# Coronary Heart Disease and Stroke Deaths — United States, 2006

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Heart disease and stroke are the first and third leading causes of death in the United States* (*1*) and have maintained this ranking since 1921 and 1938, respectively (*2*). In 2006, cardiovascular disease was responsible for 31.7% of all deaths: 26.0% from heart disease and 5.7% from stroke (*1*). Deaths from coronary heart disease (CHD) (425,425 deaths) comprise 67.4% of all deaths from heart disease (631,636 deaths). The *Healthy People 2010* objectives of reducing death rates to 162 deaths per 100,000 population for CHD and 50 deaths per 100,000 for stroke (objectives 12-1 and 12-7) were met in 2004 (*3*). However, despite the overall decrease in CHD and stroke death rates, the target death rates for both diseases were not met for two subpopulations: blacks and men.

*Healthy People 2020* has four overarching goals: 1) eliminate preventable disease, disability, injury, and premature death; 2) achieve health equity, eliminate disparities, and improve the health of all groups; 3) create social and physical environments that promote good health for all; and 4) promote healthy development and healthy behaviors across every life stage (*4*). Examining and monitoring the distribution of death rates provides the requisite information for focusing on the groups most in need of early intervention to eliminate preventable disease, disability, and premature death and to improve the health of all groups.

To examine CHD and stroke death rates among different segments of the U.S. population, CDC analyzed 2006 data from the National Vital Statistics System (NVSS). NVSS is maintained by CDC and compiles data from vital records on all deaths occurring annually in the United States (*5*). The 2006 CDC Wonder compressed mortality NVSS database (*6*) was used to obtain the number of deaths for which CHD or stroke was the underlying cause, population estimates for calculation of rates, and mortality rates per 100,000, age-standardized to the 2000 U.S. standard population (*7*). The underlying cause of death is the disease that initiated the sequence of events leading directly to death. Age-specific rate calculations were restricted to adults aged ≥45 years because 98.1% of CHD deaths and 97.6% of stroke deaths occurred among persons in this age group. CHD and stroke deaths were classified according to codes from the *International Classification of Diseases, Tenth Revision* (ICD-10) (*8*). The category of CHD (ICD-10 codes I20–I25) includes acute myocardial infarction, angina pectoris, atherosclerotic cardiovascular disease, and all other forms of acute and chronic ischemic heart disease. Stroke (ICD-10 codes I60–I69) includes ischemic and hemorrhagic strokes, strokes not specified as ischemic or hemorrhagic, and other cerebrovascular diseases (e.g., occlusion and stenosis of cerebral arteries) not resulting in cerebral infarction. Substantial differences in rates were determined by nonoverlapping confidence intervals (CIs), and these differences are discussed in the report; however, nonoverlapping CIs were not used as an indicator of statistical significance.

Trends in mortality disparities for CHD and stroke over time were not examined. In addition, death rates by educational attainment were not included because education information on the death certificates is unreliable, particularly for certain demographic groups (blacks, Hispanics, and Asians/Pacific Islanders [A/PIs]) (*9*).

In 2006, CHD was the underlying cause of death for 425,425 persons (all ages) in the United States; the age-adjusted mortality rate was 135.0 deaths per 100,000 standard population (Table 1). The rate for males was 41.6% higher than for females (176.5 versus 103.1 per 100,000 population, respectively). Blacks had higher age-adjusted rates than the other three racial/ethnic groups, and whites had higher rates than American Indians/Alaska Natives (AI/ANs) and A/PIs (Table 1).

In 2006, stroke was the underlying cause of death for 137,119 persons; the age-adjusted mortality rate was 43.6 per 100,000 standard population (Table 1). Rates for blacks were 32.3% higher than rates for whites (61.6 versus 41.7 per 100,000 population, respectively). Hispanics had lower death rates for both CHD and stroke than non-Hispanics.

