

MNWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Role of Media in Tobacco Control — World No-Tobacco Day, 1994

The mass media have played an important role in efforts to control and prevent tobacco use. To recognize the effectiveness of these efforts, the theme of the seventh World No-Tobacco Day, to be held May 31, 1994, is "The Media and Tobacco: Getting the Health Message Across." Activities will include press releases, videotape presentations, educational symposia, and radio announcements by World Health Organization experts on tobacco control.

The need for collaboration between public health workers and media representatives is particularly urgent in developing countries in which the prevalence of tobacco use is increasing. In these countries, the dissemination of information through the media also can assist in the development of educational and legislative measures to prevent and control tobacco use (1,2) and may help reduce the success of aggressive marketing campaigns by transnational tobacco companies. Examples of collaboration between the media and the tobacco-control groups in some countries include successful smoking-cessation and health-education campaigns (e.g., in Estonia, Finland, and New Guinea) and decisions by certain media to refuse cigarette advertising (e.g., in Australia, Canada, and the United States).

Additional information about World No-Tobacco Day 1994 is available from the Office of Information and Public Affairs, Pan American Health Organization (telephone [202] 861-3458) or from CDC's Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion (telephone [404] 488-5705).

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Current Trends

Cigarette Smoking Among Adults — United States, 1992, and Changes in the Definition of Current Cigarette Smoking

Use of tobacco in the United States is monitored continually by CDC to evaluate efforts to control and prevent the use of this substance. The prevalence of cigarette smoking among U.S. adults decreased from 1965 to 1990 (from 42.4% to 25.5%) and remained stable from 1990 to 1991 (from 25.5% to 25.6%) (1). To determine the prevalence of smoking among adults during 1992, the National Health Interview Survey—Cancer Control and Epidemiology Supplements (NHIS-CCES) collected self-reported information on cigarette smoking from a random sample of civilian, non-institutionalized adults aged ≥ 18 years. For 1992, the definition used to assess self-reported smoking prevalence was changed to more accurately assess some-day (i.e., intermittent) smoking because of a recognized higher prevalence of intermittent smoking (2). This report presents the prevalence estimates for 1992, compares findings with 1991, and assesses the impact of changes in the definition of current smoker on these estimates.

The overall response rate for the 1992 NHIS-CCES ($n=24,040$) was 86.5%. For 1992, two nationally representative random samples from the NHIS-CCES were used to assess the new definition of current smoking status that included intermittent smoking. The Cancer Control Supplement (CCS) ($n=12,035$) asked, "Have you smoked at least 100 cigarettes in your entire life?" and "Do you smoke cigarettes now?" Persons who said they did not smoke now were asked, "Do you now smoke cigarettes not at all or some days?" Current smokers were defined as those who had smoked 100 cigarettes and smoked now; persons who said they did not smoke now but subsequently stated they smoked on some days were also classified as current smokers. The Cancer Epidemiology Supplement (CES) ($n=12,005$) asked, "Have you smoked at least 100 cigarettes in your entire life?" and "Do you now smoke cigarettes every day, some days or not at all?" Current smokers were defined as those who had smoked 100 cigarettes and now smoked either every day or some days. Data were adjusted for nonresponse and weighted to provide national estimates. Confidence intervals (CIs) were calculated using standard errors generated by the Software for Survey Data Analysis (SUDAAN) (3).

Because the first two questions were the same for the 1991 NHIS-Health Promotion and Disease Prevention supplement and the 1992 CCS, these findings were compared directly. The overall prevalence of cigarette smoking among adults (25.6%) was the same in 1991 and 1992 (Table 1). The 1992 estimates that incorporated some-day smoking (CCS and CES) also were compared with 1991 and 1992 estimates based on the original definition. Estimates for both sets of definitions that incorporated an assessment of some-day smoking in 1992 were similar (CCS=26.7% and CES=26.3%) (Table 1). Because of the comparability of methods (i.e., assessing some-day smoking), results were combined to provide an overall prevalence estimate for 1992. Based on the inclusion of intermittent smoking, the prevalence of smoking increased by 0.9% (from 25.6% to 26.5%) (Table 1).

In 1992, an estimated 48 million (26.5% [95% CI= $\pm 0.5\%$]) adults in the United States were current smokers, reflecting prevalences of daily smoking of 22.1% (95%

TABLE 1. Percentage of adults aged ≥ 18 years who were current cigarette smokers*, by sex, age group, race/ethnicity, level of education, and socioeconomic status — United States, National Health Interview Survey, 1991 and 1992†

Characteristic	1991 Original (HPDP [§]) (n=43,154)		1992 Original (CCS [¶]) (n=11,875)		1992 Interim (CCS) (n=11,865)		1992 Revised (CES ^{**}) (n=11,881)		1992 Combination (CCS/CES) (n=23,746)	
	%	(95% CI ^{††})	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Sex										
Men	28.1	($\pm 0.6\%$)	28.0	($\pm 1.1\%$)	29.3	($\pm 1.1\%$)	28.0	($\pm 1.1\%$)	28.6	($\pm 0.8\%$)
Women	23.5	($\pm 0.5\%$)	23.5	($\pm 0.9\%$)	24.3	($\pm 1.0\%$)	24.8	($\pm 0.9\%$)	24.6	($\pm 0.7\%$)
Age group (yrs)										
18–24	22.9	($\pm 1.2\%$)	24.4	($\pm 2.2\%$)	25.8	($\pm 2.3\%$)	27.1	($\pm 2.3\%$)	26.4	($\pm 1.6\%$)
25–44	30.4	($\pm 0.6\%$)	29.7	($\pm 1.1\%$)	30.9	($\pm 1.1\%$)	30.6	($\pm 1.1\%$)	30.8	($\pm 0.8\%$)
45–64	26.8	($\pm 0.8\%$)	27.3	($\pm 1.4\%$)	28.2	($\pm 1.4\%$)	26.4	($\pm 1.4\%$)	27.3	($\pm 1.0\%$)
≥ 65	13.3	($\pm 0.7\%$)	13.3	($\pm 1.3\%$)	13.7	($\pm 1.3\%$)	14.2	($\pm 1.3\%$)	14.0	($\pm 0.9\%$)
Race/Ethnicity^{§§}										
White	26.0	($\pm 0.4\%$)	26.2	($\pm 0.8\%$)	27.1	($\pm 0.8\%$)	27.3	($\pm 0.8\%$)	27.2	($\pm 0.6\%$)
Black	29.4	($\pm 1.3\%$)	27.0	($\pm 2.3\%$)	28.4	($\pm 2.4\%$)	27.3	($\pm 2.3\%$)	27.8	($\pm 1.7\%$)
Hispanic	20.1	($\pm 1.5\%$)	20.4	($\pm 2.7\%$)	22.5	($\pm 2.9\%$)	18.7	($\pm 2.4\%$)	20.7	($\pm 1.9\%$)
American Indian/ Alaskan Native ^{¶¶}	31.9	($\pm 3.7\%$)	36.5	($\pm 7.6\%$)	36.5	($\pm 7.6\%$)	41.9	($\pm 8.8\%$)	39.4	($\pm 6.0\%$)
Asian/Pacific Islander	15.9	($\pm 3.1\%$)	16.9	($\pm 5.7\%$)	17.9	($\pm 5.8\%$)	12.2	($\pm 4.1\%$)	15.2	($\pm 3.6\%$)
Education level (yrs)										
<12	32.0	($\pm 0.9\%$)	32.2	($\pm 1.6\%$)	33.4	($\pm 1.6\%$)	30.3	($\pm 1.6\%$)	31.8	($\pm 1.1\%$)
12	29.9	($\pm 0.6\%$)	29.8	($\pm 1.2\%$)	30.6	($\pm 1.2\%$)	31.4	($\pm 1.3\%$)	31.0	($\pm 0.9\%$)
13–15	23.4	($\pm 0.9\%$)	23.8	($\pm 1.6\%$)	24.8	($\pm 1.6\%$)	23.3	($\pm 1.5\%$)	24.1	($\pm 1.1\%$)
≥ 16	13.6	($\pm 0.7\%$)	13.4	($\pm 1.3\%$)	14.5	($\pm 1.3\%$)	16.5	($\pm 1.4\%$)	15.5	($\pm 1.0\%$)
Socioeconomic status^{***}										
At/Above poverty level	24.7	($\pm 0.4\%$)	24.2	($\pm 0.8\%$)	25.2	($\pm 0.8\%$)	25.7	($\pm 0.8\%$)	25.4	($\pm 0.6\%$)
Below poverty level	33.1	($\pm 1.5\%$)	37.0	($\pm 2.1\%$)	38.4	($\pm 2.1\%$)	31.4	($\pm 2.0\%$)	34.9	($\pm 1.5\%$)
Unknown	26.0	($\pm 1.3\%$)	26.2	($\pm 2.1\%$)	27.0	($\pm 2.2\%$)	26.7	($\pm 2.2\%$)	26.9	($\pm 1.6\%$)
Total	25.6	($\pm 0.4\%$)	25.6	($\pm 0.7\%$)	26.7	($\pm 0.8\%$)	26.3	($\pm 0.7\%$)	26.5	($\pm 0.5\%$)

