



American  
Heart  
Association.

# Heart Disease and Stroke Statistics-2019

## At-a-Glance

This document contains a few key statistics about heart disease, stroke, other cardiovascular diseases and their risk factors, in addition to commonly cited statistics about the American Heart Association's research program. This At-a-Glance document is based on the association's 2019 Heart Disease and Stroke Statistics Update, which is compiled annually by the American Heart Association, the National Institutes of Health and other government sources. The years cited are the most recent available for each statistical category.

Key words included in the article:

cardiovascular diseases; epidemiology; risk factors; statistics; stroke

### American Heart Association Research

- The American Heart Association does not conduct research. Rather, the organization uses donations to fund research projects. Research applications are carefully weighed and selected by teams of scientists and healthcare professionals who volunteer for the association.
- The American Heart Association has funded 13 Nobel Prize winners and several important medical breakthroughs, including techniques and standards for CPR, the first artificial heart valve, implantable pacemakers, cholesterol inhibitors, microsurgery and drug-coated stents.
- The American Heart Association funds more research into cardiovascular diseases and stroke than any other private not-for-profit organization except for the federal government.
- The American Heart Association has funded more than \$4.3 billion in research since 1949.

### Heart Disease, Stroke and other Cardiovascular Diseases

- Cardiovascular disease (CVD), listed as the underlying cause of death, accounted for 840,678 deaths in the US in 2016, approximately 1 of every 3 deaths.
- Cardiovascular diseases claim more lives each year than all forms of cancer and Chronic Lower Respiratory Disease combined.
- Between 2013 and 2016, 121.5 million American adults had some form of cardiovascular disease. Between 2014 and 2015, direct and indirect costs of total cardiovascular diseases and stroke were \$351.2 billion (\$213.8 billion in direct costs and \$137.4 billion in lost productivity/mortality).
- In 2013-2016, 57.1% of non-Hispanic (NH) black females and 60.1% of NH black males had some form of cardiovascular disease.
- In 2016, Coronary Heart Disease was the leading cause (43.2%) of deaths attributable to cardiovascular disease in the US, followed by stroke (16.9%), High Blood Pressure (9.8%), Heart Failure (9.3%), diseases of the arteries (3.0%), and other cardiovascular diseases (17.7%).
- Cardiovascular disease is the leading global cause of death, accounting for more than 17.6 million deaths per year in 2016, a number that is expected to grow to more than 23.6 million by 2030, according to a 2014 study.
- CVD and stroke accounted for 14% of total health expenditures in 2014-2015. This is more than any major diagnostic group.
- Total direct medical costs of CVD are projected to increase to \$749 billion in 2035, according to a 2016 study.

## Coronary Heart Disease (CHD)

- Heart Disease (including Coronary Heart Disease, Hypertension, and Stroke) remains the No. 1 cause of death in the US.
- Coronary heart disease accounted for approximately 13% of deaths in the US in 2016, causing 363,452 deaths.
- According to data from 2005 to 2014, the estimated annual incidence of heart attack in the US was 605,000 new attacks and 200,000 recurrent attacks. Average age at the first heart attack was 65.6 years for males and 72.0 years for females.
- Approximately every 40 seconds, an American will have a heart attack.
- From 2006 to 2016, the annual death rate attributable to coronary heart disease declined 31.8% and the actual number of deaths declined 14.6%, but the burden and risk factors remain alarmingly high.
- The estimated direct and indirect cost of heart disease in 2014 to 2015 (average annual) was \$218.7 billion.
- Heart attacks (\$12.1 billion) and Coronary Heart Disease (\$9.0 billion) were 2 of the 10 most expensive conditions treated in US hospitals in 2013.
- According to a 2011 study, between 2015 and 2030, medical costs of Coronary Heart Disease are projected to increase by about 100%.

## Stroke

- Someone in the US has a stroke every 40 seconds on average.
- In 2016, stroke accounted for about 1 of every 19 deaths in the US.
- On average in 2016, someone died of stroke every 3 minutes 42 seconds.
- When considered separately from other cardiovascular diseases, stroke ranks No. 5 among all causes of death in the US, killing approximately 142,000 people a year.
- In 2016, the age-adjusted stroke death rate was 37.3 per 100,000, a decrease of 16.7% from 2006, whereas the actual number of stroke deaths increased 3.7% during the same time period.
- According to data from 2005, stroke was a leading cause of serious long-term disability in the US. Approximately 3% of males and 2% of females reported that they were disabled because of stroke.
- In 2016, there were 5.5 million deaths attributable to cerebrovascular disease worldwide (2.7 million deaths from ischemic stroke and 2.8 million deaths from hemorrhagic stroke).
- According to 2016 data, Eastern Europe, East Asia, and parts of Southeast Asia, Central Asia, and sub-Saharan Africa had the highest rates of stroke mortality. Age-standardized prevalence rates of stroke were higher in Eastern Europe and East Asia.

