

# MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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## Current Trends

### **Changes in the Cigarette Brand Preferences of Adolescent Smokers — United States, 1989–1993**

Approximately three million U.S. adolescents are smokers, and they smoke nearly one billion packs of cigarettes each year (1). The average age at which smokers try their first cigarette is 14½ years, and approximately 70% of smokers become regular smokers by age 18 years (2). Evaluating the changes in the brand preferences of young smokers can help identify factors that influence adolescents' brand choice and may suggest smoking-prevention strategies (3,4). This report examines changes in the brand preferences of teenaged smokers from 1989 to 1993 using data from CDC's 1993 Teenage Attitudes and Practices Survey (TAPS-II) and comparing them with data from the 1989 TAPS.

For TAPS, data on knowledge, attitudes, and practices regarding tobacco use were collected from a national household sample of adolescents (aged 12–18 years) by telephone interviews. For TAPS-II, interviews were conducted during February–May 1993. Of the 9135 respondents to the 1989 TAPS, 7960 (87.1%) participated in TAPS-II (respondents were aged 15–22 years when TAPS-II was conducted).<sup>\*</sup> In addition, 4992 (89.3%) persons from a new probability sample (n=5590 persons aged 10–15 years) participated in TAPS-II. Data for the 12–18-year-olds in each survey were analyzed (n=9135 for TAPS; n=7311 for TAPS-II). Because numbers for other racial groups were too small for meaningful analysis, data are presented for black, white, and Hispanic adolescents only. Data were weighted to provide national estimates, and confidence intervals (CIs) were calculated by using the standard errors estimated by SUDAAN (5). Adolescent current smokers<sup>†</sup> were asked if they usually bought their own cigarettes, and if so, which brand they usually bought.

Of the 1031 current smokers aged 12–18 years interviewed in 1993, 724 (70%) reported that they usually bought their own cigarettes; the brand they usually bought was ascertained for 702 (97%). Marlboro, Camel, and Newport were the most fre-

<sup>\*</sup>TAPS respondents who completed the survey by mail questionnaire were not eligible for the TAPS-II survey. TAPS-II included household interviews of persons who did not respond by telephone.

<sup>†</sup>Adolescents who reported smoking cigarettes on 1 or more of the 30 days preceding the survey.

**TABLE 1. Percentage\* distribution of cigarette brands usually bought by current smokers† aged 12–18 years who reported usually buying their own cigarettes, by demographic characteristic — United States, Teenage Attitudes and Practices Survey-II, 1993, and overall cigarette brand market shares,§ 1993**

Characteristic	No.	Percentage																	
		Marlboro		Camel		Newport		Winston		Kool		Salem		Virginia Slims		Benson & Hedges		Other brands	
		%	(95% CI) <sup>¶</sup>	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
<b>Sex</b>																			
Male	370	59.2	(± 6.0)	16.1	(± 5.0)	10.7	(± 3.2)	1.6	(±1.5)	2.3	(± 2.0)	0.4	(±0.5)	0		0.6	(±0.8)	9.1	(±3.3)
Female	332	60.7	(± 5.8)	10.3	(± 3.0)	14.7	(± 3.9)	0.7	(±1.0)	0		1.7	(±1.4)	2.0	(±1.9)	0		9.9	(±3.9)
<b>Race**</b>																			
White	646	63.5	(± 4.3)	14.4	(± 3.1)	8.7	(± 2.4)	1.2	(±1.0)	0.5	(± 0.8)	1.0	(±0.8)	1.0	(±1.0)	0.2	(±0.4)	9.4	(±2.8)
Black	45	8.5	(± 8.5)	0		70.4	(±14.1)	0		11.9	(±10.9)	1.4	(±2.7)	0.5	(±1.0)	1.7	(±3.3)	5.5	(±6.0)
<b>Ethnicity<sup>††</sup></b>																			
Hispanic	50	45.4	(±14.9)	10.1	(± 7.7)	34.0	(±15.1)	6.0	(±8.1)	4.5	(± 8.6)	0		0		0		0	
Non-Hispanic	647	60.9	(± 4.3)	13.6	(± 3.1)	11.0	(± 2.5)	0.8	(±0.7)	0.9	(± 0.8)	1.1	(±0.8)	1.1	(±1.0)	0.3	(±0.4)	10.4	(±2.9)
<b>Age (yrs)</b>																			
12–15	140	49.5	(± 9.2)	13.0	(± 7.1)	19.4	(± 6.9)	2.8	(±3.1)	3.7	(± 3.8)	0.4	(±0.7)	0.1	(±0.3)	0		11.1	(±5.3)
16–18	562	63.1	(± 4.4)	13.4	(± 3.0)	10.6	(± 2.6)	0.7	(±0.7)	0.4	(± 0.6)	1.2	(±0.9)	1.2	(±1.2)	0.4	(±0.5)	9.0	(±2.9)
<b>Region<sup>§§</sup></b>																			
Northeast	146	54.1	(±10.7)	5.1	(± 3.6)	30.1	(± 8.8)	0.6	(±1.2)	0		0.6	(±1.3)	1.8	(±2.5)	0		7.6	(±6.5)
Midwest	223	61.6	(± 6.7)	15.0	(± 4.6)	11.6	(± 4.8)	0.9	(±1.3)	1.2	(± 1.6)	2.4	(±1.9)	0.8	(±1.1)	0.4	(±0.7)	6.1	(±4.1)
South	217	67.1	(± 6.5)	9.5	(± 3.9)	8.0	(± 3.1)	0.9	(±1.3)	1.5	(± 1.8)	0.6	(±1.2)	1.0	(±2.0)	0.5	(±1.1)	10.7	(±4.4)
West	116	50.3	(±10.6)	27.1	(±10.8)	3.2	(± 3.1)	2.6	(±3.6)	2.0	(± 3.8)	0		0.2	(±0.4)	0		14.7	(±7.4)
<b>Total</b>	<b>702</b>	<b>60.0</b>	<b>(± 4.2)</b>	<b>13.3</b>	<b>(± 2.9)</b>	<b>12.7</b>	<b>(± 2.7)</b>	<b>1.2</b>	<b>(±0.9)</b>	<b>1.2</b>	<b>(± 1.0)</b>	<b>1.0</b>	<b>(±0.7)</b>	<b>1.0</b>	<b>(±0.9)</b>	<b>0.3</b>	<b>(±0.4)</b>	<b>9.5</b>	<b>(±2.6)</b>
<b>Overall market share, 1993<sup>§</sup></b>		23.5		3.9		4.8		6.7		3.0		3.9		2.3		2.5		49.4	

\*Percentages and confidence intervals are based on weighted data.

† Adolescents who reported smoking cigarettes on 1 or more of the 30 days preceding the survey.

§ Source: reference 8; based on total estimated brand-specific cigarette sales in the United States.

¶ Confidence interval.

\*\* Excludes the category "other" (n=11); numbers for these racial groups were too small for meaningful analysis.

†† Excludes five persons for whom ethnicity was unknown.

§§ Northeast=Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; Midwest=Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, and Wisconsin; South=Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; and West=Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

*Adolescent Smokers — Continued*

quently purchased brands for 86% of the adolescents (Table 1). Marlboro was the most commonly purchased brand for both male (59% [95% CI=±6.0%]) and female (61% [95% CI=±5.8%]) adolescents; the second most commonly purchased brand among males was Camel (16% [95% CI=±5.0%]) and among females was Newport (15% [95% CI=±3.9%]). Marlboro was the most commonly purchased brand among white (64% [95% CI=±4.3%]) and Hispanic (45% [95% CI=±14.9%]) adolescents; black adolescents most frequently purchased Newport (70% [95% CI=±14.1%]). Younger smokers (aged 12–15 years) were more likely than older smokers (aged 16–18 years) to buy Newport and less likely to buy Marlboro; purchasing frequency for Camel cigarettes was similar among all adolescents.

Among adolescents nationwide, Marlboro was the most commonly purchased brand (Table 1). However, by region<sup>§</sup>, Camel was most commonly purchased in the West (27% [95% CI=±10.8%]), and Newport, in the Northeast (30% [95% CI=±8.8%]).

From 1989 to 1993, substantial changes in brand preference occurred among adolescents (Table 2). The percentage of adolescents purchasing Marlboro cigarettes decreased 8.7 percentage points (13% decrease), the percentage of adolescents purchasing Camel cigarettes increased 5.2 percentage points (64% increase), and the percentage purchasing Newport cigarettes increased 4.5 percentage points (55% increase). These changes did not completely correlate with changes in overall cigarette market share during 1989–1993. During this period, the overall market share for Camel and Newport remained nearly unchanged, but the overall market share for Marlboro decreased by 2.8 percentage points (11% decrease).

For Marlboro cigarettes, the decreases in brand preference were greatest among white adolescents, younger smokers, and adolescents residing in the Northeast, Midwest, and West (Table 1) (6). Increases in brand preference for Camel cigarettes were greatest among white adolescents and adolescents residing in the Midwest and West, and increases for Newport cigarettes were greatest among younger smokers and adolescents residing in the Northeast.

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**Editorial Note:** Because cigarette sales to adolescents constitute a small percentage of the total market, overall market share can only be used to estimate the brand preferences of adults. TAPS and TAPS-II indicate that brand preference is more tightly concentrated among adolescents than among adults. In both surveys, at least 85% of adolescent current smokers purchased one of three brands (i.e., Marlboro, Camel, or Newport); however, the three most commonly purchased brands among all smokers accounted for only 35% of the overall market share in 1993.

The three most commonly purchased brands among adolescent smokers were the three most heavily advertised brands in 1993 (7), suggesting that cigarette advertising influences adolescents' brand preference. In 1993, Marlboro, Camel, and Newport

<sup>§</sup>The four regions were Northeast (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont), Midwest (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin), South (Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia), and West (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming).

*Adolescent Smokers — Continued***TABLE 2. Change in self-reported cigarette brand preference among adolescents aged 12–18 years\* and change in overall cigarette brand market share† from 1989 to 1993 — United States, Teenage Attitudes and Practices Survey (TAPS), 1989 and 1993**

Brand	Adolescent brand preference,		Adolescent brand preference,		Change in adolescent brand preference, 1989 to 1993
	1989	Rank	1993	Rank	
Marlboro	68.7	1	60.0	1	-8.7
Camel	8.1	3	13.3	2	+5.2
Newport	8.2	2	12.7	3	+4.5
Winston	3.2	4	1.2	4	-2.0
Kool	1.0	7	1.2	4	+0.2
Salem	1.5	5	1.0	6	-0.5
Benson & Hedges	1.4	6	0.3	7	-1.1

Brand	Overall market share,		Overall market share,		Change in overall market share, 1989 to 1993
	1989	Rank <sup>§</sup>	1993	Rank <sup>§</sup>	
Marlboro	26.3	1	23.5	1	-2.8
Camel	3.9	6	3.9	7	0
Newport	4.7	5	4.8	5	+0.1
Winston	9.1	2	6.7	2	-2.4
Kool	5.9	4	3.0	9	-2.9
Salem	6.2	3	3.9	7	-2.3
Benson & Hedges	3.9	6	2.5	10	-1.4

\* Data were weighted to provide national estimates. Unweighted sample size for 1989 was 865 and for 1993 was 702.

† From reference 8. Based on total estimated brand-specific cigarette sales in the United States.

§ Rank for brands listed is based on the Maxwell Consumer Report (8). Only brands for which data on adolescent brand preference were available in 1989 and 1993 are listed in the table. Missing ranks are for generic brands.

ranked first, second, and third (7), respectively, in advertising expenditures. However, Camel and Newport ranked seventh and fifth, respectively, in overall market share (8).

Similarly, the increases in adolescents' brand preference for Camel cigarettes and the decrease in preference for Marlboro cigarettes from 1989 to 1993 are not explained by changes in overall market share for these brands. These changes reflect variability in brand-specific advertising expenditures: from 1989 to 1993, Marlboro advertising decreased from \$102 million to \$75 million (7,9), while Camel advertising increased from \$27 million to \$43 million (7,9). In contrast, the increased preference for Newport cigarettes does not reflect the decrease in Newport advertising expenditures from \$49 million to \$35 million from 1989 to 1993 (7,9). The regional differences in brand preference of adolescents and changes in those preferences during 1989–1993 suggest that analysis of the relation between regional advertising expenditures and brand preferences may help to clarify the role of cigarette advertising in influencing adolescents' brand preference.