The age-specific CHD mortality rates by sex, race/ethnicity, and age group highlight how the overall age-adjusted rate masks the differences in higher premature death rates (death before age 75 years) within the groups (Table 2). Among adults aged ≥45 years, a comparison of rates by race for the youngest age groups reveals that black women and men aged 45–74 years had much higher CHD death rates than women and men of the three other races. The proportion of CHD deaths that occurred among persons aged 45–74 years was higher for black women (37.9%) than white women (19.4%) and higher for black men (61.5%) than white men (41.5%). Non-Hispanic men and women aged 45–74 years had higher CHD death rates than their Hispanic counterparts (Table 3).

The pattern in premature death rates also is demonstrated in age-specific deaths caused by stroke (Table 4). Approximately 39% of black women who died of stroke died before age 75 years, compared with 17.3% of white women; 60.7% of black men who died of stroke died before age 75 years, compared with 31.1% of white men. Age-specific stroke death rates were similar for Hispanics and non-Hispanics (Table 5).

CHD and stroke age-adjusted mortality rates were also examined by state (Table 6). The range for CHD was from 77.5 deaths per 100,000 population (Utah) to 193.5 per 100,000 (District of

* Preliminary data for 2008 indicate that stroke might now be the fourth leading cause of death in the United States. However, these data should be interpreted with caution. (Data available at http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_02.pdf.)

**TABLE 1. Number of deaths and age-adjusted death rates* for coronary heart disease and stroke, by sex and race/ethnicity — National Vital Statistics System, United States, 2006**

| Characteristic | Coronary heart disease | | | Stroke | | |
|---|---|---|---|---|---|---|
| | No. | Rate | (95% CI) | No. | Rate | (95% CI) |
| **Sex** | | | | | | |
| Female | 200,915 | 103.1 | (102.7–103.6) | 82,595 | 42.6 | (42.3–42.9) |
| Male | 224,510 | 176.5 | (175.7–177.2) | 54,524 | 43.9 | (43.5–44.3) |
| **Race** | | | | | | |
| American Indian/Alaska Native | 1,880 | 97.4 | (92.8–102.0) | 548 | 29.4 | (26.9–32.0) |
| Asian/ Pacific Islander | 7,570 | 77.1 | (75.4–78.9) | 3,662 | 37.0 | (35.8–38.2) |
| Black | 44,530 | 161.6 | (160.1–163.1) | 17,045 | 61.6 | (60.7–62.6) |
| White | 371,445 | 134.2 | (133.8–134.6) | 115,864 | 41.7 | (41.5–42.0) |
| **Ethnicity** | | | | | | |
| Hispanic | 20,939 | 106.4 | (104.9–107.8) | 7,005 | 34.2 | (33.4–35.0) |
| Non-Hispanic | 403,588 | 136.8 | (136.4–137.3) | 129,892 | 44.0 | (43.8–44.3) |
| **Total** | **425,425** | **135.0** | **(134.6–135.4)** | **137,119** | **43.6** | **(43.3–43.8)** |

**Abbreviation:** CI = confidence interval.
*Per 100,000 U.S. standard population.

**TABLE 2. Number of deaths and age-specific death rates* for coronary heart disease among adults aged ≥45 years, by age group, sex, and race — National Vital Statistics System, United States, 2006**

