

# MMWR™

MORBIDITY AND MORTALITY WEEKLY REPORT

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## **National Adult Immunization Awareness Week — October 20–26, 1996**

National Adult Immunization Awareness Week is October 20–26, 1996. This week emphasizes the importance of appropriately vaccinating adults against influenza, pneumococcal disease, hepatitis B, diphtheria, tetanus, measles, mumps, rubella, and varicella. National Adult Immunization Awareness Week coincides with the beginning of the influenza vaccination season and increases awareness for the need to implement adult vaccination programs.

Additional information about activities during National Adult Immunization Awareness Week is available from the National Coalition for Adult Immunization, 4733 Bethesda Ave., Suite 750, Bethesda, MD 20814; telephone (301) 656-0003; fax (301) 907-0878; e-mail [adultimm@aol.com](mailto:adultimm@aol.com); and World Wide Web site [www.medscape.com-ncai](http://www.medscape.com-ncai).

## **Pneumococcal and Influenza Vaccination Levels Among Adults Aged $\geq 65$ Years — United States, 1993**

In 1993, pneumonia and influenza ranked sixth among the 10 leading causes of death in the United States, and approximately 90% of the deaths caused by these illnesses occurred among adults aged  $\geq 65$  years. A national health objective for the year 2000 is to increase pneumococcal and influenza vaccination levels to  $\geq 60\%$  for persons at high risk for complications from pneumococcal disease and influenza, including those aged  $\geq 65$  years (objective 20.11) (1). To estimate state-specific influenza and pneumococcal vaccination levels for persons aged  $\geq 65$  years, CDC analyzed data from the 1993 Behavioral Risk Factor Surveillance System (BRFSS). This report summarizes the BRFSS findings, which indicate substantial increases in coverage levels for influenza and pneumococcal vaccines among persons aged  $\geq 65$  years, and assesses progress toward the year 2000 objective.

BRFSS is a population-based, random-digit-dialed telephone survey of the non-institutionalized U.S. population aged  $\geq 18$  years and can be used to determine the

*Pneumococcal and Influenza Vaccination Levels — Continued*

prevalence of behaviors and practices related to the leading causes of death (2). To assess state-specific vaccination levels, two questions about influenza and pneumococcal vaccination were added to the 1993 BRFSS; 49 states and the District of Columbia participated. Race/ethnicity-specific data are presented only for blacks, whites, and Hispanics because numbers for other racial/ethnic groups were too small for meaningful analysis. Data were weighted by age and sex to reflect each state's most recent adult population estimate and by the probability of the respondent's selection. SUDAAN was used to calculate 95% confidence intervals (CIs).

In 1993, weighted responses were available from 19,761 adults aged  $\geq 65$  years (12,862 [65.1%] and 6899 [34.9%] men) who were interviewed throughout the year as part of state BRFSS surveys. Respondents were asked, "During the past 12 months, have you had a flu shot?" and "Have you ever had a pneumonia vaccination?" A total of 50.4% of respondents reported receiving influenza vaccine during the preceding 12 months, and 28.7% reported ever having received pneumococcal vaccine (Table 1).

Self-reported vaccination levels varied by race/ethnicity and state for both influenza and pneumococcal vaccines. Reported vaccination levels were low but similar among men and women (Table 1). Coverage levels varied by race/ethnicity. Non-Hispanic white respondents were significantly more likely to report receiving influenza vaccine during the preceding 12 months (52.2%) than were non-Hispanic black respondents (33.1%) and respondents of other racial/ethnic groups (39.7%). Non-Hispanic whites also were more likely to report ever receiving pneumococcal vaccine (29.8%) than either Hispanics (21.0%) or persons of other racial/ethnic groups (18.7%) (Table 1).

State-specific rates for self-reported influenza vaccination ranged from 28.7% (District of Columbia) to 66.2% (Arizona) (median: 49.9%); rates for pneumococcal vaccination ranged from 18.5% (Louisiana) to 40.0% (Colorado) (median: 27.4%) (Table 2).

**TABLE 1. Percentage of persons aged  $\geq 65$  years who reported receiving influenza\* or pneumococcal<sup>†</sup> vaccine, by sex and race/ethnicity<sup>‡</sup> — United States, Behavioral Risk Factor Surveillance System (BRFSS), 1993<sup>¶</sup>**

Characteristic	Influenza		Pneumococcal	
	%	(95% CI**)	%	(95% CI)
<b>Sex</b>				
Men	48.8	(47.1%–50.5%)	28.2	(26.7%–29.7%)
Women	51.5	(50.2%–52.8%)	29.1	(27.9%–30.3%)
<b>Race/Ethnicity</b>				
White, non-Hispanic	52.2	(51.1%–53.3%)	29.8	(28.8%–30.8%)
Black, non-Hispanic	33.1	(29.5%–36.7%)	25.0	(19.3%–30.7%)
Hispanic	47.6	(40.9%–54.3%)	21.0	(14.5%–27.5%)
Other	39.7	(30.8%–48.5%)	18.7	(15.6%–21.8%)
<b>Total</b>	<b>50.4</b>	<b>(49.3%–51.5%)</b>	<b>28.7</b>	<b>(27.7%–29.7%)</b>

\*During the preceding 12 months.

<sup>†</sup>Ever during their lifetimes.

<sup>‡</sup>Numbers for racial/ethnic groups other than blacks, whites, and Hispanics were too small for meaningful analysis.

<sup>¶</sup>Forty-nine states and the District of Columbia participated in the 1993 BRFSS. Weighted sample size=19,761: 12,862 (65.1%) women and 6899 (34.9%) men.

\*\*Confidence interval.

*Pneumococcal and Influenza Vaccination Levels — Continued***TABLE 2. Number of persons aged  $\geq 65$  years who reported receiving influenza\* or pneumococcal† vaccine and percentage vaccination coverage, by state — United States, Behavioral Risk Factor Surveillance System (BRFSS), 1993<sup>§</sup>**

State	No. persons	Influenza		Pneumococcal	
		%	(95% CI <sup>¶</sup> )	%	(95% CI)
Alabama	490	40.0	(35.4%–44.7%)	25.1	(20.9%–29.2%)
Alaska	141	53.3	(42.2%–64.5%)	31.2	(21.2%–41.2%)
Arizona	384	66.2	(59.8%–72.7%)	30.7	(24.7%–36.7%)
Arkansas	427	51.8	(46.3%–57.3%)	27.2	(22.6%–31.7%)
California	630	54.4	(50.0%–58.8%)	35.6	(31.4%–39.9%)
Colorado	268	64.0	(57.5%–70.4%)	40.0	(33.4%–46.6%)
Connecticut	345	53.4	(47.6%–59.1%)	18.8	(14.5%–23.1%)
Delaware	395	55.0	(49.6%–60.3%)	35.6	(30.6%–40.7%)
District of Columbia	225	28.7	(21.8%–35.7%)	22.2	(14.9%–29.4%)
Florida	788	46.3	(42.6%–50.1%)	25.2	(21.9%–28.5%)
Georgia	391	44.4	(38.8%–50.0%)	27.8	(23.0%–32.6%)
Hawaii	299	56.6	(49.2%–64.0%)	37.8	(31.1%–44.6%)
Idaho	355	64.4	(58.5%–70.3%)	33.1	(27.3%–38.9%)
Illinois	470	45.2	(40.0%–50.4%)	23.1	(18.8%–27.4%)
Indiana	438	47.0	(41.9%–52.2%)	26.7	(22.2%–31.2%)
Iowa	430	49.7	(44.6%–54.8%)	32.3	(27.6%–37.0%)
Kansas	258	52.4	(45.9%–59.0%)	23.1	(17.8%–28.5%)
Kentucky	581	44.5	(40.1%–48.9%)	24.2	(20.3%–28.1%)
Louisiana	318	36.2	(30.3%–42.1%)	18.5	(13.8%–23.2%)
Maine	287	49.2	(42.9%–55.6%)	20.3	(15.2%–25.4%)
Maryland	749	48.6	(44.6%–52.7%)	33.8	(30.0%–37.5%)
Massachusetts	289	49.7	(43.5%–56.0%)	21.5	(16.4%–26.6%)
Michigan	401	47.8	(42.4%–53.2%)	24.7	(20.2%–29.1%)
Minnesota	660	50.9	(46.9%–54.9%)	26.1	(22.6%–29.7%)
Mississippi	302	42.4	(35.9%–48.9%)	27.6	(22.0%–33.2%)
Missouri	337	54.8	(48.9%–60.6%)	30.6	(25.0%–36.2%)
Montana	244	62.4	(55.8%–69.0%)	33.8	(27.1%–40.4%)
Nebraska	426	53.2	(48.1%–58.3%)	27.4	(22.9%–31.9%)
Nevada	278	43.6	(37.0%–50.1%)	31.4	(24.9%–37.8%)
New Hampshire	256	49.6	(42.8%–56.3%)	19.1	(13.9%–24.4%)
New Jersey	265	53.2	(46.6%–59.9%)	21.9	(16.5%–27.3%)
New Mexico	226	60.9	(54.0%–67.8%)	31.8	(25.6%–38.0%)
New York	438	45.3	(40.1%–50.5%)	22.1	(18.0%–26.2%)
North Carolina	443	50.9	(45.9%–55.9%)	26.3	(21.7%–30.9%)
North Dakota	423	48.9	(43.9%–53.9%)	19.8	(15.8%–23.8%)
Ohio	324	50.1	(44.0%–56.2%)	27.9	(22.4%–33.4%)
Oklahoma	355	58.4	(52.7%–64.1%)	29.1	(24.4%–33.8%)
Oregon	593	55.8	(51.4%–60.2%)	34.7	(30.3%–39.1%)
Pennsylvania	544	48.7	(44.1%–53.2%)	25.0	(21.2%–28.8%)
Rhode Island	356	51.2	(45.4%–57.0%)	20.1	(15.8%–24.5%)
South Carolina	400	47.3	(41.6%–53.0%)	19.4	(14.9%–23.9%)
South Dakota	401	47.7	(42.6%–52.8%)	26.6	(22.1%–31.1%)
Tennessee	578	46.0	(41.6%–50.4%)	25.5	(21.6%–29.3%)
Texas	376	56.8	(50.9%–62.6%)	36.9	(31.4%–42.4%)
Utah	284	54.3	(47.7%–60.9%)	35.3	(28.7%–41.9%)
Vermont	318	57.0	(51.2%–62.9%)	28.7	(23.4%–34.0%)
Virginia	287	45.8	(39.2%–52.3%)	34.2	(28.0%–40.4%)
Washington	394	53.4	(48.1%–58.6%)	32.1	(27.2%–37.0%)
West Virginia	592	49.8	(45.3%–54.2%)	28.5	(24.5%–32.5%)
Wisconsin	302	49.1	(42.8%–55.3%)	27.4	(21.7%–33.1%)
Range	141–788	28.7–66.2		18.5–40.0	
Median		49.9		27.4	

\* During the preceding 12 months.

