CDC

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## Health Disparities Experienced by American Indians and Alaska Natives

American Indians and Alaska Natives (AI/ANs) are a heterogeneous population with approximately 560 federally recognized tribes residing in the rural and urban areas of 35 states. In 2000, a total of 2.5 million persons (0.9% of the U.S. population) classified themselves as "AI/AN alone" and 4.1 million (1.5%) as "AI/AN alone or in combination with another race." During 1990–2000, the AI/AN population increased 26%, compared with 13% for the total U.S. population. Of all racial/ethnic populations, AI/ANs have the highest poverty rates (26%)—a rate that is twice the national rate. Coincident with these socioeconomic burdens are persistent, and often increasing, health disparities.

This issue of *MMWR* describes disparities in health for certain preventable health conditions (i.e., diabetes, cancer, bronchiolitis, and injuries) among AI/ANs. The rates of injuries, diabetes, and bronchiolitis were two to three times as high among AI/ANs than among all racial/ethnic populations combined. Cancer death rates among AI/ANs were lower than the overall U.S. rate, with large regional variations. Public health efforts are ongoing to address these disparities. These efforts reflect the importance of partnerships among tribal, state, and federal public health organizations. The high vaccination coverage among Alaska Native children reported in this issue demonstrates that effective public health interventions can make a difference. Similar successes are needed in other program areas. *MMWR* will continue to highlight health disparities among this and other racial/ethnic minority populations in the United States.

# Injury Mortality Among American Indian and Alaska Native Children and Youth — United States, 1989–1998

Injuries account for 75% of all deaths among American Indian and Alaska Native (AI/AN) children and youth (*1*), and AI/ANs have an overall injury-related death rate that is twice the U.S. rate for all racial/ethnic populations (*2*). However, rate disparities vary by area and by cause. To help focus prevention efforts, CDC analyzed injury mortality data by Indian Health Service (IHS) administrative area and by race/ethnicity. This report summarizes the results of these analyses, which indicate that although death rates for some causes (e.g. drowning and fire) have shown substantial improvement over time, rates for other causes have increased or remained unchanged (e.g., homicide and suicide, respectively). Prevention strategies should focus on the leading causes of injury-related death in each AI/AN community, such as motor-vehicle crashes, suicides, and violence.

Mortality data were obtained from CDC's National Center for Health Statistics (NCHS) for 1989–1998 for black and

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white children and youth (i.e., those aged ≤19 years) and from NCHS mortality data that IHS has categorized into the 12 IHS administrative areas* in which AI/AN children and youth reside. Rate calculations were based on deaths attributed to injuries that occurred among children and youth. All rates were age-adjusted by using the 2000 U.S. standard population. AI/AN rates were calculated by using the IHS service population for 1989–1998 on the basis of modified 1990 census data and vital-event data for 1989–1998. Black, white, and overall U.S. death rates were calculated by using CDC's Web-Based Injury Statistics Query and Reporting System (WISQARS) (*3*). The external cause of each injury death was derived from the *International Classification of Diseases, Ninth Revision* (ICD-9) E-codes. Causes of death included unintentional motor-vehicle crashes, unintentional pedestrian events, firearm use, suicide, homicide, unintentional drowning, and unintentional fire. The firearm category included all firearm-related deaths, including those from suicide, homicide, and unintentional or undetermined intent. Because of changes in code definitions and coding rules between ICD-9 (1998 data and earlier) and ICD-10 (1999 and later), analyses that combine data across coding schemes are problematic for some causes; for this reason, the study period ended with 1998 mortality data.

During 1989–1998, injuries and violence were associated with 3,314 deaths among AI/ANs aged ≤19 years residing in IHS areas. Motor-vehicle crashes were the leading cause of injury-related death, followed by suicide, homicide, drowning, and fires (Table). Death rates for all causes were higher among AI/AN males than females; however, the difference was smaller for fire-related deaths. During 1989–1998, injury death rates declined for AI/ANs from all motor-vehicle crashes (14%), drownings (34%), and fires (49%), and for pedestrians (56%); rates increased for firearm-related death (13%) and homicide (20%) and remained unchanged for suicide (Table). When method was assessed, increases in the rate of firearm-related homicide accounted for the overall increase in the overall homicide rate.

AI/AN motor-vehicle–related death rates by IHS area ranged from 11.4 per 100,000 population in the Alaska area to 41.2 in the Billings area. The Aberdeen and Billings areas had rates more than three times higher than national rates (Figure 1). Eight of the areas had motor-vehicle–related death rates higher than the 95th percentile of all state rates (Figure 1). Rates in the California and Oklahoma areas were similar to national rates.

AI/AN suicide rates were highest in the Tucson, Aberdeen, and Alaska areas (Figure 2). These areas had rates that were

* Aberdeen, Alaska, Albuquerque, Bemidji, Billings, California, Nashville, Navajo, Oklahoma, Phoenix, Portland, and Tucson.

**TABLE. Injury-death rates* among children and youth aged ≤19 years, by year, race, cause, and sex — United States, 1989–1998**

| Cause | 1989–1990 | | | 1991–1992 | | | 1993–1994 | | | 1995–1996 | | | 1997–1998 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | American Indian/ Alaska Native (AI/AN) | Black | White | AI/AN | Black | White | AI/AN | Black | White | AI/AN | Black | White | AI/AN | Black | White |
| **Motor vehicle** | | | | | | | | | | | | | | | |
| Males | 34.9 | 13.5 | 17.8 | 29.3 | 13.0 | 15.2 | 24.8 | 13.3 | 14.9 | 27.8 | 13.0 | 14.1 | 29.3 | 12.8 | 13.1 |
| Females | 20.2 | 6.2 | 9.8 | 14.6 | 6.4 | 8.6 | 19.1 | 6.8 | 8.4 | 19.1 | 6.7 | 8.7 | 16.0 | 6.4 | 8.3 |
| **Total** | **27.7** | **9.9** | **13.9** | **22.1** | **9.7** | **12.0** | **22.0** | **10.1** | **11.7** | **23.6** | **9.9** | **11.5** | **23.8** | **9.7** | **11.8** |
| **Pedestrian event[†]** | | | | | | | | | | | | | | | |
| Males | 9.6 | 3.5 | 2.1 | 5.9 | 3.2 | 2.0 | 5.5 | 2.9 | 1.8 | 7.3 | 2.8 | 1.6 | 3.2 | 2.5 | 1.3 |
| Females | 3.7 (19)[§] | 1.8 | 1.2 | 2.2 (11)[§] | 1.7 | 1.0 | 5.0 | 1.6 | 0.9 | 4.6 | 1.4 | 0.9 | 2.6 (17)[§] | 1.5 | 0.8 |
| **Total** | **6.7** | **2.6** | **1.7** | **4.1** | **2.4** | **1.5** | **5.3** | **2.3** | **1.4** | **6.0** | **2.1** | **1.2** | **2.9** | **2.0** | **1.0** |
| **Firearm[¶]** | | | | | | | | | | | | | | | |
| Males | 12.4 | 30.6 | 7.7 | 18.8 | 39.2 | 8.7 | 15.8 | 42.2 | 8.7 | 16.3 | 31.7 | 7.6 | 14.7 | 22.8 | 6.2 |
| Females | 2.3 (10)[§] | 4.0 | 1.6 | 1.2 (6)[§] | 4.5 | 1.6 | 3.1 (16)[§] | 5.1 | 1.7 | 3.5 (19)[§] | 4.3 | 1.4 | 1.8 (10)[§] | 3.1 | 1.2 |
| **Total** | **7.4** | **17.5** | **4.7** | **10.2** | **22.1** | **5.2** | **9.6** | **23.9** | **5.3** | **10.1** | **18.2** | **4.6** | **8.4** | **13.1** | **3.8** |
| **Suicide** | | | | | | | | | | | | | | | |
| Males | 14.5 | 3.2 | 5.4 | 13.0 | 3.9 | 5.3 | 10.7 | 4.5 | 5.3 | 12.4 | 3.6 | 5.0 | 14.8 | 3.2 | 4.6 |
| Females | 3.4 (15)[§] | 0.7 | 1.3 | 1.9 (9)[§] | 0.5 | 1.2 | 4.4 | 0.6 | 1.2 | 2.7 (14)[§] | 0.6 | 1.1 | 3.2 (17)[§] | 0.8 | 1.0 |
| **Total** | **9.1** | **2.0** | **3.4** | **7.6** | **2.2** | **3.3** | **7.6** | **2.6** | **3.3** | **7.7** | **2.2** | **3.1** | **9.1** | **2.0** | **2.9** |
| **Homicide** | | | | | | | | | | | | | | | |
| Males | 6.4 | 31.4 | 3.9 | 12.1 | 38.3 | 5.1 | 11.7 | 40.3 | 5.1 | 11.2 | 31.1 | 4.7 | 8.5 | 23.8 | 3.8 |
| Females | 3.4 (18)[§] | 7.7 | 1.8 | 3.5 | 7.8 | 1.9 | 3.1 (19)[§] | 8.1 | 1.9 | 5.1 | 7.2 | 1.9 | 3.3 | 5.8 | 1.6 |
| **Total** | **4.9** | **19.6** | **2.9** | **7.9** | **23.2** | **3.5** | **7.5** | **24.4** | **3.6** | **8.2** | **19.4** | **3.3** | **6.0** | **15.0** | **2.7** |
| **Drowning** | | | | | | | | | | | | | | | |
| Males | 7.8 | 5.2 | 3.0 | 4.5 | 5.0 | 2.7 | 4.3 | 4.5 | 2.4 | 6.6 | 4.3 | 2.4 | 3.9 | 4.2 | 2.3 |
| Females | 0.9 (5)[§] | 1.4 | 1.0 | 2.5 (15)[§] | 1.3 | 0.9 | 2.1 (13)[§] | 1.2 | 0.8 | 2.7 (16)[§] | 1.3 | 0.9 | 2.0 (13)[§] | 1.1 | 0.8 |
| **Total** | **4.5** | **3.3** | **2.0** | **3.5** | **3.2** | **1.9** | **3.2** | **2.9** | **1.6** | **4.7** | **2.8** | **1.7** | **2.9** | **2.7** | **1.6** |
| **Fire** | | | | | | | | | | | | | | | |
| Males | 2.9 (17)[§] | 4.0 | 1.5 | 3.5 | 3.8 | 1.4 | 4.5 | 3.9 | 1.3 | 3.2 | 2.9 | 0.9 | 1.5 (10)[§] | 2.3 | 0.8 |
| Females | 2.3 (12)[§] | 3.8 | 1.0 | 2.1 (11)[§] | 3.0 | 1.0 | 3.4 | 3.3 | 0.8 | 2.7 (17)[§] | 2.6 | 0.7 | 1.1 (7)[§] | 2.3 | 0.6 |
| **Total** | **2.6** | **3.9** | **1.3** | **2.8** | **3.4** | **1.2** | **3.9** | **3.6** | **1.1** | **3.0** | **2.8** | **0.8** | **1.3 (17)[§]** | **2.3** | **0.7** |

* Per 100,000 population.
† Pedestrian deaths are included in the motor-vehicle category.
§ Rates are based on <20 deaths and should be interpreted with caution. Crude numbers of deaths are presented in parentheses.
¶ Firearm deaths include deaths from suicide, homicide, and unintentional or undetermined intent.

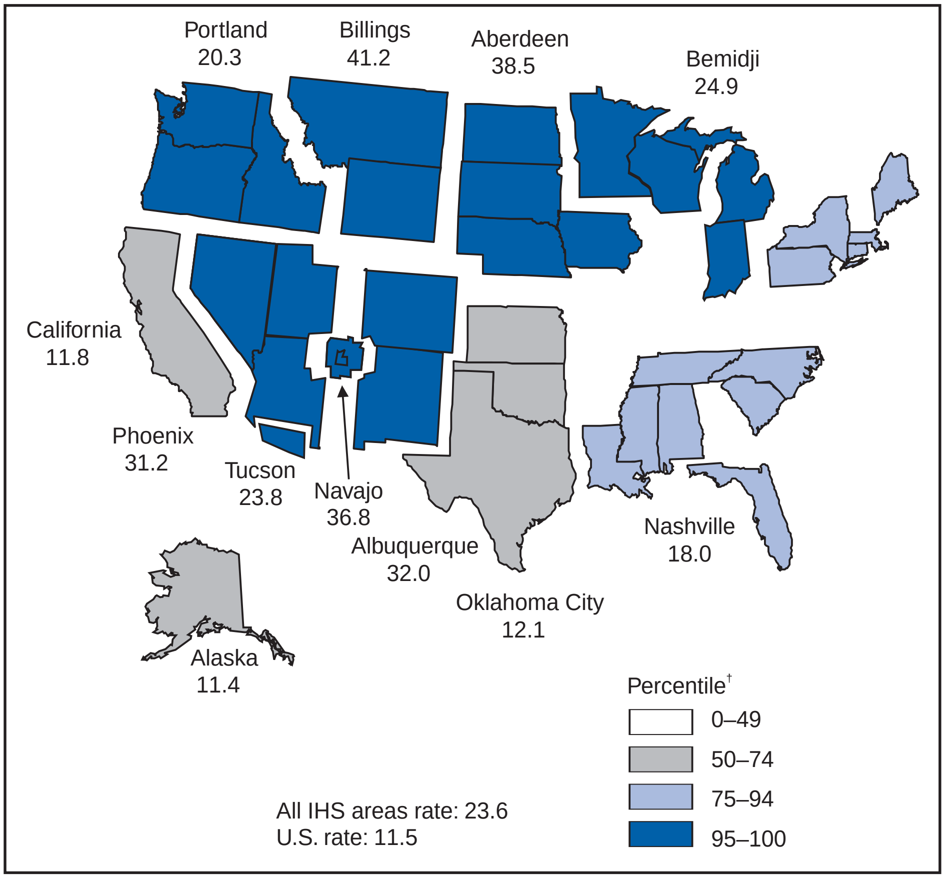
five to seven times higher than overall U.S. rates. Northern areas such as Aberdeen, Alaska, Bemidji, and Billings all had suicide rates higher than the 95th percentile of all state rates. The lowest suicide rates occurred in the California, Nashville, and Oklahoma areas (Figure 2). Firearms (52%) and hanging (37%) were the leading methods of suicide for AI/AN youth.

Despite decreases in injury rates for some causes, AI/AN rates for all injuries combined were two times greater than overall U.S. rates (49.4 versus 24.0, respectively). Compared with blacks and whites, AI/AN children and youth had the highest injury-death rates for motor-vehicle crashes, pedestrian events, and suicide. Rates for these causes among AI/AN children and youth were two to three times greater than rates for whites the same age. Black children and youth had the highest rates for homicide and firearm deaths. AI/AN and black children and youth had similar rates for fire-related deaths and drowning, and both groups had higher rates than white children and youth (Table).

**Reported by:** *LJD Wallace, MSEH, R Patel, MPH, A Dellinger PhD, Div of Unintentional Injury Prevention, National Center for Injury Prevention and Control, CDC.*

**Editorial Note:** AI/AN children and youth are at greater risk for preventable injury-related death than other children in the United States. Although AI/AN death rates from motor-vehicle crashes, pedestrian events, drowning, and fire decreased during 1989–1999, the overall injury disparity compared with rates for whites persists. AI/AN children and youth have not benefitted to the same degree as white children and youth from interventions in areas such as traffic safety (e.g., increased child-restraint use, safety-belt use, and reductions in alcohol-impaired driving) (*4*). Primary enforcement of occupant-restraint laws (i.e., stopping a driver solely for a restraint violation) combined with active enforcement and public awareness are the most effective strategies for increasing occupant-restraint use (*5*). The majority of AI/AN tribes are considered sovereign nations and pass and enforce their own traffic-safety laws. Several tribes have passed occupant-protection laws, but enforcement of these laws often is challenging for the mostly rural tribal police departments (*4*). AI/ANs have the highest alcohol-related motor-vehicle–death rates of all racial/ethnic groups (*6*), which places children at risk when riding with impaired drivers and puts youth at risk as drivers and passengers. In states with reservations, an

**FIGURE 1. Motor-vehicle–related deaths* among American Indians/Alaska Natives aged ≤19 years, by Indian Health Service (IHS) administrative areas, 1989–1998**




* Per 100,000 population.
† Shading of IHS regions corresponds to the national ranking of state rates in percentiles for all U.S. populations combined for 1989–1998.

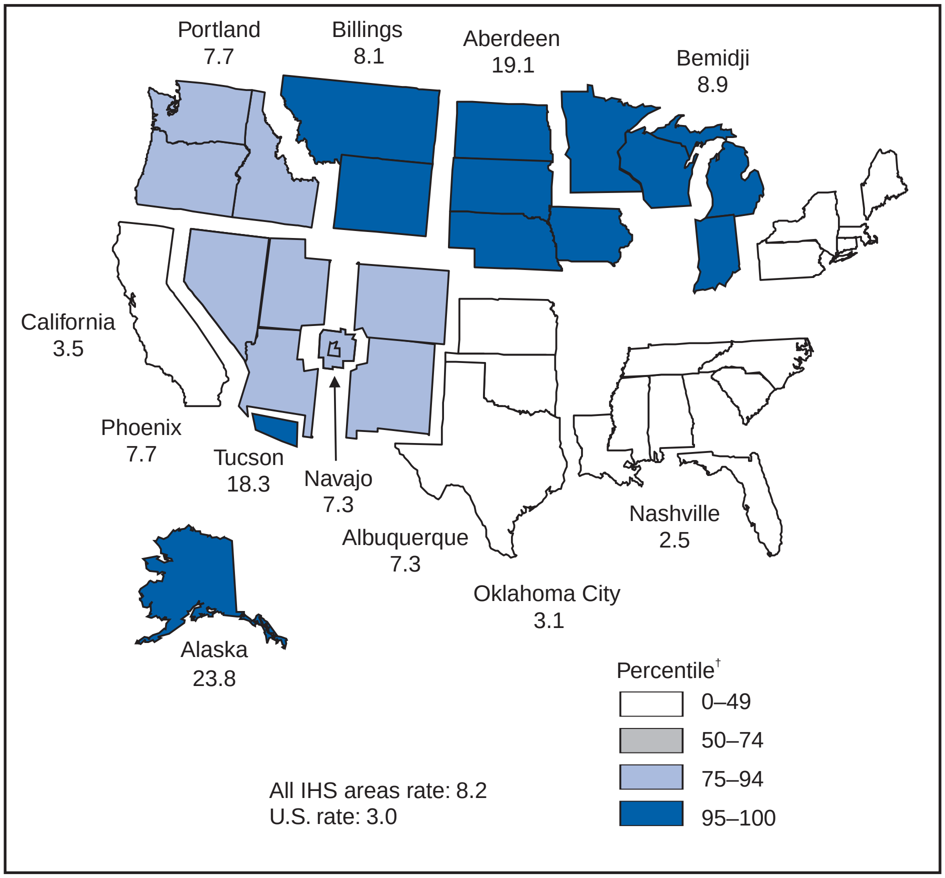
estimated 75% of suicides, 80% of homicides, and 65% of motor-vehicle–related deaths among AI/ANs involve alcohol (*7*). Young drivers are at risk particularly for dying in a car crash as a result of driver inexperience, nighttime driving, and alcohol use. Several tribes have the authority to restrict driving privileges on the reservations, enforce a lower blood-alcohol concentration (BAC) limit (e.g., 0.02 g/dL BAC for underage drinking), and set curfew ordinances to help reduce deaths from motor-vehicle crashes (*4*).

