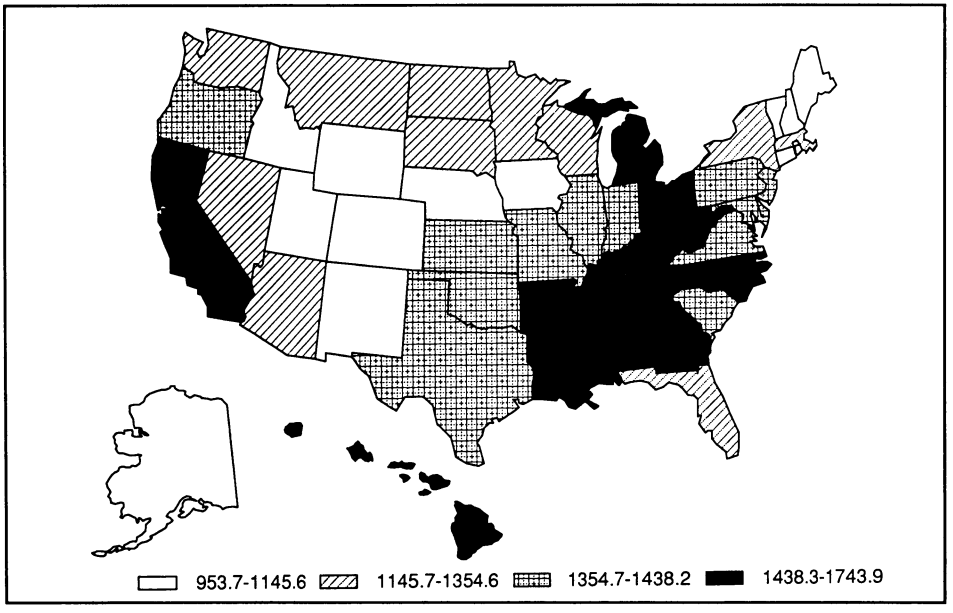
Trends in hospital discharge rates for cerebrovascular disease are difficult to interpret because they may reflect changes in factors such as natural history of the disease, availability of and access to hospital care, management of acute stroke, and case-fatality rates. The trends described in this report suggest that changes in the factors that influence hospitalization rates for Medicare recipients occur differentially for blacks and whites. Whether the Medicare hospitalization rates reflect a differential in race-specific incidence rates is not known; the only study of stroke incidence among whites during this time period reported an increase from 1980 to 1984 (*4*), and there have been no studies of incidence among blacks.

High rates of death and hospitalization for cerebrovascular disease in the Southeast (i.e., the "stroke belt") have been reported previously (*5,6*). Although specific factors contributing to this pattern are unclear, this pattern has been documented for both blacks and whites (CDC, unpublished data, 1992) and, therefore, cannot be attributed to the higher concentration of blacks living in the Southeast. The continued clustering of high rates of death and Medicare hospitalization in the Southeast suggests a persistence in geographic inequalities in the distribution of factors associated with cerebrovascular disease.

The continued development of effective public health interventions to reduce cerebrovascular disease morbidity and mortality, particularly among blacks and persons living in the Southeast, requires additional understanding of the distribution of a variety of factors, including socioeconomic resources (e.g., employment patterns, income, and educational opportunities), cigarette smoking prevalence, treatment of hypertension, dietary patterns, and delivery of health-care services.

Cerebrovascular Disease — Continued

FIGURE 4. Age-adjusted rate* for persons aged ≥65 years hospitalized for cerebrovascular disease, by quartile — United States, 1988



*Per 100,000 persons.

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Notices to Readers

Publication of *National HIV Serosurveillance Summary — Results through 1990*

CDC collaborates with state and local health departments, other federal agencies, blood collection agencies, and medical research institutions to conduct human immunodeficiency virus (HIV) seroprevalence surveys and studies in a variety of sentinel populations. These activities constitute a serosurveillance network to monitor the prevalence of HIV infection in the United States. This "family" of surveys

Notices to Readers — Continued

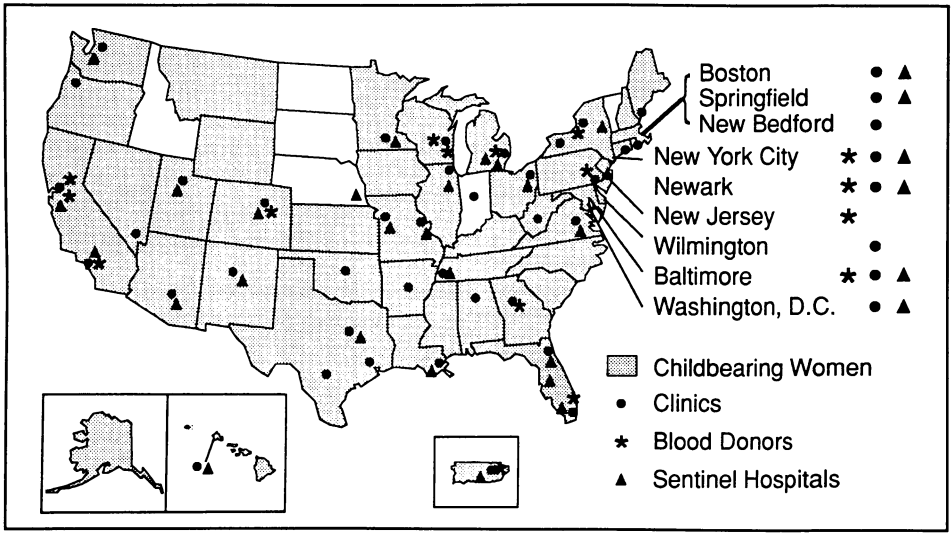
includes selected populations, including persons at increased risk (e.g., persons attending drug-treatment centers and sexually transmitted disease clinics) and broader populations (e.g., applicants for military service and childbearing women) (Figure 1).