The findings that black adolescents most commonly purchased mentholated brands (i.e., Newport and Kool) and that Hispanic adolescents most commonly purchased Marlboro are consistent with a previous report (6). Racial/ethnic differences in brand preferences of adolescents may be influenced by differences in socioeconomic status and by social and cultural phenomena that require further explanation.

The findings of TAPS-II are subject to at least two limitations. First, the potential exists for nonresponse bias in the follow-up of TAPS respondents. For example, smoking prevalence estimates derived from TAPS-II are lower than those based on other national surveys; TAPS respondents who were successfully followed up in TAPS-II

*Adolescent Smokers — Continued*

were less likely to be smokers in 1989 than those who could not be reinterviewed (Office on Smoking and Health, unpublished data, 1994). Second, the small number of black and Hispanic adolescents in TAPS-II lessens the reliability of the brand preference estimates for these subgroups.

Because cigarette advertising may influence brand choice of adolescents (an important component of smoking behavior), legislation may be needed to restrict cigarette advertising to which young persons are likely to be exposed (10). In addition, antitobacco advertising may be an effective public health strategy to prevent smoking initiation and encourage smoking cessation among adolescents. Understanding the influence of advertising on adolescent smoking behavior may assist in clarifying the potential role of antismoking advertisements. At least two states (California and Massachusetts) have allocated resources derived from state excise cigarette tax for paid antismoking advertising campaigns aimed at young persons.

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*Effectiveness in Disease and Injury Prevention***Medical-Care Spending — United States**

One aspect of health-care reform is the role of prevention in controlling costs. To evaluate data on medical spending by disease category, the National Public Services Research Institute examined data from the 1987 National Medical Expenditure Survey (NMES-2), with emphasis on the Medical Provider Survey supplement. This report presents the findings of that analysis.

The NMES-2 was a population-based longitudinal survey in which data were gathered for the civilian, noninstitutionalized U.S. population for January 1–December 31,

*Medical-Care Spending — Continued*

1987 (the most recent year for which complete data were available), about socio-demographic factors; use of medical care; and medical-care expenditures for hospital inpatient, outpatient, and emergency department care; physician and allied health professional services; prescribed medication; emergency transport; and medical supplies and equipment (1). The Medical Provider Survey supplement provided confirmation of self-reported medical-care costs and information about costs that survey respondents were unable to report. The analysis presented in this report was restricted to the household survey sample of the NMES-2, a subset of the data that included face-to-face interviews of approximately 35,000 persons in 14,000 households regarding use of and expenses for health services during 1987. Not included in this analysis were dental costs, mental health services without a medical component, and administrative costs and overhead for insurance claims. All medical expenditure estimates were adjusted to December 1993 dollars using medical-care spending per capita for all medical treatment as the inflator.

Cardiovascular disease accounted for \$80 billion (14%) of the \$572 billion (in 1993 dollars) in medical spending for services other than nursing-home care, dental care, and insurance claims processing (Table 1). Injuries accounted for \$69 billion (12%), including spending attributed to longer term musculoskeletal deterioration resulting from injury. Spending for each of these categories exceeded that for cancer and for genitourinary disease (including kidney disease) (\$49 billion each). Medical spending for well care, including preventive care, was 3% of the total costs (\$17 billion).

Excluding live births, injury was the largest contributor to health-care expenditures for persons aged 5–49 years (Figure 1). Injury was the second largest contributor to health-care costs among persons aged <5 years and >85 years; cardiovascular disease and cancer were the two largest contributors for those aged 50–85 years.

Medical spending on injury treatment averaged \$284 per person. Injury costs increased for those aged >65 years, with the highest per capita spending for injury being for those aged ≥70 years (Figure 2). However, increases in spending for cardiovascular disease and cancer for those age groups were higher than those for injury.

Inpatient hospital costs were the largest component of medical spending (\$329 billion [57%]), with ambulatory-care visits contributing \$90 billion (16%) and hospital outpatient services, \$66 billion (11%). Prescriptions were the fourth largest component (\$38 billion [7%]). Home-health-care (\$20 billion), emergency department (\$15 billion), and other medical (\$15 billion) costs each contributed approximately 3%.

By type of care, cardiovascular disease accounted for 15% of the hospital costs; cancer, 11%; and injury, 10% (Table 2). Cardiovascular disease also contributed the most in prescription costs (27%) and home-health-care costs (27%) (Table 2). Injury costs were the largest component of spending for emergency department visits (46%), hospital outpatient visits (16%), and ambulatory care (16%). Of the ambulatory-care visit costs, 14% were for well care.

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**Editorial Note:** The findings in this report indicate that the largest source of health-care spending in the U.S. population is cardiovascular disease. This reflects the high

## Medical-Care Spending — Continued

TABLE 1. Medical expenditures, by diagnostic category,\* — United States, 1987†

Diagnostic category	Medical expenditures <sup>§</sup>	% Total costs <sup>¶</sup>
Cardiovascular	\$ 79.6	13.9
Injury and long-term effects	69.1	12.1
Neoplasm	49.6	8.7
Genitourinary	49.3	8.7
Pregnancy/Birth-related	39.7	6.9
Respiratory	38.3	6.7
Digestive	35.9	6.3
Musculoskeletal**	27.7	4.8
Other circulatory diagnosis	20.2	3.5
Mental health††	19.3	3.4
Well care	17.4	3.0
Congenital anomalies	8.7	1.5
Medical misadventure	6.9	1.2
Miscellaneous <sup>§§</sup>	110.6	19.3
<b>Total</b>	<b>572.3</b>	<b>100.0</b>

\* *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) codes used to define diagnostic categories: Cardiovascular: 390–429, 451–459; Injury and long-term effects: 800–994, 294.0, 304.6, 310.2, 344.0, 344.1, 366.2, 507.1, 508.0, 521.2, 525.1, 719.0, 719.5, 722.0–722.2, 724.2, 724.3, 724.5, 724.6, 724.8, 780.0, 799.0, V71.3–V71.5; Neoplasms: 140–239, V58.0, V58.1; Genitourinary: 580–629, 250.0, V56; Pregnancy and birth-related conditions, including live births and normal delivery: 630–674, V22.2; Respiratory: 460–519, 786.0 (excluding codes used for the injury diagnostic category); Digestive: 520–579 (excluding codes used for the injury diagnostic category); Musculoskeletal: 710–739 (excluding codes used for the injury diagnostic category); Other circulatory: 430–450; Mental disease: 290–319 (excluding codes used for the injury diagnostic category); Well care: V40–V49, V70–V82 (excluding codes used for the injury diagnostic category); Congenital anomalies: 740–779; Medical misadventure: 995–999; and Miscellaneous: all other ICD-9-CM codes.

† Adjusted to December 1993 dollars. Excludes nursing home, dental, and insurance claims processing costs.

§ In billions.

¶ Costs of incidents without diagnoses were allocated in proportion to cost of known diagnoses.

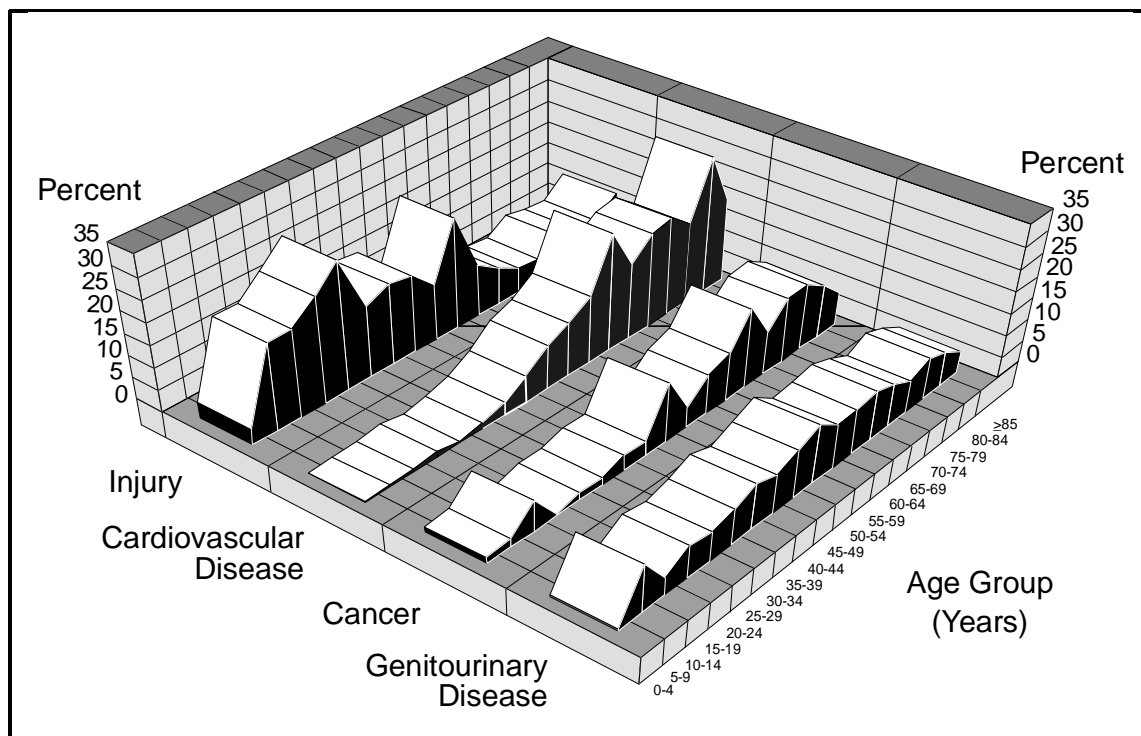
\*\* Musculoskeletal problems traceable to earlier injury were classified as injury.

†† Excludes mental health services without a medical component.

§§ Miscellaneous includes carpal tunnel syndrome, endocrine disorders other than diabetes, anemia, conditions that were not clearly attributable to an underlying cause (e.g., unconsciousness, headache, and fitting and adjustment of prostheses), cataracts, and glaucoma.

prevalence of coronary or ischemic heart disease, which is the leading cause of death in the United States. However, the influences and risk factors for cardiovascular disease potentially can be modified through public policy and preventive practice (e.g., smoking and diet).

Injury, the leading cause of death for persons in all age groups from 1 year through 44 years (2), is also a large contributor to health-care costs. The data in this report corroborate the finding that medical-care payments for injury are the second leading source of direct medical costs in the noninstitutionalized U.S. population (3). In addition, the cost burden for injuries is spread across all age groups (4). Because direct medical costs do not include the reduced or lost productivity in the working-age popu-

*Medical-Care Spending — Continued***FIGURE 1. Percentage of medical-care spending, by age group and selected causes — National Medical Expenditures Survey, United States, 1987\***

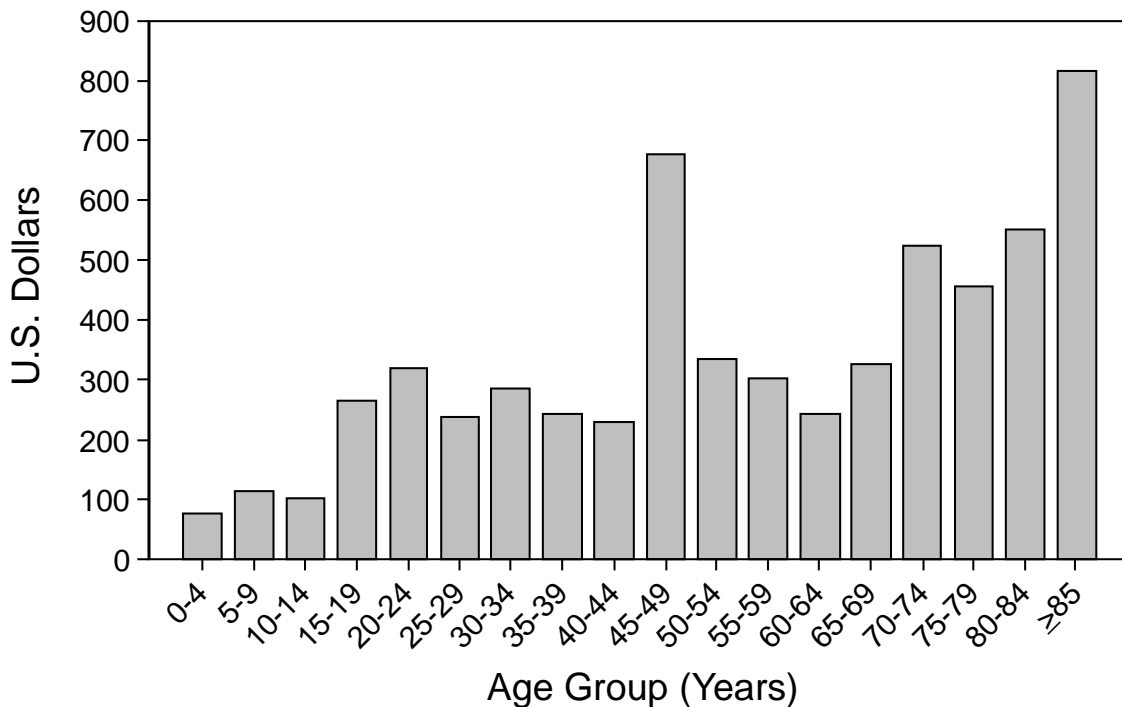
\*Excludes nursing home, dental, and insurance claims processing costs.

lation, this analysis does not adequately present the total economic burden attributable to injury.