† Ever during their lifetimes.

<sup>§</sup>Forty-nine states and the District of Columbia participated in the 1993 BRFSS. Weighted sample size=19,761:12,862 (65.1%) women and 6899 (34.9%) men.<sup>¶</sup>Confidence interval.

*Pneumococcal and Influenza Vaccination Levels — Continued*

For reported influenza vaccination, coverage levels were  $\geq 60\%$  in five states and  $\geq 50\%$  in 24 states.

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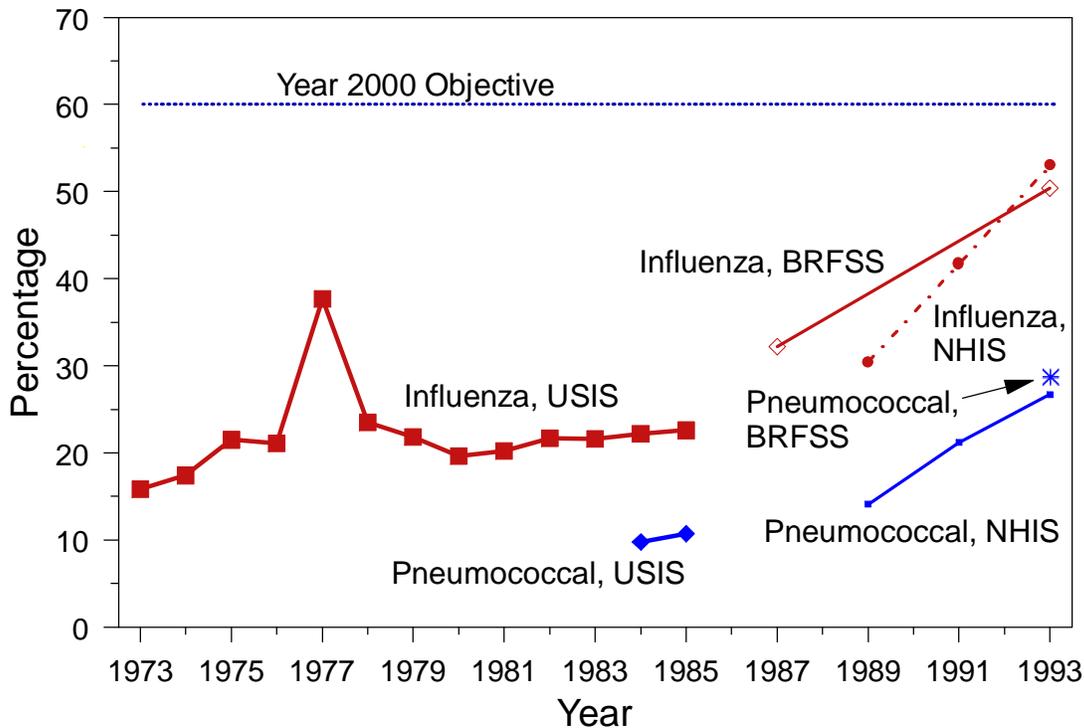
**Editorial Note:** During 1972–1991, influenza caused an estimated 20,000 excess deaths during each of 10 U.S. epidemics (3). Pneumococcal infections are the most common cause of bacterial pneumonia requiring hospitalization and cause an estimated 40,000 deaths annually in the United States (4). Despite the continuing morbidity and mortality caused by influenza and pneumococcal disease among adults, coverage levels remained low during 1973–1993 for influenza vaccine and during 1984–1993 for pneumococcal vaccine (5) (Figure 1). However, the findings in this report indicate that, in 1993, state-specific self-reported coverage levels for both influenza and pneumococcal vaccines were at the highest levels ever reported for persons aged  $\geq 65$  years. Previous estimates indicate that self-reported influenza and pneumococcal vaccination levels among persons aged  $\geq 65$  years increased steadily during 1987–1993 (3,6) (Figure 1). In addition, preliminary estimates from the 1994 National Health Interview Survey indicate overall influenza and pneumococcal vaccination levels for persons aged  $\geq 65$  years were 55% and 30%, respectively (CDC, unpublished data, 1996).

Possible reasons for the increase in self-reported influenza vaccination levels include 1) greater acceptance of preventive medical services by practitioners, 2) increased delivery and administration of vaccine by health-care providers and sources other than physicians (e.g., visiting nurse and home-health agencies), and 3) the initiation of Medicare reimbursement for influenza vaccination in 1993 (5). In conjunction with the increase in coverage levels for influenza vaccine, net doses of influenza vaccine distributed nationwide also increased, from 24 million doses of vaccine distributed in 1989 to 40.9 million doses in 1993 (Figure 2).

Although pneumococcal vaccination levels increased during 1989–1993, self-reported coverage levels in 1993 were substantially lower than those for influenza vaccine. Distribution of pneumococcal vaccine increased from 1.2 million doses in 1989 to 3.6 million doses in 1993, consistent with increasing self-reported vaccination levels (Figure 2). Coverage may be lower because many providers and patients are not routinely reminded about the need for pneumococcal vaccination among persons aged  $\geq 65$  years; in comparison, influenza vaccination campaigns are conducted annually before each influenza season. Intensified efforts are needed to improve knowledge

*Pneumococcal and Influenza Vaccination Levels — Continued*

**FIGURE 1. Estimated percentage of vaccination coverage with influenza and pneumococcal vaccines among persons aged  $\geq 65$  years, by survey\*, and the year 2000 national health objective for both vaccines† — United States, 1973–1993**



\*BRFSS=Behavioral Risk Factor Surveillance System, NHIS=National Health Interview Survey, and USIS=U.S. Immunization Survey.

†To increase pneumococcal and influenza vaccination levels to  $\geq 60\%$  for persons at high risk for complications from pneumococcal disease and influenza, including those aged  $\geq 65$  years (objective 20.11) (2).

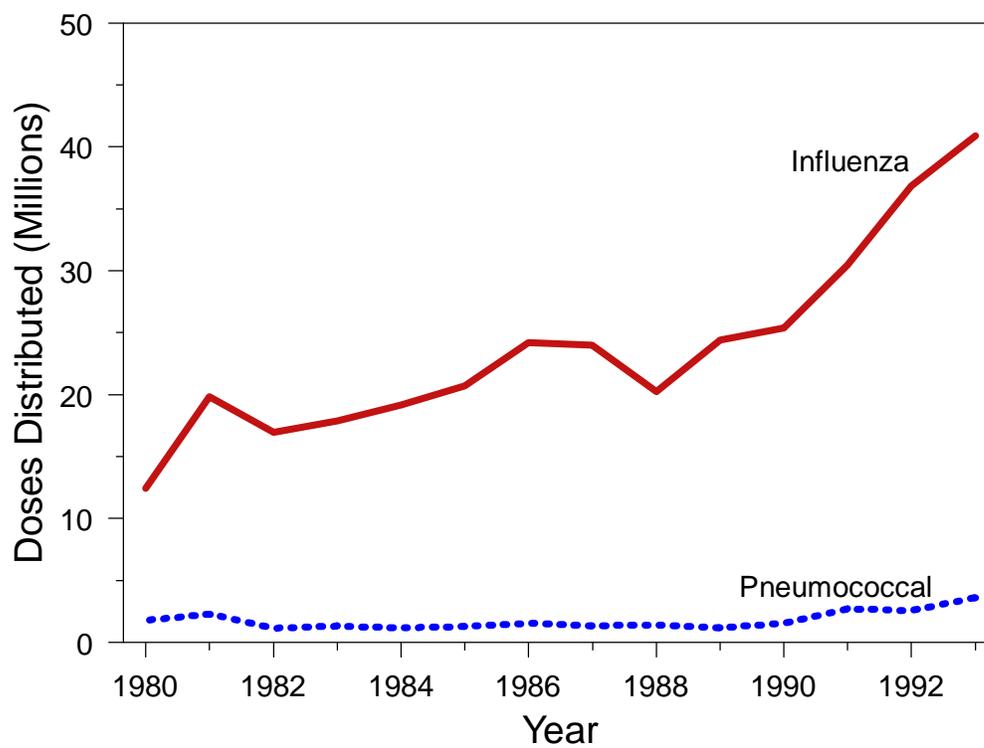
among health-care providers and the public about the benefits of pneumococcal vaccination and current recommendations for this vaccine (e.g., simultaneous administration of influenza and pneumococcal vaccines for those who require both vaccines).