During 1989–1999, homicide accounted for the largest increase in injury-death rates among AI/ANs. Despite advances in knowledge about how to prevent youth violence (*8*), more needs to be learned about how to apply these advances to the prevention of youth violence in AI/AN communities. Suicide rates for AI/AN youth did not decline during the study period and were especially high in the Alaska, Aberdeen, and Tucson areas. The AI/AN Community Suicide-Prevention Center and Network in New Mexico has reduced suicides among AI/AN youth with a community-based approach involving school-based youth helpers, mental health referral and assistance, and outreach to families (*9*). Additional research is needed to determine the risk factors and reasons for the substantially higher suicide rates in the Alaska and Aberdeen areas and for the protective factors in other IHS areas with lower rates.

The findings in this report are subject to at least one limitation. Injury-mortality rates probably underestimate the true rates for AI/ANs because of the misclassification of race/ethnicity on state death certificates (*10*). Misclassification of AI/AN race/ethnicity is estimated to range from 30% (California) to 1% (Navajo Nation) depending on IHS area (*10*).

AI/AN tribes and IHS recognize the importance of preventing injuries and are working to reduce this burden. In 2000, IHS funded 25 tribes for 5 years to build tribal capacity in injury prevention by establishing injury-prevention programs in tribal health departments. The majority of these programs address occupant protection for reducing motor-vehicle–related injuries and other high-priority injuries depending on

FIGURE 2. Suicides* among American Indians/Alaska Natives aged ≤19 years, by Indian Health Service (IHS) administrative areas, 1989–1998




* Per 100,000 population.
† Shading of IHS regions corresponds to the national ranking of state rates in percentiles for all U.S. populations combined for 1989–1998.

local need. In Alaska, strategies include float-coat and personal flotation–device promotion and distribution programs to prevent drowning, safe firearm storage with gun-safe programs, and suicide-prevention programs. Substantial improvements also have been made in reducing fire-related deaths among AI/ANs. One promising intervention program is Sleep Safe, a smoke alarm–distribution and education program targeting children and families in AI/AN Headstart Schools. Sleep Safe, which is supported by IHS and the U.S. Fire Administration, has funded programs in 55 Headstart schools and has distributed approximately 11,000 smoke alarms to AI/AN families (H. Cully, Oklahoma Area IHS, personal communication, 2003).

Interventions should be tailored to specific local settings and problems. For interventions to be successful, local practices and cultures need to be considered. Such efforts are needed to reduce and eliminate the injury-disparity gap between AI/AN and other U.S. children.

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# Diabetes Prevalence Among American Indians and Alaska Natives and the Overall Population — United States, 1994–2002

Diabetes affects American Indians/Alaska Natives (AI/ANs) disproportionately compared with other racial/ethnic populations (*1*) and has been increasing in prevalence in AI/AN populations during the past 16 years (*1,2*). To examine trends in diabetes prevalence among AI/ANs and the overall U.S. population and to describe disparities among these two populations, CDC analyzed data from the Indian Health Service (IHS) and the Behavioral Risk Factor Surveillance System (BRFSS). This report summarizes the results of that analysis, which indicate that diabetes continues to affect AI/ANs disproportionately and is becoming more common among younger populations. To combat this epidemic, knowledge and interventions from clinical trials and best-practice models should be translated to community-based prevention programs within AI/AN communities.

IHS operates a health-services system delivered directly through IHS facilities, purchased by IHS through contractual agreements with private providers, or delivered through tribally operated programs and urban Indian health programs (*3*). Approximately 60% of the estimated 2.5 million AI/ANs living in the United States are eligible to receive IHS services and use IHS medical facilities (*3*). Diabetes cases among AI/ANs aged ≥20 years were identified by using the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) diagnostic codes 250.0–250.9 from the IHS's ambulatory patient care computerized system for 1994–2002. The ambulatory patient care database includes unduplicated case reports for persons who attended an IHS service unit one or more times during each of the years studied. Ambulatory care data were reported from 123 (79%) of 156 service units; 33 service units (representing 5% of the AI/AN population using IHS services) were excluded because of incomplete reporting. Prevalence was calculated by using the AI/AN population that received health-care services at IHS, tribal, or urban facilities at least once during the preceding 3 years. Prevalence of self-reported diabetes among persons of similar age was obtained from BRFSS for the same period.

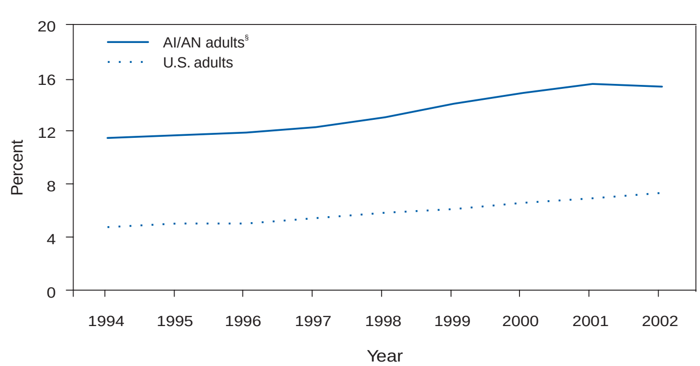
BRFSS is a state-based, random-digit–dialed telephone survey of the U.S. civilian, noninstitutionalized population aged ≥18 years. Surveys are conducted in all 50 states, the District of Columbia, and three U.S. territories; in 2002, the median response rate was 58.3% (range: 42.2%–82.6%). Persons with diabetes were defined as respondents who answered "yes" to the question, "Has a doctor ever told you that you have diabetes?" Women who were told that they had diabetes only during pregnancy were not included. BRFSS data were weighted to reflect the age, sex, and racial/ethnic distribution of the U.S. population. Data were analyzed by using SAS (version 8) software with SUDAAN to estimate standard errors. Taylor approximations were used to estimate 95% confidence intervals (CIs) on the relative increase of diabetes prevalence during 1994–2002 (*4*). Prevalence was age-adjusted by using the direct method based on the 2000 U.S. standard population.

During 1994–2002, the age-adjusted prevalence of diabetes increased 54.0% (95% CI = 46.7%–61.4%) among U.S. adults, from 4.8% to 7.3%, and increased 33.2% among AI/AN adults, from 11.5% to 15.3% (Figure). Throughout the surveillance period, the overall age-adjusted prevalence for AI/AN adults was more than twice that of U.S. adults overall.

Across all sex and age groups in both the AI/AN and overall U.S. adult populations, the prevalence of diagnosed diabetes was higher in 2002 than in 1994 (Table). In 1994 and 2002, diabetes prevalence increased with age for U.S. adults and increased up to age ≥65 years for AI/AN adults. Overall, the age-specific prevalence of diagnosed diabetes was two to three higher for AI/AN adults than for U.S. adults. In 2002, approximately 30% of AI/ANs aged ≥55 years had diabetes. Although prevalence was lowest among younger persons in both populations, the larger relative increases during 1994–2002 were 73.7% for AI/ANs aged 20–34 years, from 1.8% to 3.1%, and 86.8% (95% CI = 60.5%–113.1%) for U.S. adults aged 35–44 years, from 2.0% to 3.7%.

**Reported by:** *KJ Acton, National Diabetes Program, Indian Health Svc. NR Burrows, MPH, LS Geiss, MA, T Thompson, MS, Div of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, CDC.*

**FIGURE. Age-adjusted prevalence* of diagnosed diabetes among American Indian/Alaska Native (AI/AN) and U.S. adults aged ≥20 years, by year — United States, 1994–2002†**




* Based on the 2000 U.S. population.
† Based on Indian Health Service ambulatory patient-care data and the Behavioral Risk Factor Surveillance System.
§ Although the rate of increase in diabetes prevalence among AI/ANs slowed during 2001–2002, additional data are needed to assess recent trends.

**TABLE. Prevalence of diagnosed diabetes among adults aged ≥20 years in the American Indian/Alaska Native (AI/AN) and overall U.S. populations, by age group and sex — United States, 1994 and 2002***

| | AI/AN population | | U.S. population | | | |
|---|---|---|---|---|---|---|
| | | | 1994 | | 2002 | |
| Age group (yrs) | 1994 (%) | 2002 (%) | (%) | (95% CI†) | (%) | (95% CI) |
| **Men** | | | | | | |
| 20–34 | 1.6 | 2.7 | 0.8 | (0.6–1.0) | 1.1 | (0.9–1.4) |
| 35–44 | 6.1 | 9.2 | 2.0 | (1.6–2.4) | 3.3 | (2.9–3.8) |
| 45–54 | 14.4 | 18.4 | 5.1 | (4.2–6.0) | 8.0 | (7.3–8.7) |
| 55–64 | 20.1 | 29.0 | 9.6 | (8.3–10.9) | 14.7 | (13.5–15.9) |
| ≥65 | 18.6 | 26.3 | 13.0 | (11.7–14.3) | 18.7 | (17.6–19.8) |
| **≥20** | **7.6** | **11.8** | **4.6** | **(4.2–4.9)** | **7.3** | **(7.0–7.6)** |
| **≥20§** | **10.3** | **14.5** | **5.1** | **(4.8–5.5)** | **7.7** | **(7.4–8.0)** |
| **Women** | | | | | | |
| 20–34 | 1.9 | 3.4 | 1.0 | (0.8–1.3) | 1.4 | (1.2–1.6) |
| 35–44 | 6.7 | 9.5 | 2.0 | (1.6–2.4) | 4.1 | (3.6–4.6) |
| 45–54 | 16.3 | 19.6 | 4.8 | (4.1–5.4) | 7.2 | (6.6–7.8) |
| 55–64 | 25.6 | 30.9 | 8.7 | (7.7–9.7) | 12.7 | (11.9–13.6) |
| ≥65 | 23.3 | 29.8 | 10.1 | (9.3–10.9) | 15.7 | (14.9–16.6) |
| **≥20** | **9.4** | **13.5** | **4.5** | **(4.3–4.8)** | **7.3** | **(7.1–7.6)** |
| **≥20§** | **12.4** | **15.9** | **4.5** | **(4.3–4.8)** | **7.1** | **(6.8–7.3)** |
| **Total** | | | | | | |
| **20–34** | **1.8** | **3.1** | **0.9** | **(0.8–1.0)** | **1.3** | **(1.1–1.4)** |
| **35–44** | **6.4** | **9.4** | **2.0** | **(1.7–2.3)** | **3.7** | **(3.4–4.1)** |
| **45–54** | **15.4** | **19.0** | **4.9** | **(4.4–5.5)** | **7.6** | **(7.1–8.0)** |
| **55–64** | **23.2** | **30.0** | **9.1** | **(8.3–9.9)** | **13.7** | **(13.0–14.4)** |
| **≥65** | **21.3** | **28.3** | **11.3** | **(10.6–12.0)** | **16.9** | **(16.3–17.6)** |
| **≥20** | **8.6** | **12.7** | **4.5** | **(4.3–4.7)** | **7.3** | **(7.1–7.5)** |
| **≥20§** | **11.5** | **15.3** | **4.8** | **(4.6–5.0)** | **7.3** | **(7.1–7.5)** |

* Based on Indian Health Service ambulatory patient care data and the Behavioral Risk Factor Surveillance System.
† Confidence interval.
§ Age-adjusted based on the 2000 U.S. population.

**Editorial Note:** Diabetes is associated with severe and costly complications (e.g., blindness, kidney failure, lower-extremity amputation, and cardiovascular disease), disability, decreased quality of life, and premature death (*5*) that continue to affect AI/ANs disproportionately. In addition, diabetes is becoming more common in both the AI/AN and overall U.S. populations, and the larger increase in diabetes prevalence among young adults during 1994–2002 presents an additional public health concern. Earlier onset increases the lifetime duration of the disease, the risk for costly and disabling diabetes-related complications, and health concerns for young women of child-bearing age because both women who had diabetes during pregnancy and their offspring might be at increased risk for developing the disease (*5*).

The findings in this report are subject to at least five limitations. First, prevalence of diabetes probably was underestimated because the data did not represent persons with undiagnosed disease. Second, IHS data accounted only for those persons who used IHS or tribal health facilities. The higher age-specific prevalence of diabetes among AI/AN women might be attributable to women seeking health care at IHS or tribal health facilities more frequently than men (*3*). Third, 5% of the IHS population was excluded from this analysis because of incomplete data. Fourth, information on diabetes prevalence is missing for approximately 40% of the AI/AN population who do not reside on or near reservations and who do not receive care from IHS or tribal health facilities (*3*). Whether they are more or less likely to have diabetes is unknown. Finally, data are not available for U.S. persons without telephones (who are likely to be of low socioeconomic status) who have had diabetes diagnosed (*5*). Despite these limitations, IHS data are sufficiently consistent to estimate trends over time (*1*), and BRFSS survey data have minimal bias compared with census data (BRFSS data quality report; available at http://www.cdc.gov/brfss). In addition, research has demonstrated agreement between administrative and survey data in identifying persons with diabetes (*6*).

Although the increase in diabetes prevalence might, in part, reflect better case ascertainment, population-based studies suggest that it might represent a true increase in disease incidence caused, in part, by the increasing prevalence of obesity (*7*). The prevalence of diabetes will likely continue to increase as the U.S. population ages and as the prevalence of risk factors (e.g., obesity) increases (*5*). Interventions that promote exercise, improve nutrition by reducing fat and calorie intake, and reduce body weight have been shown to prevent or delay onset of disease among persons at risk for developing type 2 diabetes (*8*). Among persons with diabetes, appropriate health-care practices (e.g., aggressive control of hyperglycemia and hypertension) can prevent or delay diabetes-related complications (e.g., eye disease, kidney disease, or nerve damage, which is a precursor to foot disease and lower-extremity amputation) (*9*).

In 1997, the Balanced Budget Act provided $150 million in grants to the IHS for diabetes-prevention and treatment programs. Through national consultation and close partnership with tribal leadership, the IHS has used these funds to establish approximately 350 new diabetes programs in AI/AN communities. The majority of these programs focus on diabetes prevention and health promotion, particularly among AI/AN youth (*10*). In December 2002, the U.S. Department of Health and Human Services awarded $150 million in annual grants to continue support for these programs through 2008. In 1998, CDC and IHS established the National Diabetes Prevention Center in Gallup, New Mexico, to provide guidance and technical support to AI/AN communities throughout the United States and to develop, evaluate, and disseminate culturally appropriate interventions. In 1999, in collaboration with IHS and other partners, the National Diabetes Education Program (NDEP) launched a diabetes awareness campaign, called "Control Your Diabetes for Future Generations," targeted to AI/ANs (available at http://ndep.nih.gov/conduct/psa-amerind.htm). More recently, NDEP launched the "Move It!" campaign to promote physical activity among AI/AN teens. Through a longstanding collaboration with IHS, CDC provides technical assistance on public health surveillance of diabetes among AI/ANs to the IHS National Diabetes Program. The continued surveillance of diabetes and its complications will be an important tool for monitoring the effectiveness of ongoing and future prevention strategies.

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# Cancer Mortality Among American Indians and Alaska Natives — United States, 1994–1998

In the United States, public health interventions to control infectious diseases, lower infant and maternal mortality, and improve basic sanitation have led to a substantial increase in life expectancy for American Indians and Alaska Natives (AI/ANs). During 1940–1995, average life expectancy among AI/ANs increased 39%, from 51 years in 1940 to 71 years in 1995; however, AI/ANs experienced a parallel increase in mortality rates for chronic diseases, including cancer, which is the second leading cause of death for AI/ANs nationally and the leading cause of death among Alaska Natives (*1,2*). A previous study examining cancer mortality rates during 1989–1993 documented lower cancer mortality rates for AI/ANs than for the overall U.S. population, with regional variation (*3*). To understand cancer mortality among AI/ANs subsequent to that period, the Indian Health Service (IHS) and CDC analyzed death certificate data provided by CDC's National Center for Health Statistics for deaths among AI/ANs in five U.S. geographic regions* during 1994–1998. This report summarizes the results of that analysis, which indicate that cancer mortality rates among AI/ANs nationally were lower than cancer mortality rates for all U.S. racial/ethnic populations combined. Rates for AI/ANs varied by region, with the highest rates found in the Alaska and the Northern Plains regions. Plans or modifications for cancer prevention and treatment programs should account for regional variation, and programs to discourage smoking initiation, encourage tobacco cessation, and promote colorectal cancer screening among AI/ANs in the Alaska and the Northern Plains regions should be expanded.

The analysis was limited to deaths of persons classified as AI/ANs on death certificates who at death were residents of counties on or adjacent to tribal reservations recognized by the Federal government (i.e., counties served by IHS). Denominator data for rate calculations for AI/ANs in the same counties reflected adjustments made to intercensal estimates for 1994–1998 on the basis of the 2000 decennial census (*4*). The AI/AN population of these counties comprised approximately 60% of persons in the United States who identified themselves as AI/ANs in the decennial census. Annualized mortality rates per 100,000 population adjusted to the

* *Alaska*; *East*=Alabama, Connecticut, Florida, Kansas, Louisiana, Maine, Massachusetts, Mississippi, New York, North Carolina,Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, and Texas; *Northern Plains*=Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming; *Southwest*=Arizona, Colorado, Nevada, New Mexico, and Utah; and *Pacific Coast*=California, Idaho, Oregon, and Washington.

2000 standard population were calculated by using 10-year age intervals for the five regions. In addition, mortality rate ratios (MRRs) and 95% confidence intervals were calculated to compare rates with the overall U.S. population (*5*).

The overall cancer mortality rate among AI/ANs (161.4 per 100,000 population) was lower than the U.S. rate for all racial/ethnic populations combined (205.5) (Table 1). The cancer mortality rate was 193.8 for males and 139.2 for females (Table 2). Rates were higher than the overall U.S. rate in the Alaska (248.9) and the Northern Plains regions (291.7); in both regions, excess mortality was attributed to cancer of the lung, colorectum, liver, stomach, and gallbladder. In contrast, the lung cancer mortality rate among AI/ANs in the Southwest region was fourfold lower than the overall U.S. rate for all racial/ethnic populations combined. Cervical cancer mortality rates were higher among AI/ANs than among all racial/ethnic populations (3.7 and 2.6, respectively), particularly in the East and Northern Plains regions, and breast cancer mortality rates were lower among AI/ANs than among all racial/ethnic populations (17.0 and 29.4, respectively), particularly in the East, Pacific Coast, and Southwest regions.

Rates for lung cancer mortality, the leading cause of cancer death for all AI/AN populations combined, varied by region; rates in the Alaska (78.1) and the Northern Plains regions were higher than the U.S. rate for all racial/ethnic populations combined (57.8) but low in the Southwest region (14.1). Rates for colorectal cancer, the second most common cause of AI/AN cancer mortality, also varied by region. The Alaska and the Northern Plains regions had the highest MRRs (1.78 and 1.59, respectively), and the Southwest region (0.54) had the lowest; in other regions, MRRs were below the overall U.S. rates for all racial/ethnic populations combined. In the East region, 80% of AI/AN cancer deaths occurred among AI/ANs living in Oklahoma.

**Reported by:** *R Paisano, MHSA, N Cobb, MD, National Epidemiology Program, Indian Health Svc. DK Espey, MD, Div of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, CDC.*

**Editorial Note:** Although the cancer mortality rate for AI/ANs was lower than the U.S. rate for all racial/ethnic populations combined, rates were higher for some cancer types and varied by region. In particular, mortality rates for all types of cancer combined were higher among AI/ANs in the Alaska and Northern Plains regions than the overall U.S. rate for all racial/ethnic populations combined.