| Age group (yrs) | Race | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | American Indian/Alaska Native | | | Asian/Pacific Islander | | | Black | | | White | | |
| | No. | Rate | (95% CI) | No. | Rate | (95% CI) | No. | Rate | (95% CI) | No. | Rate | (95% CI) |
| **Women** | | | | | | | | | | | | |
| 45–54 | 47 | 21.8 | (16.0–29.0) | 91 | 8.7 | (7.0–10.6) | 1,564 | 56.0 | (53.2–58.8) | 4,316 | 24.1 | (23.4–24.8) |
| 55–64 | 116 | 85.5 | (69.9–101.0) | 224 | 31.9 | (27.7–36.1) | 2,636 | 147.8 | (142.1–153.4) | 10,137 | 73.8 | (72.3–75.2) |
| 65–74 | 164 | 234.9 | (199.0–270.9) | 527 | 132.2 | (120.9–143.5) | 3,859 | 367.2 | (355.6–378.8) | 19,287 | 221.0 | (217.9–224.1) |
| 75–84 | 242 | 654.1 | (571.7–736.5) | 1,056 | 448.6 | (421.5–475.7) | 6,114 | 940.8 | (917.3–964.4) | 50,538 | 740.4 | (733.9–746.8) |
| ≥85 | 208 | 1,271.7 | (1,098.9–1,444.5) | 1,331 | 1,665.5 | (1,576.0–1,754.9) | 7,111 | 2,599.5 | (2,539.1–2,660.0) | 89,442 | 2,761.6 | (2,743.6–2,779.7) |
| **Total** | **777** | **163.8** | **(152.3–175.3)** | **3,229** | **130.9** | **(126.3–135.4)** | **21,284** | **324.9** | **(320.6–329.3)** | **173,720** | **344.3** | **(342.6–345.9)** |
| **Men** | | | | | | | | | | | | |
| 45–54 | 164 | 81.0 | (68.6–93.4) | 374 | 39.9 | (35.8–43.9) | 3,140 | 130.9 | (126.3–135.5) | 15,294 | 86.2 | (84.8–87.5) |
| 55–64 | 241 | 191.7 | (167.5–215.9) | 690 | 114.0 | (105.5–122.5) | 4,890 | 340.1 | (330.6–349.7) | 27,772 | 212.7 | (210.2–215.2) |
| 65–74 | 256 | 424.4 | (372.4–476.4) | 858 | 261.7 | (244.2–279.2) | 5,300 | 704.9 | (685.9–723.9) | 36,434 | 483.8 | (478.9–488.8) |
| 75–84 | 248 | 900.6 | (788.5–1,012.7) | 1,191 | 736.4 | (694.6–778.2) | 5,384 | 1,456.9 | (1,418.0–1,495.8) | 60,452 | 1,275.5 | (1,265.3–1,285.7) |
| ≥85 | 113 | 1,441.7 | (1,175.9–1,707.5) | 1,045 | 2,169.9 | (2,038.3–2,301.5) | 2,973 | 2,656.7 | (2,561.2–2,752.2) | 51,632 | 3,396.0 | (3,366.7–3,425.3) |
| **Total** | **1,022** | **241.1** | **(226.3–255.8)** | **4,158** | **199.8** | **(193.7–205.9)** | **21,687** | **427.8** | **(422.1–433.5)** | **191,584** | **429.6** | **(427.7–431.5)** |

**Abbreviation:** CI = confidence interval.
*Per 100,000 U.S. standard population.

Columbia), with a median of 126.1 per 100,000 (North Carolina). Rates for the majority of the southern states were higher than the median, whereas all but one western state (California) had rates lower than the median. Stroke mortality rates ranged from 29.7 deaths per 100,000 population (New York) to 58.8 per 100,000 (Arkansas). The median stroke rate was 44.3 per 100,000 population (Wisconsin). As with CHD, stroke rates for the majority of southern states were higher than the median; however, all the northeastern states had stroke rates lower than the median. A comparison of CHD and stroke rates among the states demonstrated that high CHD mortality rates did not necessarily correspond with high stroke rates. Although New York and Rhode Island had the second and fifth highest CHD rates, respectively (New York, 181.2 deaths per 100,000 population; Rhode Island, 162.4 per 100,000), these states had the lowest stroke rates (New York, 29.7 per 100,000 population; Rhode Island, 31.4 per 100,000). However, certain southern states with high CHD rates also had high stroke rates (Arkansas, Oklahoma, and Tennessee).

