

# Decline in heart health can start in childhood

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Your heart health, which is optimal for most of us at birth, can decline substantially with unhealthy childhood behaviors, according to research in *Circulation: Cardiovascular Quality and Outcomes*, an American Heart Association journal.

"Our findings indicate that, in general, children start with pretty good blood pressure," said Donald M. Lloyd-Jones, M.D., Sc.M., senior author of the study and professor and chair of preventive medicine at the Northwestern University Feinberg School of Medicine in Chicago, Illinois. "But if they have a horrible diet, it will drive a worsening body mass index (BMI) and cholesterol levels.

"The better we can equip our children to make healthy choices, the more [cardiovascular health](#) will be preserved into adulthood. And those who preserve their heart health into middle age live much longer and are much healthier while they live."

Researchers examined BMI, [healthy diet](#), total cholesterol and blood pressure—four of the seven components of heart health—in children ages 2-11 who participated in the National Health and Nutrition Surveys (NHANES) in 2003-10.

In the sample of 8,961 children that represented about 43.6 million children nationwide, the researchers found that:

All children had at least one ideal measure, but none had all four.

An ideal diet score was the least prevalent health indicator, with less than 1 percent of children having four or five of the five components of a healthy diet. The five indicators of a healthy diet include low intakes of sugar-sweetened beverages and sodium, and high intakes of whole grains, fish, and fruits and vegetables.

Fewer than 10 percent ate the recommended amounts of fruits and vegetables (> 4.5 cups or more per day) or fish (> two 3.5 oz. servings a week) and whole grains (> three 1 oz. equivalent servings a day) were the least frequently achieved component by 3 percent of boys and 2.4 percent of girls.

Ninety percent ate more sodium than recommended by the American Heart Association (below 1500 mg/day) and more than 50 percent consumed more than the recommended number of calories from sugar-sweetened beverages (no more than 450 kcal a week).

About 30 percent of children were obese or overweight. Older children (6-11 years) had higher prevalence of obesity compared to younger ones (2-5 years), particularly in minority populations.

About 40 percent of children had intermediate or poor total [cholesterol levels](#).

Ideal blood pressure was the most common favorable metric of cardiovascular health, ranging from 88 percent to 93 percent across sex and race/ethnicity group.

The study provides the first comprehensive national snapshot of how children rate on cardiovascular health defined in the American Heart Association's 2020 impact goals that include: [blood pressure](#), total cholesterol, [body mass index](#), blood glucose, healthy diet, physical activity and smoking. Previous studies have demonstrated worsening

indicators of cardiovascular health starting in adolescence and continuing through adulthood.

The study is limited by the lack of data on other measures of cardiovascular health and by the use of adult indicators of a healthy diet.

"We really need better surveillance data, especially in children," Lloyd-Jones said. "Information on physical activity, blood glucose and smoking or exposure to secondhand smoke are not available for younger [children](#). Without knowing how much [physical activity](#) a child is doing, and therefore how many calories are needed, we can't scale the diet metrics to a child's needs. So we used the adult metrics, but understand that it would be difficult for a 5-year-old to take in as many fruits and vegetables as an adult."

"The bottom line is that we need even better data, but what we do see is that we are losing an awful lot of our intrinsic cardiovascular health very early in life, which sets us up to be unhealthy adults."

Provided by American Heart Association

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