* Persons who reported having smoked at least 100 cigarettes and who were currently smoking based on one of the following definitions: "Original" definition: Smoke now; "Interim" definition: Smoke now, or do not smoke now but on further questioning reported smoking some days; "Revised" definition: Smoke every day or some days now; "Combination" definition: Combined prevalence using the interim and revised prevalence estimates.

† Excludes 578 respondents in 1991 and 285 respondents in 1992 with unknown smoking status.

§ Health Promotion and Disease Prevention supplement.

¶ Cancer Control Supplement.

** Cancer Epidemiology Supplement.

†† Confidence interval.

§§ Excludes 317 respondents in 1991 and 252 respondents in 1992 in unknown, multiple, and other race categories.

¶¶ Estimates should be interpreted with caution because of the small number of respondents.

*** Poverty statistics are based on definitions originated by the Social Security Administration in 1964, subsequently modified by federal interagency committees in 1969 and 1980, and prescribed by the Office of Management and Budget as the standard to be used by federal agencies for statistical purposes.

Cigarette Smoking — Continued

CI=±0.5%) and some-day smoking of 4.4% (95% CI=±0.2%). Smoking prevalence was highest among persons aged 25–44 years (30.8% [95% CI=±0.8%]). Smoking prevalence was highest among American Indians/Alaskan Natives (39.4% [95% CI=±6.0%]) and lowest among Asians/Pacific Islanders (15.2% [95% CI=±3.6%]), declined with increasing levels of education, and was highest among persons who lived below the poverty level* (34.9% [95% CI=±1.5%]). Approximately 25 million men (28.6% [95% CI=±0.8%]) and 23 million women (24.6% [95% CI=±0.7%]) were current smokers (Table 2). For most demographic groups, smoking prevalence was higher among men than women.

Using the original definition of current smoking, smoking prevalence was the same in 1991 and 1992 overall, for both men and women, for all racial/ethnic groups, for all educational levels, and for persons with incomes above the poverty level (Table 1). Smoking prevalence was significantly higher in 1992 (37.0% [95% CI=±2.1%]) than in 1991 (33.1% [95% CI=±1.5%]) among persons living below the poverty level. However, among persons with incomes below the poverty level, there were substantial differences in smoking prevalence as measured by the two question formats that included some-day smokers. As a result, the combined prevalence estimate for 1992 was not significantly different from the 1991 estimate.

Reported by: Surveillance Program, National Cancer Institute. National Institutes of Health. Epidemiology Br, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion; Div of Health Interview Statistics, National Center for Health Statistics, CDC.

Editorial Note: The findings in this report indicate that the estimated prevalence of smoking in 1992 was the same as in 1991 overall and for most demographic groups. In addition, these findings indicate that including some-day smoking in the definition of current smoking will increase the prevalence estimate by approximately 1.0%. The definition used in the 1992 CES will become the standard for CDC efforts to measure smoking prevalence in the United States. The inclusion of intermittent smoking improves both the accuracy and precision of the definition of current smoking and facilitates efforts to monitor changes in current smoking status.

Based on use of the original definition of current smoker, which did not assess some-day smoking, the prevalence of smoking in 1992 was significantly higher than in 1991 among persons living below the poverty level. This finding was attributable to a substantial increase in the prevalence of smoking among women who live below the poverty level and to a smaller increase among men. The impact of changes in the question format that incorporated an assessment of some-day smoking substantially altered the prevalence estimates for persons living below the poverty level. Specifically, in the CCS survey—which used a two-part question to assess some-day smoking—smoking prevalence increased among persons living below the poverty level. In comparison, in the CES survey—which used a single question to assess some-day smoking—there was no change in smoking prevalence.

For the first time since 1983, smoking prevalence among persons aged 18–24 years did not decrease. Factors that may have contributed to the stabilization include the

*Poverty statistics are based on definitions originated by the Social Security Administration in 1964, subsequently modified by federal interagency committees in 1969 and 1980, and prescribed by the Office of Management and Budget as the standard to be used by federal agencies for statistical purposes.

TABLE 2. Percentage of men and women aged ≥ 18 years who were current cigarette smokers*, by race/ethnicity, level of education, age group, and socioeconomic status — United States, National Health Interview Survey, 1991 and 1992†