This study is subject to at least four limitations. First, the data underestimate total direct medical costs because institutionalized persons, military members and their families, and homeless persons were excluded. Second, nursing home costs—approximately \$60 billion annually across all disease categories (5)—also were omitted from this analysis. Third, the unitary, systems-based categorization of each illness or injury used in this analysis masks the potential importance of some categories, such as infectious diseases. Infectious diseases were subsumed under the injury or system category that they affect; for example, pulmonary infections tended to be classified in the respiratory category, urinary tract infections in the genitourinary category, and human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS) in the categories of affected systems or as miscellaneous. Similarly, spending for outpatient visits for complications of diabetes mellitus may appear as cardiovascular disease costs. Fourth, the direct costs related to infectious diseases are underestimated because the incidence of HIV infection and AIDS resulted in substantially increased spending after 1987 (6).

Numerous prevention measures reduce direct medical costs while saving lives. For example, approximately \$2 are saved in medical-care costs for every \$1 spent on child-safety seats (7); from 1982 through 1990, child-safety seats and safety belts saved the lives of approximately 1300 infants and toddlers in the United States (8).



*Medical-Care Spending — Continued***FIGURE 2. Injury cost per person, by age group — National Medical Expenditure Survey, United States, 1987\***

\*Adjusted to December 1993 dollars. Excludes nursing home, dental, and insurance claims processing costs.

The data in this report underscore the impact of different disease categories and the need to evaluate the relative effectiveness and the cost-effectiveness of interventions that prevent and control the effects of disease; such data can assist in making decisions regarding treatment and prevention programs (9).

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## Medical-Care Spending — Continued

**TABLE 2. Percentage of expenditures for different types of care, by diagnostic category\* — United States, 1987†**

Diagnostic category	Hospital inpatient care	Emergency department	Outpatient care	Ambulatory visits	Home care	Prescriptions	Other
Cardiovascular	15.1	4.6	9.6	7.3	27.3	27.1	3.5
Injury and long-term effects	10.1	45.9	16.1	16.4	7.3	3.4	7.7
Neoplasm	10.7	10.2	11.3	4.4	7.7	3.0	1.8
Genitourinary	8.8	5.7	12.6	6.4	10.4	7.5	4.9
Pregnancy/ Birth-related	10.2	1.2	0.5	4.1	0.0	0.2	0.1
Respiratory	6.2	10.7	6.2	7.7	3.0	10.5	5.0
Digestive	8.4	4.4	4.2	2.8	1.0	4.9	0.8
Musculoskeletal <sup>§</sup>	3.3	2.7	7.8	6.4	11.9	7.3	3.5
Other circulatory	5.1	0.9	1.2	1.0	3.4	1.6	0.9
Mental health <sup>¶</sup>	3.2	1.2	2.6	5.5	3.1	3.8	0.1
Well care	0.1	<0.1	1.5	13.6	1.8	1.4	1.0
Congenital anomalies	2.1	0.2	1.0	0.5	0.3	1.2	0.4
Medical misadventure	1.3	2.1	1.4	1.0	0.3	1.1	0.5
Miscellaneous**	14.5	18.8	24.1	22.9	22.5	27.0	69.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

\* *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) codes used to define diagnostic categories: Cardiovascular: 390–429, 451–459; Injury and long-term effects: 800–994, 294.0, 304.6, 310.2, 344.0, 344.1, 366.2, 507.1, 508.0, 521.2, 525.1, 719.0, 719.5, 722.0–722.2, 724.2, 724.3, 724.5, 724.6, 724.8, 780.0, 799.0, V71.3–V71.5; Neoplasms: 140–239, V58.0, V58.1; Genitourinary: 580–629, 250.0, V56; Pregnancy and birth-related conditions, including live births and normal delivery: 630–674, V22.2; Respiratory: 460–519, 786.0 (excluding codes used for the injury diagnostic category); Digestive: 520–579 (excluding codes used for the injury diagnostic category); Musculoskeletal: 710–739 (excluding codes used for the injury diagnostic category); Other circulatory: 430–450; Mental disease: 290–319 (excluding codes used for the injury diagnostic category); Well care: V40–V49, V70–V82 (excluding codes used for the injury diagnostic category); Congenital anomalies: 740–779; Medical misadventure: 995–999; and Miscellaneous: all other ICD-9-CM codes.

† Adjusted to December 1993 dollars. Excludes nursing home, dental, and insurance claims processing costs.

§ Musculoskeletal problems traceable to earlier injury were classified as injury.

¶ Excludes mental health services without a medical component.

\*\* Miscellaneous includes carpal tunnel syndrome, endocrine disorders other than diabetes, anemia, conditions that were not clearly attributable to an underlying cause (e.g., unconsciousness, headache, and fitting and adjustment of prostheses), cataracts, and glaucoma.

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## Current Trends

### Occupational Injury Deaths of Postal Workers — United States, 1980–1989

Extensive media coverage of work-related homicides at U.S. Postal Service facilities raised the concern about whether postal workers are at increased risk for work-related homicide, particularly from those committed by disgruntled coworkers. Based on national surveillance data, neither the Postal Service industry nor postal occupations are among the groups at increased risk for work-related homicide (1,2). To further assess this concern and to determine the relative magnitude of occupational injury deaths in the Postal Service, CDC's National Institute for Occupational Safety and Health (NIOSH) used data from its National Traumatic Occupational Fatalities (NTOF) surveillance system\* to examine occupational injury deaths in the Postal Service and compare Postal Service fatality rates with overall rates for all U.S. industries. This report summarizes the results of that analysis.

NTOF data for 1980 through 1989 (the most recent year for which complete data are available) were analyzed. Employment data for the calculation of rates were derived from the Current Population Survey (4). Rates were calculated only for 1983–1989 because reporting of Postal Service employment data changed in 1983.

NTOF recorded 169 occupational injury deaths among U.S. Postal Service workers during 1980–1989. During 1983–1989, the average annual rate of occupational injury death in the Postal Service was 2.1 per 100,000 workers, less than half the rate of 5.4 per 100,000 workers for all industries combined. Men accounted for 130 (77%) of the occupational injury deaths in the Postal Service and had a higher rate of fatal injury than did women (2.3 per 100,000 workers, compared with 1.8). A total of 98 (58%) of the decedents were aged >45 years.

Motor-vehicle-related events (n=72) were the leading cause of fatal occupational injury, followed by homicide (n=40) (Figure 1, page 593). Cause-specific rates for Postal Service employees were consistently lower than rates for all industries, with the largest differential in the category of machine-related deaths (Figure 2, page 593).

Collisions between motor vehicles caused 43 (60%) of the motor-vehicle-related deaths among Postal Service workers. Three (4%) deaths occurred to pedestrians on the job who were struck by motor vehicles. Fifty-one (71%) deaths occurred among mail carriers and eight (11%) among drivers.

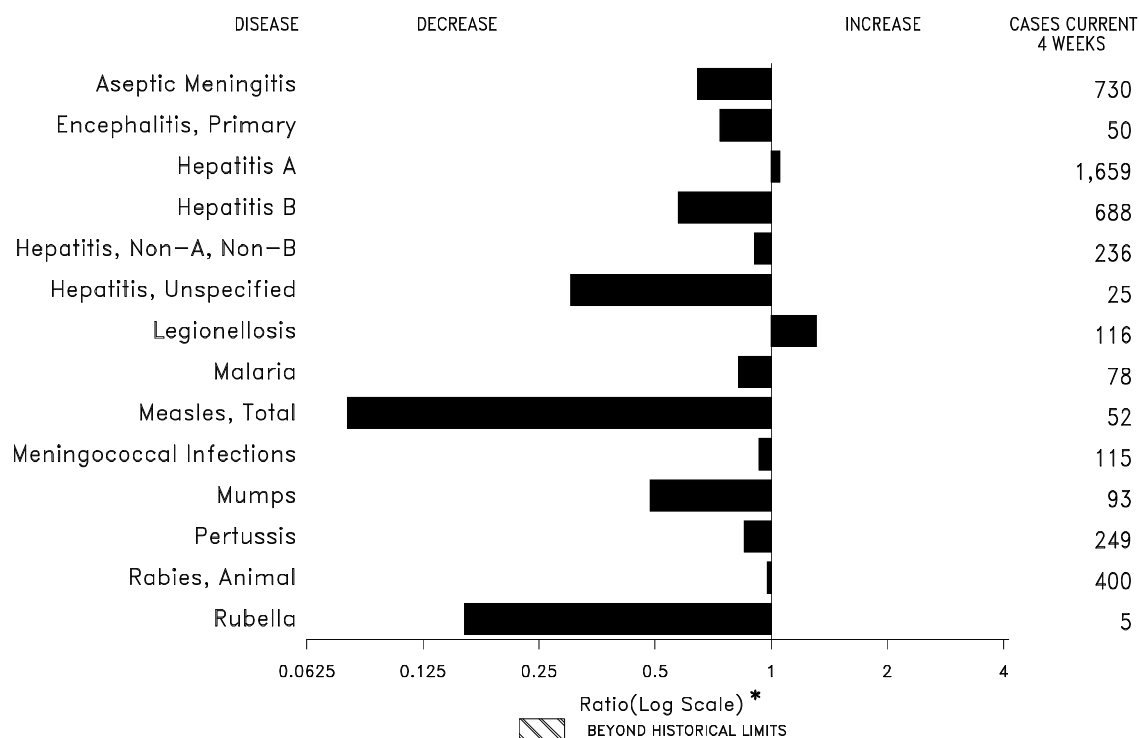
Among homicide victims, 26 (65%) were men. The homicide rate for men was 0.5 per 100,000, compared to 0.6 for women. Firearms were used in 34 (85%) of the homicides. Seventeen (43%) of the victims were mail carriers; nine (23%), postal clerks; five (13%), postmasters and mail superintendents; and three (8%), other specified occupations. Occupation was unknown or not specified for six (15%) of the victims.

*Reported by: Div of Safety Research, National Institute for Occupational Safety and Health, CDC.*

*(Continued on page 593)*

\*NTOF is based on death certificates compiled from all 52 vital statistics reporting units in the United States that meet three criteria: the decedent was  $\geq 16$  years of age, the cause of death was an injury or poisoning according to the *International Classification of Diseases, Ninth Revision*, and the certifier responded positively to the "Injury at Work?" question (3).