The findings in this report are subject to at least four limitations. First, misclassification of race and ethnicity of the decedent on the death certificate might underestimate rates among AI/ANs, A/PIs, and Hispanics (*10*). Second, results from a study in New York City, New York, indicated that CHD is overreported as a cause of death on death certificates (*11*). However, these results might be specific to New York City. Third, the death rates reflect only the underlying cause of death and not other contributing causes of death such

**TABLE 3. Number of deaths and age-specific death rates* for coronary heart disease among adults aged ≥45 years, by age group, sex, and Hispanic ethnicity — National Vital Statistics System, United States, 2006**

| Age group (yrs) | Women | | | | | | Men | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hispanic | | | Non-Hispanic | | | Hispanic | | | Non-Hispanic | | |
| | No. | Rate | (95% CI) | No. | Rate | (95% CI) | No. | Rate | (95% CI) | No. | Rate | (95% CI) |
| 45–54 | 345 | 15.5 | (13.8–17.1) | 5,663 | 28.7 | (27.9–29.4) | 1,205 | 52.7 | (49.7–55.7) | 17,707 | 93.2 | (91.8–94.6) |
| 55–64 | 806 | 60.9 | (56.7–65.1) | 12,273 | 81.6 | (80.2–83.0) | 1,906 | 156.5 | (149.5–163.6) | 31,564 | 225.4 | (222.9–227.8) |
| 65–74 | 1,512 | 199.2 | (189.2–209.2) | 22,270 | 234.7 | (231.6–237.8) | 2,430 | 394.1 | (378.5–409.8) | 40,266 | 500.0 | (495.1–504.9) |
| 75–84 | 3,012 | 666.6 | (642.8–690.4) | 54,839 | 751.6 | (745.3–757.9) | 3,235 | 1,022.8 | (987.6–1,058.1) | 63,916 | 1,282.9 | (1,273.0–1,292.9) |
| ≥85 | 3,694 | 2,213.2 | (2,141.8–2,284.5) | 94,269 | 2,739.1 | (2,721.6–2,756.6) | 2,176 | 2,453.9 | (2,350.8–2,557.0) | 53,499 | 3,344.5 | (3,316.2–3,372.9) |
| **Total** | **9,369** | **190.0** | **(186.2–193.9)** | **189,314** | **344.1** | **(342.5–345.6)** | **10,952** | **242.0** | **(237.5–246.5)** | **206,952** | **434.4** | **(432.5–436.2)** |

**Abbreviation:** CI = confidence interval.
*Per 100,000 U.S. standard population.

**TABLE 4. Number of deaths and age-specific death rates* for stroke among adults aged ≥45 years, by age group, sex, and race — National Vital Statistics System, United States, 2006**

| Age group (yrs) | Race | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | American Indian/Alaska Native | | | Asian/ Pacific Islander | | | Black | | | White | | |
| | No. | Rate | (95% CI) | No. | Rate | (95% CI) | No. | Rate | (95% CI) | No. | Rate | (95% CI) |
| **Women** | | | | | | | | | | | | |
| 45–54 | 19 | — | — | 109 | 10.4 | (8.4–12.3) | 875 | 31.3 | (29.3–33.4) | 1,856 | 10.4 | (9.9–10.8) |
| 55–64 | 22 | 16.2 | (10.2–24.5) | 202 | 28.8 | (24.8–32.7) | 1,090 | 61.1 | (57.5–64.7) | 3,307 | 24.1 | (23.2–24.9) |
| 65–74 | 55 | 78.8 | (59.4–102.5) | 322 | 80.8 | (72.0–89.6) | 1,565 | 148.9 | (141.5–156.3) | 6,918 | 79.3 | (77.4–81.1) |
| 75–84 | 99 | 267.6 | (217.5–325.8) | 669 | 284.2 | (262.7–305.7) | 2,701 | 415.6 | (400.0–431.3) | 21,943 | 321.5 | (317.2–325.7) |
| ≥85 | 106 | 648.1 | (524.7–771.5) | 621 | 777.0 | (715.9–838.2) | 2,901 | 1,060.5 | (1,021.9–1,099.1) | 35,698 | 1,102.2 | (1,090.8–1,113.7) |
| **Total** | **301** | **63.4** | **(56.3–70.6)** | **1,923** | **77.9** | **(74.5–81.4)** | **9,132** | **139.4** | **(136.5–142.3)** | **69,722** | **138.2** | **(137.1–139.2)** |
| **Men** | | | | | | | | | | | | |
| 45–54 | 33 | 16.3 | (11.2–22.9) | 126 | 13.4 | (11.1–15.8) | 1,044 | 43.5 | (40.9–46.2) | 2,279 | 12.8 | (12.3–13.4) |
| 55–64 | 44 | 35.0 | (25.4–47.0) | 220 | 36.3 | (31.5–41.1) | 1,523 | 105.9 | (100.6–111.3) | 4,110 | 31.5 | (30.5–32.4) |
| 65–74 | 50 | 82.9 | (61.5–109.3) | 357 | 108.9 | (97.6–120.2) | 1,644 | 218.7 | (208.1–229.2) | 7,312 | 97.1 | (94.9–99.3) |
| 75–84 | 48 | 174.3 | (128.5–231.1) | 477 | 294.9 | (268.5–321.4) | 1,741 | 471.1 | (449.0–493.2) | 16,041 | 338.5 | (333.2–343.7) |
| ≥85 | 27 | 344.5 | (227.0–501.2) | 417 | 865.9 | (782.8–949.0) | 987 | 882.0 | (827.0–937.0) | 14,311 | 941.3 | (925.9–956.7) |
| **Total** | **202** | **47.6** | **(41.1–54.2)** | **1,597** | **76.7** | **(73.0–80.5)** | **6,939** | **136.9** | **(133.7–140.1)** | **44,053** | **98.8** | **(97.9–99.7)** |

