



## 2021 Heart Disease and Stroke Statistics Update Fact Sheet 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 (AHA)'s research program. This At-a-Glance document is based on the association's 2021 Heart Disease and Stroke Statistics Update, which is compiled annually by the AHA, the National Institutes of Health, and other partners. 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 AHA 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 AHA has funded 14 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 AHA funds more research into cardiovascular diseases and stroke than any other private not-for-profit organization except for the federal government.
- The AHA has funded more than \$4.6 billion in research since 1949.

### Heart Disease, Stroke and other Cardiovascular Diseases

- Cardiovascular disease (CVD), listed as the underlying cause of death, accounted for 868,662 deaths in the US in 2017.
- CVD claim more lives each year than all forms of cancer and Chronic Lower Respiratory Disease (CLRD) combined.
- Between 2015 and 2018, 126.9 million American adults had some form of CVD. Between 2016 to 2017, direct and indirect costs of total CVD were \$363.4 billion (\$216.0 billion in direct costs and \$147.4 billion in lost productivity/mortality).
- In 2015 to 2018, 58.8% of non-Hispanic (NH) Black females and 60.1% of NH Black males had some form of CVD.
- In 2018, Coronary Heart Disease (CHD) was the leading cause (42.1%) of deaths attributable to CVD in the US, followed by stroke (17.0%), high blood pressure (11.0%), heart failure (9.6%), diseases of the arteries (2.9%), and other CVD (17.4%).
- CVD is the leading global cause of death, and accounted for approximately 18.6 million deaths in 2019.
- CVD and stroke accounted for 13% of total health expenditures in 2014 to 2015. This is more than any major diagnostic group.

## Coronary Heart Disease (CHD)

- Heart Disease remains the No. 1 cause of death in the US, according to 2018 data.
- CHD accounted for approximately 13% of deaths in the US in 2018, causing 365,744 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 39 seconds, an American will have a heart attack.
- From 2008 to 2018, the annual death rate attributable to CHD declined 27.9% and the actual number of deaths declined 9.8%, but the burden and risk factors remain alarmingly high.
- The estimated direct and indirect cost of heart disease in 2016 to 2017 (average annual) was \$219.6 billion.
- Heart attacks (\$12.1 billion) and CHD (\$9.0 billion) were 2 of the 10 most expensive conditions treated in US hospitals in 2013.

## Stroke

- In 2018, stroke accounted for about 1 of every 19 deaths in the US.
- On average in 2016, someone died of stroke every 3 minutes 33 seconds.
- When considered separately from other CVD, stroke ranks No. 5 among all causes of death in the US, causing 147,810 deaths in 2018.
- In 2018, the age-adjusted stroke death rate was 37.1 per 100,000, a decrease of 11.9% from 2008, whereas the actual number of stroke deaths increased 10.2% 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 2019, there were 6.6 million deaths attributable to cerebrovascular disease worldwide (3.3 million deaths from ischemic stroke, 2.9 million deaths from intracerebral hemorrhage (ICH), and 0.4 from subarachnoid hemorrhage).
  - Several countries in Eastern Europe, Central and Southeast Asia, and Oceania have the highest rates of stroke mortality.
  - Countries in Eastern Europe and Central Asia have among the highest mortality rates attributable to ischemic stroke.
  - ICH mortality is highest in Oceania, Central Asia, Southeast Asia, and parts of sub-Saharan Africa.
  - Mortality attributable to SAH is highest in parts of Asia.

## Sudden Cardiac Arrest

- In 2018, any-mention sudden cardiac arrest mortality in the US was 393,872.
- According to 2019 data, the majority of Out of Hospital Cardiac Arrests (OHCA) occur at a home or residence (70.0%). Public settings (18.8%) and nursing homes (11.2%) were the second and third most common locations of OHCA.
- According to 2019 data, OHCA was witnessed by a layperson in 38.3% of cases and by an EMS provider in 12.7% of cases.

## Heart Disease, Stroke and Cardiovascular Disease Risk Factors

The AHA 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 CVD 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 the second-leading risk of mortality and contributed to an estimated 8.7 million deaths in 2019. In 2019, smoking ranked third in causing global disability-adjusted life years (DALYs).
- In the US, tobacco use was the second leading risk factor for death and the leading cause of DALYs in 2016.
- 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 leading 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 2019, 31.2% of high school students and 12.5% of middle school students used any tobacco products. Additionally, 5.8% of high school students and 2.3% of middle school students smoked cigarettes in the past 30 days.
- In 2018, 13.7% of adults were current smokers (15.6% of males and 12.0% of females)
- Among adults in 2018, 22.6% of American Indians or Alaska Native adults, 14.6% of NH Black adults, 7.1% of NH Asian adults, 9.8% of Hispanic adults, and 15.0% of NH White adults were current smokers.

### Physical Inactivity

- In 2018, 25.4% of adults did not engage in leisure-time physical activity.
- In 2018, the overall prevalence of meeting the 2018 Physical Activity Guidelines for Americans for both aerobic and muscle-strengthening guidelines was 24.0% in adults (NH White, 25.7%; NH Black 19.9%; Hispanic or Latino, 21.4%; Asian 22.9%; American Indian/Alaska Native, 19.1%.
- Among students in grades 9-12 in 2017, only about 26.1% met the AHA recommendation of 60 minutes of exercise every day. More high school boys than girls reported having been physically active at least 60 minutes per day on all 7 days.