Rates for lung cancer mortality were consistent with known regional patterns of cigarette smoking for AI/AN communities across the United States (*6*). Although colorectal cancer

**TABLE 1. Number of deaths, mortality rates*, and mortality rate ratios (MRRs) for six leading causes of cancer death among American Indians/Alaska Natives (AI/ANs), by type of cancer and region† — United States, 1994–1998**

| Type of cancer | No. deaths | Mortality rate: AI/ANs | Mortality rate: All U.S. | MRR | (95% CI§) |
|---|---|---|---|---|---|
| **Lung/Bronchus** | | | | | |
| Alaska | 174 | 78.1 | | 1.35¶ | (1.15–1.58) |
| East | 420 | 37.0 | | 0.64¶ | (0.58–0.70) |
| Northern Plains | 453 | 96.9 | | 1.67¶ | (1.52–1.84) |
| Pacific Coast | 289 | 39.5 | | 0.68¶ | (0.60–0.77) |
| Southwest | 149 | 14.1 | | 0.24¶ | (0.21–0.29) |
| **Total** | **1,485** | **40.0** | **57.8** | **0.71¶** | **(0.67–0.75)** |
| **Colorectal** | | | | | |
| Alaska | 83 | 39.1 | | 1.78¶ | (1.42–2.24) |
| East | 176 | 15.5 | | 0.71¶ | (0.61–0.82) |
| Northern Plains | 160 | 34.9 | | 1.59¶ | (1.35–1.87) |
| Pacific Coast | 94 | 13.8 | | 0.63¶ | (0.50–0.78) |
| Southwest | 129 | 11.8 | | 0.54¶ | (0.45–0.64) |
| **Total** | **642** | **17.9** | **21.9** | **0.82¶** | **(0.75–0.89)** |
| **Breast (females)** | | | | | |
| Alaska | 34 | 24.6 | | 0.84 | (0.58–1.20) |
| East | 108 | 15.7 | | 0.53¶ | (0.44–0.65) |
| Northern Plains | 75 | 24.3 | | 0.83 | (0.65–1.04) |
| Pacific Coast | 92 | 21.1 | | 0.72¶ | (0.58–0.89) |
| Southwest | 75 | 11.1 | | 0.38¶ | (0.3 –0.48) |
| **Total** | **384** | **17.0** | **29.4** | **0.58¶** | **(0.52–0.64)** |
| **Prostate** | | | | | |
| Alaska | 13 | 14.4 | | 0.43 | (0.24–0.77) |
| East | 88 | 23.4 | | 0.70¶ | (0.56–0.87) |
| Northern Plains | 74 | 49.7 | | 1.48 | (1.16–1.89) |
| Pacific Coast | 41 | 19.0 | | 0.57¶ | (0.41–0.79) |
| Southwest | 73 | 18.9 | | 0.57¶ | (0.45–0.72) |
| **Total** | **289** | **23.8** | **29.4** | **0.71¶** | **(0.63–0.80)** |
| **Stomach** | | | | | |
| Alaska | 51 | 16.3 | | 3.20¶ | (2.40–4.27) |
| East | 46 | 4.1 | | 0.81 | (0.60–1.08) |
| Northern Plains | 45 | 8.9 | | 1.74¶ | (1.26–2.40) |
| Pacific Coast | 36 | 4.9 | | 0.95 | (0.66–1.36) |
| Southwest | 113 | 10.3 | | 2.02¶ | (1.66–2.45) |
| **Total** | **291** | **7.6** | **5.1** | **1.48¶** | **(1.31–1.67)** |
| **Liver/IHBD**** | | | | | |
| Alaska | 17 | 7.0 | | 1.59 | (0.95–2.66) |
| East | 63 | 5.4 | | 1.23 | (0.96–1.59) |
| Northern Plains | 45 | 9.5 | | 2.16¶ | (1.58–2.96) |
| Pacific Coast | 32 | 4.6 | | 1.05 | (0.72–1.53) |
| Southwest | 112 | 10.6 | | 2.40¶ | (1.98–2.92) |
| **Total** | **269** | **7.4** | **4.4** | **1.69¶** | **(1.49–1.91)** |
| **All cancers combined** | | | | | |
| Alaska | 593 | 248.9 | | 1.35¶ | (1.11–1.32) |
| East | 1,602 | 139.7 | | 0.64¶ | (0.65–0.72) |
| Northern Plains | 1,383 | 291.7 | | 1.67¶ | (1.34–1.50) |
| Pacific Coast | 970 | 134.4 | | 0.68¶ | (0.61–0.70) |
| Southwest | 1,404 | 127.5 | | 0.24¶ | (0.59–0.66) |
| **Total** | **5,952** | **161.4** | **205.5** | **0.79¶** | **(0.76–0.81)** |

* Per 100,000 population, age adjusted to U.S. 2000 standard population.
† *Alaska*; *East*=Alabama, Connecticut, Florida, Kansas, Louisiana, Massachusetts, Maine, Mississippi, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, and Texas; *Northern Plains*=Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming; *Southwest*=Arizona, Colorado, Nevada, New Mexico, and Utah; and *Pacific Coast*=California, Idaho, Oregon, and Washington.
§ Confidence interval.
¶ AI/AN rate significantly different compared with overall rate for all U.S. racial/ethnic populations.
** Intrahepatic bile duct.

**TABLE 2. Number of deaths, mortality rates*, and mortality rate ratios (MRRs) for all types of cancer among American Indians/ Alaska Natives (AI/ANs), by sex and region† — United States, 1994–1998**

| Sex | No. deaths | Mortality rate AI/ ANs | Mortality rate All U.S. | MRR | (95% CI§) |
|---|---|---|---|---|---|
| **Female** | | | | | |
| Alaska | 272 | 209.4 | | 1.22¶ | (1.08–1.39) |
| East | 791 | 118.8 | | 0.69¶ | (0.65–0.74) |
| Northern Plains | 671 | 242.6 | | 1.42¶ | (1.31–1.53) |
| Pacific Coast | 491 | 120.8 | | 0.71¶ | (0.64–0.77) |
| Southwest | 711 | 114.3 | | 0.67¶ | (0.62–0.72) |
| **Total** | **2,936** | **139.2** | **171.3** | **0.81¶** | **(0.78–0.84)** |
| **Male** | | | | | |
| Alaska | 321 | 298.6 | | 1.16¶ | (1.03–1.31) |
| East/South-central | 811 | 173.7 | | 0.68¶ | (0.63–0.73) |
| Northern Plains | 712 | 367.6 | | 1.43¶ | (1.32–1.55) |
| Pacific Coast | 479 | 154.6 | | 0.60¶ | (0.54–0.67) |
| Southwest | 693 | 145.1 | | 0.56¶ | (0.52–0.61) |
| **Total** | **3,016** | **193.8** | **257.2** | **0.75¶** | **(0.72–0.78)** |

* Per 100,000 population, age-adjusted to U.S. 2000 standard population.
† *Alaska*; *East*=Alabama, Connecticut, Florida, Kansas, Louisiana, Massachusetts, Maine, Mississippi, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, and Texas; *Northern Plains*=Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming; *Southwest*=Arizona, Colorado, Nevada, New Mexico, and Utah; and *Pacific Coast*=California, Idaho, Oregon, and Washington.
§ Confidence interval.
¶ AI/AN rate significantly different compared with all U.S. racial/ethnic populations.

mortality patterns are more difficult to account for than regional variation in lung cancer mortality, contributing factors might include diet, physical activity levels, genetic predisposition, and access to, or use of, clinical preventive services.

Although breast cancer mortality rates were lower among AI/AN women in all regions than among all U.S. women, breast cancer is the second leading cause of cancer death among AI/AN women. Few breast cancer screening services were available to AI/AN women before the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) was established in 1990. From its inception, this program has emphasized breast cancer screening services for AI/AN women and provided screening mammograms to approximately 58,000 AI/AN women, in whom 610 breast cancers have been detected (NBCCEDP, personal communication, 2003).

In the majority of regions, prostate cancer mortality rates were lower among AI/ANs than among all racial/ ethnic populations combined. However, the rate among Northern Plains AI/AN men was nearly 50% higher than the rate for all racial/ethnic populations combined. In contrast, stomach and liver/intrahepatic bile duct (IHBD) cancer mortality rates for AI/ANs were generally higher than overall U.S. rates. *Helicobacter pylori* infection in stomach cancer and the synergistic effect of alcohol abuse and chronic infection with hepatitis B and C in liver/IHBD cancer might contribute to these disparities (*7*).

The findings in this report are subject to at least four limitations. First, because the racial identities of some cancer decedents probably were coded incorrectly (*8*), cancer mortality rates in AI/AN populations probably are underestimated. Second, some rates are based on small numbers of cases and have corresponding wider confidence intervals; these should be interpreted with caution. Third, causes of death for AI/ANs are more likely to be misclassified as "symptoms, signs, and ill-defined conditions" than they are for whites (*9*). In addition, the results might be confounded by residence because the majority of the study population reside in rural areas. However, rates for non-AI/ANs calculated for the IHS service counties and for the same geographic regions were similar to U.S. rates for all racial/ethnic populations combined (Table 3). Finally, racial misclassification for AI/ANs varies by region (*10*). The extent of this variability within IHS service counties is not known.

Plans or modifications for cancer prevention and treatment programs should account for regional variation, and programs to discourage smoking initiation, encourage tobacco cessation, and promote colorectal cancer screening among AI/ANs in the Alaska and Northern Plains regions should be expanded. In addition, efforts are needed to improve the accuracy of vital records data collection by reducing misclassification of racial/ethnic groups; projects are underway at the state and national levels to match key state vital records databases and the National Death Index with the IHS patient registration database so persons who have been misclassified can be identified correctly.

**TABLE 3. Mortality rates* for all types of cancer combined by region for American Indians/Alaska Natives (AI/ANs) and members of other racial/ethnic groups (non-AI/ANs) living in counties served by the Indian Health Service, by region† — United States, 1994–1998**

| Region | AI/ANs Rate | AI/ANs (95% CI§) | Non-AI/ANs Rate | Non-AI/ANs (95% CI) |
|---|---|---|---|---|
| Alaska | 248.9 | (228.2–271.4) | 192.8 | (184.5–201.6) |
| East | 139.7 | (132.9–147.0) | 205.6 | (204.7–206.6) |
| Northern Plains | 291.7 | (275.7–308.5) | 194.6 | (193.1–196.1) |
| Pacific Coast | 134.4 | (125.5–143.9) | 211.6 | (210.5–212.6) |
| Southwest | 127.5 | (120.6–134.7) | 186.1 | (184.7–187.5) |
| **Total** | **161.4** | **(157.2–165.8)** | **202.9** | **(202.3–203.4)** |

* Per 100,000 population, age-adjusted to U.S. 2000 standard population.
† *Alaska*; *East*=Alabama, Connecticut, Florida, Kansas, Louisiana, Massachusetts, Maine, Mississippi, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, and Texas; *Northern Plains*=Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming; *Southwest*=Arizona, Colorado, Nevada, New Mexico, and Utah; and *Pacific Coast*=California, Idaho, Oregon, and Washington.
§ Confidence interval.

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# Bronchiolitis-Associated Outpatient Visits and Hospitalizations Among American Indian and Alaska Native Children — United States, 1990–2000

Respiratory syncytial virus (RSV) is the most common cause of lower respiratory tract infection (LRTI) in young children worldwide. Approximately half of all LRTI-associated hospitalizations are caused by bronchiolitis, with RSV accounting for 50%–80% of all bronchiolitis cases (*1*). Bronchiolitis is an infection of the bronchial and bronchiolar epithelial cells, with subsequent inflammation and edema resulting in airway obstruction. This process manifests clinically as cough, wheezing, tachypnea, and respiratory distress. Because of the association between bronchiolitis and RSV infection, bronchiolitis is a good indicator of RSV disease; therefore, prevention strategies for RSV should reduce the rate of bronchiolitis. Rates of bronchiolitis-associated hospitalization for American Indian/Alaska Native (AI/AN) children are approximately twice that for the general population of U.S. children (*2,3*). This report describes the first estimate of rates of outpatient bronchiolitis-associated visits and updates rates of bronchiolitis-associated hospitalizations in these populations. Rates of bronchiolitis-associated outpatient visits and hospitalizations were higher for AI/AN children than for other U.S. children, and hospitalization rates for both groups increased during 1990–2000. This report underscores the high burden of bronchiolitis and the need for effective prevention programs for AI/AN communities.

Outpatient visits and hospitalizations associated with the diagnosis of bronchiolitis (*International Classification of Diseases, 9th revision, Clinical Modification*, code 466.1) were analyzed for children aged <5 years. Outpatient visit data (including clinic and emergency department visits) for 1999–2000 were obtained from the Indian Health Service (IHS) National Patient Information Reporting System (NPIRS) for all AI/AN children who received IHS-funded health care (including health care in tribal facilities) (*4*) and from the National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) for children in the overall U.S. population (*5*). Hospital discharge data (excluding newborn hospitalization data) for 1990–2000 with bronchiolitis listed as a diagnosis were obtained from IHS (*6*) and the National Hospital Discharge Survey (NHDS) (*7*). The Direct and Contract Health Service Inpatient IHS Dataset comprises all AI/AN patient discharge records obtained from IHS- and tribally operated hospitals and from hospitals that have contracted with IHS or tribes to provide health-care services to federally recognized AI/AN tribes within the United States. The IHS California and Portland, Oregon, administrative areas were excluded from the hospitalization data analysis because neither had any IHS- or tribally operated hospitals. NHDS is a representative sample of discharge records from short-stay, nonfederal general and children's hospitals in the United States. NAMCS, NHAMCS, and NHDS do not include data on outpatient visits or hospitalizations from within the IHS/tribal system (*5,7*). For this report, the units of analysis were hospitalizations and outpatient visits.

Rates of outpatient visits for 1999–2000 and hospitalizations for 1996–2000 were calculated as the number of visits or hospitalizations per 1,000 children. AI/AN population denominators were determined for each year of the study by using the IHS 2002 user population estimates and adjusting retrospectively for annual changes in the IHS service population (using February 2002 IHS area estimates) (*8*). The user population included all registered AI/ANs who received IHS-funded health care at least once during the preceding 3 years. In this study, AI/AN children aged <5 years represented those who received health care through IHS- or tribally operated facilities. U.S. outpatient visit and hospitalization rates were calculated by using the U.S. resident population census and natality data as the denominators (*9,10*). Annual and overall standard errors of NAMCS/NHAMCS and NHDS estimates were calculated by using SUDAAN to account for the stratified sampling techniques (*5,7*). Tests for trend during 1990–2000 for annual hospitalization rates were performed for AI/AN hospitalization rates by using linear regression, and weighted least squares regression was used for U.S. hospitalization rates.

**TABLE 1. Number and rate* of bronchiolitis-associated outpatient visits among American Indian/Alaska Native (AI/AN)† and U.S.§ children aged <5 years, by selected characteristics — United States, 1999–2000**

| | AI/AN | | | U.S. | | |
|---|---|---|---|---|---|---|
| **Characteristic** | **No. visits** | **Rate** | **(95% CI¶)** | **No. visits** | **Rate** | **(95% CI)** |
| **Age (yrs)** | | | | | | |
| <1 | 17,763 | 452.3 | (447.3–457.2) | 1,172,460 | 146.2 | (79.6–212.8) |
| 1–4 | 10,067 | 46.5 | (45.6–47.4) | 401,021 | 13.7 | (5.7–21.6) |
| **Sex** | | | | | | |
| Male | 15,590 | 119.5 | (117.7–121.2) | 784,835 | 41.2 | (23.7–58.6) |
| Female | 12,240 | 97.7 | (96.1–99.4) | 788,646 | 43.3 | (19.8–66.8) |
| **Region**** | | | | | | |
| Alaska | 4,046 | 162.4 | (157.8–167.0) | — | | — |
| East | 414 | 62.3 | (56.6–68.4) | — | | — |
| Northern Plains | 3,793 | 71.8 | (69.6–74.0) | — | | — |
| Oklahoma | 2,873 | 54.8 | (52.9–56.8) | — | | — |
| Southwest | 15,417 | 164.7 | (162.3–167.1) | — | | — |
| West | 1,287 | 50.8 | (48.1–53.6) | — | | — |
| **Total** | 27,830 | 108.8 | (107.6–110.0) | 1,573,481 | 42.2 | (24.8–59.5) |

* Per 1,000 children.
† Outpatient visit data for all AI/AN children who received Indian Health Service (IHS)-funded health care (including health care in tribal facilities) were obtained from the IHS National Patient Information Reporting System.
§ Estimates of outpatient visits for the overall U.S. population of children were derived from National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey data. Estimates for U.S. regions are not presented because their standard errors exceed 30%, which indicates unreliability.
¶ Confidence interval.
** Regions used in this analysis were based on IHS Areas and were defined as: *Alaska*; *East*=Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, and parts of Texas; *Northern Plains*=Indiana; Iowa, Montana, Nebraska, North Dakota, Michigan, Minnesota, South Dakota, Wisconsin, and Wyoming; *Oklahoma* (includes parts of Texas); and *Southwest*=Arizona, Colorado, New Mexico, Nevada, Utah, and parts of Texas.

## Outpatient Visits

During 1999–2000, the average annual rate for bronchiolitis-associated outpatient visits among AI/AN children aged <5 years was 108.8 per 1,000 children, which was significantly higher than the rate for children aged <5 years in the overall U.S. population (42.2) (Table 1). Outpatient visit rates for AI/AN children were more than three times greater than the rate for U.S. children, among both infants (aged <1 year) (452.3 versus 146.2, respectively) and children aged 1–4 years (46.5 versus 13.7, respectively). The rate among AI/AN boys (119.5) was higher than the rate for girls (97.7), and both were more than twice the rates among U.S. children overall (41.2 and 43.3, respectively). Among AI/AN children, rates varied by region*, with the highest rates found in the Alaska (162.4) and Southwest (164.7) regions.

## Hospitalizations

During 1996–2000, AI/AN children aged <5 years had average annual rates of bronchiolitis-associated hospitalizations that were approximately twofold higher than the overall rate for U.S. children, among both infants (75.5 versus 39.1, respectively) and children aged 1–4 years (4.7 versus 2.4, respectively) (Table 2). Among AI/AN children, the Alaska (25.3) and Southwest (23.9) regions had high hospitalization rates, and the other three regions had low rates that were similar to the overall rate for U.S. children. The hospitalization rates for the Alaska and Southwest regions increased significantly during 1990–2000, as did the overall rate for U.S. children (p<0.005) (Figure). During the study period, the median length of stay for AI/AN and U.S. children overall was 3 days per hospitalization (interquartile range: 2–4 days). A total of 36 (0.41%) hospital deaths were reported at discharge among AI/AN children.

**Reported by:** *K Carver, PhD, Office of Program Support; JE Cheek, MD, Epidemiology Program, Indian Health Svc. RC Holman, MS, AT Curns, MPH, JS Bresee, MD, JR Lingappa, MD, LJ Anderson, MD, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; AJ Peck, MD, EIS Officer, CDC.*

**Editorial Note:** The findings in this report indicate that rates of both bronchiolitis-associated outpatient visits and hospitalizations were higher for AI/AN children than for the overall population of U.S. children. These findings are consistent with bronchiolitis-associated hospitalization rates reported previously, with the highest rates in the youngest age group and in the Alaska and Southwest regions (*1–3*). In addition, hospitalization rates increased for AI/AN children living in these regions and for the overall population of U.S. children.