Characteristic	Men						Women					
	1991 Original (HPDP [§]) (n=18,050)		1992 Original (CCS [¶]) (n=5,000)		1992 Combined (CCS/CES ^{**}) (n=10,061)		1991 Original (HPDP) (n=25,104)		1992 Original (CCS) (n=6,875)		1992 Combined (CCS/CES) (n=13,685)	
	%	(95% CI ^{††})	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Race/Ethnicity^{§§}												
White	27.5	(±0.7%)	27.9	(± 1.2%)	28.6	(± 0.9%)	24.6	(±0.6%)	24.6	(±1.0%)	25.9	(±0.8%)
Black	35.5	(±2.1%)	32.2	(± 3.6%)	32.3	(± 2.8%)	24.5	(±1.5%)	22.9	(±2.8%)	24.1	(±2.0%)
Hispanic	25.2	(±2.7%)	22.2	(± 3.9%)	23.6	(± 2.9%)	15.5	(±1.7%)	18.6	(±3.3%)	18.0	(±2.3%)
American Indian/ Alaskan Native ^{¶¶}	27.5	(±4.9%)	36.2	(±13.3%)	39.0	(±10.4%)	36.7	(±5.8%)	36.7	(±8.5%)	39.8	(±6.8%)
Asian/Pacific Islander	24.1	(±4.8%)	30.8	(±10.4%)	26.3	(± 6.4%)	7.1	(±2.9%)	3.2	(±2.2%)	4.0	(±2.0%)
Education level (yrs)												
<12	37.4	(±1.4%)	37.8	(± 2.4%)	36.9	(± 1.8%)	27.4	(±1.2%)	27.4	(±1.9%)	27.5	(±1.4%)
12	33.5	(±1.0%)	33.8	(±1.9%)	34.4	(± 1.3%)	27.1	(±0.8%)	26.6	(±1.6%)	28.2	(±1.1%)
13–15	25.1	(±1.3%)	24.8	(±2.5%)	25.2	(± 1.7%)	22.0	(±1.0%)	22.9	(±2.0%)	23.1	(±1.4%)
16	14.5	(±1.0%)	13.8	(±2.0%)	16.2	(± 1.4%)	12.5	(±1.0%)	13.0	(±1.8%)	14.6	(±1.4%)
Age group (yrs)												
18–24	23.5	(±1.7%)	26.0	(±3.5%)	28.0	(± 2.5%)	22.4	(±1.6%)	22.9	(±2.6%)	24.9	(±2.0%)
25–44	32.9	(±0.9%)	31.3	(±1.7%)	32.8	(± 1.2%)	28.0	(±0.8%)	28.0	(±1.4%)	28.8	(±1.1%)
45–64	29.3	(±1.1%)	30.1	(±2.1%)	28.6	(± 1.5%)	24.6	(±1.0%)	24.7	(±1.9%)	26.1	(±1.3%)
≥ 65	15.1	(±1.2%)	15.8	(±2.3%)	16.1	(± 1.6%)	12.0	(±0.7%)	11.6	(±1.6%)	12.4	(±1.1%)
Socioeconomic status^{***}												
At/Above poverty level	26.8	(±0.7%)	26.2	(±1.2%)	27.1	(± 0.9%)	22.7	(±0.6%)	22.3	(±1.1%)	23.8	(±0.8%)
Below poverty level	39.3	(±2.3%)	42.5	(±3.4%)	39.7	(± 2.6%)	29.3	(±1.7%)	33.5	(±2.4%)	31.7	(±1.7%)
Unknown	31.0	(±2.3%)	33.1	(±3.6%)	33.8	(± 2.7%)	22.4	(±1.5%)	21.3	(±2.5%)	22.1	(±1.8%)
Total	28.1	(±0.6%)	28.0	(±1.1%)	28.6	(± 0.8%)	23.5	(±0.5%)	23.5	(±0.9%)	24.6	(±0.7%)

* Persons who reported having smoked at least 100 cigarettes and who were currently smoking based one of the following definitions: "Original" definition: Smoke now; "Interim" definition: Smoke now, or do not smoke now but on further questioning reported smoking some days; "Revised" definition: Smoke every day or some days now; "Combination" definition: Combined prevalence using the interim and revised prevalence estimates.

† Excludes 578 respondents in 1991 and 285 respondents in 1992 with unknown smoking status.

§ Health Promotion and Disease Prevention supplement.

¶ Cancer Control Supplement.

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†† Confidence interval.

§§ Excludes 317 respondents in 1991 and 252 respondents in 1992 with unknown, multiple, and other race categories.

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Cigarette Smoking — Continued

steady growth in market share of discount cigarettes (4) and the \$4.6 billion in advertising and promotional expenditures by tobacco companies during 1991—a 16% increase in expenditures when compared with 1990 (5,6). Efforts to address smoking among young persons have included the 1994 Surgeon General's report (6) and a companion report for adolescents. In addition, CDC has published school guidelines for incorporating tobacco-use prevention and tobacco-cessation strategies (7).

The findings in this report are subject to at least two limitations. First, the prevalence estimate for 1992 was based on information collected from January through July 1992. In comparison, a different survey that collected data for the entire year indicated that smoking prevalence among adults declined in the second half of the year (Substance Abuse and Mental Health Services Administration, unpublished data, 1992), a finding consistent with a 3% per capita decrease in consumption of cigarettes in 1992 (8). Second, differences in prevalence among racial/ethnic groups may be influenced by differences in educational levels and socioeconomic status, as well as by social and cultural phenomena that require further explanation.

Acceleration of the decline in smoking prevalence will require intensified efforts to discourage the use of tobacco by helping smokers break the addiction to nicotine, persuading children to never initiate smoking, and enacting public policies that discourage smoking. Examples of such policies include increasing taxes on tobacco products, enforcing minors'-access laws, restricting smoking in public places, and restricting tobacco advertising and promotion. In January 1994, for the first time, all 50 states and the District of Columbia were receiving public funds for tobacco-control activities: 49 states and the District of Columbia were receiving federal funds, and California was receiving state funds.

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*Epidemiologic Notes and Reports***Human Immunodeficiency Virus Transmission
in Household Settings — United States**

Transmission of human immunodeficiency virus (HIV) has been reported in homes in which health care has been provided and between children residing in the same household (1–6). CDC has received reports of two cases of HIV infection that apparently occurred following mucocutaneous exposures to blood or other body substances in persons who received care from or provided care to HIV-infected family members residing in the same household. This report summarizes the findings of the epidemiologic and laboratory investigations, which underscore the need to educate persons who care for or are in contact with HIV-infected persons in household settings where such exposures may occur.*

Patient 1

A 5-year-old child whose parents were both HIV-infected tested negative for HIV antibody in 1990 and July 1993 but tested positive in December 1993. In February 1994, all other close household contacts of the child tested HIV-antibody negative.

From January through December 1993, when the child was likely to have become infected, the child's parents were the only known HIV-infected persons with whom the child had any contact. During this period, the child lived with both parents until the father's death as the result of acquired immunodeficiency syndrome (AIDS) in May 1993. The child continued to live with the mother, who had AIDS, until 8 days before the child's last negative antibody test in July 1993. The child then lived in foster care.