Lower levels for influenza vaccination coverage among non-Hispanic blacks and pneumococcal vaccination coverage among Hispanics have been previously reported (5). Compared with vaccination levels for non-Hispanic whites, these racial/ethnic variations may reflect differences in multiple factors, including education, income, insurance coverage, culture and behavior, and the prevalence of specific risk factors (7,8), and emphasize the need for programs aimed at increasing vaccination levels among these groups.

The 1993 BRFSS documents substantial state-specific variation in influenza and pneumococcal vaccination levels. Some of these differences probably are related to racial/ethnic variations in population density and vaccination levels. In addition, medical practice patterns vary regionally because of differences in health-reimbursement plans, physician practice patterns, and patient attitudes toward different aspects of

*Pneumococcal and Influenza Vaccination Levels — Continued*

**FIGURE 2. Number of doses of influenza and pneumococcal vaccines distributed, by year — United States, 1980–1993\***



\*Adapted from CDC Biologics Surveillance System Reports.

medical care (9). These variations probably are determinants for administration of influenza and pneumococcal vaccines.

The findings in this report are subject to at least two limitations. First, because BRFSS data were self-reported without validation of vaccination status, these findings may underestimate vaccination levels; however, a validation study among a different sample indicated 91% of persons who had reported receiving influenza vaccine actually received the vaccine (10). Second, some medical conditions increase the risk for complications or death from influenza and pneumococcal disease, and providers may be more likely to administer vaccine to patients with these conditions; however, BRFSS did not collect data about medical conditions of respondents.

To achieve the year 2000 objective for influenza and pneumococcal vaccination levels, additional efforts should be directed toward high-risk populations, including all persons aged  $\geq 65$  years. Measures for increasing coverage require 1) continuing collaboration between public and private organizations to improve awareness about the need for these vaccines; 2) changes in clinical practice to improve vaccine delivery; 3) vaccine delivery mechanisms that limit cost and remove accessibility constraints; and 4) timely surveillance data, such as those collected by BRFSS, to assess the progress of current and future programs. States can expand influenza and pneumococcal vaccination services for the elderly by building coalitions with private, medical, and community groups; collaborating with Health Care Financing Administration Peer Review Organizations to increase vaccination levels among Medicare beneficiaries; and

*Pneumococcal and Influenza Vaccination Levels — Continued*

encouraging local health departments to enroll as Medicare providers and to file claims for influenza and pneumococcal vaccination services, which are covered benefits under Medicare. BRFSS and other state-specific data can assist states in targeting expanded vaccination programs for the elderly.

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**Sudden Infant Death Syndrome — United States, 1983–1994**

Sudden infant death syndrome (SIDS) is “the sudden death of an infant under 1 year of age which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and review of the clinical history” (1). Although SIDS is a diagnosis of exclusion and of unknown etiology, it is the leading cause of postneonatal mortality in the United States, accounting for approximately one-third of all such deaths (2). This report analyzes age-, race-, and region-specific trends for SIDS in the United States during 1983–1994 (the latest year for which final data are available) and indicates that annual rates of SIDS declined more than three times faster during 1990–1994 than during 1983–1989.

Data about deaths attributed to SIDS and data about autopsy rates are from U.S. public-use mortality data tapes compiled by CDC (3) and include infants (aged  $< 365$  days) who were born to U.S. residents and died from SIDS (listed as the underlying cause of death) (*International Classification of Diseases, Ninth Revision* [ICD-9], code 798.0). Death rates were estimated as the number of these deaths divided by the number of live-born infants during the same period; data about live-born infants are from published natality statistics (4). To characterize SIDS trends, annual data were combined so that the rate of SIDS for 1983–1989 could be compared with the rate for 1990–1994; these periods were selected for comparison because of the implementation during the 1990s of efforts that potentially influenced diagnosis and reporting of

## SIDS — United States — Continued

SIDS (e.g., increased awareness among health-care providers about risk factors for SIDS, revision of the definition of SIDS, and initiation of national SIDS prevention efforts). Race for infants who died from SIDS was determined by the race of each infant, and race for all live-born infants was determined by the race of the mother. Differences are presented only for black and white infants because the mortality data tapes do not provide accurate race data for other racial/ethnic groups. The linked infant birth-death data set provides accurate race data from birth certificates but is available only through 1991. Neonatal deaths are deaths among infants aged <28 days, and postneonatal deaths are those among infants aged 28–364 days.

During 1983–1994, SIDS was listed as the underlying cause of death for 61,882 infants (Table 1). During 1983–1990, the rate of SIDS decreased an average of 1.6% per year; during 1990–1994, the rate decreased an average of 5.6% per year.

Most SIDS cases occurred during the postneonatal period; 93.7% and 92.4% of SIDS cases occurred in this age group in 1994 and 1983, respectively. The postneonatal SIDS rate was 13.9% lower during 1990–1994 than during 1983–1989 (112.9 versus 131.1 per 100,000 live-born infants, respectively). Rates for SIDS were highest among infants aged 1–3 months at death (Table 2): in 1994, deaths in this age group accounted for 68.4% of all SIDS cases.

From 1983–1989 through 1990–1994, the SIDS rate for female infants declined 16.5% (from 114.7 to 95.8 per 100,000 live-born infants), and the rate for male infants declined 13.5% (from 166.0 to 143.6). Male infants were 45% and 50% more likely to die from SIDS than female infants during 1983–1989 and 1990–1994, respectively.

**TABLE 1. Number of cases of and rate\* for sudden infant death syndrome†, by race‡ and year — United States, 1983–1994**

Year	Black		White		Total¶	
	No.	Rate	No.	Rate	No.	Rate
<b>1983–1989</b>	<b>10,349</b>	<b>244.8</b>	<b>25,829</b>	<b>121.2</b>	<b>37,483</b>	<b>141.0</b>
1983	1,518	269.8	3,613	122.6	5,305	145.8
1984	1,439	253.3	3,656	123.2	5,245	142.9
1985	1,357	233.2	3,757	123.7	5,315	141.3
1986	1,451	244.7	3,654	121.0	5,278	140.5
1987	1,447	236.8	3,605	118.4	5,230	137.3
1988	1,520	238.0	3,771	121.6	5,476	140.1
1989	1,617	240.2	3,773	118.2	5,634	139.4
<b>1990–1994</b>	<b>7,315</b>	<b>219.3</b>	<b>16,165</b>	<b>101.0</b>	<b>24,399</b>	<b>120.3</b>
1990	1,578	230.6	3,643	110.7	5,417	130.3
1991	1,589	232.8	3,572	110.2	5,349	130.1
1992	1,471	218.4	3,239	101.2	4,891	120.3
1993	1,442	218.9	3,056	97.0	4,669	116.7
1994	1,235	194.1	2,655	85.1	4,073	103.0

\*Per 100,000 live-born infants.

†*International Classification of Diseases, Ninth Revision*, code 798.0

‡Race for infants who died from SIDS was determined by the race of each infant, and race for all live-born infants was determined by the race of the mother. Differences are presented only for black and white infants because the mortality data tapes do not provide accurate race data for other racial/ethnic groups.

¶Includes infants of all racial/ethnic groups.

SIDS — United States — Continued

**TABLE 2. Number of cases of and rate\* for sudden infant death syndrome†, by age at death — United States, 1983–1989 and 1990–1994‡**

Age at death (months)	1983–1989		1990–1994	
	No.	Rate	No.	Rate
<1	2,636	9.9	1,496	7.4
1	8,953	33.4	5,612	27.7
2	9,860	37.1	6,591	32.5
3	6,945	26.1	4,643	22.9
4	3,885	14.6	2,707	13.3
5	2,099	7.9	1,346	6.6
6	1,234	4.6	808	4.0
7	738	2.8	498	2.5
8	502	1.9	312	1.5
9	295	1.1	177	0.9
10	189	0.7	130	0.6
11	147	0.6	78	0.4
<b>Total</b>	<b>37,483</b>	<b>141.0</b>	<b>24,398</b>	<b>120.3</b>

\*Per 100,000 live-born infants.

†*International Classification of Diseases, Ninth Revision*, code 798.0

‡One infant, for whom age was missing, was excluded from this analysis.

From 1983–1989 through 1990–1994, the SIDS rate for black infants decreased 10.4% and the rate for white infants decreased 16.7%. The average annual decline in the rate of SIDS for black infants was 2.1% during 1983–1990 and 4.1% during 1990–1994. For white infants, the decreases for the two periods were 1.4% and 6.3%, respectively. The rate for black infants was 2.0 and 2.2 times that for white infants during 1983–1989 and 1990–1994, respectively.

Decreases in the SIDS rate during the two time periods also varied by region\*. Decreases were greater in the West (23.0%) and Northeast (18.7%) than in the Midwest (11.5%) and South (10.2%). During 1983–1989, SIDS rates were 195.2 per 100,000 live-born infants in the Midwest, 166.8 in the West, 135.5 in the South, and 80.7 in the Northeast; during 1990–1994, the respective rates were 172.8, 128.4, 121.7, and 65.7. During 1983–1989, infants in the Midwest were 2.4 times more likely than infants in the Northeast to die from SIDS; during 1990–1994, the ratio was 2.6.

The percentage of deaths attributed to SIDS that were followed by an autopsy increased from 85.8% in 1983 to 93.4% in 1990 and to 95.7% in 1994. The percentage of autopsies were similar by race but differed by region. In 1983, 25.7% of deaths attributed to SIDS in the South were not followed by an autopsy, compared with <15% in other regions. By 1994, this percentage had declined to 6.8% in the South and <3% in other regions.

\* *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.