Possible risk factors associated with higher rates of bronchiolitis in AI/AN children include household crowding and

* Regions used in this analysis were based on Indian Health Service Areas and were defined as: *Alaska*; *East*=Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, and parts of Texas; *Northern Plains*=Indiana; Iowa, Montana, Nebraska, North Dakota, Michigan, Minnesota, South Dakota, Wisconsin, and Wyoming; *Oklahoma* (includes parts of Texas); and *Southwest*=Arizona, Colorado, New Mexico, Nevada, Utah, and parts of Texas.

**TABLE 2. Number and rate* of bronchiolitis-associated hospitalizations among American Indian/Alaska Native (AI/AN)† and U.S.§ children aged <5 years, by selected characteristics — United States, 1996–2000**

| | AI/AN | | | U.S. | | |
|---|---|---|---|---|---|---|
| Characteristic | No. hospitalizations | Rate | (95% CI¶) | No. hospitalizations | Rate | (95% CI) |
| **Age (yrs)** | | | | | | |
| <1 | 6,603 | 75.5 | (73.8–77.3)** | 771,894 | 39.1 | (30.8–47.4)†† |
| 1–4 | 2,216 | 4.7 | (4.5–4.9)†† | 178,539 | 2.4 | (1.8–2.9)†† |
| **Sex** | | | | | | |
| Male | 4,867 | 17.1 | (16.6–17.6)** | 561,023 | 11.5 | (9.2–13.8)†† |
| Female | 3,952 | 14.4 | (14.0–14.9)†† | 389,410 | 8.3 | (6.4–10.3)†† |
| **Region§§** | | | | | | |
| Alaska | 1,529 | 25.3 | (24.0–26.6)** | — | | — |
| East | 125 | 7.7 | (6.5–9.2) | — | | — |
| Northern Plains | 1,075 | 8.5 | (8.0–9.0) | — | | — |
| Oklahoma | 644 | 5.0 | (4.7–5.5) | — | | — |
| Southwest | 5,446 | 23.9 | (23.2–24.5)†† | — | | — |
| **U.S. region¶¶** | | | | | | |
| Northeast | — | | — | 150,884 | 8.9 | (6.9–10.9)†† |
| Midwest | — | | — | 207,345 | 9.6 | (5.3–13.9)** |
| South | — | | — | 338,610 | 10.0 | (6.3–13.7)** |
| West | — | | — | 253,594 | 11.0 | (5.8–16.1)** |
| **Total** | **8,819** | **15.8** | **(15.4–18.1)††** | **950,433** | **10.0** | **(7.9–12.0)††** |

* Per 1,000 children.
† Hospital discharge data (excluding newborn hospitalization data) for all AI/AN children who received Indian Health Service (IHS)-funded health care (including health care in tribal facilities) were obtained from the IHS National Patient Information Reporting System.
§ Estimates of hospital discharges for the general U.S. population of children were derived from National Hospital Discharge Survey data.
¶ Confidence interval.
** Test for trend of annual rates from 1990–2000, p<0.01.
†† Test for trend of annual rates from 1990–2000, p<0.001.
§§ Regions used in this analysis were based on IHS Areas and were defined as: *Alaska*; *East*=Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, and parts of Texas; *Northern Plains*=Indiana; Iowa, Montana, Nebraska, North Dakota, Michigan, Minnesota, South Dakota, Wisconsin, and Wyoming; *Oklahoma* (includes parts of Texas); and *Southwest*=Arizona, Colorado, New Mexico, Nevada, Utah, and parts of Texas.
¶¶ *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.

underventilation, smoke exposure, and lack of breast-feeding. Methodologic factors, including differences in health-care use, patient management by different health-care systems, and illness coding and data reporting by different groups, also might have contributed to the disparity between AI/AN children and the overall population of U.S. children and among regions. Similarly, the cause of increasing bronchiolitis-associated hospitalization might be related to several factors, including changing criteria for hospital admission as a result of the use of pulse oximetry and improved survival of high-risk premature infants, resulting in a larger population of premature infants susceptible to severe RSV disease (*1*).

The findings in this report are subject to at least two limitations. First, AI/AN children described in this study received IHS-funded health care and might not be representative of all AI/AN children in the United States. Second, AI/ANs eligible for IHS/tribal services could have received medical care outside of the IHS/tribal system, which would result in an underestimate of outpatient and hospitalization rates among AI/ANs. However, AI/ANs probably seek IHS/tribal medical care because it is provided without cost.

This study highlights a disproportionate burden of bronchiolitis in AI/AN children relative to the overall population of U.S. children and the need and opportunity to identify strategies to improve health in this population. Because RSV is the most common etiology for bronchiolitis, strategies to prevent RSV probably would decrease the burden of bronchiolitis substantially. However, the only available effective preventive therapies for RSV, intravenous RSV immune globulin and intramuscularly administered monoclonal antibody (palivizumab), are indicated for a small percentage of children (i.e., high-risk, premature infants) and are not expected to affect overall hospitalization rates. A safe and efficacious RSV vaccine would provide the best opportunity to prevent a substantial percentage of bronchiolitis disease. Continued efforts are needed to identify and better understand host factors and environmental risk factors for bronchiolitis for targeted preventive strategies (e.g., campaigns to decrease parent smoking) to have a more immediate impact on decreasing disease burden among children, especially those in AI/AN communities.

### Acknowledgments

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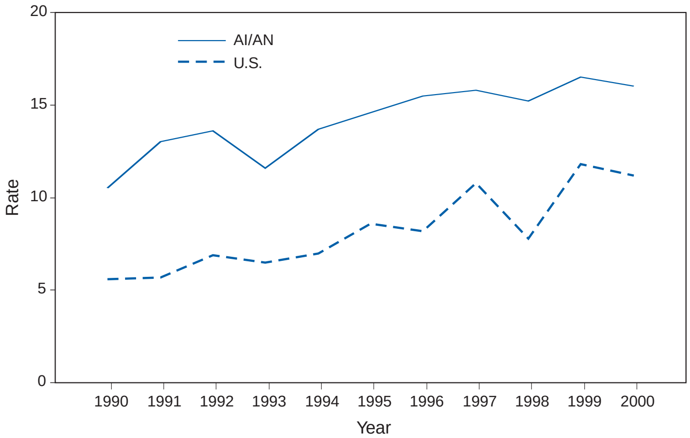
**FIGURE. Rates* of bronchiolitis-associated hospitalizations for American Indian/Alaska Native (AI/AN)† and U.S.§ children aged <5 years, by year — United States, 1990–2000**




* Per 1,000 children.
† Hospital discharge data (excluding newborn hospitalization data) for all AI/AN children who received Indian Health Service (IHS)-funded health care (including health care in tribal facilities) were obtained from the IHS National Patient Information Reporting System.
§ Hospital discharge data for the overall U.S. population of children were obtained from the National Hospital Discharge Survey.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# Vaccination Coverage Levels Among Alaska Native Children Aged 19–35 Months — National Immunization Survey, United States, 2000–2001

In 2000, a total of 118,846 persons indicated that their race/ethnicity was Alaska Native (AN), either alone or in combination with one or more other racial/ethnic groups (*1*). AN groups comprise 19% of the population of Alaska (*2*) and 0.4% of the total U.S. population. The AN grouping includes Eskimos, Aleuts, and Alaska Indians (members of the Alaska Athabaskan, Tlingit, Haida, or other AN tribes). Eskimo represented the largest AN tribal grouping, followed by Tlingit/Haida, Alaska Athabascan, and Aleut (*1*). Vaccination coverage levels among AN children have not been reported previously. This report presents data from the National Immunization Survey (NIS) for 2000–2001, which indicate that vaccination coverage levels among AN children aged 19–35 months exceeded the national health objective for 2010 (objective no. 14-22) for the majority of vaccines. This achievement indicates the effectiveness of using multiple strategies to increase vaccination coverage. Similar efforts might increase vaccination coverage in other rural regions with American Indian (AI)/AN populations.

NIS is an ongoing, random-digit–dialed telephone survey that provides national and state-level estimates of vaccination coverage among children aged 19–35 months on the basis of data for the most recent 12 months for each of the 50 states and 28 selected urban areas. Reports on NIS methodology have been published previously (*3*). The vaccination data in this report were verified by the children's vaccination providers. Because the number of AN children included each year in NIS is small, data were combined from 2 years (2000–2001) for which a child's racial/ethnic group identity could be determined to be AN. For this study, ANs included all children whose racial/ethnic group identities were recorded as AN either alone or in combination with another racial/ethnic population. Because 90% of AN children included in NIS resided in Alaska, vaccination coverage estimates and corresponding 95% confidence intervals were calculated among AN and non-AN children in Alaska and in all states combined, and the demographic characteristics of these children in Alaska and in all states combined were assessed.

Nationally and in Alaska, vaccination coverage levels among AN children exceeded the national health objective for 2010 of 90% coverage for ≥3 doses of any diphtheria and tetanus toxoids and pertussis (DTP) vaccine, ≥3 doses of any poliovirus vaccine, ≥1 dose of measles-mumps-rubella vaccine, ≥3 doses of *Haemophilus influenzae* type b (Hib) vaccine, and

**TABLE 1. Estimated percentage of Alaska Native (AN) and non-AN children vaccinated, by area, vaccine, and vaccination series — National Immunization Survey (NIS), United States, 2000–2001***

| | ≥3 DTP† | | ≥4 DTP§ | | ≥3 Polio¶ | | ≥1 MMR** | | ≥3 Hib†† | | ≥3 HepB§§ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Area** | **%** | **(95% CI****)** | **%** | **(95%CI)** | **%** | **(95%CI)** | **%** | **(95%CI)** | **%** | **(95%CI)** | **%** | **(95%CI)** |
| **Alaska** | | | | | | | | | | | | |
| AN | 94.9 | (±3.7) | 82.4 | (±6.9) | 93.9 | (±4.1) | 90.8 | (±5.0) | 95.6 | (±3.6) | 92.1 | (±4.6) |
| Non-AN | 88.1 | (±3.4) | 77.6 | (±4.3) | 84.0 | (±3.8) | 87.5 | (±3.3) | 87.1 | (±3.5) | 80.7 | (±4.1) |
| **Total** | **89.8** | **(±2.7)** | **78.8** | **(±3.7)** | **86.5** | **(±3.1)** | **88.3** | **(±2.8)** | **89.2** | **(±2.8)** | **83.6** | **(±3.3)** |
| **United States** | | | | | | | | | | | | |
| AN | 95.0 | (±3.8) | 80.9 | (±8.7) | 93.6 | (±4.9) | 91.4 | (±5.4) | 96.9 | (±2.6) | 92.3 | (±5.2) |
| Non-AN | 94.2 | (±0.3) | 82.0 | (±0.6) | 89.5 | (±0.5) | 90.9 | (±0.4) | 93.2 | (±0.4) | 89.6 | (±0.4) |
| **Total** | **94.2** | **(±0.3)** | **82.0** | **(±0.6)** | **89.5** | **(±0.5)** | **90.9** | **(±0.4)** | **93.2** | **(±0.4)** | **89.6** | **(±0.4)** |

**TABLE 1. (*Continued*) Estimated percentage of Alaska Native (AN) and non-AN children vaccinated, by area, vaccine, and vaccination series — National Immunization Survey (NIS), United States, 2000–2001***

| | ≥1 Var¶¶ | | 3:3:1*** | | 4:3:1†† | | 4:3:1:3§§§ | | 4:3:1:3:3:¶¶¶ | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Area** | **%** | **(95% CI)** | **%** | **(95%CI)** | **%** | **(95%CI)** | **%** | **(95%CI)** | **%** | **(95%CI)** |
| **Alaska** | | | | | | | | | | |
| AN | 58.2 | (±8.8) | 88.2 | (±5.5) | 79.2 | (±7.3) | 79.2 | (±7.3) | 76.4 | (±7.6) |
| Non-AN | 52.9 | (±5.1) | 79.9 | (±4.1) | 74.9 | (±4.4) | 74.3 | (±4.5) | 69.1 | (±4.7) |
| **Total** | **54.2** | **(±4.4)** | **82.0** | **(±3.4)** | **76.0** | **(±3.8)** | **75.5** | **(±3.8)** | **70.9** | **(±4.0)** |
| **United States** | | | | | | | | | | |
| AN | 54.1 | (±11.5) | 88.1 | (±6.2) | 78.7 | (±8.9) | 78.7 | (±8.9) | 76.7 | (±9.0) |
| Non-AN | 72.1 | (±0.6) | 84.0 | (±0.5) | 78.1 | (±0.6) | 76.7 | (±0.6) | 73.3 | (±0.6) |
| **Total** | **72.1** | **(±0.6)** | **84.0** | **(±0.5)** | **78.1** | **(±0.6)** | **76.7** | **(±0.6)** | **73.3** | **(±0.6)** |

* Total children in the 2001 NIS were born during February 1998–June 2000; children in the 2000 NIS were born during February 1997–June 1999. Unweighted sample sizes for the total U.S. population were AN, n = 152 and non-AN, n = 46,306; for Alaska, sample sizes were AN, n = 137; non-AN, n = 444. ANs include persons who reported AN race/ethnicity either alone or in combination with any other race/ethnicity.
† ≥3 doses of any diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any acellular pertussis vaccine (DTP/DTaP/DT).
§ ≥4 doses of any DTP/DTaP/DT.
¶ ≥3 doses of any poliovirus vaccine.
** ≥1 dose of measles-mumps-rubella vaccine.
†† ≥3 doses of *Haemophilus influenzae* type b (Hib) vaccine.
§§ ≥3 doses of hepatitis B (HepB) vaccine.
¶¶ ≥1 dose of varicella on or after child's first birthday, unadjusted for history of varicella illness.
*** ≥3 doses of DTP, ≥3 doses of poliovirus vaccine, and ≥1 dose of any measles-containing vaccine (MCV).
††† ≥4 doses of DTP, ≥3 doses of poliovirus vaccine, and ≥1 dose of any MCV.
§§§ ≥4 doses of DTP, ≥3 doses of poliovirus vaccine, ≥1 dose of any MCV, and ≥3 doses of Hib
¶¶¶ ≥4 doses of DTP, ≥3 doses of poliovirus vaccine, ≥1 dose of any MCV, ≥3 doses of Hib, and ≥3 doses of HepB
**** Confidence interval.

≥3 doses of hepatitis B vaccine (Table 1). Varicella vaccine coverage was low in Alaska and in all states combined; in Alaska, varicella coverage was similar among AN and non-AN children (Table 1).

AN children were more likely than non-AN children to be from households below the poverty level and with four or more children (Table 2). AN children also had a higher proportion of mothers who had less than a high school education and who never were married. They were also more likely to obtain their vaccinations in public-sector facilities (Table 2).

**Reported by:** *L Wood, MPA, Alaska Dept of Health and Social Svcs, Anchorage. T Santibanez, PhD, L Barker, PhD, National Immunization Program; R Singleton, MD, Alaska Native Tribal Health Consortium and Arctic Investigations Program, National Center for Infectious Diseases, CDC.*

**Editorial Note:** This report indicates that the level of vaccination coverage for AN children aged 19–35 months exceeds the national goal for 2010 of 90% for all vaccines except varicella and the fourth dose of DTP. These high coverage levels have been achieved despite the presence of factors traditionally associated with low vaccination coverage (e.g., household income below poverty level, large number of children in household, low level of maternal education, and mother being unmarried).

This success might be attributed to at least six factors. First, Alaska is a universal vaccine coverage state; all children, including ANs, receive vaccines through a partnership among state public health authorities, tribal health programs, and Alaska physicians. AN children receive vaccines without charge through support from the federal Vaccines for Children program and are provided comprehensive health-care services without charge, funded by the federal government through tribally administered health facilities (*4*). During 2000–2001, AN tribes and tribal organizations in Alaska operated seven hospitals, 23 ambulatory health centers, and 160 village clinics (*5*). Second, vaccination delivery in rural Alaska is a collaborative effort between state or tribal public health nurses and tribal health facilities (*6*). Certified community health aides are located in village clinics, and state and corporation public health nurses visit villages to deliver vaccines. Third, high rates of Hib and pneumococcal disease among ANs in the prevaccination era have made vaccination delivery a high priority among tribal corporations, state public health agencies, and health-care providers serving AN populations (*7,8*). Fourth, each major tribal health corporation and/or regional state public health nursing center conducts vaccination tracking and recall, which has been proven to be effective for increasing coverage (*9*). Fifth, the Alaska Native Tribal Health Consortium Immunization Program monitors coverage regularly, reports to the Indian Health Service, and implements interventions to improve coverage. Finally, the majority of tribal facilities have access to computerized immunization registries that enable automated point-of-service data

**TABLE 2. Percentage of Alaska Native* (AN) and non-AN children vaccinated, by selected characteristics — National Immunization Survey (NIS), United States, 2000–2001†**

| Characteristic | Alaska | | | | United States | | | |
|---|---|---|---|---|---|---|---|---|
| | AN | | Non-AN | | AN | | Non-AN | |
| | % | (SE§) | % | (SE) | % | (SE) | % | (SE) |
| **Number of children aged <18 years in household** | | | | | | | | |
| 1 | 20.3 | (3.5) | 27.3 | (2.3) | 27.0 | (5.4) | 27.7 | (0.3) |
| 2–3 | 46.8¶ | (4.6) | 60.9¶ | (2.6) | 49.1 | (5.8) | 59.9 | (0.4) |
| ≥4 | 32.9¶ | (4.5) | 11.8¶ | (1.8) | 23.8¶ | (4.0) | 12.4¶ | (0.3) |
| **First born** | | | | | | | | |
| Yes | 30.2 | (4.1) | 39.2 | (2.5) | 34.0 | (5.5) | 40.0 | (0.4) |
| No | 69.8 | (4.1) | 60.8 | (2.5) | 66.0 | (5.5) | 60.0 | (0.4) |
| **Poverty** status** | | | | | | | | |
| Above | 54.1¶ | (4.7) | 80.8¶ | (2.2) | 53.0¶ | (5.9) | 65.6¶ | (0.4) |
| Below | 25.5¶ | (4.2) | 9.7¶ | (1.7) | 26.7 | (5.8) | 20.5 | (0.3) |
| Unknown | 20.4¶ | (4.1) | 9.5¶ | (1.6) | 20.3 | (5.0) | 13.8 | (0.3) |
| **Mother's education** | | | | | | | | |
| <12 yrs | 21.6¶ | (4.0) | 9.1¶ | (1.6) | 20.4 | (4.5) | 16.4 | (0.3) |
| 12 yrs | 52.9¶ | (4.6) | 41.5¶ | (2.6) | 53.1¶ | (5.7) | 36.9¶ | (0.4) |
| >12 yrs, non–college graduate | 15.7 | (2.8) | 18.1 | (1.8) | 14.4 | (3.2) | 15.6 | (0.2) |
| College graduate | 9.9¶ | (2.4) | 31.3¶ | (2.3) | 12.2¶ | (3.4) | 31.2¶ | (0.3) |
| **Mother's age (yrs)** | | | | | | | | |
| ≤19 | 6.5 | (2.5) | 2.1 | (0.8) | 11.2 | (4.1) | 3.5 | (0.1) |
| 20–29 | 47.2 | (4.6) | 50.5 | (2.6) | 41.4 | (5.4) | 45.7 | (0.4) |
| ≥30 | 46.2 | (4.6) | 47.4 | (2.6) | 47.4 | (5.8) | 50.8 | (0.4) |
| **Mother's marital status** | | | | | | | | |
| Never married | 35.4¶ | (4.5) | 12.0¶ | (1.7) | 33.6¶ | (5.1) | 20.0¶ | (0.3) |
| Ever married | 64.6¶ | (4.5) | 88.0¶ | (1.7) | 66.4¶ | (5.1) | 80.0¶ | (0.3) |
| **Sex** | | | | | | | | |
| Male | 56.3 | (4.6) | 48.7 | (2.5) | 50.6 | (5.8) | 51.0 | (0.4) |
| Female | 43.7 | (4.6) | 51.3 | (2.5) | 49.4 | (5.8) | 49.0 | (0.4) |
| **MSA†† status** | | | | | | | | |
| Non-MSA | 66.8¶ | (4.4) | 52.2¶ | (2.6) | 62.2¶ | (5.5) | 18.0¶ | (0.2) |
| MSA | 33.2¶ | (4.4) | 47.8¶ | (2.6) | 37.8¶ | (5.5) | 82.0¶ | (0.2) |
| **No. vaccine providers** | | | | | | | | |
| With one provider | 65.0 | (4.3) | 54.0 | (2.6) | 64.5 | (5.5) | 69.4 | (0.3) |
| With more than one provider | 35.0 | (4.3) | 46.0 | (2.6) | 35.5 | (5.5) | 30.6 | (0.3) |
| **Provider facility type** | | | | | | | | |
| All public-sector facilities | 57.2¶ | (4.5) | 19.9¶ | (2.1) | 48.9¶ | (5.7) | 15.0¶ | (0.3) |
| All private-sector facilities | 6.5¶ | (2.0) | 34.5¶ | (2.5) | 15.5¶ | (5.0) | 55.5¶ | (0.4) |
| All military/other facilities, all hospital facilities, or mixed (one or more facility types) | 13.0¶ | (3.2) | 25.2¶ | (2.3) | 10.7 | (2.7) | 14.7 | (0.3) |
| Unknown | 23.2 | (3.8) | 20.4 | (2.1) | 24.9¶ | (5.0) | 14.7¶ | (0.3) |
| **Telephone service interruption in past year** | | | | | | | | |
| Yes | 10.0 | (3.0) | 6.6 | (1.4) | 14.2 | (4.3) | 7.3 | (0.2) |
| No | 90.0 | (3.0) | 93.4 | (1.4) | 85.8 | (4.3) | 92.7 | (0.2) |

* Persons who reported AN race/ethnicity either alone or in combination with any other race/ethnicity.
† Children in the 2001 NIS were born during February 1998–June 2000; children in the 2000 NIS were born during February 1997–June 1999. Unweighted sample sizes for the total U.S. population were AN, n = 152 and non-AN, n = 46,306; for Alaska, sample sizes were AN, n = 137; non-AN, n = 444. Sample sizes were unweighted; percentages and standard errors were obtained by using weighted data and taking into account the complex sampling design by using SUDAAN.
§ Standard error.
¶ Statistically significant comparison (i.e., p <0.05) with ANs to non-ANs.
** On the basis of family income and household size using U.S. Bureau of Census poverty thresholds.
†† Metropolitan Statistical Area.

accessibility, tracking and recall, and practice- and geographic-based vaccination coverage assessment and feedback.