## Nutrition

- Between 2003 to 2004 and 2015 to 2016 in the United States, the mean AHA healthy diet score improved in adults. The prevalence of a poor diet improved from 56.0% to 47.8% for the primary score and 43.7% to 36.4% for the secondary score.
  - Changes in score were largely attributable to increased consumption of whole grains and nuts, seeds, and legumes and decreased consumption of SSBs. No significant changes were observed for consumption of total fruits and vegetables, fish and shellfish, sodium, processed meat, and saturated fat.
- Similar changes in AHA healthy diet scores between 2003 to 2004 and 2015 to 2016 were seen in minority groups and those with lower income or education, although significant disparities persisted. The proportion with a poor diet decreased from 64.7% to 58.3% for NH Black individuals, from 66.0% to 57.5% for Mexican American individuals, and from 54.0% to 45.9% for NH White individuals. The proportion with a poor diet (<40% adherence) decreased from 50.7% to 38.8% in adults with income-to-poverty ratio  $\geq 3.0$ , but only from 67.7% to 59.7% in adults with income-to-poverty ratio  $< 1.3$ .

## Overweight/Obesity

- In the US, the prevalence of obesity among adults increased from 1999 to 2000 through 2017 to 2018 from 30.5% to 42.4%.
- In the US between 2015 and 2018, the prevalence of overweight and obesity among children and adolescents age 2-19 years, was 35.4% (16.4% were overweight and 19.0% were obese).
- According to 2015 to 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.
- According to the Global Burden of Disease 2019 study, age-standardized mortality rates attributable to high BMI are generally lower in high-income Asia Pacific, Western Europe, East Asia, Australasia, and South Asia.

## Cholesterol

- Using data from 2015 to 2018, 93.9 million, or 38.1%, of US adults had total cholesterol of 200 mg/dL or higher. The race and gender breakdown was:
  - 35.0% of NH White males
  - 41.8% of NH White females
  - 31.0% of NH Black males
  - 33.4% of NH Black females
  - 37.7% of Hispanic males
  - 37.3% of Hispanic females
  - 38.6% of NH Asian males
  - 38.6% of NH Asian females

## Cholesterol (continued)

- Using data from 2015–2018 about 28.0 million, or 11.5%, of US adults had total cholesterol of 240 mg/dL or higher. The race and gender breakdown were:
  - 10.1% of NH White males
  - 13.1% of NH White females
  - 9.2% of NH Black males
  - 10.5% of NH Black females
  - 12.4% of Hispanic males
  - 9.2% of Hispanic females
  - 13.0% of NH Asian males
  - 10.3% of NH Asian females
- Using data from 2013 to 2016, 28.9% of American adults had high levels of LDL cholesterol (the “bad” kind; 130 mg/dL or higher).
- Using data from 2015 to 2018, 17.2% of American adults had low levels of HDL cholesterol (the “good” kind; less than 40 mg/dL).

## Diabetes

- Using data from 2013–2016, an estimated 26 million, or 9.8%, of American adults had diagnosed diabetes. The race and gender breakdown were:
  - 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
  - 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 2018, 84,946 US deaths were attributed to diabetes.
- In 2019, an estimated 1.6 million deaths were attributed to diabetes globally. This represents an age-standardized mortality rate of 19.5 per 100,000.

## High Blood Pressure (HBP)

- Using data from 2015 to 2018, 47.3% of US adults had hypertension.
- In 2018, there were 95,876 deaths primarily attributable to HBP.
- In 2018, the age-adjusted death rate primarily attributable to HBP was 24.0 per 100,000.

## 2021 Statistics Update – At-a-Glance Statistics

For additional information, charts and tables, see

[Heart Disease & Stroke Statistics – 2021 Update](#)

Additional charts may be downloaded directly from the [online publication](#) or [www.heart.org/statistics](http://www.heart.org/statistics)

Many statistics in this At-a-Glance document 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 At-a-Glance document, 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:

Virani SS, Alonso A, Aparicio HJ, Benjamin EJ, Bittencourt MS, Callaway CW, Carson AP, Chamberlain AM, Cheng S, Delling FN, Elkind MSV, Evenson KR, Ferguson JF, Gupta DK, Khan SS, Kissela BM, Knutson KL, Lee CD, Lewis TT, Liu J, Loop MS, Lutsey PL, Ma J, Mackey J, Martin SS, Matchar DB, Mussolino ME, Navaneethan SD, Perak AM, Roth GA, Samad Z, Satou GM, Schroeder EB, Shah SH, Shay CM, Stokes A, VanWagner LB, Wang N-Y, Tsao CW; on behalf of the American Heart Association Council on Epidemiology and Prevention Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2021 update: a report from the American Heart Association [published online ahead of print January 27, 2021]. *Circulation*. doi: 10.1161/CIR.0000000000000950

If you have questions about statistics or any points made in the 2021 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 <https://newsroom.heart.org/connect/contacts>.