*SIDS — United States — Continued*

*Reported by: Div of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion; Div of Vital Statistics, National Center for Health Statistics, CDC.*

**Editorial Note:** The findings in this report indicate that the decline in the rate of SIDS was greater during 1990–1994 than during 1983–1989. For the first time since 1980, in 1994, SIDS declined from the second to the third leading cause of infant mortality. In addition, preliminary mortality data for 1995 indicate that the SIDS rate declined 18.3% from 1994, representing the largest annual percentage decline since 1983 and suggesting that the higher rate of decline observed during 1990–1994 is continuing (2). This trend may reflect changes in the prevalence of known risk factors and/or changes in the diagnosis of SIDS.

Many of the risk factors for SIDS identified during the 1980s (e.g., low birthweight, young maternal age, and poor socioeconomic status) are not readily amenable to intervention (5). However, a strong association between the infant prone sleeping position and SIDS had been established by 1990 (6). During 1992, the American Academy of Pediatrics began recommending that parents place infants on their back or side to sleep (7), and during 1994, the national “Back to Sleep” campaign (6) began promoting the nonprone sleeping position as well as other modifiable risk factors (e.g., breastfeeding was encouraged and exposure to tobacco smoke and overheating was discouraged). Studies in other countries indicated that SIDS rates declined approximately 50% concurrent with decreases in the prevalence of prone sleeping (6). In the United States during 1992–1995, the SIDS rate declined 30% concurrent with a decrease in the prevalence of prone sleeping from 78% in 1992 to 43% in 1994 (6). Although the prevalence of breastfeeding did not change substantially during the study period (8), birth-certificate data indicate that during 1989–1994, the prevalence of cigarette smoking during pregnancy declined by approximately 25% (from 19.5% to 14.6%) (9).

Race/ethnicity-specific differences in SIDS most likely reflect variations in the prevalence of risk factors for SIDS, including socioeconomic and demographic factors, certain medical conditions (e.g., prematurity), and the quality of and access to health care (5). However, because race/ethnicity-specific prevalences of prone sleeping during the early 1990s are unavailable, the effectiveness of campaigns to discourage the prone sleeping position could not be evaluated by race/ethnicity. Regional differences in SIDS rates may reflect differences in the prevalence of risk factors as well as variations in state protocols for investigating suspected cases of SIDS.

Based on preliminary data, the black/white ratio for SIDS in 1995 (2.4) was higher than during any other year since 1983, indicating that racial/ethnic disparities in SIDS may be increasing. Because of persistent race-specific differences in risks for SIDS, prevention efforts should be targeted especially to black infants. In addition, evaluation efforts should assess whether race-specific and regional differences are related to variations in the prevalence of preventable risk factors, in methods of diagnosis, or in the effectiveness of prevention messages.

Before 1991, only an autopsy was required for the diagnosis of SIDS. During 1991, the official definition of SIDS was revised to require an investigation of the death scene (1), although this change may not have been uniformly implemented by all state/local health departments. However, because the non-SIDS postneonatal mortality rate did not change substantially during 1983–1989 and 1990–1994, a shift in diagnosis probably did not account for the larger declines in SIDS during 1990–1994. The

*SIDS — United States — Continued*

occurrence of related diagnoses such as suffocation (ICD-9 code 913) and other ill-defined conditions (ICD-9 codes 780–797 and 799) increased from 1983–1989 to 1990–1994 (28.8% and 29.2%, respectively) (3), but these diagnoses combined comprise <1% of all infant deaths.

The Back to Sleep campaign should continue to publicize risk factors for SIDS and ensure that prevention messages reach all segments of the population, especially those at high risk for SIDS. In addition, widespread implementation of the recently published national guidelines for death scene investigation of sudden, unexplained infant deaths (10) should help standardize the investigation of these deaths and improve the accuracy of SIDS diagnoses.

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### **Type of Certifier and Autopsy Rates for Sudden Infant Death Syndrome — Washington, 1980–1994**

Performance of an autopsy is essential in attributing an unexplained death to sudden infant death syndrome (SIDS)\* (1). Geographic variations in SIDS cases have been attributed to differences in postmortem protocols and interpretations of autopsy information (2), which also relate to variations in the types of certifiers and their training in cause-of-death determinations. An investigation of a cluster of 20 deaths attributed to SIDS in a county in Washington during 1980–1994 indicated that autopsies had been performed in only 14 (70%) cases. By excluding deaths that did not meet the case definition because autopsies were not performed, the rate for this county was reduced by 30%. In Washington, suspected SIDS cases must be investigated and certified by a

\*The sudden death of an infant aged <1 year that remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and review of the clinical history.

*SIDS — Washington — Continued*

medical examiner, coroner, or prosecuting attorney acting as a coroner (referred to in this report as investigative certifiers). The causes of death that are not within the legal jurisdiction of the investigative certifier system may be certified by any other physician (referred to in this report as medical doctor, not investigative certifier). This report examines the percentage of deaths attributed to SIDS in Washington that were followed by an autopsy during 1980–1994 by county, the type of certifier, and the type of county investigative certifier system (3). The findings indicate that many deaths in Washington counties are attributed to SIDS despite the lack of an autopsy and that all suspected SIDS cases are not being referred to investigative certifiers.

Potential cases of SIDS were identified by searching birth- and death-certificate data contained on public-use data tapes compiled by the Washington State Center for Health Statistics. Cases were defined as deaths among infants who were aged <365 days at the time of death attributed to SIDS (*International Classification of Diseases, Ninth Revision*, code 798.0) and who were born to Washington residents. Numbers of live-born infants were used as the denominator for calculating death rates. Rates of deaths attributed to SIDS were calculated by dividing the number of SIDS cases by the number of live-born infants during 1980–1994 for each county. Death certificate files included information about the county of residence, whether an autopsy was performed, and the type of certifier of each death.

During 1990–1994, county-specific rates for SIDS, as recorded on the death certificate, ranged from 57 to 652 cases per 100,000 live-born infants. The percentage of autopsies performed following these deaths ranged from 50% to 100% and were >80% in all but four counties. However, when death rates were based only on deaths that were followed by an autopsy, rates for SIDS decreased as much as 33% in some counties. Among deaths that were certified by an investigative certifier, the percentage that were followed by an autopsy ranged from 57% to 100% and was >80% in all but four counties.

Overall, the percentage of deaths attributed to SIDS that were followed by an autopsy was 94% during 1980–1984, 95% during 1985–1989, and 98% during 1990–1994. In general, the percentage of autopsies was higher in counties with a medical examiner than in those with a coroner system, and in counties with investigative certifiers than in those with medical doctors who were not investigative certifiers (Table 1). During 1985–1989 and 1990–1994, the percentage of autopsies increased substantially (83% to 95%) among medical doctors who certified deaths in counties with a coroner system and among medical doctors who certified deaths in counties with a prosecuting attorney serving as the coroner (75% to 95%). However, the proportion of SIDS cases certified by medical doctors decreased from 40% (357) during 1980–1994 to 21% (157) during 1990–1994.

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**Editorial Note:** The findings in this report indicate that because reviews of deaths in Washington by investigative certifiers are neither centralized nor routine, the diagnosis of SIDS varies among counties. In Washington, certification of infant deaths that lack an apparent cause is within the legal jurisdiction of the investigative certifiers system. The type of investigative certifier system varies by county and includes ap-

SIDS — Washington — Continued

**TABLE 1. Number and percentage of deaths attributed to sudden infant death syndrome (SIDS)\* and percentage of deaths attributed to SIDS that were followed by an autopsy, by time period,<sup>†</sup> type of county investigative certifier system, and type of certifier<sup>‡</sup> — Washington, 1980–1994**

Time period/ Type of certifier system/ Type of certifier	Deaths attributed to SIDS		Percentage autopsied
	No.	(%)	
<b>1980–1984</b>			
<b>Medical examiner</b>			
Investigative certifier	224	(25)	97%
Medical doctor	238	(27)	100%
<b>Coroner</b>			
Investigative certifier	240	(27)	93%
Medical doctor	98	(11)	83%
<b>Prosecuting attorney</b>			
Investigative certifier	58	( 7)	84%
Medical doctor	21	( 2)	90%
<b>1985–1989</b>			
<b>Medical examiner</b>			
Investigative certifier	288	(31)	100%
Medical doctor	210	(23)	100%
<b>Coroner</b>			
Investigative certifier	265	(28)	95%
Medical doctor	78	( 8)	83%
<b>Prosecuting attorney</b>			
Investigative certifier	71	( 8)	90%
Medical doctor	16	( 2)	75%
<b>1990–1994</b>			
<b>Medical examiner</b>			
Investigative certifier	291	(39)	100%
Medical doctor	93	(12)	98%
<b>Coroner</b>			
Investigative certifier	248	(33)	96%
Medical doctor	44	( 6)	95%
<b>Prosecuting attorney</b>			
Investigative certifier	50	( 7)	94%
Medical doctor	20	( 3)	95%

\* *International Classification of Diseases, Ninth Revision*, code 798.0

<sup>†</sup>SIDS cases with an unknown county of death or certified by "other" certifiers (e.g., osteopaths and chiropractors) were excluded (1980–1984, n=45; 1985–1989, n=27; and 1990–1994, n=28).

<sup>‡</sup>Investigative certifier (i.e., medical examiner, elected coroner, or prosecuting attorney) or medical doctor (who is not an investigative certifier).

pointed medical examiners (four counties, in which three are forensic pathologists), elected coroners (17; three are medical doctors), and prosecuting attorneys serving as the coroner (18) (3). In 18 states, investigator certifier systems are mixed medical examiner/coroner systems; systems in 11 states include only coroners, and in 21 states and the District of Columbia only medical examiners (3). Because a state-wide, centralized investigative certifier system exists in only 25 states (3), post-mortem protocols for deaths attributed to SIDS probably vary in other states.