Challenges exist to achieving and maintaining high vaccination coverage. Despite being the largest state, Alaska ranks 48th among the 50 U.S. states in population. A substantial number of state residents live in areas not accessible by roads. Nearly two thirds (65%) of ANs live outside the state's two largest cities (Anchorage and Fairbanks), including those who live in remote villages accessible only by air, boat, or snow machine. Alaska was one of the last states to initiate universal varicella vaccination because of the difficulty in ensuring the cold chain in rural areas.

The findings in this study are subject to at least three limitations. First, NIS is a telephone survey, and a disproportionate number of ANs do not have telephone service. However, NIS is adjusted to account for households without telephones, which reduces this bias for national coverage estimates but might not be as accurate for estimates in small populations that have low telephone coverage (*10*). Second, because NIS relies on provider-verified vaccination histories, incomplete records and reporting could result in underestimates of coverage. The estimation procedure assumed that vaccination coverage levels among children whose health-care providers did not respond were similar to those among children whose providers did respond (*3*). Finally, although NIS national coverage estimates are precise, state estimates are less precise and should be interpreted with caution.

Vaccination coverage among AN children is higher than national coverage levels for the majority of vaccines. This finding is in contrast to overall coverage estimates among all American Indians (AIs)/ANs, which usually are slightly below national coverage levels. This achievement, despite the presence of barriers to vaccination, demonstrates the commitment of AN communities, tribal corporations, and state public health authorities to address health concerns and exemplifies the effectiveness of using multiple strategies (e.g., reducing financial and access barriers; making vaccination a priority; and using collaborative efforts, tracking and recall, assessment, and registries). This successful model in Alaska suggests that similar efforts might be equally effective at increasing vaccination coverage in other rural regions with AI/AN populations.

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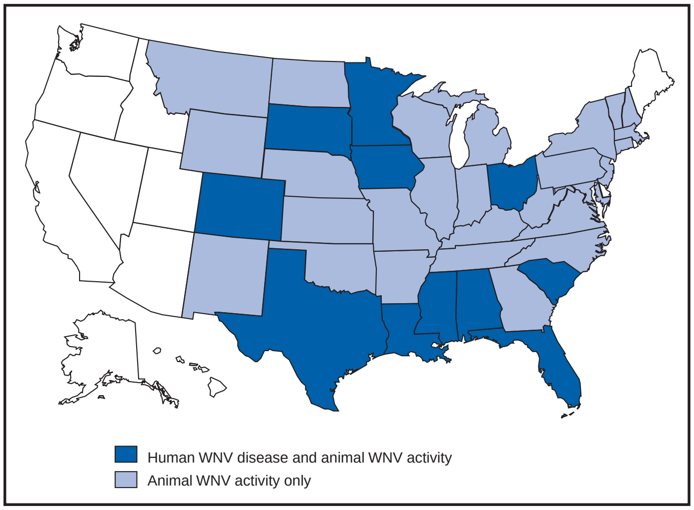
# West Nile Virus Activity — United States, July 24–30, 2003

This report summarizes West Nile virus (WNV) surveillance data reported to CDC through ArboNET as of 3 a.m., Mountain Daylight Time, July 30, 2003.

During the reporting week of July 24–30, a total of 32 human cases of WNV infection were reported from seven states (Alabama, Colorado, Florida, Louisiana, Mississippi, South Dakota, and Texas). During the same period, WNV infections were reported in 277 dead corvids (crows and related species), 70 other dead birds, 36 horses, one dog, one unidentified animal species, and 352 mosquito pools.

During 2003, a total of 44 human cases of WNV infection have been reported from Texas (n = 11), Louisiana (n = 10), Alabama (n = six), Colorado (n = four), Florida (n = four), South Dakota (n = four), Iowa (n = one), Minnesota (n = one), Mississippi (n = one), Ohio (n = one), and South Carolina (n = one) (Figure). Among 43 (98%) cases for which demographic data were available, 27 (63%) occurred among men; the median age was 55 years (range: 5–87 years), and the dates of illness onset ranged from May 29 to July 19. In addition, 828 dead corvids and 220 other dead birds with WNV infection were reported from 36 states; 90 WNV infections in horses have been reported from 19 states (Alabama, Arkansas, Colorado, Florida, Georgia, Kansas, Kentucky, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Carolina, North Dakota, Oklahoma, South Dakota, Texas, Wisconsin, and Wyoming), one infection was reported in an unidentified

**FIGURE. Areas reporting West Nile virus (WNV) activity — United States, 2003***

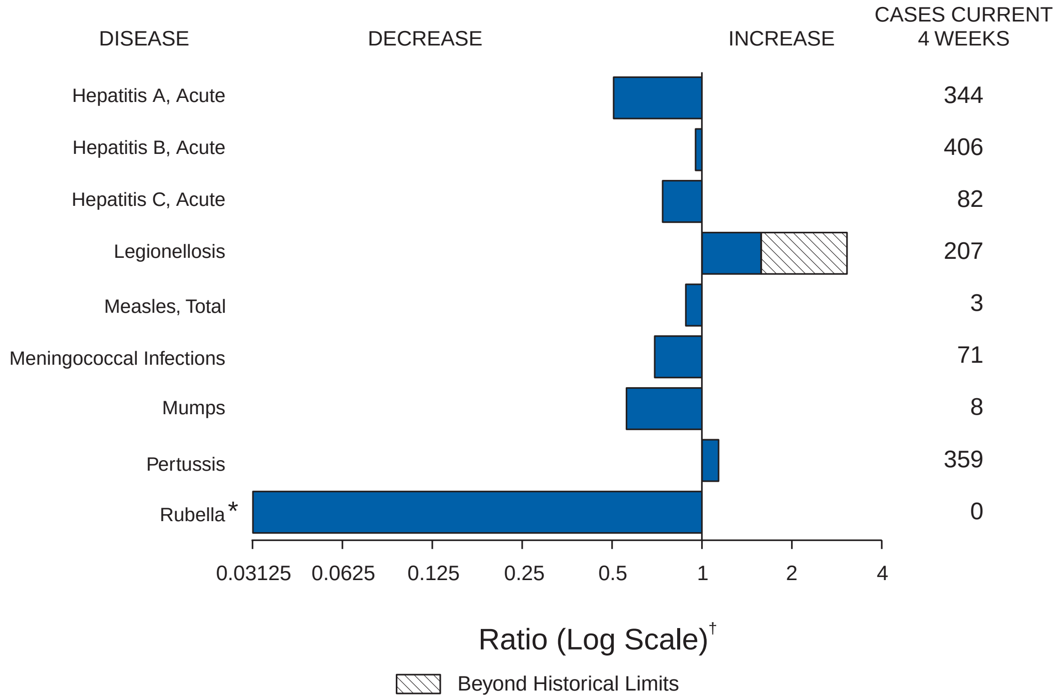



* As of 3 a.m., Mountain Daylight Time, July 30, 2003.

species (Florida), and two WNV infections were reported in dogs (Florida and South Dakota). During 2003, WNV seroconversions have been reported in 86 sentinel chicken flocks from six states (Colorado, Florida, Iowa, Louisiana, North Carolina, and Nebraska). South Dakota and Louisiana each reported three seropositive sentinel horses; 679 WNV-positive mosquito pools have been reported from 18 states (Colorado, Connecticut, Georgia, Illinois, Indiana, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Nebraska, New Jersey, South Dakota, Tennessee, Texas, Virginia, and Wisconsin).

Additional information about WNV activity is available from CDC at http://www.cdc.gov/ncidod/dvbid/westnile/index.htm and http://www.cindi.usgs.gov/hazard/event/west_nile/west_nile.html.

**FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals July 26, 2003, with historical data**




* No rubella cases were reported for the current 4-week period yielding a ratio for week 30 of zero (0).
† 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 of provisional cases of selected notifiable diseases, United States, cumulative, week ending July 26, 2003 (30th Week)***

| Disease | Cum. 2003 | Cum. 2002 | Disease | Cum. 2003 | Cum. 2002 |
|---|---|---|---|---|---|
| Anthrax | - | 2 | Hansen disease (leprosy)† | 29 | 59 |
| Botulism: | - | - | Hantavirus pulmonary syndrome† | 10 | 12 |
| foodborne | 7 | 18 | Hemolytic uremic syndrome, postdiarrheal† | 64 | 98 |
| infant | 32 | 41 | HIV infection, pediatric†§ | 108 | 95 |
| other (wound & unspecified) | 19 | 8 | Measles, total | 35¶ | 20** |
| Brucellosis† | 39 | 66 | Mumps | 124 | 167 |
| Chancroid | 27 | 42 | Plague | 1 | - |
| Cholera | 1 | 1 | Poliomyelitis, paralytic | - | - |
| Cyclosporiasis† | 34 | 110 | Psittacosis† | 9 | 12 |
| Diphtheria | - | 1 | Q fever† | 39 | 31 |
| Ehrlichiosis: | - | - | Rabies, human | - | 1 |
| human granulocytic (HGE)† | 97 | 140 | Rubella | 5 | 9 |
| human monocytic (HME)† | 48 | 79 | Rubella, congenital | - | 1 |
| other and unspecified | 13 | 11 | Streptococcal toxic-shock syndrome† | 114 | 78 |
| Encephalitis/Meningitis: | - | - | Tetanus | 5 | 15 |
| California serogroup viral† | 2 | 17 | Toxic-shock syndrome | 74 | 68 |
| eastern equine† | 2 | 1 | Trichinosis | 1 | 10 |
| Powassan† | - | - | Tularemia† | 37 | 41 |
| St. Louis† | 4 | 6 | Yellow fever | - | - |
| western equine† | 3 | - | | | |

-: No reported cases.
* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).
† Not notifiable in all states.
§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP). Last update May 25, 2003.
¶ Of 35 cases reported, 30 were indigenous and five were imported from another country.
** Of 20 cases reported, 11 were indigenous and nine were imported from another country.

**TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 2003, and July 27, 2002 (30th Week)***

| Reporting area | AIDS | | Chlamydia† | | Coccidiodomycosis | | Cryptosporidiosis | | Encephalitis/Meningitis West Nile | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Cum. 2003§ | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 |
| UNITED STATES | 19,482 | 22,680 | 454,806 | 463,970 | 1,945 | 2,568 | 1,119 | 1,265 | 17 | 141 |
| NEW ENGLAND | 654 | 990 | 15,300 | 15,329 | - | - | 68 | 78 | - | - |
| Maine | 27 | 19 | 929 | 840 | N | N | 6 | 3 | - | - |
| N.H. | 15 | 20 | 852 | 900 | - | - | 7 | 14 | - | - |
| Vt. | 6 | 8 | 574 | 460 | - | - | 17 | 15 | - | - |
| Mass. | 277 | 514 | 6,103 | 6,099 | - | - | 26 | 28 | - | - |
| R.I. | 51 | 61 | 1,619 | 1,578 | - | - | 9 | 13 | - | - |
| Conn. | 278 | 368 | 5,223 | 5,452 | N | N | 3 | 5 | - | - |
| MID. ATLANTIC | 4,098 | 5,012 | 51,080 | 51,070 | - | - | 151 | 180 | 2 | - |
| Upstate N.Y. | 274 | 446 | 10,999 | 9,328 | N | N | 45 | 44 | 1 | - |
| N.Y. City | 1,976 | 2,775 | 18,526 | 17,402 | - | - | 44 | 72 | - | - |
| N.J. | 787 | 827 | 7,774 | 6,956 | - | - | 4 | 12 | - | - |
| Pa. | 1,061 | 964 | 13,781 | 17,384 | N | N | 58 | 52 | 1 | - |
| E.N. CENTRAL | 1,982 | 2,281 | 77,411 | 85,349 | 3 | 16 | 263 | 378 | 3 | 6 |
| Ohio | 303 | 428 | 20,145 | 21,916 | - | - | 44 | 73 | 1 | - |
| Ind. | 259 | 304 | 9,164 | 9,334 | N | N | 33 | 25 | - | - |
| Ill. | 959 | 1,030 | 21,896 | 27,072 | - | 2 | 29 | 63 | - | 3 |
| Mich. | 359 | 401 | 17,467 | 17,434 | 3 | 14 | 53 | 61 | 2 | - |
| Wis. | 102 | 118 | 8,739 | 9,593 | - | - | 104 | 156 | - | 3 |
| W.N. CENTRAL | 358 | 398 | 25,687 | 25,829 | 1 | 1 | 139 | 123 | 4 | - |
| Minn. | 74 | 89 | 5,578 | 6,034 | N | N | 51 | 44 | 1 | - |
| Iowa | 41 | 46 | 2,676 | 2,909 | N | N | 28 | 13 | - | - |
| Mo. | 177 | 186 | 9,402 | 8,592 | - | - | 13 | 17 | - | - |
| N. Dak. | - | 1 | 700 | 710 | N | N | 11 | 10 | - | - |
| S. Dak. | 7 | 3 | 1,394 | 1,203 | - | - | 21 | 5 | - | - |
| Nebr. | 25 | 31 | 2,076 | 2,385 | 1 | 1 | 6 | 25 | 3 | - |
| Kans. | 34 | 42 | 3,861 | 3,996 | N | N | 9 | 9 | - | - |
| S. ATLANTIC | 5,488 | 6,994 | 88,853 | 87,563 | 3 | 2 | 168 | 160 | 4 | 1 |
| Del. | 106 | 130 | 1,754 | 1,511 | N | N | 3 | 2 | - | - |
| Md. | 558 | 1,058 | 9,354 | 8,757 | 3 | 2 | 9 | 8 | - | - |
| D.C. | 595 | 321 | 1,638 | 1,870 | - | - | 7 | 4 | - | - |
| Va. | 481 | 483 | 10,632 | 9,819 | - | - | 17 | 4 | - | - |
| W. Va. | 42 | 48 | 1,417 | 1,374 | N | N | 3 | 2 | - | - |
| N.C. | 581 | 440 | 14,386 | 13,941 | N | N | 19 | 23 | - | - |
| S.C. | 330 | 522 | 8,019 | 8,131 | - | - | 2 | 2 | 1 | - |
| Ga. | 736 | 1,159 | 18,946 | 18,209 | - | - | 59 | 62 | - | - |
| Fla. | 2,059 | 2,833 | 22,707 | 23,951 | N | N | 49 | 53 | 3 | 1 |
| E.S. CENTRAL | 841 | 997 | 30,173 | 30,166 | N | N | 58 | 73 | - | 42 |
| Ky. | 79 | 151 | 4,633 | 4,921 | N | N | 13 | 3 | - | - |
| Tenn. | 374 | 428 | 10,967 | 9,192 | N | N | 20 | 38 | - | - |
| Ala. | 185 | 194 | 7,944 | 9,407 | - | - | 22 | 28 | - | - |
| Miss. | 203 | 224 | 6,629 | 6,646 | N | N | 3 | 4 | - | 42 |
| W.S. CENTRAL | 2,125 | 2,680 | 59,005 | 61,669 | - | 5 | 15 | 36 | 4 | 92 |
| Ark. | 65 | 164 | 4,348 | 4,209 | - | - | 4 | 6 | - | - |
| La. | 368 | 685 | 10,454 | 10,485 | N | N | 2 | 8 | - | 69 |
| Okla. | 92 | 131 | 6,266 | 6,234 | N | N | 6 | 7 | - | - |
| Tex. | 1,600 | 1,700 | 37,937 | 40,741 | - | 5 | 3 | 15 | 4 | 23 |
| MOUNTAIN | 722 | 725 | 27,033 | 28,672 | 1,373 | 1,744 | 64 | 83 | - | - |
| Mont. | 10 | 6 | 1,206 | 1,295 | N | N | 12 | 4 | - | - |
| Idaho | 13 | 17 | 1,385 | 1,420 | N | N | 14 | 18 | - | - |
| Wyo. | 4 | 5 | 544 | 508 | 1 | - | 2 | 6 | - | - |
| Colo. | 159 | 155 | 6,326 | 8,024 | N | N | 13 | 23 | - | - |
| N. Mex. | 52 | 51 | 3,691 | 4,278 | 4 | 5 | 3 | 13 | - | - |
| Ariz. | 341 | 272 | 8,163 | 8,378 | 1,342 | 1,714 | 3 | 11 | - | - |
| Utah | 31 | 42 | 2,512 | 1,368 | 6 | 8 | 11 | 5 | - | - |
| Nev. | 112 | 177 | 3,206 | 3,401 | 20 | 17 | 6 | 3 | - | - |
| PACIFIC | 3,214 | 2,603 | 80,264 | 78,323 | 564 | 799 | 193 | 154 | - | - |
| Wash. | 214 | 257 | 9,049 | 8,327 | N | N | 25 | 9 | - | - |
| Oreg. | 126 | 193 | 4,216 | 3,938 | - | - | 28 | 24 | - | - |
| Calif. | 2,815 | 2,074 | 63,309 | 61,461 | 564 | 799 | 140 | 120 | - | - |
| Alaska | 12 | 12 | 2,147 | 2,064 | - | - | - | - | - | - |
| Hawaii | 47 | 67 | 1,543 | 2,533 | - | - | - | 1 | - | - |
| Guam | 2 | 1 | - | 358 | - | - | - | - | - | - |
| P.R. | 514 | 600 | 985 | 1,547 | N | N | N | N | - | - |
| V.I. | 15 | 56 | 142 | 109 | - | - | - | - | - | - |
| Amer. Samoa | U | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | 2 | U | - | U | - | U | - | U | - | U |

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

* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

† Chlamydia refers to genital infections caused by *C. trachomatis.*

§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update May 25, 2003.