**FIGURE I. Notifiable disease reports, comparison of 4-week totals ending August 13, 1994, 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 August 13, 1994 (32nd Week)**

	Cum. 1994		Cum. 1994
AIDS*	45,801	Measles: imported	154
Anthrax	-	indigenous	634
Botulism: Foodborne	41	Plague	10
Infant	42	Poliomyelitis, Paralytic <sup>§</sup>	1
Other	6	Psittacosis	23
Brucellosis	58	Rabies, human	1
Cholera	9	Syphilis, primary & secondary	13,156
Congenital rubella syndrome	2	Syphilis, congenital, age < 1 year <sup>¶</sup>	532
Diphtheria	-	Tetanus	21
Encephalitis, post-infectious	71	Toxic shock syndrome	118
Gonorrhea	229,379	Trichinosis	26
<i>Haemophilus influenzae</i> (invasive disease) <sup>†</sup>	734	Tuberculosis	12,846
Hansen Disease	68	Tularemia	50
Leptospirosis	18	Typhoid fever	230
Lyme Disease	5,195	Typhus fever, tickborne (RMSF)	217

\*Updated monthly to the Division of HIV/AIDS, National Center for Infectious Diseases; last update July 26, 1994.

<sup>†</sup>Of 693 cases of known age, 196 (28%) were reported among children less than 5 years of age.

<sup>§</sup>The remaining 5 suspected cases with onset in 1994 have not yet been confirmed. In 1993, 3 of 10 suspected cases were confirmed. Two of the confirmed cases of 1993 were vaccine-associated and one was classified as imported.

<sup>¶</sup>Total reported to the Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services, through first quarter 1994.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending August 13, 1994, and August 14, 1993 (32nd Week)

Reporting Area	AIDS*	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious	Cum. 1994	Cum. 1993	A	B	NA,NB	Unspecified		
			Cum. 1994	Cum. 1994			Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994		
UNITED STATES	45,801	4,055	347	71	229,379	241,362	12,962	6,905	2,595	262	922	5,195
NEW ENGLAND	1,811	127	11	4	4,909	4,497	194	230	90	15	25	1,549
Maine	70	18	2	-	54	53	21	11	-	-	2	10
N.H.	37	16	-	2	69	39	12	16	8	-	-	15
Vt.	21	11	-	-	17	16	5	-	-	-	-	6
Mass.	934	45	7	1	1,842	1,795	80	151	63	14	17	137
R.I.	146	37	2	1	290	241	15	6	19	1	6	252
Conn.	603	-	-	-	2,637	2,353	61	46	-	-	-	1,129
MID. ATLANTIC	13,256	319	29	11	24,625	26,867	843	765	294	5	138	2,909
Upstate N.Y.	1,145	157	17	2	6,068	5,409	371	241	143	2	32	1,965
N.Y. City	8,180	24	2	1	7,812	7,880	188	84	-	-	-	9
N.J.	2,786	-	-	-	3,005	3,041	187	225	125	-	17	508
Pa.	1,145	138	10	8	7,740	10,537	97	215	26	3	89	427
E.N. CENTRAL	3,645	651	91	16	44,728	50,169	1,263	713	201	6	272	58
Ohio	649	165	25	1	13,473	13,256	475	102	14	-	134	41
Ind.	389	95	6	1	5,216	4,981	241	127	9	-	58	9
Ill.	1,759	135	30	5	11,385	17,492	271	140	42	3	13	3
Mich.	650	249	26	9	10,677	10,489	175	245	133	3	51	5
Wis.	198	7	4	-	3,977	3,951	101	99	3	-	16	-
W.N. CENTRAL	981	220	19	5	12,292	13,288	631	374	104	8	86	79
Minn.	256	16	2	-	1,964	1,438	145	41	14	1	1	33
Iowa	51	62	-	-	840	1,048	32	18	7	6	25	7
Mo.	431	85	7	4	7,351	7,709	276	277	65	1	40	28
N. Dak.	18	2	2	-	18	33	3	-	-	-	4	-
S. Dak.	10	-	2	-	106	167	21	-	-	-	-	-
Nebr.	57	9	4	1	-	484	81	18	7	-	13	8
Kans.	158	46	2	-	2,013	2,409	73	20	11	-	3	3
S. ATLANTIC	10,074	855	63	23	62,144	62,455	838	1,531	417	26	226	449
Del.	163	20	-	-	853	839	13	4	1	-	20	18
Md.	1,284	112	14	2	11,200	9,666	107	205	21	5	59	185
D.C.	879	27	-	1	4,479	2,857	17	39	-	-	8	3
Va.	725	130	16	5	6,495	7,389	95	74	18	3	5	85
W. Va.	27	15	2	-	472	379	6	25	22	-	1	12
N.C.	719	129	30	1	16,265	15,395	70	177	40	-	13	49
S.C.	665	20	-	-	7,985	6,498	28	23	6	-	9	7
Ga.	1,186	38	1	-	-	4,660	23	505	159	-	79	80
Fla.	4,426	364	-	14	14,395	14,772	479	479	150	18	32	10
E.S. CENTRAL	1,239	289	23	2	27,838	27,383	294	651	493	2	40	25
Ky.	207	89	9	1	2,990	2,862	98	55	18	-	6	14
Tenn.	390	54	10	-	8,206	8,378	117	548	466	1	21	8
Ala.	366	115	4	1	10,180	9,933	54	48	9	1	9	3
Miss.	276	31	-	-	6,462	6,210	25	-	-	-	4	-
W.S. CENTRAL	4,667	481	35	2	29,012	26,662	1,859	833	322	50	29	70
Ark.	160	36	-	-	4,277	3,972	48	16	5	1	7	3
La.	740	23	5	-	7,692	7,065	94	109	95	1	8	-
Okla.	183	-	-	-	2,419	2,829	167	196	188	1	10	38
Tex.	3,584	422	30	2	14,624	12,796	1,550	512	34	47	4	29
MOUNTAIN	1,405	162	6	3	5,201	6,874	2,537	391	264	37	62	7
Mont.	17	1	-	-	52	42	15	18	5	-	14	-
Idaho	30	3	-	-	53	119	214	61	57	1	1	2
Wyo.	13	2	1	2	50	55	17	17	85	-	3	1
Colo.	529	66	1	-	1,735	2,349	329	64	44	12	14	-
N. Mex.	106	6	-	-	599	577	707	131	38	9	3	3
Ariz.	380	44	-	-	1,934	2,506	803	24	8	9	3	-
Utah	93	20	-	1	166	71	306	42	16	1	7	1
Nev.	237	20	4	-	612	1,155	146	34	11	5	17	-
PACIFIC	8,723	951	70	5	18,630	23,167	4,503	1,417	410	113	44	49
Wash.	588	-	-	-	1,687	2,394	214	43	38	1	5	-
Oreg.	386	-	-	-	570	783	309	30	8	1	-	-
Calif.	7,613	854	69	4	15,412	19,294	3,797	1,312	359	109	36	49
Alaska	29	16	1	-	531	349	148	8	-	-	-	-
Hawaii	107	81	-	1	430	347	35	24	5	2	3	-
Guam	1	9	-	-	77	68	16	2	-	4	2	-
P.R.	1,424	22	-	3	301	297	43	217	96	7	-	-
V.I.	34	-	-	-	15	71	-	1	-	-	-	-
Amer. Samoa	-	-	-	-	18	33	4	-	-	-	-	-
C.N.M.I.	-	-	-	-	27	58	4	1	-	-	-	-

N: Not notifiable      U: Unavailable      C.N.M.I.: Commonwealth of Northern Mariana Islands  
 \*Updated monthly to the Division of HIV/AIDS, National Center for Infectious Diseases; last update July 26, 1994.



**TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending August 13, 1994, and August 14, 1993 (32nd 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	13,156	16,302	118	12,846	13,584	50	230	217	3,708
NEW ENGLAND	143	219	3	282	291	-	18	9	1,128
Maine	4	3	-	-	12	-	-	-	-
N.H.	3	21	-	14	15	-	-	-	106
Vt.	-	1	1	3	3	-	-	-	97
Mass.	59	94	2	145	152	-	14	7	429
R.I.	12	9	-	32	36	-	1	-	5
Conn.	65	91	-	88	73	-	3	2	491
MID. ATLANTIC	795	1,499	21	2,363	2,880	1	55	5	370
Upstate N.Y.	94	133	11	112	435	1	7	1	79
N.Y. City	346	781	-	1,580	1,714	-	33	-	-
N.J.	120	202	-	470	293	-	15	1	184
Pa.	235	383	10	201	438	-	-	3	107
E.N. CENTRAL	1,802	2,734	24	1,289	1,391	4	43	31	33
Ohio	748	725	8	202	200	1	5	20	-
Ind.	161	228	2	105	136	1	4	3	9
Ill.	502	1,085	5	660	735	-	23	6	8
Mich.	176	381	9	285	263	1	4	2	9
Wis.	215	315	-	37	57	1	7	-	7
W.N. CENTRAL	735	1,050	19	324	294	20	1	22	133
Minn.	29	43	1	72	37	1	-	-	13
Iowa	36	49	7	28	37	-	-	1	55
Mo.	636	849	5	149	151	13	1	9	11
N. Dak.	-	2	1	6	5	-	-	-	6
S. Dak.	-	2	-	17	11	1	-	10	22
Nebr.	-	10	2	10	16	1	-	1	-
Kans.	34	95	3	42	37	4	-	1	26
S. ATLANTIC	3,776	4,276	6	2,359	2,737	1	34	101	1,265
Del.	13	83	-	-	30	-	1	-	29
Md.	161	242	-	192	237	-	5	10	345
D.C.	149	225	-	77	104	-	1	-	2
Va.	420	399	1	206	267	-	5	9	237
W. Va.	8	7	-	52	49	-	-	2	51
N.C.	1,072	1,205	1	278	320	-	-	36	105
S.C.	474	625	-	228	256	-	-	9	117
Ga.	956	728	-	539	462	1	2	32	249
Fla.	523	762	4	787	1,012	-	20	3	130
E.S. CENTRAL	2,288	2,395	2	774	980	-	2	16	116
Ky.	131	200	1	202	238	-	1	4	10
Tenn.	603	688	1	207	294	-	1	9	34
Ala.	408	524	-	254	298	-	-	1	72
Miss.	1,146	983	-	111	150	-	-	2	-
W.S. CENTRAL	2,952	3,117	1	1,833	1,454	14	10	22	454
Ark.	314	354	-	177	116	13	-	4	19
La.	1,111	1,527	-	94	99	-	3	-	47
Okla.	93	207	1	170	93	1	2	14	24
Tex.	1,434	1,029	-	1,392	1,146	-	5	4	364
MOUNTAIN	172	151	6	303	331	9	9	11	70
Mont.	3	1	-	9	13	3	-	4	-
Idaho	1	-	1	11	9	-	-	-	2
Wyo.	-	6	-	5	2	-	-	2	14
Colo.	90	44	3	21	52	1	3	3	8
N. Mex.	18	21	-	43	35	2	1	-	2
Ariz.	31	64	-	141	134	-	1	1	31
Utah	6	1	2	29	19	2	2	-	8
Nev.	23	14	-	44	67	1	2	1	5
PACIFIC	493	861	36	3,319	3,226	1	58	-	139
Wash.	36	35	-	174	149	-	3	-	-
Oreg.	21	32	-	90	-	1	2	-	6
Calif.	430	785	33	2,854	2,871	-	51	-	104
Alaska	4	6	-	34	40	-	-	-	29
Hawaii	2	3	3	167	166	-	2	-	-
Guam	4	2	-	58	39	-	1	-	-
P.R.	182	343	-	86	132	-	-	-	51
V.I.	22	31	-	-	2	-	-	-	-
Amer. Samoa	1	-	-	3	3	-	1	-	-
C.N.M.I.	1	3	-	22	20	-	1	-	-

