



2021 Heart Disease & Stroke Statistical Update Fact Sheet Children & Cardiovascular Diseases*

Out-of-Hospital Cardiac Arrest

- In 2015, 7,037 children younger than 18 years of age experienced out-of-hospital cardiac arrest (EMS assessed).
- In 2015, 13.2% of children with nontraumatic cardiac arrest treated by EMS survived to hospital discharge.
- Sports-related Sudden Cardiac Arrest (SCA) accounted for 39% of SCAs among those ≤18 years of age between 2002 and 2015.

Congenital Cardiovascular Defects (ICD/10 codes Q20-Q28) (ICD/9 codes 745-747)

- According to studies in 2010 and 2011, an estimated minimum of 40,000 infants are expected to be affected by congenital cardiovascular defects each year in the United States. Of these, about 25%, or 2.4 per 1,000 live births, require invasive treatment in the first year of life.
- In 2018, congenital cardiovascular defects were the most common cause of infant death resulting from birth defects; 21.8% of infants who died of a birth defect had a heart defect. According to 2001 and 2008 studies, hospitalization of infants with congenital heart defects was common; one third of patients with congenital heart defects required hospitalization during infancy, often in an ICU.
- In 2016, 45,000 U.S. adults and children (25,000 males; 20,000 females) diagnosed with congenital heart defects were discharged from short-stay hospitals.

Stroke in Children

- In a northern California birth group, from 1997 to 2003, the prevalence of perinatal strokes was 29 per 100,000 live births, or one per 3,500 live births.
- According to 2003 and 2019 publications, the most common cause of arterial ischemic stroke in children was a cerebral arteriopathy, found in more than half of all cases.
- According to 2006 and 2014 studies, despite current treatments, 1 of 10 children with ischemic or hemorrhagic stroke had a recurrence within 5 years.

High Blood Pressure (HBP)

- In 2015 to 2016, 13.3% of children and adolescents 8 to 17 years of age had either HBP or elevated BP. Rates of elevated BP were higher among youth 13 to 17 years of age compared with those 8 to 12 years of age (15.6% and 10.8% respectively).
- In 2015 to 2016 among youth 8 to 17 years of age, HBP was more common among boys (5.9%) than girls (3.8%) and among Mexican American youth (9.0%) compared with NH Black youth (4.7%), and NH White youth (2.7%). Having EBP was more common among boys (16.9%) than girls (9.8%). In addition, Mexican American youth (16.9%) and NH Black youth (16.4%) were more likely to have elevated BP than NH White youth (10.7%).

* Due to inconsistencies in reporting, some statistics may be unreliable.
Unless otherwise noted, all statistics in this Fact Sheet pertain to the United States.

High Blood Pressure (HBP) (continued)

- In 2015 to 2016, the prevalence of hypertension was 11.6% among obese US adolescents (BMI \geq 120% of 95th percentile of sex-specific BMI for age or BMI \geq 35 kg/m²) compared with 2.7% among normal/underweight children. The prevalence of elevated BP among obese versus normal/underweight youth was 16.2% compared with 8.7%.

Smoking

In 2019:

- 31.2% of high school students used tobacco products and 5.8% smoked cigarettes in the past 30 days, whereas 12.5% of middle school students used tobacco products and 2.3% smoked cigarettes in the past 30 days.
- 4.8% of high school students and 1.8% of middle school students used smokeless tobacco in the past 30 days.
- 7.6% of high school students and 2.3% of middle school students used cigars in the past 30 days.
- In 2019 among middle and high school students who smoked cigarettes in the past 30 days, 28.9% reported smoking cigarettes on 20 to 30 days of the past 30 days.
- In 2019, e-cigarettes were the most commonly used tobacco products in youth: in the prior 30 days, 27.5% of high school students and 10.5% of middle school students used e-cigarettes.
- In 2019, NH White adolescents (5.0%) were more likely than Hispanic (3.6%) and NH Black (3.1%) adolescents to report cigarette use in the past month. For cigars, in 2019, Black adolescents (8.6%) reported higher use in the past month than NH White (5.1%) and Hispanic (4.8%) adolescents.

High Blood Cholesterol

- According to 2015 to 2018 data, among children age 6 to 11 years, the mean total blood cholesterol level was 157.3 mg/dL; 157.4 mg/dL for males and 157.1 mg/dL for females.
- According to 2015 to 2018 data, among adolescents age 12 to 19 years, the mean total blood cholesterol level was 155.1 mg/dL; 152.7 mg/dL for males and 157.5 mg/dL for females.
- Among youth 6 to 19 years of age, the prevalence of adverse TC levels (TC \geq 200 mg/dL) in 2009 to 2016 was 7.1%.