*SIDS — Washington — Continued*

Infants with suspected cases of SIDS should have an autopsy performed by a forensic pathologist who has specialized training in cause-of-death determinations, and the autopsy should include histologic and toxicologic examinations. The quality and interpretation of postmortem information varies (4), in part, because many investigative certifier systems do not have a written protocol that specifies the criteria to be used to diagnose SIDS (5). The College of American Pathologists has recommended that nosologic classifications be refined to reflect the amount of available diagnostic information (6). This would enable analysis of SIDS to distinguish between a thoroughly informed diagnosis of SIDS (based on a complete autopsy and a death scene investigation) and a diagnosis of "presumed SIDS," which lacks quality diagnostic information (6).

Accurate data are needed to evaluate temporal trends and geographic and demographic variations in SIDS rates and to better understand the causes of SIDS. A centralized investigative certifiers system would improve the standardization of diagnostic and postmortem protocols among county coroners and medical examiners. In addition, this centralization would enhance the quality of data for investigation of SIDS and other causes of death that are difficult to diagnose and are within the legal jurisdiction of investigative certifiers. County-specific data will be used to increase awareness in Washington counties of the importance of referral of suspected SIDS cases to an investigative certifier and of an autopsy for diagnosis of SIDS.

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*Notice to Readers***Bacterial Sepsis Associated with Receipt of Albumin**

The Food and Drug Administration (FDA) has designated as Class I (defined by FDA as a strong likelihood that a product will cause serious adverse health consequences or death) a recall of Centeon Albumin, 25% (Human), U.S.P., Albuminar<sup>®</sup>-25 (manufactured by Centeon L.L.C., King of Prussia, Pennsylvania), lot number P61205, because of *Enterobacter cloacae* sepsis associated with receipt of product from this lot. Contamination of the product may have been due to cracks in the vials during manufacture. Cultures of unopened product grew *Stenotrophomonas multophilus* and

*Notice to Readers — Continued*

enterococci in addition to *E. cloacae*. Ten other lots (P18607, L8212, M60902, M54512, L58211, M61403, M63204, M54912, P61805, and P62906) of Centeon Albuminar<sup>®</sup>-25 and Albuminar<sup>®</sup>-5 (albumin, 5% [human], U.S.P.) also have been recalled as a precaution because of the potential for contamination due to similar manufacturing problems.

Hospitals, dialysis centers, and other users should discontinue use of these lots of Centeon Albuminar<sup>®</sup> and quarantine all vials belonging to these lots. Other lots should not be used if the vials are visibly cracked or the contents are visibly turbid. Health-care professionals should report any episode of infection associated with Centeon Albuminar<sup>®</sup> to CDC's Hospital Infections Program, National Center for Infectious Diseases (telephone [404] 639-6413; fax [404] 639-6459), and to FDA's MedWatch Program (telephone [800] 332-1088; fax [800] 332-0178).

Centeon also is voluntarily recalling a single lot (P72304) of Monoclate-P<sup>®</sup> Factor VIII used to treat hemophilia; no adverse events have been reported in association with Monoclate-P<sup>®</sup>.

The investigation by FDA and Centeon is ongoing, and additional information is available from FDA's Center for Biologics Evaluation and Research, telephone (301) 827-2000 or (800) 835-4709.

### Quarterly Immunization Table

To track progress toward achieving the goals of the Childhood Immunization Initiative (CII), CDC publishes quarterly a tabular summary of the number of cases of nationally notifiable diseases preventable by routine childhood vaccination reported during the previous quarter and year-to-date (provisional data). In addition, the table compares provisional data with final data for the previous year and highlights the number of reported cases among children aged <5 years, who are the primary focus of CII. Data in the table are reported through the National Electronic Telecommunications System for Surveillance (NETSS).

#### Number of reported cases of nationally notifiable diseases preventable by routine childhood vaccination — United States, September 1996 and 1995–1996\*

Disease	No. cases, July– September 1996	Total cases January–September		No. cases among children aged <5 years† January–September	
		1995	1996	1995	1996
Congenital rubella syndrome	0	5	1	5	1
Diphtheria	0	0	1	0	0
<i>Haemophilus influenzae</i> §	190	859	818	214	190
Hepatitis B¶	2401	7378	7195	56	47
Measles	180	272	440	98	97
Mumps	149	637	479	124	100
Pertussis	2035	3185	3702	1813	1826
Poliomyelitis, paralytic**	0	4	0	4	0
Rubella	86	106	197	7	14
Tetanus	7	22	20	2	0

\* Data for 1995 are final and for 1996 are provisional.

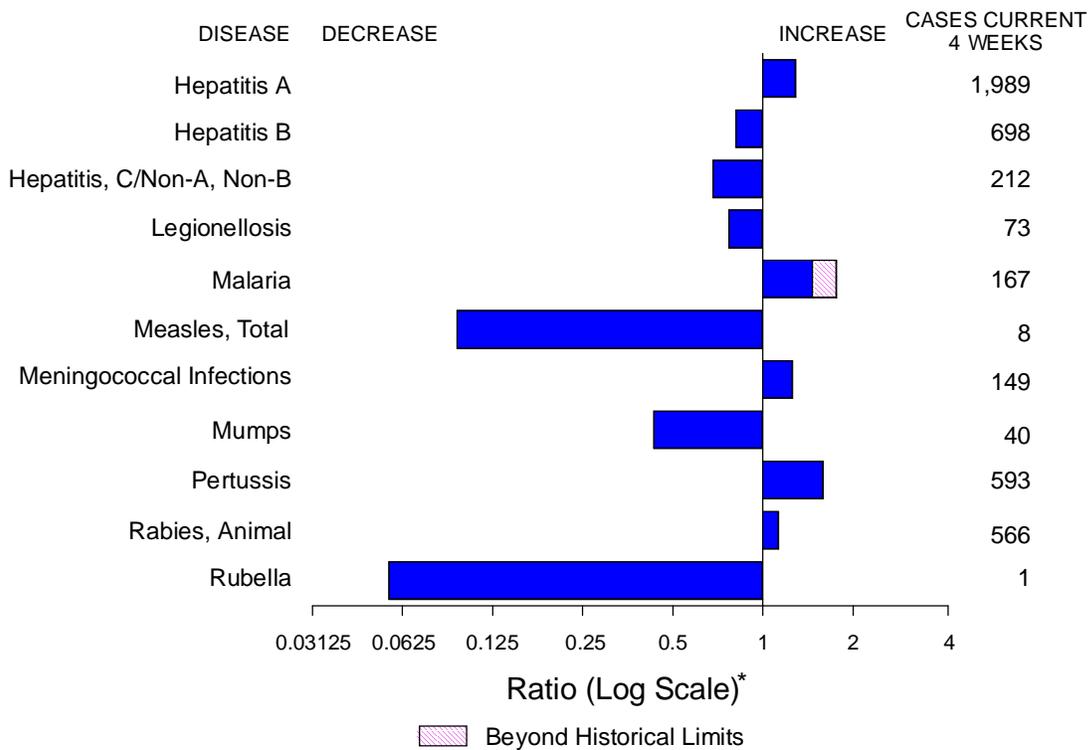
† For 1995 and 1996, age data were available for ≥93% of cases, except for 1996 age data for measles, which were available for 88% of cases.

§ Invasive disease; *H. influenzae* serotype is not routinely reported to the National Notifiable Diseases Surveillance System. Of 190 cases among children aged <5 years, serotype was reported for 42 cases, and of those, 12 were type b, the only serotype of *H. influenzae* preventable by vaccination.

¶ Because most hepatitis B virus infections among infants and children aged <5 years are asymptomatic (although likely to become chronic), acute disease surveillance does not reflect the incidence of this problem in this age group or the effectiveness of hepatitis B vaccination in infants.

\*\* Three suspected cases with onset in 1996 have been reported to date. Four cases with onset in 1995 have been confirmed; these cases were vaccine-associated. An additional six suspected cases are under investigation. Eight cases with onset in 1994 were confirmed; all were vaccine-associated.

**FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending October 5, 1996, 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 — provisional cases of selected notifiable diseases, United States, cumulative, week ending October 5, 1996 (40th Week)**

	Cum. 1996		Cum. 1996
Anthrax	-	HIV infection, pediatric*§	216
Brucellosis	61	Plague	2
Cholera	3	Poliomyelitis, paralytic¶	-
Congenital rubella syndrome	1	Psittacosis	32
Cryptosporidiosis*	1,680	Rabies, human	1
Diphtheria	1	Rocky Mountain spotted fever (RMSF)	549
Encephalitis: California*	69	Streptococcal toxic-shock syndrome*	14
eastern equine*	1	Syphilis, congenital**	225
St. Louis*	-	Tetanus	22
western equine*	-	Toxic-shock syndrome	104
Hansen Disease	78	Trichinosis	14
Hantavirus pulmonary syndrome*†	14	Typhoid fever	274

-: no reported cases  
 \*Not notifiable in all states.  
 † Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).  
 ‡ Updated monthly to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention (NCHSTP), last update September 24, 1996.  
 ¶ Three suspected cases of polio with onset in 1996 has been reported to date.  
 \*\* Updated quarterly from reports to the Division of STD Prevention, NCHSTP.

**TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending October 5, 1996, and October 7, 1995 (40th Week)**

Reporting Area	AIDS*		Chlamydia	Escherichia coli O157:H7		Gonorrhea		Hepatitis C/NA,NB		Legionellosis	
	Cum. 1996	Cum. 1995		Cum. 1996	NETSS†	PHLIS‡	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996
			Cum. 1996		Cum. 1996						
UNITED STATES	51,611	54,405	279,125	2,024	1,116	217,085	302,844	2,577	3,021	665	920
NEW ENGLAND	2,065	2,626	12,712	277	67	5,381	5,865	93	101	37	27
Maine	32	82	695	21	-	47	72	-	-	2	5
N.H.	66	75	397	35	31	80	91	8	12	3	1
Vt.	18	28	U	26	26	42	47	31	10	3	-
Mass.	997	1,122	5,168	130	10	1,724	2,066	48	72	20	17
R.I.	129	187	1,482	15	-	395	406	6	7	9	4
Conn.	823	1,132	4,970	50	-	3,093	3,183	-	-	N	N
MID. ATLANTIC	14,243	14,635	33,736	180	39	25,549	34,051	223	356	168	159
Upstate N.Y.	1,855	1,729	N	122	12	4,920	7,383	173	177	57	41
N.Y. City	7,855	7,609	15,878	10	-	8,618	13,607	1	1	6	5
N.J.	2,905	3,553	3,902	48	5	3,929	3,325	-	142	12	23
Pa.	1,628	1,744	13,956	N	22	8,082	9,736	49	36	93	90
E.N. CENTRAL	4,076	4,092	47,633	492	326	32,233	60,652	355	255	176	270
Ohio	871	847	14,112	138	82	10,153	18,831	29	9	80	125
Ind.	498	423	7,933	72	47	5,160	6,915	8	4	38	64
Ill.	1,808	1,726	18,905	199	84	13,712	15,718	52	71	9	25
Mich.	685	817	U	83	65	U	14,033	266	171	34	26
Wis.	214	279	6,683	N	48	3,208	5,155	-	-	15	30
W.N. CENTRAL	1,221	1,245	21,363	461	287	9,570	15,555	101	65	36	66
Minn.	226	284	2,702	200	202	U	2,176	1	2	3	6
Iowa	72	71	3,199	104	55	861	1,253	48	12	9	19
Mo.	626	559	9,400	51	-	6,339	8,878	32	18	8	13
N. Dak.	10	4	2	14	14	-	24	-	5	-	3
S. Dak.	10	14	731	20	-	103	169	-	1	2	3
Nebr.	83	84	1,920	43	4	718	931	5	15	11	15
Kans.	194	229	3,409	29	12	1,549	2,124	15	12	3	7
S. ATLANTIC	13,079	14,075	42,154	111	59	73,820	84,266	213	181	110	146
Del.	232	239	1,148	1	1	1,129	1,723	1	-	10	2
Md.	1,961	2,226	5,273	N	8	11,207	10,212	1	7	22	24
D.C.	1,001	828	N	-	-	3,386	3,594	-	-	8	4
Va.	896	1,077	8,765	N	29	6,960	8,371	12	14	15	20
W. Va.	88	84	1	N	2	404	533	9	43	1	4
N.C.	677	816	U	34	12	14,187	18,785	40	46	9	31
S.C.	667	766	-	8	7	8,275	9,333	23	16	5	30
Ga.	1,867	1,791	8,873	30	-	14,199	15,776	U	15	3	14
Fla.	5,690	6,248	18,094	26	-	14,073	15,939	127	40	37	17
E.S. CENTRAL	1,749	1,759	23,140	53	50	24,849	31,251	453	803	38	50
Ky.	309	220	5,117	10	6	3,226	3,702	27	27	4	10
Tenn.	647	709	9,945	22	41	8,899	10,651	331	774	18	24
Ala.	470	483	6,482	10	3	10,337	12,852	4	2	3	6
Miss.	323	347	U	11	-	2,387	4,046	91	U	13	10
W.S. CENTRAL	5,138	4,660	31,586	42	12	23,910	42,558	356	236	18	19
Ark.	207	209	-	12	3	2,620	4,216	7	6	2	6
La.	1,177	780	5,685	6	4	6,170	8,662	161	142	1	3
Okla.	189	206	5,787	10	1	3,745	4,472	69	36	5	4
Tex.	3,565	3,465	20,114	14	4	11,375	25,208	119	52	10	6
MOUNTAIN	1,533	1,710	12,586	169	87	5,391	7,271	452	362	36	93
Mont.	33	17	-	23	-	25	55	14	12	1	4
Idaho	32	38	1,185	30	10	86	112	93	44	-	2
Wyo.	5	12	448	10	9	30	43	142	142	3	10
Colo.	406	523	-	62	35	1,077	2,231	46	55	7	33
N. Mex.	139	137	3,017	10	-	685	818	61	42	2	4
Ariz.	461	540	5,132	N	22	2,713	2,806	56	37	16	9
Utah	144	112	1,183	19	-	232	194	22	11	2	13
Nev.	313	331	1,621	15	11	543	1,012	18	19	5	18
PACIFIC	8,506	9,603	54,215	239	189	16,382	21,375	331	662	46	90
Wash.	538	711	7,110	73	72	1,571	2,113	44	161	5	20
Oreg.	359	347	U	63	37	467	607	6	34	1	-
Calif.	7,440	8,295	41,132	100	70	13,749	17,659	111	425	35	65
Alaska	28	60	897	3	2	321	531	3	1	1	-
Hawaii	141	190	1,031	N	8	274	465	167	41	4	5
Guam	4	-	168	N	-	31	87	1	5	2	1
P.R.	1,792	1,904	N	14	U	287	459	79	179	-	-
V.I.	17	27	N	N	U	-	-	-	-	-	-
Amer. Samoa	-	-	-	N	U	-	25	-	-	-	-
C.N.M.I.	1	-	N	N	U	11	50	-	5	-	-

N: Not notifiable U: Unavailable -: no reported cases C.N.M.I.: Commonwealth of Northern Mariana Islands

\*Updated monthly to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention, last update September 24, 1996.

†National Electronic Telecommunications System for Surveillance.

‡Public Health Laboratory Information System.

**TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending October 5, 1996, and October 7, 1995 (40th Week)**

Reporting Area	Lyme Disease		Malaria		Meningococcal Disease		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal	
	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995
UNITED STATES	10,210	8,667	1,132	985	2,474	2,339	8,353	12,760	14,293	15,919	4,446	6,080
NEW ENGLAND	3,340	1,702	41	38	105	109	132	281	338	386	573	1,227
Maine	35	24	7	5	12	8	-	2	21	11	81	46
N.H.	35	20	2	1	3	19	1	1	11	15	49	123
Vt.	15	8	3	1	3	9	-	-	1	2	121	144
Mass.	264	112	13	12	41	37	63	48	169	215	92	365
R.I.	427	285	6	4	11	5	1	3	27	38	33	269
Conn.	2,564	1,253	10	15	35	31	67	227	109	105	197	280
MID. ATLANTIC	5,920	5,638	307	275	223	298	335	651	2,571	3,351	336	1,545
Upstate N.Y.	3,182	2,815	67	52	67	80	55	72	322	398	46	911
N.Y. City	229	368	161	151	31	44	106	281	1,284	1,890	-	-
N.J.	911	1,501	54	54	54	70	77	129	566	588	107	278
Pa.	1,598	954	25	18	71	104	97	169	399	475	183	356
E.N. CENTRAL	67	375	106	129	340	330	1,086	2,186	1,576	1,503	83	87
Ohio	41	23	13	11	127	93	463	697	227	205	10	10
Ind.	23	16	13	15	54	48	164	248	140	136	7	14
Ill.	3	16	35	67	89	88	330	853	840	793	23	13
Mich.	-	5	33	15	38	58	U	228	284	300	30	37
Wis.	U	315	12	21	32	43	129	160	85	69	13	13
W.N. CENTRAL	112	156	40	22	200	143	287	614	358	459	428	303
Minn.	39	80	17	4	25	24	51	34	80	110	21	24
Iowa	19	12	2	3	41	26	16	39	50	48	196	107
Mo.	22	41	9	6	84	53	186	504	155	178	17	26
N. Dak.	-	-	1	1	3	1	-	-	6	3	56	24
S. Dak.	-	-	-	2	9	5	-	-	15	20	105	81
Nebr.	3	4	3	3	17	14	12	11	13	20	5	5
Kans.	29	19	8	3	21	20	22	26	39	80	28	36
S. ATLANTIC	544	548	239	193	509	383	2,891	3,187	2,704	2,865	2,163	1,665
Del.	78	37	3	1	2	6	33	14	20	46	61	79
Md.	320	363	65	55	64	33	493	364	234	311	489	332
D.C.	3	2	7	15	10	4	113	87	108	85	9	11
Va.	40	47	37	45	47	53	320	487	201	202	469	339
W. Va.	11	22	4	3	11	8	3	9	47	57	78	95
N.C.	60	48	25	15	65	67	814	886	386	335	561	379
S.C.	5	16	10	1	47	49	298	456	272	247	72	105
Ga.	1	10	23	27	117	76	514	591	479	554	233	223
Fla.	26	3	65	31	146	87	303	293	957	1,028	191	102
E.S. CENTRAL	55	59	25	21	150	166	1,956	2,639	996	1,106	171	235
Ky.	14	13	3	2	25	37	113	143	181	233	36	24
Tenn.	18	25	12	8	16	64	631	685	297	339	65	78
Ala.	6	7	3	8	62	34	441	515	332	323	67	124
Miss.	17	14	7	3	47	31	771	1,296	186	211	3	9
W.S. CENTRAL	91	91	38	39	288	279	1,168	2,540	1,759	2,105	293	534
Ark.	21	7	-	2	33	27	121	389	142	181	21	41
La.	2	5	6	5	47	41	425	788	59	208	13	24
Okla.	17	38	-	1	30	30	145	151	134	146	25	28
Tex.	51	41	32	31	178	181	477	1,212	1,424	1,570	U	441
MOUNTAIN	6	7	51	49	142	164	109	175	469	500	128	151
Mont.	-	-	7	3	4	2	-	4	14	10	20	41
Idaho	-	-	-	1	21	8	4	-	7	12	-	3
Wyo.	2	3	7	-	3	7	2	-	6	3	25	23
Colo.	-	-	21	22	31	42	23	96	55	59	41	9
N. Mex.	1	1	2	5	22	30	1	6	63	64	6	6
Ariz.	-	-	6	7	35	47	66	35	186	234	28	43
Utah	1	1	4	6	14	14	2	4	39	31	3	15
Nev.	2	2	4	5	12	14	11	30	99	87	5	11
PACIFIC	75	91	285	219	517	467	389	487	3,522	3,644	271	333
Wash.	13	10	20	18	81	75	5	12	207	209	6	13
Oreg.	12	15	18	14	90	83	11	19	81	101	1	2
Calif.	49	66	237	175	335	295	372	455	3,049	3,130	256	311
Alaska	-	-	3	2	7	10	-	1	50	60	8	7
Hawaii	1	-	7	10	4	4	1	-	135	144	-	-
Guam	-	-	-	1	1	2	3	8	35	85	-	-
P.R.	-	-	-	1	4	22	106	221	63	162	37	35
V.I.	-	-	-	2	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	4	-	-
C.N.M.I.	-	-	-	1	-	-	1	9	-	31	-	-