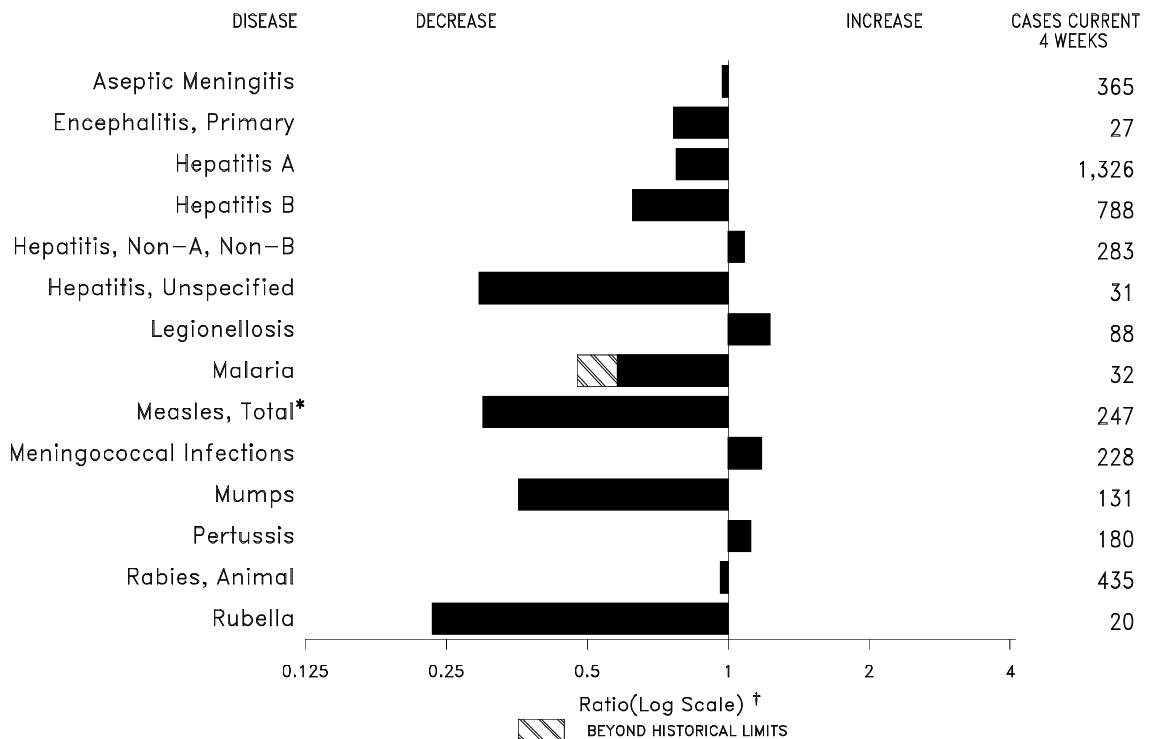
The child had several opportunities for contact with HIV-infected blood and exudative skin lesions. Based on the mother's medical records and history, from March through August 1993 the mother had recurrent, purulent, exudative skin lesions (diagnosed as prurigo nodularis) on her face, neck, torso, buttocks, and extremities. She frequently scratched the lesions until they bled, left the lesions uncovered, and discarded onto the furniture or the floor the gauze and tissues used to wipe the exudate. During periods when the mother's skin lesions were uncovered and draining, the child frequently hugged and slept with the mother. In addition, the child intermittently had scabs from impetigo and abrasions that the mother sometimes picked off and caused to bleed. When the mother had intermittent gingival bleeding, she periodically shared a toothbrush with the child. From January through May 1993, the child had no known contact with the father's blood or body fluids, although the child sometimes used his toothbrush.

No other situations were identified in which the child potentially may have been exposed to HIV-infected blood or had contact with an HIV-infected person. There were no known HIV-infected persons in either the foster home or the school, and the child had no known contact with blood in these settings. Based on interviews and medical record reviews, no household members at either the parents' home or foster home engaged in injecting-drug use. Based on history and physical examination, sexual

(Continued on page 353)

*Single copies of this report will be available free until May 20, 1995, from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231 or (301) 217-0023.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending May 14, 1994, with historical data — United States



*The large apparent decrease in reported cases of measles (total) reflects dramatic fluctuations in the historical baseline.

† 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 May 14, 1994 (19th Week)

	Cum. 1994		Cum. 1994
AIDS*	26,335	Measles: imported	197
Anthrax	-	indigenous	210
Botulism: Foodborne	23	Plague	1
Infant	24	Poliomyelitis, Paralytic [§]	-
Other	7	Psittacosis	11
Brucellosis	23	Rabies, human	-
Cholera	6	Syphilis, primary & secondary	7,423
Congenital rubella syndrome	3	Syphilis, congenital, age < 1 year	-
Diphtheria	-	Tetanus	14
Encephalitis, post-infectious	39	Toxic shock syndrome	91
Gonorrhea	129,625	Trichinosis	24
<i>Haemophilus influenzae</i> (invasive disease) [†]	447	Tuberculosis	6,519
Hansen Disease	37	Tularemia	4
Leptospirosis	11	Typhoid fever	124
Lyme Disease	1,182	Typhus fever, tickborne (RMSF)	50

*Updated monthly; last update April 26, 1994.

[†]Of 420 cases of known age, 124 (30%) were reported among children less than 5 years of age.

[§]No cases of suspected poliomyelitis have been reported in 1994; 3 cases of suspected poliomyelitis have been reported in 1993; 4 of the 5 suspected cases with onset in 1992 were confirmed; the confirmed cases were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending May 14, 1994, and May 15, 1993 (19th Week)

Reporting Area	AIDS*	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
			Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994		
UNITED STATES	26,335	1,736	189	39	129,625	141,871	7,029	4,088	1,553	139	533	1,182
NEW ENGLAND	994	57	6	2	2,876	2,893	124	184	49	14	18	126
Maine	30	7	1	-	33	33	11	7	-	-	-	-
N.H.	24	3	-	1	-	18	4	9	7	-	-	4
Vt.	15	5	-	-	8	13	-	-	-	-	-	1
Mass.	513	21	4	-	1,070	1,062	58	144	31	13	14	50
R.I.	93	21	1	1	165	134	12	3	11	1	4	22
Conn.	319	-	-	-	1,600	1,633	39	21	-	-	-	49
MID. ATLANTIC	7,735	129	17	6	13,795	16,006	382	370	201	2	56	773
Upstate N.Y.	582	71	9	1	3,024	2,987	177	133	99	-	17	542
N.Y. City	4,921	6	1	-	5,118	4,760	37	20	-	-	-	1
N.J.	1,532	-	-	-	1,650	1,991	116	139	89	-	9	97
Pa.	700	52	7	5	4,003	6,268	52	78	13	2	30	133
E.N. CENTRAL	1,859	307	57	9	24,705	28,906	652	417	115	2	164	14
Ohio	346	81	17	-	8,060	7,883	218	73	7	-	73	10
Ind.	285	56	2	-	2,865	2,862	129	77	3	-	51	3
Ill.	768	50	21	3	5,683	9,819	158	73	18	1	5	-
Mich.	342	115	16	6	6,142	6,029	91	129	87	1	27	1
Wis.	118	5	1	-	1,955	2,313	56	65	-	-	8	-
W.N. CENTRAL	550	121	8	1	6,820	7,237	317	218	78	3	57	19
Minn.	134	9	1	-	1,185	976	71	23	6	-	-	7
Iowa	22	39	-	-	454	600	11	12	7	2	20	1
Mo.	237	37	-	-	3,692	3,847	153	159	57	1	25	8
N. Dak.	5	1	2	-	7	18	1	-	-	-	2	-
S. Dak.	9	-	1	-	45	87	14	-	-	-	-	-
Nebr.	31	5	3	1	-	446	32	11	3	-	8	-
Kans.	112	30	1	-	1,437	1,263	35	13	5	-	2	3
S. ATLANTIC	5,517	394	32	14	37,273	38,324	467	989	323	11	137	185
Del.	78	2	-	-	666	495	8	12	19	-	1	40
Md.	489	59	6	1	6,763	6,321	61	132	13	4	32	49
D.C.	422	12	-	-	2,820	1,883	10	16	-	-	4	1
Va.	414	57	11	5	4,769	3,936	46	41	15	2	3	19
W. Va.	10	8	-	-	276	225	4	9	12	-	1	5
N.C.	455	53	14	-	8,989	8,730	37	113	24	-	8	23
S.C.	444	12	-	-	4,485	3,413	11	14	2	-	3	-
Ga.	684	15	1	-	-	4,660	34	396	150	-	63	43
Fla.	2,521	176	-	8	8,505	8,661	256	256	88	5	22	5
E.S. CENTRAL	714	116	18	1	15,999	14,249	169	439	297	1	25	11
Ky.	126	41	7	1	1,634	1,681	75	31	10	-	4	6
Tenn.	213	23	7	-	4,901	3,714	53	380	282	1	13	4
Ala.	210	39	4	-	5,811	5,276	24	28	5	-	6	1
Miss.	165	13	-	-	3,653	3,578	17	-	-	-	2	-
W.S. CENTRAL	2,841	152	9	1	14,851	16,027	1,024	451	139	34	11	27
Ark.	78	9	-	-	2,406	1,899	20	8	3	-	4	-
La.	306	8	2	-	4,489	4,269	49	67	36	1	-	-
Okla.	91	-	-	-	496	1,362	88	118	74	-	7	17
Tex.	2,366	135	7	1	7,460	8,497	867	258	26	33	-	10
MOUNTAIN	846	58	4	-	3,144	4,190	1,436	190	143	14	33	4
Mont.	10	-	-	-	29	18	11	8	2	-	13	-
Idaho	15	1	-	-	25	61	118	28	37	1	-	1
Wyo.	10	-	-	-	31	30	6	7	40	-	2	-
Colo.	362	10	1	-	920	1,392	109	10	13	4	2	-
N. Mex.	59	7	-	-	385	355	418	82	29	5	1	3
Ariz.	208	25	-	-	1,026	1,479	536	20	4	3	1	-
Utah	52	4	-	-	116	130	157	13	14	-	2	-
Nev.	130	11	3	-	612	725	81	22	4	1	12	-
PACIFIC	5,279	402	38	5	10,162	14,039	2,458	830	208	58	32	23
Wash.	324	-	-	-	1,092	1,454	140	30	27	-	5	-
Oreg.	225	-	-	-	354	536	128	18	2	1	-	-
Calif.	4,636	327	37	4	8,145	11,700	2,094	756	174	55	24	23
Alaska	15	12	1	-	312	180	81	6	-	-	-	-
Hawaii	79	63	-	1	259	169	15	20	5	2	3	-
Guam	1	6	-	-	50	46	3	-	-	4	2	-
P.R.	719	10	-	-	177	191	30	113	34	3	-	-
V.I.	7	-	-	-	9	37	-	1	-	-	-	-
Amer. Samoa	-	-	-	-	14	10	4	-	-	-	-	-
C.N.M.I.	1	-	-	-	21	28	2	-	-	-	-	-