**Abbreviation:** CI = confidence interval.
* Per 100,000 U.S. standard population.
† Number of deaths too small to calculate a reliable rate.

**TABLE 5. Number of deaths and age-specific death rates* for stroke among adults aged ≥45 years, by age group, sex, and Hispanic ethnicity — National Vital Statistics System, United States, 2006**

| Age group (yrs) | Women | | | | | | Men | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hispanic | | | Non-Hispanic | | | Hispanic | | | Non-Hispanic | | |
| | No. | Rate | (95% CI) | No. | Rate | (95% CI) | No. | Rate | (95% CI) | No. | Rate | (95% CI) |
| 45–54 | 263 | 11.8 | (10.4–13.2) | 2,590 | 13.1 | (12.6–13.6) | 389 | 17.0 | (15.3–18.7) | 3,080 | 16.2 | (15.6–16.8) |
| 55–64 | 368 | 27.8 | (25.0–30.7) | 4,243 | 28.2 | (27.4–29.1) | 501 | 41.1 | (37.5–44.8) | 5,380 | 38.4 | (37.4–39.4) |
| 65–74 | 584 | 76.9 | (70.7–83.2) | 8,256 | 87.0 | (85.1–88.9) | 617 | 100.1 | (92.2–108.0) | 8,723 | 108.3 | (106.0–110.6) |
| 75–84 | 1,087 | 240.6 | (226.3–254.9) | 24,285 | 332.8 | (328.6–337.0) | 926 | 292.8 | (273.9–311.6) | 17,350 | 348.2 | (343.1–353.4) |
| ≥85 | 1,240 | 742.9 | (701.6–784.3) | 38,056 | 1,105.8 | (1,094.6–1,116.9) | 516 | 581.9 | (531.7–632.1) | 15,203 | 950.4 | (935.3–965.5) |
| **Total** | **3,542** | **71.8** | **(69.5–74.2)** | **77,430** | **140.7** | **(139.7–141.7)** | **2,949** | **65.2** | **(62.8–67.5)** | **49,736** | **104.4** | **(103.5–105.3)** |

**Abbreviation:** CI = confidence interval.
* Per 100,000 U.S. standard population.

as diabetes, which varies substantially across racial/ethnic groups. Finally, state of residence at death from CHD and stroke — diseases that often have long latency periods — might not reflect the location of the decedent's lifetime health, access to health care, and state cardiovascular health promotion activities.