N: Not notifiable

U: Unavailable

-: no reported cases

**TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending October 5, 1996, and October 7, 1995 (40th Week)**

Reporting Area	<i>H. influenzae</i> , invasive		Hepatitis (viral), by type				Measles (Rubeola)			
	Cum. 1996*	Cum. 1995	A		B		Indigenous		Imported†	
			Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	1996	Cum. 1996	1996	Cum. 1996
UNITED STATES	823	875	21,028	22,690	7,413	7,589	4	401	1	44
NEW ENGLAND	23	33	282	230	156	183	-	11	-	4
Maine	-	3	16	23	2	7	-	-	-	-
N.H.	8	9	12	10	13	18	-	-	-	-
Vt.	1	2	6	5	10	5	-	1	-	1
Mass.	12	10	152	98	53	70	-	9	-	3
R.I.	2	3	15	26	9	8	-	-	-	-
Conn.	-	6	81	68	69	75	-	1	-	-
MID. ATLANTIC	144	129	1,430	1,382	1,163	1,073	-	23	-	5
Upstate N.Y.	42	35	332	346	264	291	-	-	-	-
N.Y. City	30	32	461	659	480	329	-	9	-	3
N.J.	46	16	263	198	199	289	-	3	-	-
Pa.	26	46	374	179	220	164	-	11	-	2
E.N. CENTRAL	133	148	1,737	2,571	763	867	-	5	-	7
Ohio	79	74	616	1,450	101	87	-	2	-	3
Ind.	10	19	255	144	128	177	-	-	-	-
Ill.	32	37	391	522	183	226	-	2	-	1
Mich.	7	16	339	291	298	317	-	-	-	3
Wis.	5	2	136	164	53	60	-	1	-	-
W.N. CENTRAL	42	67	1,875	1,509	356	487	-	20	-	2
Minn.	25	38	106	146	41	44	-	16	-	2
Iowa	6	3	295	65	79	39	-	-	-	-
Mo.	7	19	878	1,079	170	335	-	3	-	-
N. Dak.	-	-	100	22	2	4	-	-	-	-
S. Dak.	1	1	41	49	5	2	-	-	-	-
Nebr.	1	3	173	38	33	25	-	-	-	-
Kans.	2	3	282	110	26	38	-	1	-	-
S. ATLANTIC	174	172	1,063	860	1,157	968	-	6	-	9
Del.	2	-	15	9	7	7	-	1	-	-
Md.	51	56	177	168	237	200	-	2	-	2
D.C.	5	-	30	21	28	15	-	-	-	-
Va.	8	23	134	161	111	91	-	-	-	3
W. Va.	7	7	13	19	21	41	-	-	-	-
N.C.	22	25	130	89	265	224	-	3	-	1
S.C.	4	2	44	40	71	39	-	-	-	-
Ga.	56	54	123	51	30	62	-	-	-	2
Fla.	19	5	397	302	387	289	-	-	-	1
E.S. CENTRAL	22	9	1,045	1,523	641	677	-	2	-	-
Ky.	4	3	36	41	52	60	-	-	-	-
Tenn.	9	-	688	1,263	364	532	-	2	-	-
Ala.	8	5	147	69	50	85	-	-	-	-
Miss.	1	1	174	150	175	U	-	-	-	-
W.S. CENTRAL	32	54	4,415	3,331	981	1,048	-	26	-	2
Ark.	-	5	390	438	61	51	-	-	-	-
La.	3	1	130	100	100	155	-	-	-	-
Okla.	26	20	1,836	835	59	134	-	-	-	-
Tex.	3	28	2,059	1,958	761	708	-	26	-	2
MOUNTAIN	80	95	3,396	3,198	878	651	-	152	-	5
Mont.	-	-	95	102	12	19	-	-	-	-
Idaho	1	3	173	254	75	74	-	1	-	-
Wyo.	35	5	28	89	36	18	-	1	-	-
Colo.	11	14	363	410	113	95	-	4	-	3
N. Mex.	9	12	310	678	305	249	-	16	-	-
Ariz.	9	24	1,341	889	199	97	-	8	-	-
Utah	7	9	760	570	74	53	U	117	U	2
Nev.	8	28	326	206	64	46	-	5	-	-
PACIFIC	173	168	5,785	8,086	1,318	1,635	4	156	1	10
Wash.	2	8	387	661	74	145	-	51	-	-
Oreg.	22	22	676	2,142	58	97	-	4	-	-
Calif.	145	133	4,630	5,104	1,160	1,369	2	36	-	5
Alaska	2	1	36	40	14	11	-	63	-	-
Hawaii	2	4	56	139	12	13	2	2	1	5
Guam	-	-	2	7	-	4	U	-	U	-
P.R.	1	3	89	80	279	488	-	7	-	-
V.I.	-	-	-	6	-	14	U	-	U	-
Amer. Samoa	-	-	-	6	-	-	U	-	U	-
C.N.M.I.	10	11	1	24	5	22	U	-	U	-

N: Not notifiable U: Unavailable -: no reported cases

\*Of 190 cases among children aged <5 years, serotype was reported for 43 and of those, 13 were type b.

†For imported measles, cases include only those resulting from importation from other countries.

**TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending October 5, 1996, and October 7, 1995 (40th Week)**

Reporting Area	Measles (Rubeola), cont'd.		Mumps			Pertussis			Rubella		
	Total		1996	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995
	Cum. 1996	Cum. 1995									
UNITED STATES	445	275	9	491	651	129	3,859	3,298	1	200	106
NEW ENGLAND	15	9	-	1	11	37	812	460	-	26	44
Maine	-	-	-	-	4	-	20	28	-	-	-
N.H.	-	-	-	-	1	-	76	40	-	-	1
Vt.	2	-	-	-	-	5	80	62	-	2	-
Mass.	12	2	-	1	2	27	579	305	-	20	7
R.I.	-	5	-	-	1	5	30	2	-	-	-
Conn.	1	2	-	-	3	-	27	23	-	4	36
MID. ATLANTIC	28	12	1	65	99	15	328	273	-	10	13
Upstate N.Y.	-	1	1	22	24	15	193	124	-	4	3
N.Y. City	12	5	-	14	15	-	25	42	-	4	8
N.J.	3	6	-	2	16	-	16	17	-	2	2
Pa.	13	-	-	27	44	-	94	90	-	-	-
E.N. CENTRAL	12	14	-	86	114	7	407	409	-	3	3
Ohio	5	1	-	39	36	-	192	114	-	-	-
Ind.	-	-	-	7	8	3	46	42	-	-	-
Ill.	3	2	-	19	32	2	130	86	-	1	-
Mich.	3	5	-	20	38	2	34	61	-	2	3
Wis.	1	6	-	1	-	-	5	106	-	-	-
W.N. CENTRAL	22	2	1	14	38	4	260	225	-	1	-
Minn.	18	-	-	5	2	-	197	115	-	-	-
Iowa	-	-	-	1	9	2	15	7	-	1	-
Mo.	3	1	1	5	22	2	32	53	-	-	-
N. Dak.	-	-	-	2	1	-	1	8	-	-	-
S. Dak.	-	-	-	-	-	-	4	11	-	-	-
Nebr.	-	-	-	-	4	-	7	10	-	-	-
Kans.	1	1	-	1	-	-	4	21	-	-	-
S. ATLANTIC	15	11	2	85	94	26	464	275	-	91	9
Del.	1	-	-	-	-	-	12	10	-	-	-
Md.	4	1	2	24	28	3	166	33	-	-	1
D.C.	-	-	-	-	-	1	1	5	-	1	-
Va.	3	-	-	12	20	16	71	15	-	2	-
W. Va.	-	-	-	-	-	-	2	-	-	-	-
N.C.	4	-	-	19	16	-	79	110	-	77	1
S.C.	-	-	-	5	9	2	32	22	-	1	-
Ga.	2	2	-	3	6	-	17	19	-	-	-
Fla.	1	8	-	22	15	4	84	61	-	10	7
E.S. CENTRAL	2	-	-	21	9	2	76	262	-	2	1
Ky.	-	-	-	-	-	-	29	20	-	-	-
Tenn.	2	-	-	3	2	-	20	205	-	-	1
Ala.	-	-	-	3	4	-	18	35	-	2	-
Miss.	-	-	-	15	3	2	9	2	N	N	N
W.S. CENTRAL	28	29	-	28	45	2	92	251	-	3	7
Ark.	-	2	-	2	7	-	10	33	-	-	-
La.	-	18	-	13	10	-	8	17	-	1	-
Okla.	-	-	-	-	-	-	8	28	-	-	-
Tex.	28	9	-	13	28	2	66	173	-	2	7
MOUNTAIN	157	68	-	21	28	13	339	496	1	7	4
Mont.	-	-	-	-	1	1	27	3	-	-	-
Idaho	1	-	-	-	3	-	102	89	1	3	-
Wyo.	1	-	-	-	-	1	5	1	-	-	-
Colo.	7	26	-	3	2	6	90	85	-	2	-
N. Mex.	16	31	N	N	N	1	47	89	-	-	-
Ariz.	8	10	-	1	2	4	27	153	-	1	3
Utah	119	-	U	2	11	U	14	19	U	-	1
Nev.	5	1	-	15	9	-	27	57	-	1	-
PACIFIC	166	130	5	170	213	23	1,081	647	-	57	25
Wash.	51	19	-	18	10	-	463	216	-	2	1
Oreg.	4	1	-	-	-	-	31	42	-	1	-
Calif.	41	108	4	124	183	23	557	342	-	51	19
Alaska	63	-	-	2	12	-	3	-	-	-	-
Hawaii	7	2	1	26	8	-	27	47	-	3	5
Guam	-	-	U	5	3	U	1	2	U	-	1
P.R.	7	3	-	1	2	-	1	1	-	-	-
V.I.	-	-	U	-	3	U	-	-	U	-	-
Amer. Samoa	-	-	U	-	-	U	-	-	U	-	-
C.N.M.I.	-	-	U	-	1	U	-	-	U	-	-