## Sudden Cardiac Arrest

- In 2016, any-mention sudden cardiac arrest mortality in the US was 366,494.
- According to data accessed in 2017, the majority of Out of Hospital Cardiac Arrests (OHCA) occur at a home or residence (69.5%). Public settings (18.8%) and nursing homes (11.7%) were the second and third most common locations of OHCA.
- According to data accessed in 2017, OHCA was witnessed by a layperson in 37% of cases and by an EMS provider in 12% of cases.

## Heart Disease, Stroke and Cardiovascular Disease Risk Factors

The American Heart Association gauges the cardiovascular health of the nation by tracking seven key health factors and behaviors that increase risks for heart disease and stroke. We call these “Life’s Simple 7” and we measure them to track progress toward our 2020 Impact Goal: to improve the cardiovascular health of all Americans by 20% and reduce deaths from cardiovascular diseases and stroke by 20%, by the year 2020. Life’s Simple 7 are: not-smoking, physical activity, healthy diet, body weight, and control of cholesterol, blood pressure, and blood sugar. Here are some key facts related to these factors:

### Smoking

- Worldwide, tobacco smoking (including second-hand smoke) was 1 of the top 3 leading risk factors for disease and contributed to an estimated 7.2 million deaths in 2015. In 2016, smoking ranked fourth in causing disability-adjusted life years (DALYs).
- In the US, tobacco use was the second leading risk factor for death and the leading cause of DALYs.
- A meta-analysis of 23 prospective and 17 case-control studies of cardiovascular risks associated with secondhand smoke exposure demonstrated 18%, 23%, 23%, and 29% increased risks for total mortality, total CVD, CHD, and stroke, respectively, in those exposed to secondhand smoke.
- Tobacco use is one of the largest preventable causes of deaths in the US and globally.
- According to a 2013 study, overall mortality among US smokers was 3 times higher than that for never-smokers.
- In 2016, 5.3% of adolescents aged 12 to 17 reported using tobacco products and 3.4% smoked cigarettes in the past month.
- In 2016, 15.5% of adults were current smokers (17.5% of males and 13.5% of females)
- In 2015, the average initiation of cigarette use was 17.9 years.
- Among adults in 2016, 31.8% of American Indians or Alaska Natives, 16.5% of blacks, 9% of Asians, 10.7% of Hispanics, and 16.6% of whites were current smokers.

### Physical Inactivity

- In 2016, 26.9% of adults did not engage in leisure-time physical activity.
- In 2016, the overall prevalence of meeting the 2008 Physical Activity Guidelines for Americans for both aerobic and muscle-strengthening guidelines was 21.9% in adults (NH White, 25%; NH Black 20.8%; Hispanic or Latino, 16.6%; Asian 17.0%; American Indian/Alaska Native, 14.7%).
- Among students in grades 9–12 in 2015, only about 27.1% met the American Heart Association recommendation of 60 minutes of exercise every day. More high school boys (36 %) than girls (17.7 %) reported having been physically active at least 60 minutes per day on all 7 days.

### Nutrition

- Between 2003 to 2004 and 2011 to 2012 in the United States, the mean AHA healthy diet score improved in both children and adults. In children, poor diet (<40% adherence) decreased from 69.2% to 54.6%. In adults, the prevalence of a poor diet decreased from 50.3% to 41.0%.
- These improvements were largely attributable to increased whole grain consumption and decreased sugar-sweetened beverage consumption in both children and adults, as well as increased consumption of nuts, seeds, and legumes and decreased consumption of 100% fruit juice and white potatoes. No major improvements were evident in children or adults in consumption of fish, sodium, fruits and vegetables, processed meats, and saturated fat.
- Between 2003 and 2012, smaller improvements, but improvements nonetheless, in AHA healthy diet were seen in minority groups and those with lower income or education.

## Overweight/Obesity

- In the US, the prevalence of obesity among adults increased from 1999 to 2000 through 2013 to 2014 from 30.5% to 37.7%.
- In the US between 2011 and 2014, the prevalence of overweight and obesity among children and adolescents age 2–19 years, was 32.1% (15.6% were overweight and 16.5% were obese).
- According to 2015–2016 data, the prevalence of obesity for children aged 2 to 5 years was 13.9 %; for children aged 6 to 11 years, prevalence was 18.4%; and for adolescents aged 12 to 19 years, prevalence was 20.6 %.
- Worldwide, between 1980 and 2013, the proportion of overweight or obese adults increased from 28.8% to 36.9% among males and from 29.8% to 38.0% among females. Using the Global Burden of Disease study statistical model, the Pacific Island countries, Eastern Europe, Central Asia, and the North Africa/Middle East region have the highest mortality rates attributable to high Body Mass Index.

