

## Differences in Blood Pressure Levels Among Children by Sociodemographic Status

### Overview

Overweight and obesity are known risk factors for high blood pressure among children. In 2017, the American Academy of Pediatrics (AAP) updated clinical practice guidelines for blood pressure screening in children, to reflect the importance of body weight. As a result of this update, new prevalence estimates showing the percentage of US children with elevated blood pressure were needed. Research suggested that there are disparities in the prevalence of blood pressure related to demographic factors such as age, and race/ethnicity. However, these studies used outdated blood pressure guidelines, did not investigate relationships with socioeconomic factors such as education, and income, or the role of body weight in observed disparities.

### Main Questions

The researchers wanted to know:

1. What is the prevalence of different high blood pressure levels among US children from 2011 to 2018?
2. Does the blood pressure prevalence vary across sociodemographic subgroups?
3. What role does weight play in sociodemographic disparities in blood pressure?

### Study

This cross-sectional study used nationally representative data of 5,971 children between the ages of 8-17 years of age from the 2011 to 2018 versions of the National Health and Nutrition Examination Survey (NHANES) weighted to represent 36,612,323 children. AAP clinical practice guideline blood pressure categories were used. Prevalence estimates of elevated blood pressure was computed. Log binomial regression was used to estimate crude and weight status adjusted prevalence differences for each sociodemographic subgroup. Sociodemographic factors included, age, sex, race/ethnicity, family education level, and family income.

### The Bottom Line

Overweight and obesity are major risk factors for elevated blood pressure. More children in certain sociodemographic subgroups of people experience elevated blood pressure. After adjustment for body weight, observed disparities in prevalence of elevated blood pressure in older, male, and non-Latino Black children remained. This indicates that factors beyond differences in body weight may contribute to disparities in blood pressure.

### Source

Goulding M, Goldberg R, Lemon SC. Differences in Blood Pressure Levels Among Children by Sociodemographic Status. *Prev Chronic Dis* 2021;18:210058. DOI: <https://doi.org/10.5888/pcd18.210058>.

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### Spotlight on Results

1. Among US children aged 8 to 17 years a prevalence of 7.2% for elevated blood pressure and 3.8% for hypertensive blood pressure was found from 2011-2018.
2. Prevalence estimates of elevated blood pressure were higher in males, older children (16-17 years of age), non-Latino Black children, and children of lower socioeconomic status. After adjustment for body weight, there were elevated blood pressure prevalence differences in age, sex, race/ethnicity, and parent/guardian education.
3. Elevated blood pressure was more prevalent in children categorized as overweight or as having obesity than children of healthy weight.

### Call for Action

Further investigation of sociodemographic disparities in elevated blood pressure is needed to guide public health efforts.

A better understanding of how sociodemographic factors interact with blood pressure levels in children is needed so action can be taken to lessen disparities.