The proposed *Healthy People 2020* objectives for heart disease and stroke were developed to prevent premature death from cardiovascular disease by maintaining low risk for disease, controlling increased risk, detecting and treating heart attacks and strokes, and reducing disability and recurrence (*12*). Research examining health

**TABLE 6. Number of deaths and age-adjusted death rates* for coronary heart disease and stroke, by state/area — National Vital Statistics System, United States, 2006**

| State/Area | Coronary heart disease | | | Stroke | | |
|---|---|---|---|---|---|---|
| | No. | Rate | (95% CI) | No. | Rate | (95% CI) |
| District of Columbia | 1,144 | 193.5 | (182.2–204.8) | 221 | 37.6 | (32.6–42.6) |
| New York | 39,385 | 181.2 | (179.4–183.0) | 6,398 | 29.7 | (29.0–30.5) |
| Oklahoma | 6,930 | 177.4 | (173.2–181.6) | 2,085 | 53.3 | (51.0–55.6) |
| Tennessee | 10,602 | 167.8 | (164.6–171.0) | 3,407 | 54.6 | (52.8–56.5) |
| Rhode Island | 2,187 | 162.4 | (155.5–169.3) | 421 | 31.4 | (28.4–34.5) |
| Arkansas | 5,100 | 160.1 | (155.7–164.5) | 1,884 | 58.8 | (56.1–61.4) |
| West Virginia | 3,548 | 158.7 | (153.4–163.9) | 1,072 | 47.6 | (44.7–50.5) |
| Michigan | 16,782 | 156.6 | (154.2–158.9) | 4,752 | 44.5 | (43.3–45.8) |
| Missouri | 10,206 | 155.2 | (152.2–158.2) | 3,247 | 49.4 | (47.7–51.1) |
| Ohio | 19,820 | 154.0 | (151.8–156.1) | 5,828 | 45.2 | (44.1–46.4) |
| Kentucky | 6,530 | 148.6 | (145.0–152.2) | 2,197 | 50.5 | (48.3–52.6) |
| Mississippi | 4,354 | 146.7 | (142.4–151.1) | 1,585 | 53.7 | (51.1–56.4) |
| Maryland | 7,744 | 141.7 | (138.5–144.9) | 2,365 | 43.6 | (41.8–45.4) |
| Iowa | 5,469 | 141.6 | (137.7–145.4) | 1,718 | 42.9 | (40.8–45.0) |
| New Jersey | 13,684 | 141.2 | (138.8–143.6) | 3,468 | 35.9 | (34.7–37.1) |
| Delaware | 1,305 | 140.8 | (133.2–148.5) | 384 | 41.8 | (37.6–46.0) |
| South Dakota | 1,397 | 140.0 | (132.6–147.5) | 442 | 42.4 | (38.4–46.4) |
| Indiana | 9,210 | 139.7 | (136.8–142.5) | 3,238 | 49.1 | (47.4–50.8) |
| California | 46,584 | 139.0 | (137.7–140.2) | 15,039 | 44.9 | (44.2–45.6) |
| Louisiana | 5,919 | 138.3 | (134.7–141.8) | 2,195 | 52.1 | (49.9–54.3) |
| Pennsylvania | 22,030 | 136.0 | (134.2–137.8) | 7,151 | 43.6 | (42.6–44.6) |
| Illinois | 17,747 | 134.8 | (132.8–136.8) | 5,989 | 45.4 | (44.3–46.6) |
| North Dakota | 1,115 | 133.7 | (125.7–141.8) | 428 | 49.2 | (44.5–54.0) |
| Texas | 25,933 | 132.2 | (130.6–133.8) | 9,366 | 48.3 | (47.3–49.3) |
| Florida | 32,868 | 129.2 | (127.8–130.6) | 8,925 | 35.3 | (34.5–36.0) |
| North Carolina | 11,173 | 126.1 | (123.8–128.5) | 4,572 | 52.4 | (50.9–53.9) |
| Vermont | 880 | 124.5 | (116.2–132.8) | 264 | 37.8 | (33.2–42.4) |
| Alabama | 6,038 | 121.7 | (118.6–124.8) | 2,740 | 55.5 | (53.4–57.6) |
| Arizona | 7,806 | 120.8 | (118.1–123.5) | 2,226 | 34.5 | (33.1–36.0) |
| Nevada | 2,649 | 119.5 | (114.9–124.1) | 847 | 39.7 | (37.0–42.4) |
| South Carolina | 5,398 | 119.2 | (116.0–122.4) | 2,291 | 51.6 | (49.5–53.8) |