N: Not notifiable

U: Unavailable

C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly; last update April 26, 1994.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending May 14, 1994, and May 15, 1993 (19th Week)

Reporting Area	Measles (Rubeola)						Men- gococcal infections	Mumps		Pertussis			Rubella		
	Malaria	Indigenous		Imported*		Total		1994	Cum. 1994	1994	Cum. 1994	Cum. 1993	1994	Cum. 1994	Cum. 1993
		Cum. 1994	1994	Cum. 1994	1994										
UNITED STATES	315	17	210	7	197	115	1,213	34	502	45	1,098	1,075	5	138	78
NEW ENGLAND	26	-	7	1	6	53	68	-	10	-	100	222	3	93	1
Maine	1	-	-	-	2	-	11	-	3	-	2	6	-	-	1
N.H.	3	-	-	-	-	-	4	-	4	-	30	61	-	-	-
Vt.	1	-	-	-	1	30	1	-	-	-	10	41	-	-	-
Mass.	9	-	1	1 [†]	1	14	29	-	-	-	49	96	3	93	-
R.I.	4	-	3	-	2	1	-	-	1	-	2	3	-	-	-
Conn.	8	-	3	-	-	8	23	-	2	-	7	15	-	-	-
MID. ATLANTIC	37	1	32	-	2	10	102	4	42	19	260	165	-	8	22
Upstate N.Y.	13	-	11	-	-	1	39	1	11	1	92	57	-	8	2
N.Y. City	3	-	1	-	-	2	4	-	-	-	62	5	-	-	13
N.J.	15	-	18	-	1	7	29	-	4	-	6	32	-	-	6
Pa.	6	1	2	-	1	-	30	3	27	18	100	71	-	-	1
E.N. CENTRAL	36	-	12	5	39	5	199	5	90	4	155	244	-	8	2
Ohio	5	-	6	-	-	-	46	3	22	3	64	82	-	-	1
Ind.	9	-	-	-	1	-	52	1	6	-	31	19	-	-	-
Ill.	11	-	-	5 [§]	38	5	64	-	36	-	20	42	-	3	-
Mich.	10	-	3	-	-	-	19	1	23	1	22	15	-	5	-
Wis.	1	-	3	-	-	-	18	-	3	-	18	86	-	-	1
W.N. CENTRAL	17	-	-	-	138	3	83	3	26	1	43	57	-	-	1
Minn.	5	-	-	-	-	-	8	-	4	-	16	22	-	-	-
Iowa	3	-	-	-	-	-	10	1	7	1	4	1	-	-	-
Mo.	7	-	-	-	137	1	38	2	12	-	12	17	-	-	1
N. Dak.	-	-	-	-	-	-	-	-	1	-	2	3	-	-	-
S. Dak.	-	-	-	-	-	-	6	-	-	-	-	1	-	-	-
Nebr.	1	-	-	-	1	-	8	-	2	-	3	4	-	-	-
Kans.	1	-	-	-	-	2	13	-	-	-	6	9	-	-	-
S. ATLANTIC	72	1	6	1	1	21	205	5	87	6	146	83	-	5	6
Del.	3	-	-	-	-	-	-	-	-	-	-	1	-	-	2
Md.	30	1	1	1 [§]	1	4	15	-	19	2	50	28	-	-	1
D.C.	7	-	-	-	-	-	1	-	-	-	3	1	-	-	-
Va.	8	-	1	-	-	1	30	4	23	2	15	7	-	-	-
W. Va.	-	-	-	-	-	-	8	-	3	-	2	3	-	-	-
N.C.	2	-	-	-	-	-	33	1	26	1	41	14	-	-	-
S.C.	2	-	-	-	-	-	6	-	5	-	8	5	-	-	-
Ga.	8	-	1	-	-	-	47	-	6	-	10	10	-	-	-
Fla.	12	-	3	-	-	16	65	-	5	1	17	14	-	5	3
E.S. CENTRAL	8	-	28	-	-	-	83	1	7	1	74	45	-	-	-
Ky.	2	-	-	-	-	-	20	-	-	-	52	9	-	-	-
Tenn.	4	-	28	-	-	-	21	1	1	-	13	21	-	-	-
Ala.	1	-	-	-	-	-	36	-	-	1	8	11	-	-	-
Miss.	1	-	-	-	-	-	6	-	6	-	1	4	-	-	-
W.S. CENTRAL	7	-	7	-	4	1	150	3	125	3	36	30	-	7	12
Ark.	-	-	-	-	-	-	20	-	-	3	4	2	-	-	-
La.	-	-	-	-	1	1	20	1	11	-	5	4	-	-	1
Okla.	2	-	-	-	-	-	13	-	21	-	20	11	-	4	1
Tex.	5	-	7	-	3	-	97	2	93	-	7	13	-	3	10
MOUNTAIN	13	15	96	-	1	2	85	2	16	4	64	64	1	3	5
Mont.	-	-	-	-	-	-	2	-	-	-	3	-	-	-	-
Idaho	2	-	-	-	-	-	11	-	3	1	24	11	-	1	1
Wyo.	-	-	-	-	-	-	2	-	-	-	-	1	-	-	-
Colo.	3	-	12	-	1	2	10	1	1	2	16	22	-	-	-
N. Mex.	2	-	-	-	-	-	10	N	N	1	7	15	-	-	-
Ariz.	1	-	-	-	-	-	35	-	3	-	10	8	-	-	1
Utah	4	15	84	-	-	-	11	-	4	-	4	7	1	2	2
Nev.	1	-	-	-	-	-	4	1	4	-	-	-	-	-	1
PACIFIC	99	-	22	-	6	20	238	11	99	7	220	165	1	14	29
Wash.	3	-	-	-	-	-	17	-	3	-	12	16	-	-	-
Oreg.	7	-	-	-	-	-	36	N	N	-	22	-	-	-	1
Calif.	79	-	22	-	5	5	179	10	86	7	182	141	-	12	15
Alaska	-	-	-	-	-	-	1	-	2	-	-	1	1	1	1
Hawaii	10	-	-	-	1	15	5	1	8	-	4	7	-	1	12
Guam	-	U	171	U	-	1	-	U	2	U	-	-	U	1	-
P.R.	-	-	13	-	-	188	3	-	2	-	1	-	-	-	-
V.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	1	-	-	1	-	1	2	-	-	-
C.N.M.I.	1	U	26	U	-	1	-	U	-	U	-	-	U	-	-