¶ For Nebraska, data for hepatitis A, B, and C; meningococcal disease; pertussis; streptococcal disease (invasive, group A); and *Streptococcus pneumoniae* (invasive) were collected by using the National Electronic Disease Surveillance System (NEDSS).

**TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 2003, and July 27, 2002 (30th Week)***

| Reporting area | *Escherichia coli*, Enterohemorrhagic (EHEC) O157:H7 Cum. 2003 | O157:H7 Cum. 2002 | Shiga toxin positive, serogroup non-O157 Cum. 2003 | Shiga toxin positive, serogroup non-O157 Cum. 2002 | Shiga toxin positive, not serogrouped Cum. 2003 | Shiga toxin positive, not serogrouped Cum. 2002 | Giardiasis Cum. 2003 | Giardiasis Cum. 2002 | Gonorrhea Cum. 2003 | Gonorrhea Cum. 2002 |
|---|---|---|---|---|---|---|---|---|---|---|
| UNITED STATES | 893 | 1,341 | 103 | 77 | 64 | 20 | 8,488 | 10,009 | 172,361 | 196,842 |
| NEW ENGLAND | 53 | 118 | 19 | 19 | 7 | 2 | 566 | 889 | 3,834 | 4,353 |
| Maine | 5 | 13 | 1 | - | - | - | 72 | 87 | 105 | 67 |
| N.H. | 9 | 10 | 1 | - | - | - | 18 | 27 | 61 | 64 |
| Vt. | 5 | 4 | - | - | - | - | 48 | 67 | 46 | 57 |
| Mass. | 19 | 60 | 3 | 13 | 7 | 2 | 251 | 482 | 1,501 | 1,880 |
| R.I. | 1 | 5 | - | - | - | - | 55 | 68 | 492 | 498 |
| Conn. | 14 | 26 | 14 | 6 | - | - | 122 | 158 | 1,629 | 1,787 |
| MID. ATLANTIC | 106 | 159 | 4 | 1 | 19 | 2 | 1,684 | 2,128 | 20,784 | 23,369 |
| Upstate N.Y. | 43 | 70 | 2 | - | 9 | - | 470 | 592 | 4,276 | 4,772 |
| N.Y. City | 3 | 8 | - | - | - | - | 587 | 804 | 7,238 | 7,090 |
| N.J. | 5 | 29 | - | - | - | - | 157 | 245 | 4,923 | 4,053 |
| Pa. | 55 | 52 | 2 | 1 | 10 | 2 | 470 | 487 | 4,347 | 7,454 |
| E.N. CENTRAL | 205 | 331 | 13 | 19 | 10 | 3 | 1,387 | 1,665 | 34,742 | 41,183 |
| Ohio | 45 | 62 | 10 | 6 | 9 | 2 | 458 | 445 | 11,205 | 12,154 |
| Ind. | 42 | 30 | - | - | - | - | - | - | 3,503 | 4,047 |
| Ill. | 34 | 100 | - | 6 | - | - | 347 | 494 | 9,722 | 13,693 |
| Mich. | 35 | 50 | - | 2 | - | 1 | 353 | 431 | 7,306 | 7,900 |
| Wis. | 49 | 89 | 3 | 5 | 1 | - | 229 | 295 | 3,006 | 3,389 |
| W.N. CENTRAL | 162 | 183 | 14 | 9 | 14 | 2 | 888 | 953 | 8,703 | 9,947 |
| Minn. | 49 | 54 | 8 | 6 | - | - | 342 | 334 | 1,447 | 1,743 |
| Iowa | 35 | 49 | - | - | - | - | 124 | 138 | 607 | 659 |
| Mo. | 45 | 27 | 2 | - | 1 | - | 237 | 262 | 4,419 | 4,893 |
| N. Dak. | 6 | 4 | - | - | 5 | - | 20 | 13 | 30 | 38 |
| S. Dak. | 10 | 20 | 3 | 1 | - | - | 25 | 40 | 112 | 148 |
| Nebr. | 6 | 16 | 1 | 2 | - | - | 61 | 77 | 678 | 851 |
| Kans. | 11 | 13 | - | - | 8 | 2 | 79 | 89 | 1,410 | 1,615 |
| S. ATLANTIC | 75 | 114 | 38 | 14 | 2 | - | 1,434 | 1,491 | 43,749 | 50,573 |
| Del. | 1 | 5 | N | N | N | N | 18 | 28 | 681 | 911 |
| Md. | 2 | 9 | - | - | - | - | 60 | 56 | 4,392 | 4,979 |
| D.C. | 1 | - | - | - | - | - | 20 | 23 | 1,301 | 1,537 |
| Va. | 21 | 27 | 5 | 2 | - | - | 205 | 117 | 4,926 | 5,575 |
| W. Va. | 2 | 2 | - | - | - | - | 22 | 26 | 486 | 574 |
| N.C. | 5 | 18 | 10 | - | - | - | N | N | 8,328 | 9,482 |
| S.C. | - | 2 | - | - | - | - | 60 | 43 | 4,325 | 5,093 |
| Ga. | 15 | 32 | 3 | 7 | - | - | 502 | 477 | 9,301 | 9,910 |
| Fla. | 28 | 19 | 20 | 5 | 2 | - | 547 | 721 | 10,009 | 12,512 |
| E.S. CENTRAL | 42 | 55 | - | - | 5 | 7 | 179 | 181 | 14,603 | 17,269 |
| Ky. | 12 | 13 | - | - | 5 | 7 | N | N | 1,984 | 1,982 |
| Tenn. | 17 | 24 | - | - | - | - | 79 | 82 | 4,404 | 5,227 |
| Ala. | 10 | 12 | - | - | - | - | 100 | 99 | 4,890 | 6,102 |
| Miss. | 3 | 6 | - | - | - | - | - | - | 3,325 | 3,958 |
| W.S. CENTRAL | 26 | 61 | 1 | - | 3 | 2 | 150 | 99 | 24,302 | 27,431 |
| Ark. | 4 | 5 | - | - | - | - | 81 | 72 | 2,341 | 2,569 |
| La. | 1 | 2 | - | - | - | - | 5 | 2 | 6,323 | 6,530 |
| Okla. | 12 | 12 | - | - | - | - | 64 | 24 | 2,444 | 2,660 |
| Tex. | 9 | 42 | 1 | - | 3 | 2 | - | 1 | 13,194 | 15,672 |
| MOUNTAIN | 114 | 131 | 12 | 11 | 4 | 2 | 759 | 754 | 5,684 | 6,157 |
| Mont. | 4 | 9 | - | - | - | - | 42 | 40 | 63 | 55 |
| Idaho | 26 | 9 | 6 | 5 | - | - | 84 | 57 | 41 | 43 |
| Wyo. | 2 | 4 | - | 1 | - | - | 11 | 14 | 26 | 34 |
| Colo. | 33 | 49 | 2 | 4 | 4 | 2 | 213 | 250 | 1,465 | 1,941 |
| N. Mex. | 4 | 4 | 3 | 1 | - | - | 23 | 83 | 615 | 845 |
| Ariz. | 18 | 15 | N | N | N | N | 146 | 106 | 2,170 | 2,015 |
| Utah | 21 | 27 | 1 | - | - | - | 168 | 129 | 231 | 135 |
| Nev. | 6 | 14 | - | - | - | - | 72 | 75 | 1,073 | 1,089 |
| PACIFIC | 110 | 189 | 2 | 4 | - | - | 1,441 | 1,849 | 15,960 | 16,560 |
| Wash. | 30 | 21 | 1 | - | - | - | 129 | 216 | 1,578 | 1,644 |
| Oreg. | 22 | 49 | 1 | 4 | - | - | 190 | 220 | 561 | 470 |
| Calif. | 56 | 91 | - | - | - | - | 1,048 | 1,307 | 13,188 | 13,713 |
| Alaska | 1 | 5 | - | - | - | - | 43 | 51 | 299 | 361 |
| Hawaii | 1 | 23 | - | - | - | - | 31 | 55 | 334 | 372 |
| Guam | N | N | - | - | - | - | - | 6 | - | 32 |
| P.R. | - | 1 | - | - | - | - | 30 | 31 | 106 | 230 |
| V.I. | - | - | - | - | - | - | - | - | 36 | 26 |
| Amer. Samoa | U | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | - | U | - | U | - | U | - | U | - | U |

N: Not notifiable. U: Unavailable. - : No reported cases.
* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

**TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 2003, and July 27, 2002 (30th Week)***

| Reporting area | *Haemophilus influenzae*, invasive† All ages All serotypes Cum. 2003 | Cum. 2002 | Age <5 years Serotype b Cum. 2003 | Cum. 2002 | Non-serotype b Cum. 2003 | Cum. 2002 | Unknown serotype Cum. 2003 | Cum. 2002 | Hepatitis (viral, acute), by type A Cum. 2003 | Cum. 2002 |
|---|---|---|---|---|---|---|---|---|---|---|
| UNITED STATES | 989 | 1,054 | 7 | 19 | 57 | 83 | 110 | 100 | 3,192 | 5,371 |
| NEW ENGLAND | 72 | 68 | - | - | 6 | 7 | 5 | 1 | 150 | 195 |
| Maine | 2 | 1 | - | - | - | - | 1 | - | 8 | 6 |
| N.H. | 9 | 5 | - | - | - | - | - | - | 8 | 11 |
| Vt. | 6 | 5 | - | - | - | - | - | - | 4 | 1 |
| Mass. | 40 | 29 | - | - | 6 | 3 | 3 | 1 | 76 | 86 |
| R.I. | 4 | 10 | - | - | - | - | 1 | - | 11 | 27 |
| Conn. | 11 | 18 | - | - | - | 4 | - | - | 43 | 64 |
| MID. ATLANTIC | 216 | 190 | - | 2 | 1 | 9 | 31 | 19 | 637 | 689 |
| Upstate N.Y. | 82 | 71 | - | 2 | 1 | 2 | 9 | 6 | 72 | 116 |
| N.Y. City | 36 | 43 | - | - | - | - | 7 | 8 | 200 | 243 |
| N.J. | 40 | 42 | - | - | - | - | 6 | 5 | 85 | 110 |
| Pa. | 58 | 34 | - | - | - | 7 | 9 | - | 280 | 220 |
| E.N. CENTRAL | 132 | 216 | 1 | 2 | 5 | 9 | 20 | 29 | 360 | 652 |
| Ohio | 45 | 60 | - | - | - | 1 | 7 | 7 | 72 | 183 |
| Ind. | 31 | 32 | - | 1 | 3 | 7 | - | - | 39 | 32 |
| Ill. | 36 | 77 | - | - | - | - | 9 | 14 | 109 | 176 |
| Mich. | 14 | 9 | 1 | 1 | 2 | 1 | 2 | - | 116 | 136 |
| Wis. | 6 | 38 | - | - | - | - | 2 | 8 | 24 | 125 |
| W.N. CENTRAL | 73 | 44 | - | 1 | 6 | 2 | 7 | 3 | 113 | 192 |
| Minn. | 27 | 25 | - | 1 | 6 | 2 | 1 | 1 | 33 | 26 |
| Iowa | - | 1 | - | - | - | - | - | - | 19 | 43 |
| Mo. | 30 | 10 | - | - | - | - | 6 | 2 | 36 | 56 |
| N. Dak. | 1 | 4 | - | - | - | - | - | - | - | 1 |
| S. Dak. | 1 | 1 | - | - | - | - | - | - | - | 3 |
| Nebr. | 2 | - | - | - | - | - | - | - | 6 | 10 |
| Kans. | 12 | 3 | - | - | - | - | - | - | 19 | 53 |
| S. ATLANTIC | 234 | 234 | - | 3 | 8 | 12 | 14 | 19 | 798 | 1,503 |
| Del. | - | - | - | - | - | - | - | - | 4 | 10 |
| Md. | 54 | 60 | - | 1 | 4 | 2 | - | 1 | 80 | 169 |
| D.C. | - | - | - | - | - | - | - | - | 25 | 53 |
| Va. | 32 | 20 | - | - | - | - | 5 | 3 | 47 | 54 |
| W. Va. | 9 | 9 | - | - | - | - | - | 1 | 13 | 12 |
| N.C. | 20 | 22 | - | - | 1 | 3 | 1 | - | 42 | 139 |
| S.C. | 3 | 9 | - | - | - | - | - | 2 | 18 | 45 |
| Ga. | 48 | 54 | - | - | - | - | 5 | 9 | 315 | 307 |
| Fla. | 68 | 60 | - | 2 | 3 | 7 | 3 | 3 | 254 | 714 |
| E.S. CENTRAL | 47 | 42 | 1 | 1 | - | 4 | 6 | 7 | 95 | 172 |
| Ky. | 2 | 4 | - | - | - | 1 | - | - | 18 | 39 |
| Tenn. | 27 | 20 | - | - | - | - | 4 | 5 | 53 | 67 |
| Ala. | 16 | 11 | 1 | 1 | - | 3 | 1 | 1 | 11 | 24 |
| Miss. | 2 | 7 | - | - | - | - | 1 | 1 | 13 | 42 |
| W.S. CENTRAL | 42 | 37 | - | 2 | 5 | 5 | 3 | 2 | 84 | 561 |
| Ark. | 5 | 1 | - | - | 1 | - | - | - | 15 | 30 |
| La. | 7 | 4 | - | - | - | - | 2 | 2 | 34 | 51 |
| Okla. | 28 | 30 | - | - | 4 | 5 | 1 | - | 8 | 28 |
| Tex. | 2 | 2 | - | 2 | - | - | - | - | 27 | 452 |
| MOUNTAIN | 118 | 124 | 4 | 4 | 16 | 19 | 18 | 11 | 274 | 328 |
| Mont. | - | - | - | - | - | - | - | - | 3 | 9 |
| Idaho | 3 | 2 | - | - | - | - | 1 | 1 | - | 22 |
| Wyo. | 1 | 2 | - | - | - | - | - | - | 1 | 2 |
| Colo. | 22 | 23 | - | - | - | - | 5 | 2 | 38 | 50 |
| N. Mex. | 15 | 20 | - | - | 4 | 4 | 2 | 1 | 9 | 9 |
| Ariz. | 61 | 56 | 4 | 2 | 6 | 12 | 7 | 5 | 166 | 182 |
| Utah | 10 | 14 | - | 1 | 3 | 3 | 3 | - | 21 | 24 |
| Nev. | 6 | 7 | - | 1 | 3 | - | - | 2 | 36 | 30 |
| PACIFIC | 55 | 99 | 1 | 4 | 10 | 16 | 6 | 9 | 681 | 1,079 |
| Wash. | 6 | 2 | - | 1 | 4 | 1 | 1 | - | 36 | 103 |
| Oreg. | 32 | 38 | - | - | - | - | 3 | 3 | 38 | 44 |
| Calif. | 11 | 32 | 1 | 3 | 6 | 15 | 2 | 2 | 598 | 909 |
| Alaska | - | 1 | - | - | - | - | - | 1 | 6 | 7 |
| Hawaii | 6 | 26 | - | - | - | - | - | 3 | 3 | 16 |
| Guam | - | - | - | - | - | - | - | - | - | - |
| P.R. | - | 1 | - | - | - | - | - | - | 23 | 127 |
| V.I. | - | - | - | - | - | - | - | - | - | - |
| Amer. Samoa | U | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | - | U | - | U | - | U | - | U | - | U |

N: Not notifiable. U: Unavailable. -: No reported cases.

* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

† Non-serotype b: nontypeable and type other than b; Unknown serotype: type unknown or not reported. Previously, cases reported without type information were counted as non-serotype b.

**TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 2003, and July 27, 2002 (30th Week)***

| Reporting area | Hepatitis (viral, acute), by type B Cum. 2003 | Hepatitis (viral, acute), by type B Cum. 2002 | Hepatitis (viral, acute), by type C Cum. 2003 | Hepatitis (viral, acute), by type C Cum. 2002 | Legionellosis Cum. 2003 | Legionellosis Cum. 2002 | Listeriosis Cum. 2003 | Listeriosis Cum. 2002 | Lyme disease Cum. 2003 | Lyme disease Cum. 2002 |
|---|---|---|---|---|---|---|---|---|---|---|
| UNITED STATES | 3,541 | 4,160 | 778 | 1,042 | 810 | 537 | 270 | 279 | 6,018 | 8,477 |
| NEW ENGLAND | 133 | 153 | - | 17 | 29 | 33 | 17 | 30 | 887 | 1,593 |
| Maine | 1 | 5 | - | - | 1 | 2 | 3 | 2 | 75 | 49 |
| N.H. | 11 | 12 | - | - | 4 | 4 | 2 | 2 | 37 | 88 |
| Vt. | 2 | 3 | - | 12 | 1 | 3 | - | 1 | 12 | 14 |
| Mass. | 107 | 84 | - | 5 | 9 | 18 | 7 | 18 | 123 | 1,233 |
| R.I. | 4 | 17 | - | - | 2 | 1 | - | 1 | 121 | 93 |
| Conn. | 8 | 32 | U | U | 12 | 5 | 5 | 6 | 519 | 116 |
| MID. ATLANTIC | 569 | 894 | 100 | 55 | 176 | 145 | 52 | 59 | 4,164 | 5,124 |
| Upstate N.Y. | 63 | 69 | 31 | 27 | 52 | 39 | 15 | 19 | 1,893 | 2,018 |
| N.Y. City | 246 | 463 | - | - | 13 | 25 | 9 | 16 | 2 | 47 |
| N.J. | 109 | 168 | - | 4 | 4 | 19 | 7 | 8 | 544 | 1,552 |
| Pa. | 151 | 194 | 69 | 24 | 107 | 62 | 21 | 16 | 1,725 | 1,507 |
| E.N. CENTRAL | 237 | 333 | 126 | 63 | 164 | 146 | 33 | 37 | 218 | 787 |
| Ohio | 85 | 53 | 8 | - | 96 | 63 | 11 | 9 | 28 | 31 |
| Ind. | 17 | 18 | - | - | 10 | 9 | 2 | 4 | 6 | 8 |
| Ill. | 1 | 56 | 8 | 12 | 3 | 16 | 5 | 10 | - | 36 |
| Mich. | 111 | 174 | 110 | 48 | 44 | 34 | 12 | 10 | 1 | 13 |
| Wis. | 23 | 32 | - | 3 | 11 | 24 | 3 | 4 | 183 | 699 |
| W.N. CENTRAL | 180 | 123 | 134 | 475 | 37 | 26 | 6 | 9 | 129 | 134 |
| Minn. | 21 | 9 | 5 | 1 | 3 | 2 | 2 | - | 87 | 81 |
| Iowa | 4 | 11 | 1 | 1 | 7 | 6 | - | 1 | 13 | 20 |
| Mo. | 126 | 68 | 127 | 465 | 17 | 9 | 1 | 6 | 21 | 27 |
| N. Dak. | - | 4 | - | - | 1 | - | - | 1 | - | - |
| S. Dak. | 2 | - | - | - | 1 | 2 | - | - | - | - |
| Nebr. | 14 | 18 | 1 | 8 | 2 | 7 | 3 | - | 2 | 2 |
| Kans. | 13 | 13 | - | - | 6 | - | - | 1 | 6 | 4 |
| S. ATLANTIC | 1,116 | 1,006 | 109 | 111 | 256 | 101 | 63 | 42 | 504 | 656 |
| Del. | 5 | 9 | - | - | 9 | 6 | N | N | 79 | 86 |
| Md. | 70 | 85 | 10 | 6 | 60 | 18 | 10 | 7 | 303 | 410 |
| D.C. | 3 | 11 | - | - | 3 | 5 | - | - | 5 | 12 |
| Va. | 98 | 122 | 4 | 1 | 50 | 10 | 7 | 3 | 38 | 43 |
| W. Va. | 12 | 13 | 1 | 1 | 8 | - | 3 | - | 6 | 5 |
| N.C. | 100 | 143 | 7 | 15 | 16 | 5 | 10 | 3 | 43 | 59 |
| S.C. | 83 | 69 | 23 | 4 | 4 | 6 | 1 | 6 | 1 | 7 |
| Ga. | 361 | 264 | 3 | 49 | 18 | 7 | 19 | 8 | 11 | 1 |
| Fla. | 384 | 290 | 61 | 35 | 88 | 44 | 13 | 15 | 18 | 33 |
| E.S. CENTRAL | 237 | 213 | 52 | 72 | 51 | 15 | 13 | 8 | 25 | 34 |
| Ky. | 41 | 35 | 8 | 2 | 20 | 7 | 2 | 2 | 7 | 13 |
| Tenn. | 104 | 80 | 11 | 17 | 19 | 3 | 3 | 3 | 9 | 8 |
| Ala. | 41 | 46 | 6 | 4 | 11 | 5 | 6 | 3 | 1 | 6 |
| Miss. | 51 | 52 | 27 | 49 | 1 | - | 2 | - | 8 | 7 |
| W.S. CENTRAL | 182 | 617 | 167 | 140 | 11 | 14 | 14 | 18 | 33 | 89 |
| Ark. | 32 | 78 | 3 | 10 | 1 | - | 1 | - | - | 1 |
| La. | 37 | 73 | 35 | 56 | - | 4 | - | 1 | 3 | 3 |
| Okla. | 31 | 29 | 2 | 4 | 4 | 2 | 1 | 5 | - | - |
| Tex. | 82 | 437 | 127 | 70 | 6 | 8 | 12 | 12 | 30 | 85 |
| MOUNTAIN | 372 | 328 | 39 | 38 | 42 | 20 | 17 | 20 | 10 | 8 |
| Mont. | 8 | 3 | 1 | - | 2 | 3 | 1 | - | - | - |
| Idaho | - | 5 | - | - | 3 | - | 1 | 2 | 2 | 2 |
| Wyo. | 22 | 12 | - | 5 | 2 | 1 | - | - | - | - |
| Colo. | 49 | 45 | 22 | 4 | 8 | 3 | 7 | 3 | 3 | - |
| N. Mex. | 18 | 83 | - | 2 | 2 | 1 | 2 | 2 | - | 1 |
| Ariz. | 192 | 119 | 4 | 4 | 9 | 5 | 5 | 9 | - | 2 |
| Utah | 36 | 23 | - | 4 | 12 | 6 | - | 3 | 2 | 2 |
| Nev. | 47 | 38 | 12 | 19 | 4 | 1 | 1 | 1 | 3 | 1 |
| PACIFIC | 515 | 493 | 51 | 71 | 44 | 37 | 55 | 56 | 48 | 52 |
| Wash. | 35 | 37 | 8 | 15 | 5 | 1 | 2 | 5 | - | 3 |
| Oreg. | 69 | 87 | 8 | 10 | N | N | 2 | 4 | 12 | 7 |
| Calif. | 398 | 357 | 34 | 46 | 39 | 36 | 49 | 42 | 35 | 41 |
| Alaska | 8 | 6 | 1 | - | - | - | - | - | 1 | 1 |
| Hawaii | 5 | 6 | - | - | - | - | 2 | 5 | N | N |
| Guam | - | - | - | - | - | - | - | - | - | - |
| P.R. | 36 | 110 | - | - | - | - | - | 2 | N | N |
| V.I. | - | - | - | - | - | - | - | - | - | - |
| Amer. Samoa | U | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | - | U | - | U | - | U | - | U | - | U |

N: Not notifiable. U: Unavailable. -: No reported cases.
* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

**TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 2003, and July 27, 2002 (30th Week)***

| Reporting area | Malaria | | Meningococcal disease | | Pertussis | | Rabies, animal | | Rocky Mountain spotted fever | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 |
| UNITED STATES | 475 | 718 | 980 | 1,170 | 3,419 | 4,162 | 2,855 | 4,123 | 270 | 465 |
| NEW ENGLAND | 22 | 42 | 50 | 70 | 307 | 382 | 277 | 468 | - | 2 |
| Maine | 2 | 2 | 5 | 4 | 9 | 5 | 27 | 27 | - | - |
| N.H. | 2 | 5 | 3 | 8 | 24 | 8 | 11 | 21 | - | - |
| Vt. | - | 1 | - | 4 | 38 | 72 | 18 | 64 | - | - |
| Mass. | 9 | 19 | 32 | 36 | 228 | 271 | 99 | 157 | - | 2 |
| R.I. | - | 3 | 2 | 5 | 7 | 4 | 28 | 35 | - | - |
| Conn. | 9 | 12 | 8 | 13 | 1 | 22 | 94 | 164 | - | - |
| MID. ATLANTIC | 107 | 177 | 129 | 153 | 361 | 176 | 256 | 636 | 15 | 38 |
| Upstate N.Y. | 32 | 26 | 31 | 34 | 169 | 118 | 193 | 349 | 1 | - |
| N.Y. City | 48 | 108 | 25 | 25 | - | 9 | 1 | 10 | 6 | 8 |
| N.J. | 10 | 23 | 19 | 23 | 22 | - | 62 | 91 | 5 | 14 |
| Pa. | 17 | 20 | 54 | 71 | 170 | 49 | - | 186 | 3 | 16 |
| E.N. CENTRAL | 49 | 103 | 154 | 175 | 240 | 500 | 55 | 56 | 6 | 17 |
| Ohio | 11 | 12 | 45 | 56 | 132 | 243 | 21 | 13 | 4 | 7 |
| Ind. | 1 | 6 | 31 | 22 | 32 | 24 | 7 | 12 | - | 1 |
| Ill. | 18 | 44 | 34 | 40 | - | 93 | 7 | 9 | - | 8 |
| Mich. | 16 | 32 | 30 | 26 | 30 | 34 | 18 | 13 | 2 | 1 |
| Wis. | 3 | 9 | 14 | 31 | 46 | 106 | 2 | 9 | - | - |
| W.N. CENTRAL | 27 | 46 | 89 | 91 | 183 | 331 | 368 | 277 | 21 | 67 |
| Minn. | 14 | 16 | 19 | 22 | 59 | 117 | 18 | 17 | 1 | - |
| Iowa | 3 | 2 | 16 | 13 | 44 | 101 | 52 | 42 | 2 | 1 |
| Mo. | 2 | 12 | 39 | 36 | 45 | 69 | 10 | 19 | 14 | 62 |
| N. Dak. | 1 | 1 | 1 | - | 3 | 5 | 37 | 23 | - | - |
| S. Dak. | 2 | 1 | 1 | 2 | 3 | 5 | 67 | 57 | 2 | - |
| Nebr. | - | 5 | 6 | 13 | 4 | 3 | 60 | - | 1 | 4 |
| Kans. | 5 | 9 | 7 | 5 | 25 | 31 | 124 | 119 | 1 | - |
| S. ATLANTIC | 138 | 154 | 182 | 178 | 289 | 232 | 1,431 | 1,471 | 183 | 208 |
| Del. | - | 1 | 7 | 6 | 1 | 2 | 23 | 24 | - | - |
| Md. | 35 | 53 | 18 | 4 | 41 | 28 | 147 | 238 | 51 | 24 |
| D.C. | 7 | 12 | - | - | - | 1 | - | - | - | - |
| Va. | 17 | 15 | 19 | 28 | 60 | 94 | 323 | 325 | 11 | 15 |
| W. Va. | 4 | 3 | 3 | - | 6 | 17 | 51 | 103 | 4 | 1 |
| N.C. | 12 | 9 | 24 | 19 | 79 | 20 | 453 | 381 | 78 | 116 |
| S.C. | 3 | 5 | 10 | 16 | 39 | 28 | 120 | 54 | 11 | 31 |
| Ga. | 22 | 21 | 21 | 22 | 23 | 18 | 227 | 241 | 22 | 17 |
| Fla. | 38 | 35 | 80 | 83 | 40 | 24 | 87 | 105 | 6 | 4 |
| E.S. CENTRAL | 7 | 10 | 50 | 65 | 75 | 134 | 117 | 152 | 36 | 68 |
| Ky. | 1 | 3 | 10 | 12 | 20 | 52 | 22 | 17 | - | 3 |
| Tenn. | 4 | 2 | 13 | 24 | 37 | 52 | 80 | 108 | 28 | 34 |
| Ala. | 2 | 3 | 13 | 15 | 14 | 23 | 15 | 27 | 3 | 10 |
| Miss. | - | 2 | 14 | 14 | 4 | 7 | - | - | 5 | 21 |
| W.S. CENTRAL | 14 | 30 | 68 | 139 | 256 | 976 | 161 | 745 | 3 | 54 |
| Ark. | 4 | 1 | 10 | 20 | 8 | 435 | 25 | - | - | 12 |
| La. | 3 | 3 | 24 | 30 | 6 | 5 | - | - | - | - |
| Okla. | 3 | - | 11 | 16 | 12 | 34 | 136 | 72 | 2 | 35 |
| Tex. | 4 | 26 | 23 | 73 | 230 | 502 | - | 673 | 1 | 7 |
| MOUNTAIN | 19 | 32 | 49 | 67 | 580 | 509 | 78 | 152 | 6 | 10 |
| Mont. | - | 1 | 3 | 2 | 1 | 3 | 12 | 8 | 1 | 1 |
| Idaho | 1 | - | 6 | 3 | 40 | 46 | 3 | 11 | 1 | - |
| Wyo. | 1 | - | 2 | - | 119 | 9 | 1 | 14 | 2 | 3 |
| Colo. | 11 | 17 | 13 | 21 | 203 | 198 | 13 | 23 | 1 | 1 |
| N. Mex. | - | 2 | 6 | 3 | 34 | 106 | 5 | 5 | - | - |
| Ariz. | 4 | 5 | 14 | 21 | 106 | 97 | 36 | 87 | 1 | - |
| Utah | 1 | 4 | 1 | 1 | 59 | 29 | 6 | 2 | - | - |
| Nev. | 1 | 3 | 4 | 16 | 18 | 21 | 2 | 2 | - | 5 |
| PACIFIC | 92 | 124 | 209 | 232 | 1,128 | 922 | 112 | 166 | - | 1 |
| Wash. | 14 | 12 | 17 | 44 | 307 | 281 | - | - | - | - |
| Oreg. | 7 | 6 | 36 | 34 | 258 | 117 | 4 | 6 | - | 1 |
| Calif. | 67 | 98 | 150 | 147 | 555 | 507 | 105 | 134 | - | - |
| Alaska | - | 2 | 1 | 1 | - | 4 | 3 | 26 | - | - |
| Hawaii | 4 | 6 | 5 | 6 | 8 | 13 | - | - | - | - |
| Guam | - | - | - | 1 | - | 2 | - | - | - | - |
| P.R. | - | 1 | 2 | 5 | - | 2 | 44 | 47 | N | N |
| V.I. | - | - | - | - | - | - | - | - | - | - |
| Amer. Samoa | U | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | - | U | - | U | - | U | - | U | - | U |

N: Not notifiable. U: Unavailable. - : No reported cases.
* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

**TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 2003, and July 27, 2002 (30th Week)***

| Reporting area | Salmonellosis | | Shigellosis | | Streptococcal disease, invasive, group A | | *Streptococcus pneumoniae*, invasive: Drug resistant, all ages | | *Streptococcus pneumoniae*, invasive: Age <5 years | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 |
| UNITED STATES | 17,553 | 20,277 | 10,888 | 9,318 | 3,507 | 3,098 | 1,429 | 1,666 | 283 | 215 |
| NEW ENGLAND | 1,007 | 1,088 | 158 | 156 | 289 | 242 | 40 | 73 | 6 | 1 |
| Maine | 71 | 75 | 6 | 3 | 21 | 19 | - | - | - | - |
| N.H. | 81 | 67 | 5 | 5 | 19 | 26 | - | - | N | N |
| Vt. | 36 | 39 | 5 | - | 16 | 9 | 6 | 3 | 3 | 1 |
| Mass. | 572 | 626 | 101 | 109 | 133 | 82 | N | N | N | N |
| R.I. | 43 | 72 | 5 | 6 | 5 | 13 | 10 | 6 | 3 | - |
| Conn. | 204 | 209 | 36 | 33 | 95 | 93 | 24 | 64 | U | U |
| MID. ATLANTIC | 2,088 | 2,834 | 1,213 | 799 | 597 | 524 | 92 | 79 | 65 | 57 |
| Upstate N.Y. | 509 | 753 | 188 | 119 | 272 | 212 | 49 | 70 | 50 | 47 |
| N.Y. City | 562 | 714 | 198 | 250 | 87 | 124 | U | U | U | U |
| N.J. | 211 | 602 | 161 | 297 | 42 | 106 | N | N | N | N |
| Pa. | 806 | 765 | 666 | 133 | 196 | 82 | 43 | 9 | 15 | 10 |
| E.N. CENTRAL | 2,667 | 3,099 | 1,019 | 984 | 815 | 667 | 311 | 143 | 126 | 80 |
| Ohio | 766 | 734 | 216 | 366 | 237 | 148 | 202 | 21 | 74 | - |
| Ind. | 308 | 248 | 78 | 44 | 79 | 39 | 109 | 120 | 32 | 40 |
| Ill. | 888 | 1,093 | 499 | 392 | 178 | 198 | - | 2 | - | - |
| Mich. | 413 | 522 | 156 | 90 | 275 | 204 | N | N | N | N |
| Wis. | 292 | 502 | 70 | 92 | 46 | 78 | N | N | 20 | 40 |
| W.N. CENTRAL | 1,270 | 1,261 | 435 | 656 | 231 | 178 | 122 | 321 | 41 | 39 |
| Minn. | 308 | 291 | 52 | 129 | 114 | 92 | - | 220 | 35 | 35 |
| Iowa | 195 | 213 | 28 | 68 | N | N | N | N | N | N |
| Mo. | 460 | 429 | 216 | 92 | 47 | 37 | 9 | 5 | 2 | 1 |
| N. Dak. | 24 | 24 | 3 | 16 | 10 | - | 3 | 1 | 4 | 3 |
| S. Dak. | 50 | 52 | 9 | 150 | 18 | 10 | 1 | 1 | - | - |
| Nebr. | 78 | 77 | 86 | 143 | 21 | 14 | - | 25 | N | N |
| Kans. | 155 | 175 | 41 | 58 | 21 | 25 | 109 | 69 | N | N |
| S. ATLANTIC | 4,581 | 4,692 | 4,525 | 3,012 | 647 | 504 | 719 | 775 | 8 | 19 |
| Del. | 35 | 39 | 136 | 14 | 6 | 1 | 1 | 3 | N | N |
| Md. | 425 | 438 | 343 | 555 | 195 | 79 | - | - | - | 14 |
| D.C. | 16 | 44 | 32 | 38 | 10 | 6 | 2 | - | 4 | 3 |
| Va. | 512 | 493 | 247 | 551 | 81 | 52 | N | N | N | N |
| W. Va. | 64 | 61 | - | 4 | 30 | 13 | 51 | 34 | 4 | 2 |
| N.C. | 544 | 595 | 573 | 157 | 78 | 96 | N | N | U | U |
| S.C. | 220 | 294 | 254 | 66 | 27 | 29 | 74 | 135 | N | N |
| Ga. | 833 | 851 | 1,209 | 720 | 79 | 95 | 186 | 193 | N | N |
| Fla. | 1,932 | 1,877 | 1,731 | 907 | 141 | 133 | 405 | 410 | N | N |
| E.S. CENTRAL | 1,139 | 1,340 | 528 | 766 | 135 | 71 | 93 | 100 | - | - |
| Ky. | 217 | 175 | 63 | 80 | 32 | 12 | 12 | 12 | N | N |
| Tenn. | 375 | 336 | 180 | 34 | 103 | 59 | 81 | 88 | N | N |
| Ala. | 296 | 351 | 177 | 401 | - | - | - | - | N | N |
| Miss. | 251 | 478 | 108 | 251 | - | - | - | - | - | - |
| W.S. CENTRAL | 1,140 | 2,044 | 1,325 | 1,444 | 115 | 199 | 30 | 143 | 33 | 16 |
| Ark. | 323 | 377 | 57 | 113 | 5 | 5 | 7 | 5 | - | - |
| La. | 173 | 413 | 127 | 290 | 1 | 1 | 23 | 138 | 10 | 4 |
| Okla. | 219 | 213 | 502 | 267 | 57 | 34 | N | N | 23 | 2 |
| Tex. | 425 | 1,041 | 639 | 774 | 52 | 159 | N | N | - | 10 |
| MOUNTAIN | 1,120 | 1,144 | 546 | 328 | 333 | 385 | 19 | 32 | 4 | 3 |
| Mont. | 54 | 59 | 2 | 3 | 2 | - | - | - | - | - |
| Idaho | 100 | 68 | 13 | 2 | 14 | 5 | N | N | N | N |
| Wyo. | 51 | 35 | 1 | 3 | 1 | 7 | 4 | 10 | - | - |
| Colo. | 267 | 319 | 87 | 68 | 92 | 79 | - | - | - | - |
| N. Mex. | 99 | 148 | 102 | 60 | 85 | 73 | 15 | 22 | - | - |
| Ariz. | 350 | 299 | 283 | 156 | 129 | 196 | - | - | N | N |
| Utah | 112 | 91 | 29 | 18 | 9 | 25 | - | - | 4 | 3 |
| Nev. | 87 | 125 | 29 | 18 | 1 | - | - | - | - | - |
| PACIFIC | 2,541 | 2,775 | 1,139 | 1,173 | 345 | 328 | 3 | - | - | - |
| Wash. | 290 | 253 | 92 | 71 | 38 | 18 | - | - | N | N |
| Oreg. | 216 | 205 | 56 | 50 | N | N | N | N | N | N |
| Calif. | 1,904 | 2,122 | 978 | 1,016 | 256 | 274 | N | N | N | N |
| Alaska | 50 | 39 | 4 | 2 | - | - | - | - | N | N |
| Hawaii | 81 | 156 | 9 | 34 | 51 | 36 | 3 | - | - | - |
| Guam | - | 28 | - | 18 | - | - | - | 3 | - | - |
| P.R. | 133 | 239 | 1 | 20 | N | N | N | N | N | N |
| V.I. | - | - | - | - | - | - | - | - | - | - |
| Amer. Samoa | U | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | - | U | - | U | - | U | - | U | - | U |

N: Not notifiable. U: Unavailable. - : No reported cases.
* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

**TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 2003, and July 27, 2002 (30th Week)***

| | Syphilis | | | | Tuberculosis | | Typhoid fever | | Varicella (Chickenpox) |
|---|---|---|---|---|---|---|---|---|---|
| | Primary & secondary | | Congenital | | | | | | |
| Reporting area | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 |
| UNITED STATES | 3,787 | 3,705 | 201 | 238 | 5,830 | 7,095 | 138 | 176 | 7,902 |
| NEW ENGLAND | 121 | 75 | 1 | - | 162 | 233 | 13 | 8 | 1,231 |
| Maine | 4 | 1 | 1 | - | 5 | 10 | - | - | 631 |
| N.H. | 13 | 2 | - | - | 7 | 7 | 1 | - | - |
| Vt. | - | 1 | - | - | 3 | 4 | - | - | 489 |
| Mass. | 81 | 55 | - | - | 104 | 113 | 5 | 6 | 108 |
| R.I. | 11 | 1 | - | - | 19 | 33 | 2 | - | 3 |
| Conn. | 12 | 15 | - | - | 24 | 66 | 5 | 2 | - |
| MID. ATLANTIC | 429 | 409 | 40 | 34 | 1,154 | 1,213 | 19 | 48 | 16 |
| Upstate N.Y. | 20 | 20 | 12 | 1 | 138 | 171 | 4 | 3 | N |
| N.Y. City | 262 | 246 | 21 | 16 | 661 | 596 | 9 | 25 | - |
| N.J. | 82 | 75 | 7 | 16 | 215 | 270 | 5 | 13 | - |
| Pa. | 65 | 68 | - | 1 | 140 | 176 | 1 | 7 | 16 |
| E.N. CENTRAL | 521 | 707 | 39 | 34 | 615 | 680 | 10 | 19 | 3,642 |
| Ohio | 128 | 83 | 2 | - | 112 | 107 | - | 5 | 918 |
| Ind. | 27 | 38 | 7 | 2 | 73 | 62 | 4 | 2 | - |
| Ill. | 187 | 272 | 13 | 26 | 289 | 329 | - | 6 | - |
| Mich. | 169 | 301 | 17 | 6 | 115 | 141 | 6 | 3 | 2,237 |
| Wis. | 10 | 13 | - | - | 26 | 41 | - | 3 | 487 |
| W.N. CENTRAL | 88 | 72 | 2 | - | 217 | 304 | 2 | 6 | 37 |
| Minn. | 30 | 34 | - | - | 97 | 132 | - | 3 | N |
| Iowa | 4 | 2 | - | - | 16 | 17 | 1 | - | N |
| Mo. | 32 | 16 | 2 | - | 23 | 84 | 1 | 1 | - |
| N. Dak. | - | - | - | - | - | 4 | - | - | 37 |
| S. Dak. | 1 | - | - | - | 16 | 10 | - | - | - |
| Nebr. | 1 | 5 | - | - | 9 | 9 | - | 2 | - |
| Kans. | 20 | 15 | - | - | 56 | 48 | - | - | - |
| S. ATLANTIC | 1,013 | 904 | 37 | 56 | 1,110 | 1,473 | 30 | 22 | 1,505 |
| Del. | 4 | 9 | - | - | - | 13 | - | - | 16 |
| Md. | 166 | 107 | 6 | 10 | 124 | 158 | 7 | 5 | - |
| D.C. | 34 | 29 | 1 | 1 | - | - | - | - | 22 |
| Va. | 55 | 43 | 1 | 1 | 99 | 143 | 10 | 1 | 419 |
| W. Va. | 1 | - | - | - | 11 | 14 | - | - | 889 |
| N.C. | 93 | 169 | 10 | 15 | 169 | 174 | 5 | 1 | N |
| S.C. | 62 | 72 | 4 | 6 | 86 | 108 | - | - | 159 |
| Ga. | 232 | 186 | 3 | 9 | 157 | 285 | 4 | 4 | - |
| Fla. | 366 | 289 | 12 | 14 | 464 | 578 | 4 | 11 | N |
| E.S. CENTRAL | 183 | 304 | 12 | 17 | 364 | 437 | 4 | 4 | - |
| Ky. | 24 | 58 | 1 | 2 | 69 | 74 | - | 4 | N |
| Tenn. | 77 | 112 | 6 | 5 | 118 | 169 | 1 | - | N |
| Ala. | 70 | 103 | 4 | 7 | 133 | 124 | 3 | - | - |
| Miss. | 12 | 31 | 1 | 3 | 44 | 70 | - | - | - |
| W.S. CENTRAL | 481 | 467 | 37 | 51 | 825 | 1,109 | 1 | 19 | 1,110 |
| Ark. | 30 | 19 | - | 3 | 57 | 73 | - | - | - |
| La. | 66 | 79 | - | - | - | - | - | - | 3 |
| Okla. | 31 | 36 | 1 | 1 | 82 | 92 | - | - | N |
| Tex. | 354 | 333 | 36 | 47 | 686 | 944 | 1 | 19 | 1,107 |
| MOUNTAIN | 169 | 177 | 19 | 9 | 183 | 220 | 3 | 7 | 361 |
| Mont. | - | - | - | - | 5 | 6 | - | - | N |
| Idaho | 6 | 1 | - | - | 3 | 10 | - | - | N |
| Wyo. | - | - | - | - | 2 | 2 | - | - | 36 |
| Colo. | 12 | 36 | 3 | 1 | 42 | 43 | 3 | 3 | - |
| N. Mex. | 28 | 19 | - | - | 6 | 22 | - | - | - |
| Ariz. | 111 | 112 | 16 | 8 | 86 | 107 | - | - | 4 |
| Utah | 5 | 2 | - | - | 18 | 17 | - | 2 | 321 |
| Nev. | 7 | 7 | - | - | 21 | 13 | - | 2 | - |
| PACIFIC | 782 | 590 | 14 | 37 | 1,200 | 1,426 | 56 | 43 | - |
| Wash. | 42 | 27 | - | 1 | 124 | 134 | 2 | 4 | - |
| Oreg. | 27 | 7 | - | - | 70 | 57 | 3 | 2 | - |
| Calif. | 712 | 549 | 14 | 35 | 950 | 1,123 | 51 | 36 | - |
| Alaska | - | - | - | - | 32 | 31 | - | - | - |
| Hawaii | 1 | 7 | - | 1 | 24 | 81 | - | 1 | - |
| Guam | - | 6 | - | - | - | 38 | - | - | - |
| P.R. | 110 | 152 | 1 | 18 | 33 | 67 | - | - | 263 |
| V.I. | 1 | 1 | - | - | - | - | - | - | - |
| Amer. Samoa | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | - | U | - | U | - | U | - | U | - |

N: Not notifiable. U: Unavailable. - : No reported cases.
* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

**TABLE III. Deaths in 122 U.S. cities,* week ending July 26, 2003 (30th Week)**

| Reporting Area | All causes, by age (years) | | | | | | P&I† |
|---|---|---|---|---|---|---|---|
| | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | Total |
| NEW ENGLAND | 463 | 315 | 101 | 32 | 2 | 13 | 49 |
| Boston, Mass. | 153 | 99 | 33 | 13 | - | 8 | 20 |
| Bridgeport, Conn. | 34 | 23 | 10 | 1 | - | - | 2 |
| Cambridge, Mass. | 17 | 14 | 3 | - | - | - | 3 |
| Fall River, Mass. | 28 | 20 | 8 | - | - | - | 2 |
| Hartford, Conn. | U | U | U | U | U | U | U |
| Lowell, Mass. | 23 | 15 | 5 | 3 | - | - | 1 |
| Lynn, Mass. | 12 | 8 | 4 | - | - | - | 1 |
| New Bedford, Mass. | 32 | 21 | 8 | 3 | - | - | 4 |
| New Haven, Conn. | 33 | 20 | 7 | 4 | 1 | 1 | 1 |
| Providence, R.I. | U | U | U | U | U | U | U |
| Somerville, Mass. | 3 | 3 | - | - | - | - | 1 |
| Springfield, Mass. | 40 | 19 | 15 | 4 | 1 | 1 | 2 |
| Waterbury, Conn. | 31 | 26 | 3 | 1 | - | 1 | 4 |
| Worcester, Mass. | 57 | 47 | 5 | 3 | - | 2 | 8 |
| MID. ATLANTIC | 2,100 | 1,460 | 419 | 146 | 43 | 28 | 105 |
| Albany, N.Y. | 45 | 32 | 11 | 1 | 1 | - | 3 |
| Allentown, Pa. | 17 | 14 | 3 | - | - | - | - |
| Buffalo, N.Y. | 93 | 74 | 12 | 4 | 1 | 2 | 4 |
| Camden, N.J. | 26 | 16 | 6 | 3 | 1 | - | 1 |
| Elizabeth, N.J. | 22 | 15 | 5 | 1 | 1 | - | - |
| Erie, Pa. | 31 | 25 | 6 | - | - | - | - |
| Jersey City, N.J. | 40 | 27 | 8 | 3 | 1 | 1 | - |
| New York City, N.Y. | 956 | 658 | 192 | 78 | 15 | 9 | 41 |
| Newark, N.J. | 62 | 34 | 19 | 6 | 1 | 2 | 6 |
| Paterson, N.J. | 19 | 11 | 3 | 2 | 2 | 1 | 1 |
| Philadelphia, Pa. | 435 | 280 | 100 | 34 | 12 | 9 | 16 |
| Pittsburgh, Pa.§ | 30 | 25 | 3 | 2 | - | - | 1 |
| Reading, Pa. | 18 | 14 | 3 | 1 | - | - | 4 |
| Rochester, N.Y. | 123 | 97 | 17 | 3 | 4 | 2 | 11 |
| Schenectady, N.Y. | 23 | 18 | 2 | 2 | 1 | - | 4 |
| Scranton, Pa. | 20 | 18 | 2 | - | - | - | 1 |
| Syracuse, N.Y. | 69 | 49 | 18 | - | 1 | 1 | 7 |
| Trenton, N.J. | 30 | 21 | 4 | 4 | - | 1 | - |
| Utica, N.Y. | 13 | 10 | 3 | - | - | - | - |
| Yonkers, N.Y. | 28 | 22 | 2 | 2 | 2 | - | 5 |
| E.N. CENTRAL | 1,960 | 1,258 | 416 | 163 | 65 | 54 | 128 |
| Akron, Ohio | 68 | 49 | 12 | 4 | - | 3 | 12 |
| Canton, Ohio | 43 | 29 | 10 | 3 | 1 | - | 3 |
| Chicago, Ill. | 306 | 170 | 73 | 34 | 15 | 10 | 16 |
| Cincinnati, Ohio | 76 | 44 | 21 | 5 | 5 | 1 | 7 |
| Cleveland, Ohio | 112 | 74 | 26 | 3 | 2 | 7 | 6 |
| Columbus, Ohio | 171 | 117 | 34 | 10 | 4 | 6 | 9 |
| Dayton, Ohio | 103 | 75 | 17 | 4 | 4 | 3 | 6 |
| Detroit, Mich. | 164 | 92 | 42 | 22 | 2 | 6 | 15 |
| Evansville, Ind. | 60 | 40 | 13 | 3 | 4 | - | 6 |
| Fort Wayne, Ind. | 63 | 41 | 14 | 4 | 3 | 1 | 4 |
| Gary, Ind. | 22 | 11 | 3 | 5 | 3 | - | 1 |
| Grand Rapids, Mich. | 58 | 37 | 12 | 4 | 3 | 2 | 1 |
| Indianapolis, Ind. | 235 | 136 | 55 | 30 | 7 | 7 | 15 |
| Lansing, Mich. | 48 | 38 | 6 | 3 | 1 | - | 3 |
| Milwaukee, Wis. | 105 | 74 | 21 | 6 | 2 | 2 | 11 |
| Peoria, Ill. | 47 | 30 | 11 | 3 | 2 | 1 | 4 |
| Rockford, Ill. | 58 | 37 | 13 | 4 | 2 | 2 | 4 |
| South Bend, Ind. | 47 | 38 | 6 | 2 | 1 | - | 1 |
| Toledo, Ohio | 121 | 92 | 14 | 10 | 3 | 2 | 2 |
| Youngstown, Ohio | 53 | 34 | 13 | 4 | 1 | 1 | 2 |
| W.N. CENTRAL | 534 | 372 | 107 | 29 | 19 | 7 | 33 |
| Des Moines, Iowa | 60 | 39 | 19 | 2 | - | - | 6 |
| Duluth, Minn. | 29 | 22 | 4 | 2 | - | 1 | 5 |
| Kansas City, Kans. | 37 | 23 | 8 | 4 | 2 | - | 4 |
| Kansas City, Mo. | 85 | 60 | 17 | 4 | 3 | 1 | - |
| Lincoln, Nebr. | 40 | 32 | 6 | 2 | - | - | 2 |
| Minneapolis, Minn. | 65 | 46 | 11 | 4 | 2 | 2 | 3 |
| Omaha, Nebr. | 72 | 53 | 11 | 1 | 5 | 2 | 7 |
| St. Louis, Mo. | U | U | U | U | U | U | U |
| St. Paul, Minn. | 68 | 47 | 15 | 2 | 4 | - | 3 |
| Wichita, Kans. | 78 | 50 | 16 | 8 | 3 | 1 | 3 |

| Reporting Area | All causes, by age (years) | | | | | | P&I† |
|---|---|---|---|---|---|---|---|
| | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | Total |
| S. ATLANTIC | 1,253 | 788 | 275 | 113 | 48 | 28 | 69 |
| Atlanta, Ga. | 155 | 81 | 47 | 17 | 8 | 2 | 2 |
| Baltimore, Md. | 272 | 156 | 67 | 30 | 12 | 7 | 25 |
| Charlotte, N.C. | 92 | 68 | 15 | 4 | 1 | 4 | 9 |
| Jacksonville, Fla. | 136 | 87 | 32 | 10 | 3 | 4 | 1 |
| Miami, Fla. | 125 | 81 | 31 | 11 | 2 | - | 10 |
| Norfolk, Va. | 43 | 35 | 4 | 1 | 3 | - | 3 |
| Richmond, Va. | 48 | 26 | 8 | 10 | 3 | 1 | 2 |
| Savannah, Ga. | 46 | 28 | 8 | 5 | 1 | 4 | 2 |
| St. Petersburg, Fla. | 72 | 55 | 10 | 2 | 3 | 2 | 5 |
| Tampa, Fla. | 151 | 100 | 30 | 12 | 4 | 4 | 6 |
| Washington, D.C. | 100 | 59 | 23 | 10 | 8 | - | 4 |
| Wilmington, Del. | 13 | 12 | - | 1 | - | - | - |
| E.S. CENTRAL | 910 | 595 | 197 | 75 | 22 | 17 | 60 |
| Birmingham, Ala. | 208 | 136 | 49 | 14 | 3 | 2 | 19 |
| Chattanooga, Tenn. | 85 | 62 | 14 | 7 | 1 | 1 | 4 |
| Knoxville, Tenn. | 90 | 56 | 20 | 9 | 4 | 1 | 2 |
| Lexington, Ky. | 54 | 38 | 10 | 3 | 3 | - | 3 |
| Memphis, Tenn. | 194 | 125 | 43 | 12 | 7 | 7 | 13 |
| Mobile, Ala. | 95 | 69 | 16 | 5 | 3 | 2 | 5 |
| Montgomery, Ala. | 23 | 17 | 3 | 3 | - | - | 4 |
| Nashville, Tenn. | 161 | 92 | 42 | 22 | 1 | 4 | 10 |
| W.S. CENTRAL | 1,509 | 964 | 316 | 139 | 51 | 39 | 82 |
| Austin, Tex. | 98 | 60 | 19 | 5 | 6 | 8 | 7 |
| Baton Rouge, La. | 38 | 30 | 6 | 2 | - | - | - |
| Corpus Christi, Tex. | 44 | 28 | 12 | 3 | - | 1 | 1 |
| Dallas, Tex. | 219 | 124 | 57 | 21 | 11 | 6 | 10 |
| El Paso, Tex. | 94 | 67 | 18 | 7 | 1 | 1 | 1 |
| Ft. Worth, Tex. | 112 | 74 | 27 | 8 | 1 | 2 | 6 |
| Houston, Tex. | 436 | 257 | 91 | 51 | 20 | 17 | 28 |
| Little Rock, Ark. | 78 | 54 | 15 | 6 | 3 | - | - |
| New Orleans, La. | 43 | 19 | 11 | 10 | 3 | - | - |
| San Antonio, Tex. | 277 | 201 | 45 | 24 | 5 | 2 | 22 |
| Shreveport, La. | 70 | 50 | 15 | 2 | 1 | 2 | 7 |
| Tulsa, Okla. | U | U | U | U | U | U | U |
| MOUNTAIN | 876 | 578 | 191 | 56 | 26 | 25 | 55 |
| Albuquerque, N.M. | 115 | 77 | 19 | 10 | 7 | 2 | 4 |
| Boise, Idaho | 53 | 38 | 5 | 5 | 4 | 1 | 3 |
| Colo. Springs, Colo. | 66 | 48 | 15 | 2 | - | 1 | 3 |
| Denver, Colo. | 100 | 59 | 26 | 6 | 3 | 6 | 6 |
| Las Vegas, Nev. | 218 | 132 | 60 | 17 | 4 | 5 | 20 |
| Ogden, Utah | 10 | 6 | 2 | - | - | 2 | - |
| Phoenix, Ariz. | U | U | U | U | U | U | U |
| Pueblo, Colo. | 30 | 22 | 7 | 1 | - | - | 3 |
| Salt Lake City, Utah | 122 | 84 | 23 | 6 | 4 | 5 | 6 |
| Tucson, Ariz. | 162 | 112 | 34 | 9 | 4 | 3 | 10 |
| PACIFIC | 1,400 | 942 | 303 | 107 | 26 | 22 | 107 |
| Berkeley, Calif. | 17 | 12 | 5 | - | - | - | 3 |
| Fresno, Calif. | 160 | 100 | 39 | 9 | 7 | 5 | 8 |
| Glendale, Calif. | 15 | 10 | 5 | - | - | - | - |
| Honolulu, Hawaii | 88 | 67 | 13 | 5 | - | 3 | 7 |
| Long Beach, Calif. | 56 | 32 | 18 | 4 | 1 | 1 | 5 |
| Los Angeles, Calif. | 195 | 134 | 34 | 20 | 6 | 1 | 17 |
| Pasadena, Calif. | U | U | U | U | U | U | U |
| Portland, Oreg. | 88 | 56 | 20 | 8 | 4 | - | 6 |
| Sacramento, Calif. | 180 | 116 | 45 | 15 | 2 | 2 | 20 |
| San Diego, Calif. | 162 | 112 | 37 | 11 | - | 2 | 10 |
| San Francisco, Calif. | U | U | U | U | U | U | U |
| San Jose, Calif. | 165 | 118 | 30 | 13 | 2 | 2 | 16 |
| Santa Cruz, Calif. | 24 | 17 | 4 | 2 | - | 1 | 1 |
| Seattle, Wash. | 115 | 77 | 22 | 11 | 4 | 1 | 6 |
| Spokane, Wash. | 53 | 38 | 11 | 2 | - | 2 | 4 |
| Tacoma, Wash. | 82 | 53 | 20 | 7 | - | 2 | 4 |
| TOTAL | 11,005¶ | 7,272 | 2,325 | 860 | 302 | 233 | 688 |

U: Unavailable. -:No reported cases.

* Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of ≥100,000. 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 this Pennsylvania city, 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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