

High blood pressure a concern for adolescents and young adults in US, studies show

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Two separate studies show that elevated blood pressure and unmet social needs are a concern for young adults and children in the U.S. Both

studies are preliminary research abstracts presented at the American Heart Association's [Hypertension Scientific Sessions 2024](#). The meeting is held in Chicago, September 5–8, 2024.

The [2017 ACC/AHA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults](#) classifies stage 1 hypertension as having top or bottom blood pressure measures greater than or equal to 130/80 mm Hg, and stage 2 hypertension as having top and bottom measures greater than or equal to 140/90 mm Hg.

Previous research found that [high blood pressure](#) in adolescence increases high blood pressure risk into adulthood, which has long-term negative effects on cardiovascular and overall health.

Hypertension in young adults: Social determinants of prevalence, awareness, treatment, and control (Moderated Poster Presentation MP21)

Previous research has found that social determinants of health, or [social needs](#), can impact [young adults](#) with high blood pressure. In the first study, researchers analyzed adults' exposure to five social determinants of health: low education, low income, no health insurance, [food insecurity](#) and no or limited employment.

The authors defined low education as having lower than a high school degree; low income as a family income less than 100% of the federal poverty level; food insecurity as having low or very low household food security in the past 12 months and no/limited employment as looking for work or not working—not including those who were retired or going to school.

"Social determinants of health are the social conditions arising from

where people are born, live, learn, work and mature," said study author Thomas Alexander, B.A., an M.D.-candidate at Northwestern University's Feinberg School of Medicine in Chicago.

"Young adults with social needs and high blood pressure need more support to achieve blood pressure goals. Our study highlights that addressing these social determinants through targeted public health strategies is essential to improve outcomes and prevent long-term heart disease and stroke complications in this vulnerable population."

The study found:

- Nearly 23% of the young adults had high blood pressure. The young adults with high blood pressure were more likely to be uninsured, food insecure and to have low incomes compared to older adults.
- Food insecurity affected 22% of young adults (18 to 39 years) and 17.7% of middle-aged adults (40 to 64 years) compared to 9.6% of older adults (65 years and older).
- More than 16% of young adults reported a family income lower than the [federal poverty level](#) compared to 12.2% of middle-aged adults and 7.7% of older adults.
- 17.5% of young adults reported not having health insurance compared to 11.6% of middle-aged adults and 1.8% of [older adults](#).
- Adults with high blood pressure and two or more social needs were about 80% more likely than adults with no social needs to be untreated and were about 70% more likely to have high blood pressure that was uncontrolled.

The study's limitations included that it was not a randomized controlled trial, meaning a direct cause and effect could not be determined and that it suggests only an association. Additionally, survey participants may not

have remembered previous events or experiences accurately or omitted details, which could have led to recall bias.

According to Alexander, these findings point to the need for public health initiatives that focus on increasing awareness and screening for high blood pressure in young adults.

Expanding access to affordable health care services, including high blood pressure management for young adults lacking [health insurance](#); implementing policies and programs that alleviate food insecurity; improving educational opportunities and enhancing economic stability are a few examples that may help to improve social support for young adults, which may, in turn, help to reduce the incidence of high blood pressure. Study details, background and design are available below.

"The prevalence of hypertension in young adults (18–39 years) is stark, and social determinants of health amplify the risk for hypertension and subsequent premature cardiovascular disease," said Bonita Falkner, M.D., FAHA, chair of the writing committee for the American Heart Association's 2023 [scientific statement on pediatric hypertension](#).

"The heightened risk is not limited to young adults because young adults commonly have children; and children of young adults who are uninsured, food insecure and have [low income](#) will represent another generation that will have similar health consequences of social determinants of health. Health policies that improve health care access, food security and employment are needed to reduce cardiovascular disease risk for young adults and their children."

Hypertension prevalence among youth aged 8–19 years in a national survey—United States, 2017–2020 (Moderated Poster Presentation MP19)

In this study, researchers using NHANES data from January 2017 to March 2020 estimated that nearly 14% of 8- to 19-year-olds in the U.S. had elevated or high blood pressure. The study analyzed higher than normal "elevated" blood and high blood pressure, as defined by age-sex-height percentiles, in accordance with [guidelines](#) from the American Academy of Pediatrics.

"Having more recent estimates is important," said study author Ahlia Sekkarie, Ph.D., an epidemiologist in the Division for Heart Disease and Stroke Prevention at the Centers for Disease Control and Prevention (CDC) in Atlanta. "Youth who have high blood pressure are more likely to have high blood pressure as adults, putting them at greater risk for heart disease and stroke."

Researchers analyzed health data for 2,600 youth (8 to 19 years of age) who responded to the National Health and Nutrition Examination Survey (NHANES) from 2017 to March 2020. Researchers examined the prevalence of elevated and high blood pressure by age groups, sex, race and ethnicity and weight status.

The study found:

- In this sample of 2,600 youth, 8.7% (1 in 12) had elevated blood pressure and 5.4% (1 in 20) had high blood pressure.
- High blood pressure was more common in youth with severe obesity, defined as a body mass index-for-age that was $\geq 120\%$ of the 95th percentile.
- Males had higher blood pressure levels than females: 14% of male participants had elevated blood pressure and 6.8% of male participants had high blood pressure, compared to 3.4% and 4% of female participants, respectively.
- Elevated blood pressure rates increased with age: 3.3% of participants in the 8–12-year age group had elevated blood

pressure and 16.7% of participants in the 18-19-year age group had elevated blood pressure.

- Hispanic youth had the lowest rates of elevated blood pressure.

"Our knowledge of current national estimates could be valuable to help inform policies and programs to support cardiovascular health in youth," Sekkarie said. "A [healthy diet](#) and regular exercise are important to reducing the risk of high blood pressure. Ensuring that youth are eating a healthy diet and getting enough physical activity is crucial to helping prevent heart disease and stroke."

The study's limitations included that it looked at data taken from a single moment in time, so researchers were not able to assess whether blood pressure levels increased or decreased over time. Study details, background and design are available below.

According to the [American Heart Association's 2024 Heart Disease and Stroke Statistics](#), 13.3% of children and adolescents 8 to 17 years of age had elevated blood pressure, and 4.9% had high blood pressure per NHANES 2015-2016 data. For the time period of 2017–2020, the estimate was 46.7% of U.S. adults had high blood pressure.

"The prevalence of hypertension in youth ages 8 to 19 years is not trivial. This study confirms the prevalence of hypertension in youth, as currently defined, is from 4.8 to 7.1%. These data indicate that approximately 5% of adolescents enter adulthood with hypertension, a significant risk for premature cardiovascular events," Falkner said.

"Preventive interventions to reduce the risk of [high blood pressure](#) in youth are needed, as well as improved clinical strategies to recognize and manage abnormal blood pressure in youth."

More information: Moderated Poster Presentations MP-21 and

MP-19 in Session MPS04 Social Determinant of Health and Blood Pressure are both at 9:55 a.m. CT on Friday, September 6, 2024.

Provided by American Heart Association

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