*For measles only, imported cases include 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 May 14, 1994, and May 15, 1993 (19th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-Shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994
UNITED STATES	7,423	10,123	91	6,519	7,279	4	124	50	2,127
NEW ENGLAND	74	164	2	130	134	-	11	4	684
Maine	4	2	-	-	7	-	-	-	-
N.H.	-	14	-	7	7	-	-	-	78
Vt.	-	-	-	-	2	-	-	-	60
Mass.	24	72	2	62	58	-	7	4	266
R.I.	6	6	-	11	25	-	1	-	5
Conn.	40	70	-	50	35	-	3	-	275
MID. ATLANTIC	459	979	14	1,161	1,510	-	35	-	238
Upstate N.Y.	63	-	7	76	221	-	6	-	79
N.Y. City	237	541	-	764	898	-	20	-	-
N.J.	72	167	-	237	153	-	9	-	119
Pa.	87	271	7	84	238	-	-	-	40
E.N. CENTRAL	959	1,719	22	678	770	-	22	8	12
Ohio	380	458	10	87	109	-	1	3	-
Ind.	93	148	2	59	68	-	1	1	2
Ill.	258	679	4	364	402	-	11	2	3
Mich.	120	256	6	151	162	-	3	2	4
Wis.	108	178	-	17	29	-	6	-	3
W.N. CENTRAL	434	653	12	173	130	3	-	3	66
Minn.	19	36	1	42	15	-	-	-	8
Iowa	16	32	6	14	13	-	-	1	25
Mo.	369	509	3	71	69	3	-	-	7
N. Dak.	-	1	-	2	4	-	-	-	2
S. Dak.	-	-	-	9	6	-	-	2	8
Nebr.	-	10	1	9	8	-	-	-	-
Kans.	30	65	1	26	15	-	-	-	16
S. ATLANTIC	2,234	2,651	5	1,042	1,561	-	19	27	701
Del.	9	55	-	-	14	-	1	-	11
Md.	92	143	-	120	140	-	4	-	218
D.C.	101	150	-	40	69	-	1	-	2
Va.	278	228	-	119	176	-	1	-	153
W. Va.	8	1	-	35	29	-	-	-	30
N.C.	675	715	1	146	141	-	-	10	71
S.C.	273	421	-	148	130	-	-	-	64
Ga.	460	469	-	320	278	-	1	17	144
Fla.	338	469	4	114	584	-	11	-	8
E.S. CENTRAL	1,400	1,233	1	327	495	-	1	4	43
Ky.	88	104	-	119	126	-	1	-	3
Tenn.	365	276	1	1	106	-	-	3	-
Ala.	266	317	-	145	172	-	-	-	40
Miss.	681	536	-	62	91	-	-	1	-
W.S. CENTRAL	1,498	2,052	-	809	598	-	6	4	261
Ark.	206	239	-	89	58	-	-	2	13
La.	702	914	-	-	-	-	2	-	41
Okla.	15	129	-	81	57	-	1	2	17
Tex.	575	770	-	639	483	-	3	-	190
MOUNTAIN	112	88	4	155	183	1	6	-	25
Mont.	-	-	-	9	5	-	-	-	-
Idaho	1	-	1	6	4	-	-	-	-
Wyo.	-	2	-	2	1	-	-	-	6
Colo.	54	28	1	1	28	-	2	-	-
N. Mex.	5	14	-	26	18	1	-	-	-
Ariz.	24	37	-	78	82	-	1	-	18
Utah	5	2	2	-	9	-	1	-	-
Nev.	23	5	-	33	36	-	2	-	1
PACIFIC	253	584	31	2,044	1,898	-	24	-	97
Wash.	16	22	-	84	89	-	1	-	-
Oreg.	12	26	-	45	35	-	-	-	-
Calif.	223	532	28	1,805	1,643	-	22	-	69
Alaska	1	2	-	27	21	-	-	-	28
Hawaii	1	2	3	83	110	-	1	-	-
Guam	1	1	-	18	25	-	-	-	-
P.R.	104	209	-	21	64	-	-	-	31
V.I.	19	19	-	-	2	-	-	-	-
Amer. Samoa	-	-	-	2	1	-	1	-	-
C.N.M.I.	1	1	-	14	13	-	1	-	-

U: Unavailable

Human Immunodeficiency Virus — Continued

abuse of the child was believed to be unlikely. During 1993, the child had no injections, blood transfusions, vaccinations, or invasive dental or medical procedures.

Proviral DNA from peripheral blood mononuclear cells obtained from the mother and the child was amplified by polymerase chain reaction. By direct sequencing, the two DNA fragments encompassing 343 nucleotides of the V3 and flanking regions of the gene encoding the HIV-1 envelope glycoprotein (gp120) were genetically similar, differing by only 2.6%. No specimen was available from the child's father.

Patient 2

In August 1991, a 75-year-old woman was evaluated because of fatigue and malaise and tested positive for HIV antibody; her adult son died in August 1990 as the result of AIDS. Her CD4+ T-lymphocyte count was 837 cells/ μ L. She had been married for approximately 50 years; her husband tested negative for HIV antibody. The patient reported no other sex partners and denied all risk factors for HIV infection, including injecting-drug use and receipt of blood or blood products since 1978; she had not been employed in a health-care setting. The woman had a cholecystectomy in December 1990; in February 1992, all members of the surgical team tested negative for HIV antibody.

Her son had lived in the household from September 1989 until his death. He initially was able to care for himself; however, in July 1990 (6 weeks before his death), his mother began to provide daily nursing care for him (e.g., bathing, feeding, changing diapers, and repositioning his urinary catheter). Although she had been informed of the need to wear gloves while providing such care, she reported inconsistent adherence to this recommendation. She could not recall any direct exposures to her son's blood. Her son did not require intravenous fluids or medication in the home nor did he have an intravascular device. No needles or other sharp instruments related to his care were in the home. Dermatologic conditions had not been noted.