Physical Activity (PA)

- In 2017, the prevalence of high school students who met aerobic activity recommendations of \geq 60 minutes of PA on all 7 days of the week was 26.1% nationwide and declined from 9th (30.6%) to 12th (22.9%) grades. At each grade level, the prevalence was higher in males than in females.
- In 2017, the prevalence of students meeting activity recommendations on \geq 5 days per week was higher among NH White boys (59.4%), NH Black boys (54.5%), and Hispanic boys (52.6%) than NH White girls (38.8%), NH Black girls (29.9%), and Hispanic girls (36.9%).
- Among high school students in 2017, 15.4% reported that they did not participate in \geq 60 minutes of any kind of PA on any 1 of the previous 7 days. Girls were more likely than boys to report not meeting recommendations on any day (19.5% versus 11.0%). In 2017, the prevalence of inactivity was highest in Black (26.6%) and Hispanic (20.0%) girls, followed by NH White girls (16.7%), NH Black boys (12.7%), Hispanic boys (12.3%), and White boys (10.2%).

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Physical Activity (continued)

- Nationwide in 2017, 43.0% of high school students used a computer for activities other than schoolwork (e.g., videogames or other computer games) for ≥ 3 hours per day on an average school day.
- In 2017, the prevalence of using computers ≥ 3 hours per day (for activities other than schoolwork) was highest among NH Black boys (47.7%), followed by Hispanic girls (46.8%), NH Black girls (46.7%), Hispanic boys (43.9%), NH White boys (41.7%), and NH White girls (39.6%). In 2015, the prevalence of watching television ≥ 3 hours per day was highest among NH Black boys (37.8%) and girls (32.8%), followed by Hispanic boys (21.9%) and girls (19.5%), and NH White girls (18.4%) and boys (16.9%).

Overweight and Obesity

- Between 2015 and 2018, 25.9 million children ages 2 to 19 were overweight or obese; 35.0% of boys and 35.8% of girls. Of all children, 19.0 million were obese; 20.0% of boys and 18.0% of girls.
- In 2015 to 2018, the prevalence of obesity was highest among Hispanic boys (28.6%), followed by NH Black girls (27.1%), Hispanic girls (23.4%), NH Black boys (19.1%), NH White boys (16.2%) and girls (14.2%), and NH Asian boys (11.3%) and girls (7.4%).

Diabetes (ICD-9 250; ICD-10 E10 to E14)

- Approximately 210,000 people <20 years of age were diagnosed with diabetes in 2018.
- Among US adolescents 12 to 19 years of age in 2005 to 2014, the prevalence of diabetes was 0.8% (95% CI, 0.6%–1.1%). Of those with diabetes, 28.5% (95% CI, 16.4%–44.8%) were undiagnosed.
- Between 2001 and 2009, the prevalence of type 2 diabetes in youth increased by 30.5%. Among youths with type 2 diabetes in 2001 to 2004, 10.4% were overweight and 79.4% were obese.
- Among US adolescents 12 to 18 years of age in 2005 to 2016, the prevalence of prediabetes was 18.0%. Males were more likely to have prediabetes than females (22.5% versus 13.4%).

Healthy Diet

Based on 2015 to 2016 data, the average dietary consumption by US children and teenagers of selected foods and nutrients related to cardiometabolic health is detailed below.

- Whole Grains— <1 serving per day in youth.
- Fruit— consumption was low (0.68 serving per day) and decreased with age. NH Asian youth and other races, including multiracial youth, had the highest intake of whole fruit, followed by NH White youth, other Hispanic youth, Mexican American youth, and NH Black youth.
- Non-starchy vegetable—consumption was low with an estimated average intake of 0.57 serving per day. The consumption pattern increased with age.
- Fish and shellfish— consumption was very low with an estimated average intake of 0.06 serving per day. The consumption pattern increased with age.
- Sugar-sweetened beverages— consumption was 1.0 serving per day and consumption patterns increased with age.
- Consumption of sweets and bakery desserts contributed to an average of 6.07% of calories among US youth.
- Sodium— consumption was 3.33 g/d and the consumption pattern increased with age.
- Saturated fat — consumption was 12.1% of calories in US youth.

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Healthy Diet (continued)

- Nuts and seeds— consumption was low with an estimated average intake of 0.40 serving per day
- Processed meats — consumption was 0.27 serving per day with higher intake among males than females.
- Consumption of dietary fiber was 15.6 g/d.

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

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:

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. Please direct all media inquiries to News Media Relations at <http://newsroom.heart.org/newsmedia/contacts>.

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