N: Not notifiable

U: Unavailable

-: no reported cases

**TABLE IV. Deaths in 121 U.S. cities,\* week ending  
October 5, 1996 (40th Week)**

Reporting Area	All Causes, By Age (Years)						P&J† Total	Reporting Area	All Causes, By Age (Years)						P&J† Total
	All Ages	>65	45-64	25-44	1-24	<1			All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	536	394	78	36	18	10	28	S. ATLANTIC	1,008	627	198	129	30	24	49
Boston, Mass.	144	102	17	10	9	6	3	Atlanta, Ga.	127	75	27	19	3	3	3
Bridgeport, Conn.	45	28	10	5	2	-	6	Baltimore, Md.	142	81	31	20	6	4	8
Cambridge, Mass.	17	11	4	1	-	1	1	Charlotte, N.C.	66	36	19	8	2	1	6
Fall River, Mass.	21	16	3	2	-	-	3	Jacksonville, Fla.	118	74	23	14	2	5	3
Hartford, Conn.	U	U	U	U	U	U	U	Miami, Fla.	105	65	21	13	6	-	1
Lowell, Mass.	25	17	4	3	1	-	1	Norfolk, Va.	52	35	9	3	2	3	6
Lynn, Mass.	13	10	3	-	-	-	-	Richmond, Va.	U	U	U	U	U	U	U
New Bedford, Mass.	31	28	1	1	-	1	1	Savannah, Ga.	35	26	7	1	1	-	3
New Haven, Conn.	39	24	13	-	2	-	2	St. Petersburg, Fla.	39	31	-	6	1	1	3
Providence, R.I.	74	57	11	5	1	-	-	Tampa, Fla.	166	114	27	17	2	6	12
Somerville, Mass.	2	2	-	-	-	-	-	Washington, D.C.	146	78	34	28	5	1	4
Springfield, Mass.	44	35	6	2	1	-	6	Wilmington, Del.	12	12	-	-	-	-	-
Waterbury, Conn.	23	20	2	-	-	1	1	E.S. CENTRAL	729	495	145	63	11	12	41
Worcester, Mass.	58	44	4	7	2	1	4	Birmingham, Ala.	125	93	15	9	3	2	3
MID. ATLANTIC	2,344	1,569	470	212	39	54	110	Chattanooga, Tenn.	41	24	13	4	-	-	1
Albany, N.Y.	45	36	6	3	-	-	3	Knoxville, Tenn.	79	50	20	7	1	1	3
Allentown, Pa.	U	U	U	U	U	U	U	Lexington, Ky.	80	57	17	3	1	2	10
Buffalo, N.Y.	77	51	18	6	-	2	8	Memphis, Tenn.	186	131	36	15	3	1	12
Camden, N.J.	29	18	4	4	2	1	2	Mobile, Ala.	43	32	6	5	-	-	1
Elizabeth, N.J.	11	7	3	1	-	-	-	Montgomery, Ala.	50	28	15	4	3	-	1
Erie, Pa.‡	40	27	10	-	2	1	2	Nashville, Tenn.	125	80	23	16	-	6	10
Jersey City, N.J.	49	34	7	5	2	1	3	W.S. CENTRAL	1,370	862	284	155	41	28	74
New York City, N.Y.	1,187	781	238	129	14	25	33	Austin, Tex.	60	34	14	8	3	1	2
Newark, N.J.	61	27	16	12	-	6	3	Baton Rouge, La.	12	10	2	-	-	-	-
Paterson, N.J.	21	8	10	2	-	1	-	Corpus Christi, Tex.	73	47	13	7	4	2	3
Philadelphia, Pa.	404	253	91	36	12	12	24	Dallas, Tex.	203	108	52	30	10	3	4
Pittsburgh, Pa.‡	50	37	10	1	1	1	6	El Paso, Tex.	50	33	8	7	1	1	1
Reading, Pa.	9	4	3	-	2	-	-	Ft. Worth, Tex.	U	U	U	U	U	U	U
Rochester, N.Y.	147	115	21	6	1	4	13	Houston, Tex.	414	252	89	56	11	6	34
Schenectady, N.Y.	28	24	3	-	1	-	1	Little Rock, Ark.	75	53	15	4	-	3	3
Scranton, Pa.‡	38	32	5	1	-	-	1	New Orleans, La.	162	103	31	19	4	5	-
Syracuse, N.Y.	95	76	14	4	1	-	7	San Antonio, Tex.	173	117	33	16	3	4	15
Trenton, N.J.	14	10	3	1	-	-	1	Shreveport, La.	50	38	7	3	2	-	9
Utica, N.Y.	19	14	5	-	-	-	-	Tulsa, Okla.	98	67	20	5	3	3	3
Yonkers, N.Y.	20	15	3	1	1	-	3	MOUNTAIN	849	553	158	75	36	26	56
E.N. CENTRAL	2,055	1,356	397	172	67	63	104	Albuquerque, N.M.	92	61	20	4	5	2	4
Akron, Ohio	49	36	10	2	-	1	-	Colo. Springs, Colo.	53	42	9	1	1	-	4
Canton, Ohio	37	26	6	3	1	1	4	Denver, Colo.	91	58	21	7	1	4	10
Chicago, Ill.	399	221	86	69	15	8	35	Las Vegas, Nev.	149	84	39	14	9	3	5
Cincinnati, Ohio	88	63	18	4	2	1	6	Ogden, Utah	27	18	5	1	3	-	5
Cleveland, Ohio	128	75	34	8	2	9	-	Phoenix, Ariz.	165	102	31	16	6	9	16
Columbus, Ohio	188	112	47	13	8	8	12	Pueblo, Colo.	33	24	5	3	1	-	1
Dayton, Ohio	104	73	19	4	2	6	3	Salt Lake City, Utah	96	59	13	12	6	6	4
Detroit, Mich.	217	124	40	25	17	11	5	Tucson, Ariz.	143	105	15	17	4	2	7
Evansville, Ind.	40	34	3	1	1	1	-	PACIFIC	1,594	1,104	277	135	42	36	130
Fort Wayne, Ind.	48	34	10	4	-	2	5	Berkeley, Calif.	19	14	3	2	-	-	-
Gary, Ind.	U	U	U	U	U	U	U	Fresno, Calif.	112	73	18	11	4	6	14
Grand Rapids, Mich.	65	50	9	3	1	2	5	Glendale, Calif.	20	14	5	1	-	-	1
Indianapolis, Ind.	197	140	33	11	4	9	11	Honolulu, Hawaii	U	U	U	U	U	U	U
Madison, Wis.	74	54	14	3	2	1	7	Long Beach, Calif.	60	45	8	2	2	3	7
Milwaukee, Wis.	128	91	20	13	2	2	5	Los Angeles, Calif.	382	267	67	27	17	4	23
Peoria, Ill.	40	29	6	2	2	1	2	Pasadena, Calif.	40	22	12	4	1	1	3
Rockford, Ill.	41	32	9	-	-	-	3	Portland, Ore.	134	99	18	11	2	4	6
South Bend, Ind.	41	31	6	3	-	1	2	Sacramento, Calif.	108	84	15	6	1	2	10
Toledo, Ohio	98	75	14	4	4	1	1	San Diego, Calif.	124	79	24	18	2	1	14
Youngstown, Ohio	73	56	13	-	4	-	1	San Francisco, Calif.	133	89	20	20	1	3	22
W.N. CENTRAL	719	513	121	49	16	16	41	San Jose, Calif.	144	96	31	11	4	2	12
Des Moines, Iowa	26	18	4	2	1	1	3	Santa Cruz, Calif.	32	28	3	-	1	-	3
Duluth, Minn.	28	20	6	2	-	-	-	Seattle, Wash.	139	88	31	11	4	5	3
Kansas City, Kans.	47	31	12	3	1	-	1	Spokane, Wash.	64	46	10	7	1	-	5
Kansas City, Mo.	72	50	12	2	-	4	2	Tacoma, Wash.	83	60	12	4	2	5	7
Lincoln, Nebr.	51	41	5	3	1	1	1	TOTAL	11,204†	7,473	2,128	1,026	300	269	633
Minneapolis, Minn.	169	135	20	10	2	2	12								
Omaha, Nebr.	87	65	11	5	1	5	7								
St. Louis, Mo.	91	58	17	10	5	1	6								
St. Louis, Minn.	60	40	16	3	1	-	5								
Wichita, Kans.	88	55	18	9	4	2	4								

U: Unavailable - : no reported cases

\*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

‡Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

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