The son had hemorrhoids and diarrhea, but neither visible blood nor melena had been noticed at home. The mother reported skin contact with her son's feces on at least one occasion. While hospitalized in February 1990, he had upper gastrointestinal bleeding; endoscopy revealed chronic gastritis and duodenitis. During hospitalization in June 1990, he had an episode of lower gastrointestinal bleeding. No such bleeding episodes occurred at home.

The son had poor dentition and gingivitis around his upper molars, and his mother frequently handled the cotton-tipped swabs her son used for his oral hygiene care, although she attempted to avoid touching the cotton tips with bare hands. She reported having infrequent small cuts on her hands but had no history of dermatitis or other skin lesions. There were no blood specimens available from the son for HIV DNA sequencing.

Reported by: Div of HIV/AIDS and Hospital Infections Program, National Center for Infectious Diseases, CDC.

Editorial Note: The findings of the investigations described in this report indicate the transmission of HIV as the result of contact with blood or other body secretions or excretions from an HIV-infected person in the household. In both instances, exposures occurred after the source-patients had developed AIDS; consequently, relatively high HIV titers may have been present in their blood.

Human Immunodeficiency Virus — Continued

For patient 1, who had had direct exposure to purulent and bloody exudates from the mother's open skin lesions, transmission may have been facilitated by the child's broken skin and the mother's manipulation of the child's skin lesions. Patient 2 most likely became infected while providing nursing care for her son. Although the precise mode of transmission is unknown, she had direct contact with her son's urine and feces; because of his chronic gastritis and duodenitis, some blood could have been present in his feces, even though the blood was inapparent to his mother. In addition, she could have had other unrecognized or unrecalled exposures to her son's blood.

Even though previous reports have documented HIV transmission as the result of skin or mucous-membrane exposure to HIV-infected blood, HIV is not easily transmitted by this route. Based on assessment of health-care workers exposed to HIV-infected blood, the risk for HIV transmission has been estimated to be less than 0.1% for a single mucous-membrane exposure (95% confidence interval=0.006–0.50) (7). The risk is probably lower for skin exposures to HIV-infected blood and even lower, if present at all, for skin exposures to body secretions and excretions without visible blood (7,8). Although previous reports document that HIV has been isolated from urine (9) and that HIV nucleic acid—but not infectious HIV—has been detected in feces (10), transmission of HIV by urine or feces has not been reported.

Although contact with blood and other body substances can occur in households, transmission of HIV is rare in this setting. In addition to the two patients in this report, six previous reports have described household transmission of HIV not associated with sexual contact, injecting-drug use, or breast feeding (Table 1). Of these eight reports, five were associated with documented or probable blood contact ([1,3–5] and patient 1 in this report). In the sixth report, HIV infection was diagnosed in a boy after his younger brother had died as the result of AIDS; however, a specific mechanism of transmission was not determined (6). Two reports involved nursing care of terminally ill persons with AIDS in which a blood exposure might have occurred but was not documented ([2] and patient 2 in this report); in both reports, skin contact with body secretions and excretions occurred.

Persons who provide nursing care for HIV-infected patients in home settings should employ precautions to reduce exposures to blood and other body fluids (11). In particular, needles and sharp objects contaminated with blood should be handled with care. Needles should not be recapped by hand or removed from syringes. Needles and sharp objects should be disposed of in puncture-proof containers, and the containers should be kept out of reach of children and visitors. Bandages should be used to cover cuts, sores, or breaks on exposed skin of persons with HIV infection and of persons providing care. In addition, persons who provide such care should wear gloves when there is a possibility of direct contact with HIV-infected blood or other body fluids, secretions, or excretions. Because urine and feces may contain a variety of pathogens, including HIV, persons providing nursing care to HIV-infected persons should wear gloves during contact with these substances. In addition, even when gloves are worn, hands should be washed after contact with blood and other body fluids, secretions, or excretions.

Because of the social, economic, and medical benefits of home care, the number of persons with AIDS who receive health care outside of hospitals is increasing. Persons infected with HIV and persons providing home care for those who are HIV-infected should be fully educated and trained regarding appropriate infection-control

TABLE 1. Reported cases of HIV infection in which transmission not associated with sexual contact, injecting-drug use, or breast feeding occurred from an HIV-infected person to a person residing in the same household or providing home care

Case-patient	Source-patient	Activity during which transmission may have occurred	Type of exposure	Body substance through which transmission may have occurred	HIV DNA sequence match	Comment
Mother	Child	Home nursing	Cutaneous	Blood/Stool	ND*	Mother provided extensive care without gloves (e.g., drawing blood, removing intravenous catheters, and emptying and changing ostomy bags) (1).
Child	Child	Home intravenous therapy for hemophilia	Possible intravenous/ Percutaneous [†]	Blood	Y	Mother administered intravenous therapy to both children in succession and placed used needles in bag within reach of case-patient (3).
Child	Child	Living in same household	Cutaneous [†]	Blood	Y	Source-patient had frequent bleeding; case-patient had excoriated rash (4).
Adolescent	Adolescent	Living in same household	Cutaneous/ Percutaneous	Blood	Y	Case-patient and source-patient shared a razor; each cut himself while shaving with the razor and bled as a result. Both have hemophilia (5).
Child	Mother	Living in same household	Cutaneous	Blood/Exudate	Y	Source-patient had draining skin lesions; source-patient picked at case-patient's scabs. (Patient 1 presented in this report).
Child	Child	Living in same household	Bite [†]	Not specified	ND	Source-patient bit case-patient, skin was not broken, and there was no bleeding. Details of home care not reported (6).
Adult	Adult	Home nursing	Cutaneous	Body secretions and excretions, including urine and saliva	ND	Case-patient wore no gloves while caring for source-patient; case-patient had eczema and small cuts on her hands (2).
Mother	Adult son	Home nursing	Cutaneous	Body secretions and excretions, including urine and feces	ND	Case-patient usually wore gloves. (Patient 2 presented in this report).

* Not done.

[†] No definite exposure documented.

Human Immunodeficiency Virus — Continued

techniques. In addition, health-care providers should be aware of the potential for HIV transmission in the home and should provide training and education in infection control for HIV-infected persons and those who live with or provide care to them in the home. Such training should be an integral and ongoing part of the health-care plan for every person with HIV infection.

Additional infection-control recommendations are contained in a recently updated brochure published by CDC, *Caring for Someone with AIDS: Information for Friends, Relatives, Household Members, and Others Who Care for a Person With AIDS at Home*. This brochure is available free in English or Spanish from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231 or (301) 217-0023.