Single copies of the publication, *National HIV Serosurveillance Summary—Results through 1990* (*1*), are available free from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231.

Reference

1. CDC. National HIV serosurveillance summary—results through 1990. Atlanta: US Department of Health and Human Services, Public Health Service, 1992; DHHS publication no. (CDC)11-91/011.

FIGURE 1. Metropolitan areas and states participating in CDC's National HIV Serosurveillance Program — United States, 1990



Seventh National Conference on Chronic Disease Prevention and Control

CDC, the Association of State and Territorial Health Officials, and the Association of State and Territorial Chronic Disease Program Directors will cosponsor the Seventh National Conference on Chronic Disease Prevention and Control, October 21–23, 1992, in Salt Lake City, Utah. The conference is open to the public. This year's theme is "Prevention: Can It Be Marketed, Managed, and Make a Difference?"

The conference will emphasize interactions among federal, state, and local health departments; voluntary health agencies; and professional organizations. Presentations will be given in plenary, invited, abstract, poster, and workshop sessions. Topics will include future implications for prevention and public health; prevention effectiveness; behavioral research; use of epidemiology for decision making; chronic disease prevention and control in the worksite; clinic-based interventions; cancer

Notices to Readers — Continued

prevention and control; reaching children and adolescents; smoking and health; nutrition and chronic disease prevention; community-based interventions; cardiovascular disease prevention and control; reaching the underserved; chronic disease surveillance; diabetes prevention and control; management by empowerment; enlisting minority health organizations in chronic disease prevention/control advocacy; and international chronic disease prevention and control.

Additional information is available from the National Center for Chronic Disease Prevention and Health Promotion, CDC, Mailstop K-43, 1600 Clifton Road, NE, Atlanta, GA 30333; telephone (404) 488-5390; fax (404) 488-5962.

Update: Availability of Streptomycin and Para-Aminosalicylic Acid — United States

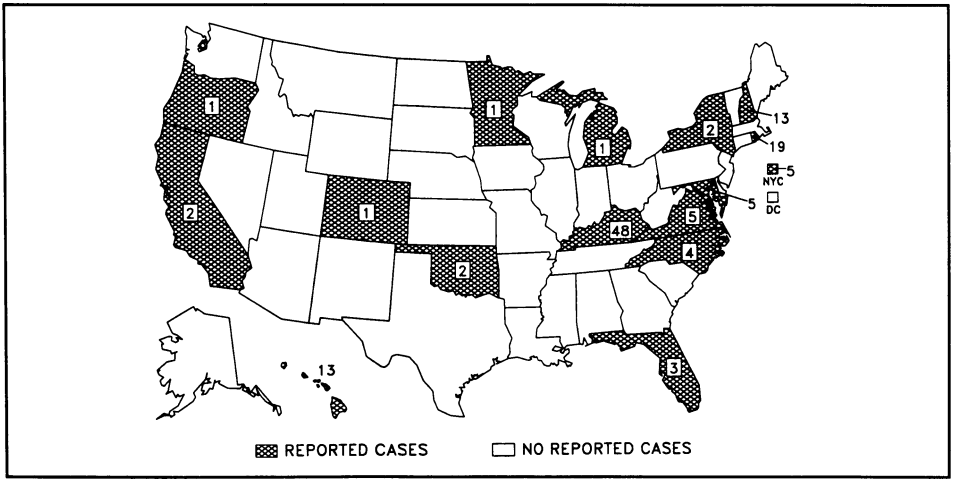
Since April 1992, streptomycin (SM) and para-aminosalicylic acid (PAS) (antimicrobial agents used in the treatment of tuberculosis [TB]) have been available through CDC under an investigational new drug agreement for the treatment of patients with multidrug-resistant TB. SM will now be made available for use in the drug-treatment regimen of any patient with active TB. This announcement updates and supersedes the previous notice (*1*) on availability of SM. Eligibility criteria for PAS remain unchanged. Clinicians interested in obtaining SM or PAS for their patients should provide an abbreviated medical history and, for SM, a recent creatinine serum level measurement.

These drugs are expected to become commercially available in the United States later this year. Until then, requests should be directed to CDC's Clinical Research Branch, Division of Tuberculosis Elimination, National Center for Prevention Services; telephone (404) 639-2530.

Reference

1. CDC. Availability of streptomycin and para-aminosalicylic acid—United States. MMWR 1992;41:243

Reported cases of measles, by state — United States, weeks 22–25, 1992



The *Morbidity and Mortality Weekly Report* (*MMWR*) Series is prepared by the Centers for Disease Control and is available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 783-3238.

The data in the weekly *MMWR* 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. Inquiries about the *MMWR* Series, including material to be considered for publication, should be directed to: Editor, *MMWR* Series, Mailstop C-08, Centers for Disease Control, Atlanta, GA 30333; telephone (404) 332-4555.

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