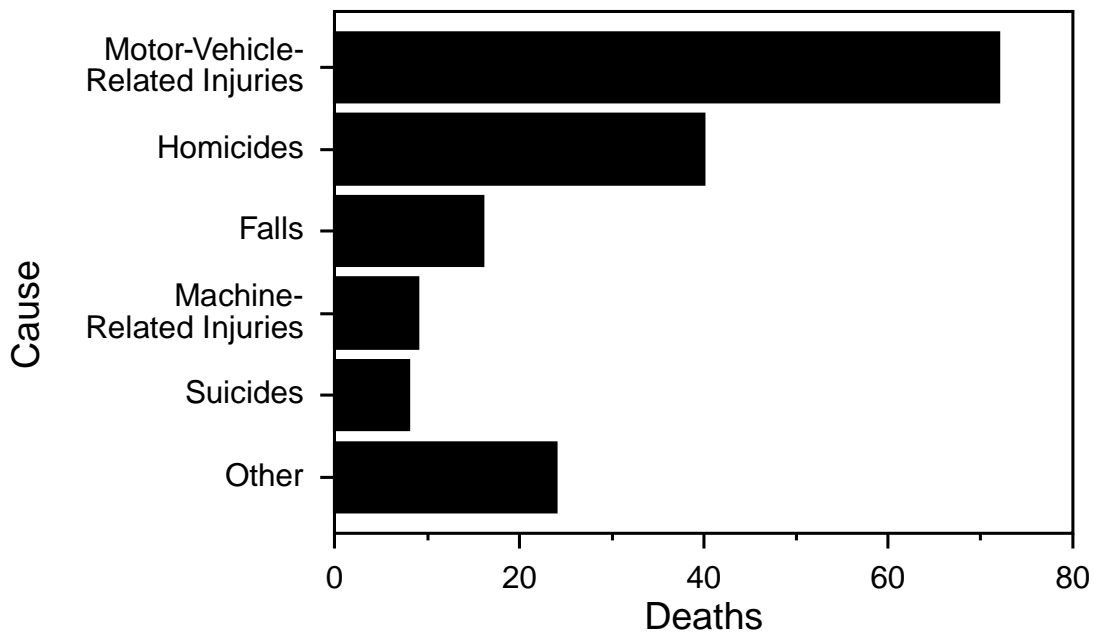
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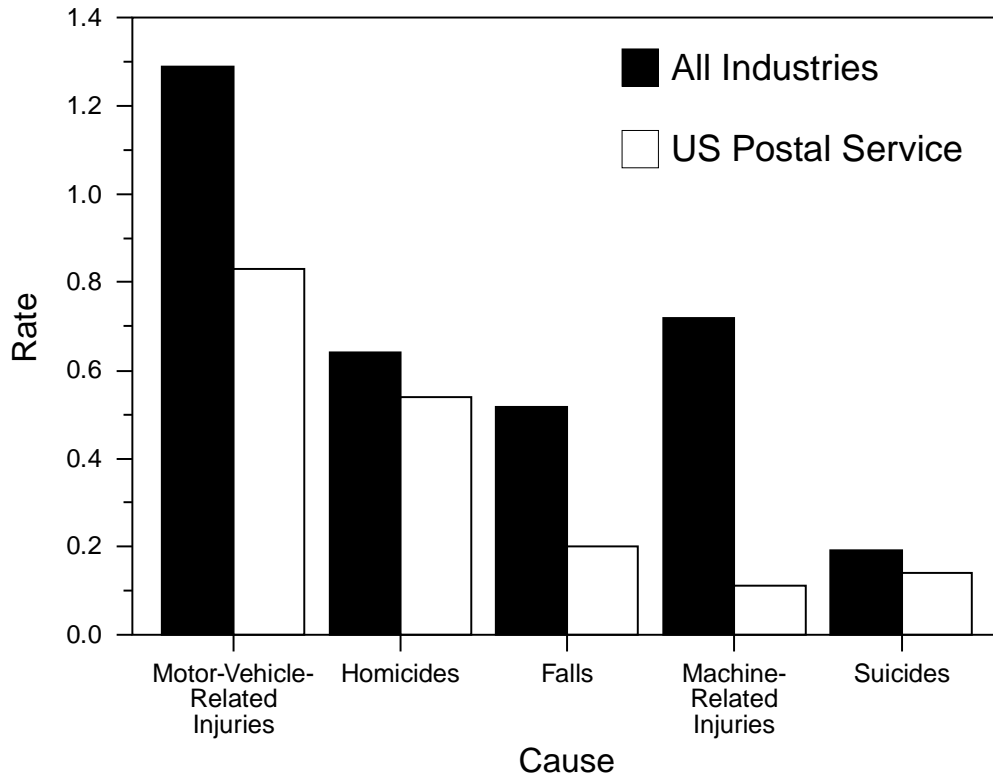


Occupational Injury Deaths — Continued

**FIGURE 1. Number of occupational injury deaths among Postal Service employees, by external causes — United States, 1980–1989**



**FIGURE 2. Rate\* of occupational injury death among workers in all industries and among Postal Service employees, by external causes — United States, 1983–1989**



\*Per 100,000 workers.

*Occupational Injury Deaths — Continued*

**Editorial Note:** The findings in this report indicate that the occupational fatality rate for U.S. Postal Service workers is approximately 2.5 times lower than that for all workers combined. Motor-vehicle-related events and homicides combined accounted for 66% of occupational injury deaths in the Postal Service. This analysis indicated an occupational homicide rate among Postal Service workers that did not exceed the rate for all U.S. workers.

Media attention to violence in Postal Service facilities resulted in press reports that enumerated violent incidents over a defined period (1983 through 1993). By comparing a newspaper review of occupational violence in the Postal Service (5) with cases reported in NTOF, NIOSH identified five work-related homicides not included in the NTOF database. Incorporating these five cases into the calculation of a work-related homicide rate for the Postal Service increased the rate to 0.63 per 100,000 workers, nearly equal to the average overall national rate (0.64) for the same period. However, it was not practical to similarly identify work-related homicides that were not included in NTOF for other industries; such an enumeration of missed cases would probably increase the average annual all-industries rate.

Although the occupational homicide rate for the Postal Service industry is similar to the national rate for all industries, coworkers appear to be disproportionately responsible for homicides that occur in the Postal Service. During 1992, 82% of work-related homicides were associated with robberies or miscellaneous crimes; only 4% were committed by coworkers or former coworkers (6). By comparison, the NTOF data in this report, supplemented with information from the newspaper review (5), indicated that 57% (20/35) of work-related homicides of postal workers from 1983 through 1989 were committed by coworkers or former coworkers. However, 14 of the 20 coworker homicides occurred in a single incident. The remaining 15 postal worker homicides were presumed to have been committed by persons who were not Postal Service employees.

The findings in this report are subject to at least three limitations (3). First, because the NTOF surveillance system is based only on data from death certificates, occupational injury deaths are undercounted; on average, death certificate-based surveillance systems capture approximately 81% of occupational injury deaths (7). Second, previous studies have demonstrated 60%–76% agreement between industry and occupation information listed on death certificates and actual employment status at the time of death (3), which could be a source of misclassification. Third, death certificates provide only limited data about the circumstances of traumatic fatalities.

Although postal workers do not appear to be at increased risk for occupational homicide, homicide was the third leading cause of occupational injury death in the United States from 1980 through 1989 (1,3). Developing strategies for the prevention of work-related homicide will require examination of the circumstances (e.g., location and working conditions) in which violence has previously occurred. Factors that may increase the risk for homicide among mail carriers are working alone in a community setting, carrying currency and other valuables, and working in high-crime areas (1,2). Enhanced security measures and devices may be appropriate to reduce assaults occurring within Postal Service facilities. Determining the risk factors for coworker violence will require assessing individual incidents to determine whether there were preceding indications of impending violence (e.g., threats) and evaluating work conditions and management practices that could reduce the risk for violence. As part of

*Occupational Injury Deaths — Continued*

such an effort, additional study is needed of behavioral factors that can lead to violence between coworkers and improved surveillance of nonfatal occupational injuries incurred through violence.

In addition to addressing occupational injury deaths resulting from violence, the NTOF data reported here highlight a need to continue to address the risk for motor-vehicle-related injuries. Postal Service employees drive approximately 1.5 billion miles on the job each year (J. Jones, Office of Safety and Health, U.S. Postal Service, personal communication, 1994). Use of safety belts, maintaining mechanical integrity of the fleet (both Postal Service and personal vehicles used in the performance of duties), and training should be evaluated to identify means by which the Postal Service can reduce the risk for motor-vehicle-related fatalities.

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*Notice to Readers***Limited Supplies of Inactivated Poliovirus Vaccine —  
United States**

There is a shortage of inactivated poliovirus vaccine (IPV) in the United States. The Food and Drug Administration (FDA), the manufacturers (Pasteur Merieux Serums & Vaccines, S.A. [Lyon, France] [IPOL™]\*, and Connaught Laboratories, Limited [Willowdale, Ontario, Canada] [POLIOVAX™]), and the distributor, Connaught Laboratories, Inc. (Swiftwater, Pennsylvania), are working to resolve the shortage.

Until IPV becomes readily available, CDC recommends that its use be restricted to 1) never-vaccinated persons aged >18 years who are at risk for exposure to wild poliovirus (e.g., who will be traveling to areas in which poliomyelitis is endemic), and 2) persons for whom oral polio vaccine (OPV) is contraindicated (i.e., persons diag-

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\*Use of trade names and commercial sources is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

*Notices to Readers — Continued*

nosed with or living in a household with a person with a congenital or acquired immune deficiency). Inadequately or fully vaccinated adults who have previously received IPV or OPV and need poliovirus vaccine can be given OPV (1,2). OPV continues to be recommended routinely for all children, except as noted above.

If supplies are not available locally, poliovirus vaccination of persons for whom OPV is contraindicated should be delayed until IPV becomes available. Because no case of polio resulting from indigenously transmitted wild poliovirus has been reported in the United States since 1979, postponing vaccination for these persons until IPV is available is not likely to pose a risk to those persons. Unvaccinated adults who may be exposed to wild poliovirus during travel to polio-endemic areas and cannot obtain IPV should consider vaccination with OPV but should be informed that the risk for vaccine-associated paralytic polio is slightly higher in adults than in children (1,2). Otherwise, these persons should avoid activities or travel that might result in exposure to wild poliovirus.

Information about obtaining IPV for high-risk persons is available from the distributor, Connaught Laboratories, Inc., telephone (800) 822-2463. *MMWR* will provide updated information when the shortage is alleviated.

*Reported by: Center for Biologics Evaluation and Research, Food and Drug Administration. National Immunization Program, CDC.*

*References*

1. ACIP. Poliomyelitis prevention. *MMWR* 1982;31:22-6,31-4.
2. ACIP. Poliomyelitis prevention: enhanced-potency inactivated poliomyelitis vaccine—supplementary statement. *MMWR* 1987;36:795-8.

*Notice to Readers***Quality Standards Compliance for Mammography Facilities**

By October 1, 1994, all U.S. mammography facilities, except those managed by the Department of Veterans Affairs, must be certified by the Food and Drug Administration (FDA) to legally continue to provide mammography services. The requirement is a result of the Mammography Quality Standards Act of 1992 (MQSA), which requires national, uniform quality standards for mammography facilities\* and is intended to ensure that all women have access to safe and effective mammography services for early detection of breast cancer. The law requires that:

- To be certified, a facility must first be accredited by a federally approved private nonprofit or state accrediting body. As of August 18, FDA had approved the American College of Radiology (ACR) and the Bureau of Radiological Health, Iowa Department of Public Health, as accrediting bodies.
- To be accredited, a facility must apply to an FDA-approved accrediting body; undergo periodic review of its clinical images; have an annual survey by a medical physicist; and meet quality standards for equipment, personnel qualifications, quality-assurance programs, and recordkeeping and reporting.

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\*Public Law 102-539

*Notices to Readers — Continued*

- To maintain its certification, the facility must be inspected annually by federal or state personnel.

FDA was delegated the authority to implement MQSA in June 1993. On December 21, 1993, FDA published interim standards in the *Federal Register* covering equipment, personnel, quality assurance, and recordkeeping and reporting (1). The interim standards also set requirements that must be met by accrediting bodies. FDA is collaborating with the National Mammography Quality Assurance Advisory Committee to develop more comprehensive, final standards.

The accrediting bodies will provide FDA with the names and addresses of the facilities they have accredited. FDA will then issue certificates to all accredited facilities. FDA is also providing a series of training courses for federal and state inspectors, who must pass three written and two practical proficiency examinations before conducting inspections. Facilities will be subject to MQSA inspections as of October 1.

The MQSA program combines the elements of the ACR's voluntary Mammography Accreditation Program and the Medicare Screening Mammography Benefit program of the Health Care Financing Administration (HCFA). After October 1, HCFA will accept FDA certification as the basis for Medicare reimbursement, and HCFA inspections will cease.