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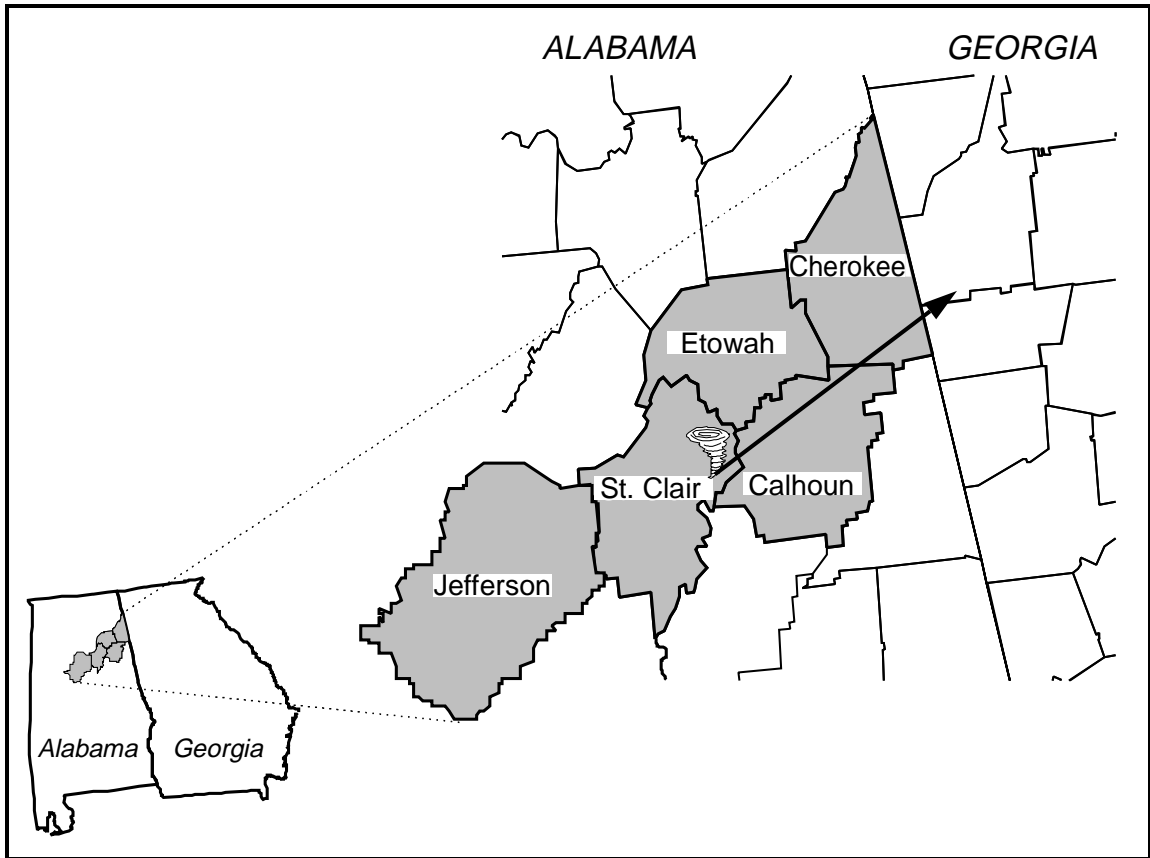
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*Epidemiologic Notes and Reports***Tornado Disaster — Alabama, March 27, 1994**

On Sunday, March 27, 1994, a series of severe thunderstorms and tornadoes moved across Alabama, Tennessee, Georgia, North Carolina, and South Carolina. These storms accounted for injuries to at least 422 persons, including 47 fatalities. Twenty-three fatalities were associated with a tornado that cut a path across St. Clair, Calhoun, and Cherokee counties in northeastern Alabama from 10:55 a.m. to 11:39 a.m. (Figure 1). This tornado damaged or destroyed three churches while services were being conducted. This report provides a summary of the injuries and deaths associated with this tornado based on information from death certificates from

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FIGURE 1. Path of the tornado — Alabama and Georgia, March 27, 1994



coroners' offices in the three counties and from emergency department and inpatient medical records from eight area hospitals.

Of 144 persons who sustained nonfatal injuries and sought hospital-based medical care, 87 (60%) were treated and released; primary diagnoses included contusions/abrasions (39 [45%]), lacerations (27 [31%]), fractures (six [7%]), and other trauma (15 [17%]). Fifty-seven (40%) persons were hospitalized; primary diagnoses included fractures (23 [40%]), multiple trauma (12 [21%]), head trauma (10 [18%]), and other trauma (12 [21%]).

Twenty of the 23 deaths occurred when the tornado destroyed a church in southern Cherokee County (Table 1). Two persons were killed while inside automobiles, and one died outdoors at a boat ramp. The mean age of the decedents was 35 years (range: 2–79 years). The immediate cause of death for 22 persons was severe head trauma with multiple injuries; for one person, the cause was hemorrhagic shock with multiple trauma.

The National Weather Service issued severe thunderstorm warnings for eastern Jefferson and St. Clair counties at 10:24 a.m. and issued a tornado warning for Etowah and Calhoun counties at 10:49 a.m. The tornado warnings broadcast over radio and television advised persons to seek immediate shelter. At 10:53 a.m., local television and radio stations broadcast a tornado warning for St. Clair County. At 10:55 a.m., the tornado struck southwest of Ragland in St. Clair County. At 11:27 a.m., a revised

Tornado Disaster — Continued

tornado warning was issued for northern Calhoun, southeastern Etowah, and southern Cherokee counties. At 11:39 a.m., the church in Cherokee County, approximately 32 miles northeast of the tornado's initial point of impact, was destroyed.

The tornado's path was one fourth to one half mile wide and approximately 50 miles long. Because of its extremely rapid development and rapid ground speed (60 mph), this tornado was sighted only 5 minutes before it touched down, despite use of Doppler radar.

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Editorial Note: Tornadoes are one of the most lethal and violent of all natural disasters; in the United States during 1953–1992, tornadoes accounted for 3653 fatalities (1). Tornadoes have occurred in every state and during every month of the year (2). The Fujita Tornado Scale (F0–F6) ranks tornadoes according to their speed, path length, and path width. The March 27 tornado was ranked as a Fujita level 4, which is among the top 3% of the most violent tornadoes.

Local implementation of prevention and control measures in conjunction with tornado “watches” and “warnings” issued by the National Weather Service (3,4) include the establishment of local observer networks, installation of warning systems (e.g., alarms or sirens), and education of the public about when and where to take shelter (4). Previous investigations have suggested an increased risk for injury or death among persons who are inside mobile homes or vehicles when tornadoes strike (3–6). The findings in Alabama suggest that persons inside some public buildings also may be at risk. The findings also emphasize the role of local observer networks in providing timely warnings to communities in the projected path of a tornado. Additional measures include alarms, sirens, or warning devices that are not dependent on radio

TABLE 1. Location of persons at time of tornado-associated injuries and deaths — Alabama, March 27, 1994

Location	Treated and released		Hospitalized		Died		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Single family home	10	(12)	5	(9)	0		15	(9)
Mobile home	5	(6)	0		0		5	(3)
Public building*	29	(33)	34	(60)	20	(87)	83	(50)
Vehicle	11	(13)	4	(7)	2	(9)	17	(10)
Outdoors	3	(3)	2	(3)	1	(4)	6	(4)
Not recorded	29	(33)	12	(21)	0		41	(25)
Total	87	(100)	57	(100)	23	(100)	167	(100)

*i.e., church.

Tornado Disaster — Continued

or television broadcast and can be activated when National Weather Service tornado warnings are issued or when local public safety authorities note the approach of severe weather.

The National Oceanic and Atmospheric Administration recommends the following prevention measures for persons in areas in which tornado warnings have been issued: 1) persons in permanent homes should go to a basement, hallway, closet, or interior room and cover themselves with pillows, blankets, or mattresses; 2) persons in mobile homes should seek shelter in a permanent structure (mobile home tiedowns are ineffective at wind speeds above 50 mph); 3) in rural areas, persons in vehicles should leave their vehicles and lie flat in the nearest gully or ditch; and 4) in urban areas, persons in vehicles should leave their vehicles and seek shelter in a permanent structure, and persons in buildings without basements should go to a small interior room or hallway (4).

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