| New Hampshire | 1,629 | 116.3 | (110.6–121.9) | 494 | 35.4 | (32.3–38.6) |
| Virginia | 8,486 | 115.6 | (113.1–118.0) | 3,523 | 49.0 | (47.3–50.6) |
| Washington | 7,303 | 114.7 | (112.1–117.4) | 2,725 | 42.9 | (41.3–44.6) |
| New Mexico | 2,277 | 114.6 | (109.9–119.3) | 739 | 37.5 | (34.8–40.2) |
| Kansas | 3,565 | 114.1 | (110.3–117.8) | 1,489 | 46.7 | (44.3–49.1) |
| Wisconsin | 7,183 | 113.9 | (111.3–116.6) | 2,829 | 44.3 | (42.7–46.0) |
| Maine | 1,816 | 112.2 | (107.0–117.4) | 670 | 41.3 | (38.2–44.5) |
| Idaho | 1,565 | 110.2 | (104.7–115.7) | 725 | 51.6 | (47.9–55.4) |
| Connecticut | 4,630 | 110.0 | (106.8–113.2) | 1,547 | 36.5 | (34.6–38.3) |
| Georgia | 8,371 | 108.7 | (106.4–111.1) | 3,889 | 51.4 | (49.8–53.1) |
| Wyoming | 561 | 107.1 | (98.2–116.1) | 236 | 45.4 | (39.6–51.3) |
| Massachusetts | 8,015 | 105.6 | (103.3–108.0) | 2,880 | 37.7 | (36.3–39.0) |
| Oregon | 4,070 | 99.2 | (96.1–102.3) | 1,978 | 48.0 | (45.9–50.1) |
| Montana | 1,093 | 99.0 | (93.0–104.9) | 461 | 41.2 | (37.4–44.9) |
| Colorado | 3,922 | 96.3 | (93.2–99.3) | 1,532 | 38.7 | (36.7–40.6) |
| Nebraska | 1,861 | 89.9 | (85.8–94.0) | 922 | 43.9 | (41.0–46.7) |
| Alaska | 351 | 87.4 | (77.7–97.2) | 177 | 46.8 | (39.5–54.1) |
| Hawaii | 1,298 | 85.2 | (80.5–89.9) | 665 | 43.2 | (39.9–46.5) |
| Minnesota | 4,430 | 79.7 | (77.3–82.0) | 2,219 | 39.3 | (37.7–41.0) |
| Utah | 1,462 | 77.5 | (73.5–81.5) | 674 | 36.2 | (33.5–38.9) |

**Abbreviation:** CI = confidence interval.
* Per 100,000 U.S. standard population.
† In order of coronary heart disease rank, from highest to lowest rate.

disparities in heart disease and stroke among persons who already have heart disease or have experienced a stroke often focuses on differences in access to care (*13–16*), use of diagnostic and surgical procedures (*17–20*), and type of medication used in treatment (*21,22*). Research examining the promotion of cardiovascular health through preventing onset of hypertension and atherosclerosis should be given priority because major disparities exist in the prevalence of cardiovascular risk factors among population groups at early ages (*23–25*). However, insufficient research has been conducted regarding behaviors that maintain low risk and prevent the initiation and progression of hypertension and atherosclerosis. Although there are no community guides for cardiovascular disease as a whole or heart disease, stroke, hypertension, or cholesterol in particular, the *Guide to Community Preventive Services* topic areas include diabetes, nutrition, physical activity, tobacco, and obesity (*26*). Promoting community guidelines for interventions based on systematic reviews of interventions in each of these topic areas will improve cardiovascular health and reduce deaths from heart disease and stroke. In addition to related community guides, the national clinical guidelines for cholesterol, hypertension and obesity are being updated and are expected to be released in fall 2011 (*27*).

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