Additional information about the MQSA program and subscriptions for FDA's quarterly newsletter, *Mammography Matters*, is available by calling (301) 443-4190; fax (301) 594-3306.

*Reported by: Div of Mammography Quality and Radiation Programs, Office of Health and Industry Programs, Center for Devices and Radiological Health, Food and Drug Administration.*

*Reference*

1. Food and Drug Administration. Mammography facilities: requirements for accrediting bodies and quality standards and certification requirements—interim rules. *Federal Register* 1993; 58:67558-72. (CFR 21, Part 900).

*Notice to Readers***Final 1993 Reports of Notifiable Diseases**

The notifiable diseases table on pages 598-603 summarizes final data for 1993. These data, final as of July 29, 1994, will be published in more detail in the *MMWR Summary of Notifiable Diseases, 1993* (1).

Population estimates for the states are from the July 1, 1993, estimates by the U.S. Bureau of the Census, Population Division, Population Estimates Branch, Press Release CB93-219. Population estimates for territories are from the 1990 Census, U.S. Bureau of the Census, Press Releases CB91-142, 242, 243, 263, and 276.

*Reference*

1. CDC. Summary of notifiable diseases, United States, 1993. *MMWR* 1994;42(no. 53) (in press).

### NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1993

Area	Total resident population (in thousands)	AIDS	Amebiasis	Anthrax	Aseptic meningitis	Botulism			Brucellosis
						Foodborne	Infant	Other	
<b>United States</b>	<b>257,908</b>	<b>103,533*</b>	<b>2,970</b>	-	<b>12,848</b>	<b>27</b>	<b>65</b>	<b>5<sup>†</sup></b>	<b>120</b>
<b>New England</b>	<b>13,230</b>	<b>5,156</b>	<b>112</b>	-	<b>425</b>	-	-	-	<b>1</b>
Maine	1,239	149	11	-	41	-	-	-	-
N.H.	1,125	124	5	-	55	-	-	-	-
Vt.	576	74	7	-	45	-	-	-	-
Mass.	6,012	2,703	87	-	177	-	-	-	1
R.I.	1,000	348	2	-	107	-	-	-	-
Conn.	3,277	1,758	NN	-	NN	-	-	-	-
<b>Mid. Atlantic</b>	<b>38,125</b>	<b>26,115</b>	<b>619</b>	-	<b>1,133</b>	-	<b>8</b>	<b>1</b>	<b>3</b>
N.Y.(excl.NYC) <sup>§</sup>	18,197	3,565	116	-	575	-	-	-	1
N.Y.C.	NA	13,902	457	-	257	-	2	1	-
N.J.	7,879	5,434	16	-	NN	-	3	-	1
Pa.	12,048	3,214	30	-	301	-	3	-	1
<b>E.N. Central</b>	<b>43,017</b>	<b>8,069</b>	<b>208</b>	-	<b>2,234</b>	-	<b>6</b>	<b>1</b>	<b>10</b>
Ohio	11,091	1,585	18	-	720	-	5	1	1
Ind.	5,713	954	25	-	244	-	1	-	-
Ill.	11,697	2,959	50	-	562	-	-	-	6
Mich.	9,478	1,840	48	-	643	-	-	-	1
Wis.	5,038	731	67	-	65	-	-	-	2
<b>W.N. Central</b>	<b>18,054</b>	<b>3,181</b>	<b>173</b>	-	<b>817</b>	-	-	-	<b>3</b>
Minn.	4,517	659	58	-	118	-	-	-	-
Iowa	2,814	202	31	-	159	-	-	-	2
Mo.	5,234	1,745	54	-	275	-	-	-	-
N. Dak.	635	11	3	-	20	-	-	-	-
S. Dak.	715	29	1	-	22	-	-	-	1
Nebr.	1,607	179	4	-	21	-	-	-	-
Kans.	2,531	356	22	-	202	-	-	-	-
<b>S. Atlantic</b>	<b>45,738</b>	<b>22,783</b>	<b>198</b>	-	<b>2,645</b>	<b>6</b>	<b>2</b>	-	<b>36</b>
Del.	700	375	2	-	70	-	1	-	-
Md.	4,965	2,528	9	-	220	-	-	-	-
D.C.	578	1,585	-	-	37	-	-	-	-
Va.	6,491	1,625	34	-	343	-	-	-	-
W. Va.	1,820	106	2	-	56	-	-	-	-
N.C.	6,945	1,368	11	-	273	-	-	-	27
S.C.	3,643	1,476	NN	-	35	-	-	-	-
Ga.	6,917	2,789	90	-	173	5	1	-	5
Fla.	13,679	10,931	50	-	1,438	1	-	-	4
<b>E.S. Central</b>	<b>15,717</b>	<b>2,720</b>	<b>7</b>	-	<b>774</b>	<b>2</b>	<b>4</b>	-	<b>1</b>
Ky.	3,789	323	1	-	335	1	1	-	-
Tenn.	5,099	1,203	NN	-	166	1	-	-	-
Ala.	4,187	733	1	-	192	-	-	-	1
Miss.	2,643	461	5	-	81	-	3	-	-
<b>W.S. Central</b>	<b>27,983</b>	<b>10,136</b>	<b>102</b>	-	<b>1,500</b>	-	<b>3</b>	-	<b>40</b>
Ark.	2,424	404	4	-	79	-	1	-	3
La.	4,295	1,464	5	-	91	-	-	-	2
Okla.	3,231	725	7	-	1	-	-	-	1
Tex.	18,031	7,543	86	-	1,329	-	2	-	34
<b>Mountain</b>	<b>14,776</b>	<b>3,913</b>	<b>177</b>	-	<b>732</b>	<b>3</b>	<b>4</b>	-	<b>6</b>
Mont.	839	32	-	-	1	-	-	-	-
Idaho	1,099	77	7	-	11	-	2	-	-
Wyo.	470	46	3	-	8	1	-	-	-
Colo.	3,566	1,324	66	-	240	1	-	-	3
N. Mex.	1,616	294	21	-	115	-	-	-	1
Ariz.	3,936	1,238	70	-	202	-	1	-	2
Utah	1,860	264	4	-	74	1	1	-	-
Nev.	1,389	638	6	-	81	-	-	-	-
<b>Pacific</b>	<b>41,269</b>	<b>21,460</b>	<b>1,374</b>	-	<b>2,588</b>	<b>16</b>	<b>38</b>	<b>3</b>	<b>20</b>
Wash.	5,255	1,564	49	-	NN	4	5	-	-
Oreg.	3,032	778	95	-	NN	-	2	-	-
Calif.	31,211	18,689	1,193	-	2,428	3	29	3	19
Alaska	599	70	6	-	23	9	-	-	-
Hawaii	1,172	359	31	-	137	-	2	-	1
Guam	133	2	-	-	7	-	-	-	-
P.R.	3,522	3,199	-	-	72	-	-	-	-
V.I.	102	57	-	-	-	-	-	-	-
C.N.M.I.	43	-	-	-	2	-	-	-	-
American Samoa	47	-	-	-	-	-	-	-	-

\*Total reported to Division of HIV/AIDS, National Center for Infectious Diseases, through December 31, 1993.

<sup>†</sup>Includes wound and unspecified botulism.

<sup>§</sup>NY population estimate includes NYC.

NN: Not notifiable

NA: Not available

**NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1993 (continued)**

Area	Encephalitis					Gonor- rhea	Granuloma inguinale	<i>Haemophilus influenzae</i>	Hansen disease (leprosy)
	Chancroid	Cholera	Diphtheria	Primary infections	Post- infectious				
<b>UNITED STATES</b>	<b>1,399*</b>	<b>18</b>	<b>-</b>	<b>919</b>	<b>170</b>	<b>439,673*</b>	<b>19*</b>	<b>1,419</b>	<b>187</b>
<b>New England</b>	<b>5</b>	<b>2</b>	<b>-</b>	<b>26</b>	<b>8</b>	<b>8,391</b>	<b>-</b>	<b>59</b>	<b>7</b>
Maine	-	-	-	3	-	80	-	4	-
N.H.	3	-	-	-	2	83	-	6	-
Vt.	-	-	-	6	-	25	-	3	-
Mass.	2	-	-	12	4	3,118	-	35	7
R.I.	-	1	-	5	2	427	-	2	-
Conn.	-	1	-	-	-	4,658	-	9	-
<b>Mid. Atlantic</b>	<b>618</b>	<b>-</b>	<b>-</b>	<b>63</b>	<b>11</b>	<b>54,796</b>	<b>-</b>	<b>135</b>	<b>18</b>
N.Y.(excl.NYC)	5	-	-	45	6	10,887	-	43	1
N.Y.C.	613	-	-	3	-	19,240	-	34	14
N.J.	-	-	-	-	-	6,444	-	27	3
Pa.	-	-	-	15	5	18,225	-	31	-
<b>E.N. Central</b>	<b>115</b>	<b>3</b>	<b>-</b>	<b>226</b>	<b>22</b>	<b>80,638</b>	<b>1</b>	<b>221</b>	<b>4</b>
Ohio	21	1	-	72	4	22,286	1	125	1
Ind.	3	-	-	20	5	8,656	-	12	-
Ill.	91	2	-	62	3	28,412	-	57	2
Mich.	-	-	-	54	10	18,014	-	18	-
Wis.	-	-	-	18	-	3,270	-	9	1
<b>W.N. Central</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>56</b>	<b>17</b>	<b>22,415</b>	<b>1</b>	<b>180</b>	<b>1</b>
Minn.	1	-	-	18	-	2,543	-	21	-
Iowa	-	-	-	7	2	1,915	1	8	-
Mo.	1	-	-	11	15	13,148	-	135	-
N. Dak.	-	-	-	5	-	54	-	-	-
S. Dak.	-	-	-	7	-	270	-	2	-
Nebr.	-	-	-	1	-	714	-	9	1
Kans.	1	-	-	7	-	3,771	-	5	-
<b>S. Atlantic</b>	<b>86</b>	<b>2</b>	<b>-</b>	<b>231</b>	<b>78</b>	<b>124,475</b>	<b>13</b>	<b>244</b>	<b>13</b>
Del.	1	-	-	3	-	1,586	-	-	-
Md.	-	-	-	25	-	13,548	-	52	1
D.C.	1	-	-	-	1	6,162	-	1	-
Va.	3	1	-	44	7	12,022	-	28	-
W. Va.	1	-	-	117	-	635	-	10	-
N.C.	13	-	-	31	-	24,187	1	23	1
S.C.	-	-	-	-	-	10,953	-	40	-
Ga.	21	-	-	2	-	31,483	12	71	-
Fla.	46	1	-	9	70	23,899	-	19	11
<b>E.S. Central</b>	<b>35</b>	<b>-</b>	<b>-</b>	<b>37</b>	<b>7</b>	<b>45,173</b>	<b>-</b>	<b>56</b>	<b>2</b>
Ky.	4	-	-	21	6	4,627	-	16	-
Tenn.	8	-	-	10	-	14,285	-	12	-
Ala.	23	-	-	3	-	15,793	-	18	2
Miss.	-	-	-	3	1	10,468	-	10	-
<b>W.S. CENTRAL</b>	<b>517</b>	<b>2</b>	<b>-</b>	<b>80</b>	<b>2</b>	<b>55,795</b>	<b>1</b>	<b>109</b>	<b>33</b>
Ark.	170	-	-	3	-	7,590	-	8	-
La.	310	-	-	10	-	13,323	1	4	-
Okla.	-	-	-	8	-	4,759	-	46	2
Tex.	37	2	-	59	2	30,123	-	51	31
<b>Mountain</b>	<b>8</b>	<b>3</b>	<b>-</b>	<b>21</b>	<b>5</b>	<b>11,549</b>	<b>1</b>	<b>125</b>	<b>6</b>
Mont.	-	-	-	-	1	81	-	5	-
Idaho	-	-	-	-	-	171	-	3	1
Wyo.	1	-	-	-	-	85	-	5	-
Colo.	-	1	-	14	-	3,803	-	24	-
N. Mex.	-	-	-	4	2	1,014	-	9	-
Ariz.	3	-	-	-	-	4,176	1	31	3
Utah	4	2	-	1	1	350	-	12	1
Nev.	-	-	-	2	1	1,869	-	36	1
<b>PACIFIC</b>	<b>12</b>	<b>6</b>	<b>-</b>	<b>179</b>	<b>20</b>	<b>36,441</b>	<b>2</b>	<b>290</b>	<b>103</b>
Wash.	-	-	-	1	-	3,740	-	19	9
Oreg.	-	-	-	-	-	1,189	-	11	-
Calif.	12	6	-	167	20	29,970	2	240	75
Alaska	-	-	-	10	-	678	-	6	1
Hawaii	-	-	-	1	-	864	-	14	18
Guam	-	-	-	-	-	83	-	-	4
P.R.	25	-	-	-	-	527	1	3	-
V.I.	5	-	-	-	-	84	-	-	-
C.N.M.I.	-	-	-	1	-	-	-	24	2
American Samoa	-	-	-	-	-	-	-	-	-

\*Cases updated through Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services, as of February 28, 1994.

**NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1993 (continued)**

Area	Hepatitis A	Hepatitis B	Hepatitis non-A, non-B	Hepatitis unsp.	Legionel- losis	Lepto- spirosis	Lyme disease	Lympho- granuloma venereum	Malaria
<b>United States</b>	<b>24,238</b>	<b>13,361</b>	<b>4,786</b>	<b>627</b>	<b>1,280</b>	<b>51</b>	<b>8,257</b>	<b>285*</b>	<b>1,411</b>
<b>New England</b>	<b>448</b>	<b>356</b>	<b>106</b>	<b>13</b>	<b>66</b>	-	<b>1,815</b>	<b>8</b>	<b>97</b>
Maine	14	11	2	-	6	-	18	-	7
N.H.	18	27	8	-	2	-	15	1	4
Vt.	9	10	6	-	3	-	12	-	3
Mass.	213	214	77	13	32	-	148	7	46
R.I.	77	19	13	-	23	-	272	-	7
Conn.	117	75	-	-	NN	-	1,350	-	30
<b>Mid. Atlantic</b>	<b>1,665</b>	<b>1,574</b>	<b>398</b>	<b>7</b>	<b>253</b>	<b>3</b>	<b>4,689</b>	<b>184</b>	<b>325</b>
N.Y.(excl.NYC)	464	457	259	1	89	2	2,758	12	123
N.Y.C.	722	353	3	-	3	-	60	172	126
N.J.	295	407	98	-	33	1	786	-	51
Pa.	184	357	38	6	128	-	1,085	-	25
<b>E.N. Central</b>	<b>2,727</b>	<b>1,497</b>	<b>595</b>	<b>15</b>	<b>327</b>	<b>5</b>	<b>505</b>	<b>4</b>	<b>93</b>
Ohio	338	192	37	-	154	2	30	4	15
Ind.	646	249	15	1	49	-	32	-	2
Ill.	1,023	344	102	7	26	3	19	-	46
Mich.	213	393	400	7	62	-	23	-	19
Wis.	507	319	41	-	36	-	401	-	11
<b>W.N. Central</b>	<b>2,372</b>	<b>802</b>	<b>79</b>	<b>27</b>	<b>95</b>	<b>8</b>	<b>319</b>	<b>2</b>	<b>45</b>
Minn.	497	96	14	4	3	-	141	-	21
Iowa	60	36	9	4	19	3	8	-	5
Mo.	1,443	585	25	19	33	3	108	1	9
N. Dak.	80	1	3	-	2	-	2	-	1
S. Dak.	18	-	-	-	-	-	-	1	2
Nebr.	195	19	11	-	30	2	6	-	4
Kans.	79	65	17	-	8	-	54	-	3
<b>S. Atlantic</b>	<b>1,329</b>	<b>2,408</b>	<b>723</b>	<b>95</b>	<b>219</b>	<b>2</b>	<b>639</b>	<b>60</b>	<b>338</b>
Del.	12	18	1	-	4	1	143	-	2
Md.	159	265	42	3	56	-	180	2	48
D.C.	11	43	3	-	15	-	2	8	11
Va.	156	157	54	43	11	-	95	7	41
W. Va.	29	44	43	-	4	-	50	-	2
N.C.	94	315	80	-	27	1	86	16	145
S.C.	18	51	5	1	19	-	9	-	7
Ga.	145	670	451	1	36	-	44	22	20
Fla.	705	845	44	47	47	-	30	5	62
<b>E.S. Central</b>	<b>364</b>	<b>1,748</b>	<b>1,025</b>	<b>4</b>	<b>44</b>	<b>2</b>	<b>40</b>	<b>3</b>	<b>29</b>
Ky.	142	99	16	-	19	-	16	1	5
Tenn.	104	1,152	994	3	17	1	20	1	12
Ala.	58	107	5	1	2	1	4	1	7
Miss.	60	390	10	-	6	-	-	-	5
<b>W.S. Central</b>	<b>3,190</b>	<b>1,909</b>	<b>645</b>	<b>173</b>	<b>51</b>	<b>6</b>	<b>78</b>	<b>14</b>	<b>65</b>
Ark.	74	90	5	3	6	1	8	-	4
La.	105	269	178	4	10	5	3	12	7
Okla.	213	195	50	9	13	-	19	-	6
Tex.	2,798	1,355	412	157	22	-	48	2	48
<b>Mountain</b>	<b>4,164</b>	<b>686</b>	<b>366</b>	<b>79</b>	<b>81</b>	-	<b>20</b>	<b>1</b>	<b>40</b>
Mont.	77	28	3	-	7	-	-	-	2
Idaho	298	89	-	3	1	-	2	-	1
Wyo.	17	34	119	-	7	-	9	-	-
Colo.	877	81	62	44	9	-	-	-	25
N. Mex.	400	215	107	3	6	-	2	-	5
Ariz.	1,493	96	13	14	17	-	-	1	1
Utah	828	69	42	13	16	-	2	-	2
Nev.	174	74	20	2	18	-	5	-	4
<b>Pacific</b>	<b>7,979</b>	<b>2,381</b>	<b>849</b>	<b>214</b>	<b>144</b>	<b>25</b>	<b>152</b>	<b>9</b>	<b>379</b>
Wash.	926	247	219	11	12	-	9	4	41
Oreg.	532	221	55	2	1	1	8†	1	14
Calif.	5,677	1,876	560	198	121	-	134	4	314
Alaska	775	15	12	-	-	-	-	-	3
Hawaii	69	22	3	3	10	24	1	-	7
Guam	3	6	-	11	-	-	-	-	3
P.R.	79	412	90	2	-	11	-	1	-
V.I.	1	6	-	-	-	-	-	-	-
C.N.M.I.	-	2	-	1	-	1	-	-	2
American Samoa	20	1	-	-	-	-	-	-	-

\*Cases updated through Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services, as of February 28, 1994.

NN: Not notifiable

†Voluntarily reportable for this state.



**NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1993 (continued)**

Area	Measles		Meningo- coccal infections	Mumps	Murine typhus fever	Pertussis	Plague	Polio- myelitis, paralytic
	Indigenous	Imported						
<b>United States</b>	<b>237</b>	<b>75*</b>	<b>2,637</b>	<b>1,692</b>	<b>25</b>	<b>6,586</b>	<b>10</b>	<b>3†</b>
<b>New England</b>	<b>54</b>	<b>9</b>	<b>133</b>	<b>15</b>	-	<b>834</b>	-	-
Maine	1	-	15	-	-	20	-	-
N.H.	2	-	6	3	-	168	-	-
Vt.	30	1	7	1	-	122	-	-
Mass.	11	7	72	1	-	408	-	-
R.I.	1	1	-	2	-	14	-	-
Conn.	9	-	33	8	-	102	-	-
<b>Mid. Atlantic</b>	<b>22</b>	<b>19</b>	<b>310</b>	<b>135</b>	<b>2</b>	<b>991</b>	-	<b>1</b>
N.Y.(excl.NYC)	4	7	126	46	1	373	-	-
N.Y.C.	12	7	37	2	1	116	-	1
N.J.	6	5	50	17	-	85	-	-
Pa.	-	-	97	70	-	417	-	-
<b>E.N. Central</b>	<b>20</b>	<b>11</b>	<b>375</b>	<b>259</b>	-	<b>1,627</b>	-	-
Ohio	6	3	108	74	-	523	-	-
Ind.	1	-	51	8	-	178	-	-
Ill.	5	4	104	74	-	434	-	-
Mich.	5	1	65	80	-	116	-	-
Wis.	3	3	47	23	-	376	-	-
<b>W.N. Central</b>	<b>1</b>	<b>2</b>	<b>142</b>	<b>67</b>	-	<b>626</b>	-	-
Minn.	-	-	23	2	-	393	-	-
Iowa	-	-	28	11	-	38	-	-
Mo.	1	-	34	46	-	144	-	-
N. Dak.	-	-	3	6	-	5	-	-
S. Dak.	-	-	7	-	-	8	-	-
Nebr.	-	-	11	1	-	14	-	-
Kans.	-	2	36	1	-	24	-	-
<b>S. Atlantic</b>	<b>25</b>	<b>8</b>	<b>470</b>	<b>463</b>	<b>1</b>	<b>673</b>	-	<b>1</b>
Del.	-	-	15	1	-	11	-	-
Md.	-	4	60	82	-	133	-	1
D.C.	-	-	6	1	-	14	-	-
Va.	-	4	52	40	1	75	-	-
W. Va.	-	-	19	23	-	8	-	-
N.C.	1	-	67	231	-	199	-	-
S.C.	-	-	31	17	-	73	-	-
Ga.	-	-	94	20	-	56	-	-
Fla.	24	-	126	48	-	104	-	-
<b>E.S. Central</b>	<b>1</b>	-	<b>154</b>	<b>58</b>	<b>1</b>	<b>297</b>	-	-
Ky.	-	-	25	-	-	38	-	-
Tenn.	-	-	45	19	1	183	-	-
Ala.	1	-	53	22	-	65	-	-
Miss.	-	-	31	17	-	11	-	-
<b>W.S. Central</b>	<b>8</b>	<b>3</b>	<b>264</b>	<b>274</b>	<b>13</b>	<b>239</b>	<b>1</b>	-
Ark.	-	-	27	10	1	18	-	-
La.	1	-	46	20	-	14	-	-
Okla.	-	-	34	13	-	86	-	-
Tex.	7	3	157	231	12	121	1	-
<b>Mountain</b>	<b>4</b>	<b>3</b>	<b>211</b>	<b>81</b>	-	<b>464</b>	<b>10</b>	-
Mont.	-	-	13	-	-	11	-	-
Idaho	-	-	21	6	-	101	-	-
Wyo.	-	-	5	5	-	2	-	-
Colo.	3	-	41	18	-	187	2	-
N. Mex.	-	-	8	NN	-	43	6	-
Ariz.	-	3	86	19	-	70	-	-
Utah	-	-	24	6	-	45	1	-
Nev.	1	-	13	27	-	5	-	-
<b>Pacific</b>	<b>102</b>	<b>20</b>	<b>578</b>	<b>340</b>	<b>8</b>	<b>835</b>	-	<b>1</b>
Wash.	-	-	97	14	-	91	-	1
Oreg.	-	4	110	NN	-	106	-	-
Calif.	89	7	346	285	8	619	-	-
Alaska	2	-	15	11	-	5	-	-
Hawaii	11	9	10	30	-	14	-	-
Guam	22	3	1	13	-	-	-	-
P.R.	356	-	14	3	-	11	-	-
V.I.	-	-	-	5	-	-	-	-
C.N.M.I.	92	1	-	15	-	1	-	-
American Samoa	-	-	-	5	-	2	-	-

\*For measles only, imported includes both out-of-state and international importations.

NN: Not notifiable

†Ten suspected cases were reported in 1993. Three cases have been confirmed as of August 12, 1994, two of which were vaccine-associated, and one was classified as imported.

**NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1993 (continued)**

Area	Psittacosis	Rabies		Rheumatic fever, acute	RMSF*	Rubella		Salmonellosis	Shigellosis
		Animal	Human			Rubella	Cong. syndrome		
<b>United States</b>	<b>60</b>	<b>9,377</b>	<b>3</b>	<b>112</b>	<b>456</b>	<b>192</b>	<b>5</b>	<b>41,641</b>	<b>32,198</b>
<b>New England</b>	<b>2</b>	<b>1,695</b>	-	<b>2</b>	<b>4</b>	<b>10</b>	-	<b>3,882</b>	<b>605</b>
Maine	-	-	-	1	-	1	-	158	8
N.H.	-	148	-	NN	-	-	-	220	17
Vt.	1	45	-	-	-	-	-	421	8
Mass.	1	720	-	-	4	9	-	2,041	285
R.I.	-	2	-	-	-	-	-	231	42
Conn.	-	780	-	1	-	-	-	811	245
<b>Mid. Atlantic</b>	<b>16</b>	<b>3,585</b>	<b>1</b>	-	<b>28</b>	<b>59</b>	<b>2</b>	<b>7,005</b>	<b>2,218</b>
N.Y.(excl.NYC)	5	2,692	1	NN	7	17	1	2,390	790
N.Y.C.	-	53	-	NN	1	22	-	1,601	554
N.J.	2	458	-	-	10	15	-	1,215	347
Pa.	9	382	-	NN	10	5	1	1,799	527
<b>E.N. Central</b>	<b>8</b>	<b>110</b>	-	<b>33</b>	<b>18</b>	<b>8</b>	-	<b>5,810</b>	<b>5,111</b>
Ohio	4	6	-	5	8	1	-	1,214	1,411
Ind.	-	12	-	-	4	3	-	543	811
Ill.	1	23	-	2	4	1	-	2,232	1,722
Mich.	1	18	-	21	2	2	-	815	829
Wis.	2	51	-	5	-	1	-	1,006	338
<b>W.N. Central</b>	<b>3</b>	<b>351</b>	-	<b>26</b>	<b>34</b>	<b>1</b>	-	<b>1,924</b>	<b>1,509</b>
Minn.	-	45	-	7	1	-	-	551	240
Iowa	2	79	-	2	7	-	-	241	69
Mo.	1	35	-	-	20	1	-	529	674
N. Dak.	-	57	-	NN	-	-	-	60	7
S. Dak.	-	49	-	14	3	-	-	99	111
Nebr.	-	7	-	NN	2	-	-	145	200
Kans.	-	79	-	3	1	-	-	299	208
<b>S. Atlantic</b>	<b>8</b>	<b>2,165</b>	-	-	<b>215</b>	<b>7</b>	-	<b>8,502</b>	<b>7,049</b>
Del.	-	135	-	NN	-	-	-	185	178
Md.	2	605	-	NN	14	3	-	936	384
D.C.	-	18	-	NN	-	-	-	102	87
Va.	1	387	-	NN	14	-	-	1,055	776
W. Va.	-	90	-	-	6	-	-	109	38
N.C.	4	107	-	NN	129	-	-	1,121	2,305
S.C.	1	165	-	NN	11	-	-	738	414
Ga.	-	471	-	NN	37	-	-	1,316	474
Fla.	-	187	-	NN	4	4	-	2,940	2,393
<b>E.S. Central</b>	<b>1</b>	<b>260</b>	-	-	<b>63</b>	<b>1</b>	-	<b>1,879</b>	<b>1,849</b>
Ky.	-	20	-	NN	16	1	-	302	171
Tenn.	1	124	-	NN	32	-	-	558	938
Ala.	-	116	-	NN	4	-	-	554	375
Miss.	-	-	-	-	11	-	-	465	365
<b>W.S. Central</b>	<b>2</b>	<b>635</b>	<b>1</b>	-	<b>77</b>	<b>24</b>	-	<b>3,297</b>	<b>5,748</b>
Ark.	-	42	-	-	17	-	-	402	201
La.	-	17	-	NN	2	1	-	650	482
Okla.	1	65	-	NN	51	1	-	321	484
Tex.	1	511	1	NN	7	22	-	1,924	4,581
<b>Mountain</b>	<b>3</b>	<b>178</b>	-	<b>28</b>	<b>16</b>	<b>12</b>	-	<b>2,018</b>	<b>1,921</b>
Mont.	-	24	-	NN	2	-	-	106	56
Idaho	1	8	-	NN	-	2	-	173	46
Wyo.	-	25	-	1	10	-	-	59	22
Colo.	-	29	-	5	4	3	-	550	611
N. Mex.	1	9	-	3	-	-	-	326	411
Ariz.	-	60	-	NN	-	2	-	519	693
Utah	1	8	-	19	-	4	-	154	42
Nev.	-	15	-	NN	-	1	-	131	40
<b>Pacific</b>	<b>17</b>	<b>398</b>	<b>1</b>	<b>23</b>	<b>1</b>	<b>70</b>	<b>3</b>	<b>7,324</b>	<b>6,188</b>
Wash.	4	-	-	-	-	-	-	832	797
Oreg.	4	7	-	NN	1	-	-	349	169
Calif.	9	363	1	20	-	41	3	5,739	5,093
Alaska	-	28	-	3	-	1	-	59	30
Hawaii	-	-	-	NN	-	28	-	345	99
Guam	-	-	-	2	-	-	-	119	35
P.R.	-	43	-	-	-	-	-	734	46
V.I.	-	-	-	-	-	-	-	5	1
C.N.M.I.	-	-	-	10	-	-	-	54	73
American Samoa	-	-	-	1	-	-	-	55	17

\*Rocky Mountain spotted fever.

NN: Not notifiable

**NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1993 (continued)**

Area	Syphilis			Tetanus	Toxic-shock syndrome	Trichinosis	Tuberculosis	Tularemia	Typhoid fever	Varicella (chicken-pox)
	Primary & secondary	Cong. (<1 yr.)	All stages							
<b>United States</b>	<b>26,498*</b>	<b>3,211*</b>	<b>101,259*</b>	<b>48</b>	<b>212</b>	<b>16</b>	<b>25,313</b>	<b>132</b>	<b>440</b>	<b>134,722</b>
<b>New England</b>	<b>330</b>	<b>17</b>	<b>1,713</b>	<b>2</b>	<b>13</b>	-	<b>649</b>	-	<b>31</b>	<b>12,655</b>
Maine	7	-	19	-	3	-	27	-	-	1,733
N.H.	26	-	50	-	3	-	26	-	2	1,635
Vt.	1	-	1	-	1	-	7	-	-	NN
Mass.	122	6	935	2	5	-	370	-	23	6,619
R.I.	16	1	146	-	1	-	64	-	-	2,668
Conn.	158	10	562	-	-	-	155	-	6	NN
<b>Mid. Atlantic</b>	<b>2,415</b>	<b>1,070</b>	<b>19,306</b>	<b>2</b>	<b>33</b>	<b>4</b>	<b>5,611</b>	<b>2</b>	<b>139</b>	<b>4,773</b>
N.Y.(excl.NYC)	258	94	1,980	-	17	4	718	2	20	NA
N.Y.C.	1,132	654	10,513	-	1	-	3,235	-	95	4,773
N.J.	328	161	2,556	-	-	-	912	-	18	NN
Pa.	697	161	4,257	2	15	-	746	-	6	NN
<b>E.N. Central</b>	<b>4,070</b>	<b>527</b>	<b>11,789</b>	<b>7</b>	<b>48</b>	<b>2</b>	<b>2,385</b>	<b>5</b>	<b>40</b>	<b>64,380</b>
Ohio	1,180	70	2,889	2	12	-	315	-	7	5,472
Ind.	362	1	1,019	1	1	-	248	1	2	NN
Ill.	1,489	368	4,881	1	11	2	1,242	3	23	26,447
Mich.	543	84	1,952	3	24	-	480	1	7	32,461
Wis.	496	4	1,048	-	-	-	100	-	1	NA
<b>W.N. Central</b>	<b>1,631</b>	<b>111</b>	<b>3,271</b>	<b>10</b>	<b>15</b>	-	<b>582</b>	<b>39</b>	<b>2</b>	<b>16,814</b>
Minn.	66	9	261	6	3	-	141	-	-	NN
Iowa	64	1	175	1	7	-	59	-	-	5,057
Mo.	1,354	97	2,500	1	2	-	257	17	2	9,609
N. Dak.	1	-	4	-	-	-	7	-	-	37
S. Dak.	2	-	3	-	-	-	16	17	-	420
Nebr.	14	1	35	-	-	-	22	2	-	4
Kans.	130	3	293	2	3	-	80	3	-	1,687
<b>S. Atlantic</b>	<b>6,513</b>	<b>586</b>	<b>24,237</b>	<b>8</b>	<b>24</b>	<b>6</b>	<b>4,626</b>	<b>4</b>	<b>63</b>	<b>8,332</b>
Del.	94	3	274	-	-	-	66	-	1	3
Md.	359	30	1,865	2	1	3	406	-	8	NN
D.C.	291	74	1,652	-	-	-	161	-	-	4
Va.	660	23	1,970	-	7	1	458	-	7	2,917
W. Va.	8	6	195	-	-	-	75	-	-	5,288
N.C.	1,937	54	4,448	-	4	-	594	2	3	NN
S.C.	921	82	2,339	1	-	-	401	-	-	120
Ga.	1,052	79	4,077	-	2	-	810	-	3	NN
Fla.	1,191	235	7,417	5	10	2	1,655	2	41	NN
<b>E.S. Central</b>	<b>4,117</b>	<b>158</b>	<b>10,494</b>	<b>3</b>	<b>11</b>	-	<b>1,727</b>	<b>4</b>	<b>7</b>	<b>3,981</b>
Ky.	331	9	651	-	3	-	405	1	2	1,429
Tenn.	1,156	52	3,241	2	4	-	556	2	2	2,552
Ala.	869	27	2,333	1	2	-	487	1	3	NN
Miss.	1,761	70	4,269	-	2	-	279	-	-	NN
<b>W.S. Central</b>	<b>5,969</b>	<b>409</b>	<b>19,079</b>	<b>9</b>	<b>2</b>	-	<b>3,181</b>	<b>58</b>	<b>19</b>	<b>14,292</b>
Ark.	559	8	1,600	1	-	-	209	36	2	NN
La.	2,598	144	6,854	-	-	-	367	-	1	NN
Okla.	282	11	721	1	2	-	209	17	1	-
Tex.	2,530	246	9,904	7	-	-	2,396	5	15	14,291
<b>Mountain</b>	<b>256</b>	<b>27</b>	<b>1,251</b>	<b>1</b>	<b>16</b>	<b>1</b>	<b>592</b>	<b>12</b>	<b>11</b>	<b>7,192</b>
Mont.	1	-	4	-	-	-	22	5	-	84
Idaho	2	-	15	-	2	-	12	-	-	NN
Wyo.	4	-	9	-	-	1	7	3	-	NN
Colo.	90	8	287	1	2	-	102	1	5	NN
N. Mex.	34	-	172	-	1	-	74	-	2	NN
Ariz.	95	16	557	-	2	-	231	-	3	6,811
Utah	10	-	68	-	7	-	46	2	1	297
Nev.	20	3	139	-	2	-	98	1	-	NN
<b>Pacific</b>	<b>1,197</b>	<b>306</b>	<b>10,119</b>	<b>6</b>	<b>50</b>	<b>3</b>	<b>5,960</b>	<b>8</b>	<b>128</b>	<b>2,303</b>
Wash.	67	4	360	1	7	-	286	2	8	NN
Oreg.	39	4	179	-	-	-	154	3	4	NN
Calif.	1,073	298	9,488	5	42	1	5,212	3	113	NN
Alaska	11	-	51	-	-	-	57	-	-	NN
Hawaii	7	-	41	-	1	2	251	-	3	2,303
Guam	-	-	5	-	-	-	NA	-	4	553
P.R.	470	18	2,482	2	-	-	253	-	-	8,228
V.I.	12	1	39	1	-	-	4	-	-	486
C.N.M.I.	-	-	-	-	-	-	NA	-	-	178
American Samoa	-	-	-	-	-	-	NA	-	1	176

\*Cases updated through Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services, as of February 28, 1994.

NN: Not notifiable  
NA: Not available

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