## Cholesterol

- Using data from 2013–2016, 92.8 million, or 38.2 %, of American adults had total cholesterol of 200 mg/dL or higher. The race and gender breakdown is:
  - 35.4% of NH white males
  - 41.8% of NH white females
  - 29.8% of NH black males
  - 33.1% of NH black females
  - 39.9% of Hispanic males
  - 38.9% of Hispanic females
  - 38.7% of NH Asian males
  - 39.6% of NH Asian females
- Using data from 2013–2016 about 28.5 million, or 11.7%, of American adults had total cholesterol of 240 mg/dL or higher. The race and gender breakdown is:
  - 10.5% of NH white males
  - 13.6% of NH white females
  - 8.9% of NH black males
  - 9.0% of NH black females
  - 13.0% of Hispanic males
  - 10.1% of Hispanic females
  - 11.7% of NH Asian males
  - 10.8% of NH Asian females
- Using data from 2013–2016, 30.3% of American adults had high levels of LDL cholesterol (the “bad” kind).
- Using data from 2013–2016, 19.2% of American adults had low levels of HDL cholesterol (the “good” kind).

## Diabetes

- Using data from 2013–2016, an estimated 26 million, or 9.8%, of American adults had diagnosed diabetes. The race and gender breakdown is:
  - 9.4% of NH white males
  - 7.3% of NH white females
  - 14.7% of NH black males
  - 13.4% of NH black females
  - 15.1% of Hispanic males
  - 14.1% of Hispanic females

## Diabetes (continued)

- 12.8% of NH Asian males
- 9.9% of NH Asian females
- Using data from 2013-2016, an estimated 9.4 million, or 3.7%, of American adults had undiagnosed diabetes. Additionally, about 91.8 million, or 37.6%, of American adults had prediabetes.
- In 2016, 80,058 US deaths were attributed to diabetes.
- In 2016, an estimated 1.4 million deaths were attributed to diabetes globally. This represents a mortality rate of 22.1 per 100,000.

## High Blood Pressure

- Using data from 2013-2016, 46.0% of US adults had hypertension.
- In 2016, there were 82,735 deaths primarily attributable to High Blood Pressure.
- In 2016, the age-adjusted death rate primarily attributable to high blood pressure was 21.6 per 100,000.
- Projections show that by 2035, the total direct costs of High Blood Pressure could increase to an estimated \$220.9 billion.

For additional information, charts and tables, see  
[Heart Disease & Stroke Statistics – 2019 Update](#)

Additional charts may be downloaded directly from  
<https://www.ahajournals.org/doi/10.1161/CIR.0000000000000659> or  
<https://www.heart.org/en/about-us/heart-and-stroke-association-statistics>

Many statistics in this Fact Sheet come from unpublished tabulations compiled for this document and can be cited using the document citation listed below. The data sources used for the tabulations are listed in the full document. Additionally, some statistics come from published studies. If you are citing any of the statistics in this factsheet, please review the full Heart Disease and Stroke Statistics document to determine data sources and original citations.

The American Heart Association requests that this document be cited as follows:

Benjamin EJ, Muntner P, Alonso A, Bittencourt MS, Callaway CW, Carson AP, Chamberlain AM, Chang AR, Cheng S, Das SR, Delling FN, Djousse L, Elkind MSV, Ferguson JF, Fornage M, Jordan LC, Khan SS, Kissela BM, Knutson KL, Kwan TW, Lackland DT, Lewis TT, Lichtman JH, Longenecker CT, Loop MS, Lutsey PL, Martin SS, Matsushita K, Moran AE, Mussolino ME, O'Flaherty M, Pandey A, Perak AM, Rosamond WD, Roth GA, Sampson UKA, Satou GM, Schroeder EB, Shah SH, Spartano NL, Stokes A, Tirschwell DL, Tsao CW, Turakhia MP, VanWagner LB, Wilkins JT, Wong SS, Virani SS; on behalf of the American Heart Association Council on Epidemiology and Prevention Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics - 2019 update: a report from the American Heart Association [published online ahead of print January 31, 2019]. *Circulation*. doi: 10.1161/CIR.0000000000000659.

If you have questions about statistics or any points made in the 2019 Statistical Update, please contact the American Heart Association National Center, Office of Science & Medicine at [statistics@heart.org](mailto:statistics@heart.org). Please direct all media inquiries to News Media Relations at <http://newsroom.heart.org/newsmedia/contacts>.