



CVP

Center for Vulnerable Populations
at San Francisco General Hospital and
Trauma Center

CHARM

Center for Health And Risk in
Minority youth and young adults

Funded by the National Institute of Minority and Health Disparities

Issue Brief: Chronic Disease — CVD Risk Begins in Childhood

February 2013

Cardiovascular disease begins in childhood

Key Insights

- The prevalence of obesity, a significant risk factor for CVD, is increasing in the U.S., particularly in children
- Atherosclerotic cardiovascular disease risk factors begin in childhood
- Identifying and addressing CVD risk factors as a youth can help alleviate likelihood of developing CVD as an adult

Overview

A child’s health and behavior has long term consequences for their likelihood of developing Cardiovascular Disease as an adult. According to the NIH, Atherosclerotic cardiovascular disease (CVD) is the leading cause of death in North Americans but it is rare for adolescents to develop the disease. However, there is a significant rise in the development of risk factors for CVD in youth.¹

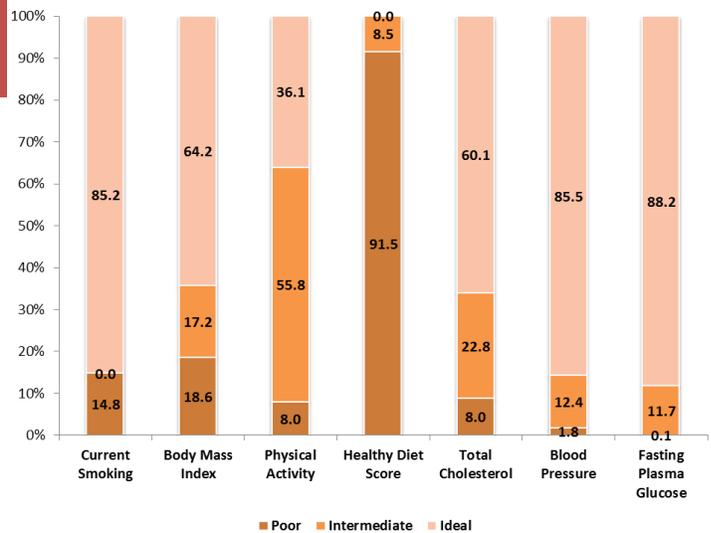
The following factors each individually put the child at greater risk for CVD, but when clustered together the risk increases.¹

- Childhood obesity is strongly linked to obesity in adulthood. According to one study 84% of those with a high BMI as children were obese as adults and all children with a very high BMI were obese as adults.¹
- High cholesterol and blood pressure as a child

has consistently been found to be associated with high cholesterol and blood pressure as an adult. Children who are also obese have a higher risk.¹

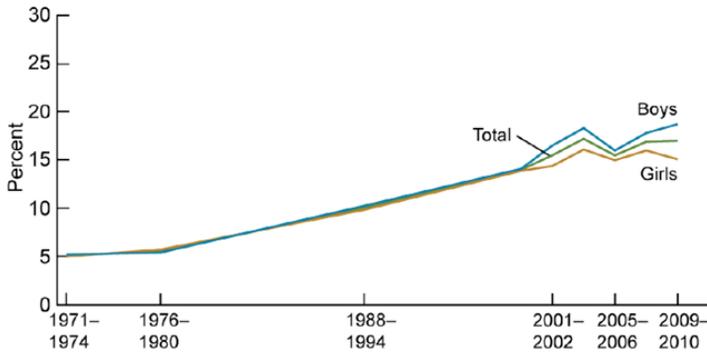
- Children who start tobacco use young are likely to persist use into adulthood and have an approximately 50% chance of becoming a lifetime smoker.¹

Lack of physical activity and poor nutritional diets are also risk factors for CVD which can follow from childhood to adulthood.



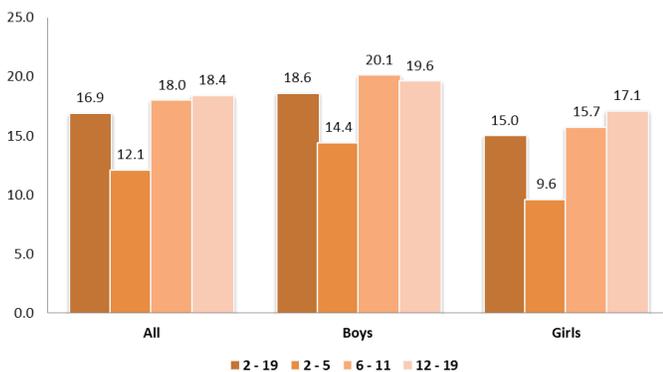
The above graph has data from 2007-2008 and 2009-2010 National Health and Nutrition Examination (NHANES) which shows estimates for poor, intermediate, and ideal cardiovascular health for 7 indicators from the American Heart Association 2020 goals for U.S. children aged 12-19.³ Note that over 91% of those surveyed were rated as poor on the healthy diet score.

Childhood Obesity is on the Rise for Boys



The graph above shows that since 1971 there has been a steady increase in obesity rates for children and adolescents between the ages of 2 and 19. However since 2009 there has been a leveling off of obesity rates among girls in this age range, while there is an increase of obesity among boys.⁴

Prevalence (%) of obesity among adolescents and children age 2 - 19, by sex and age: United States, 2009-2010

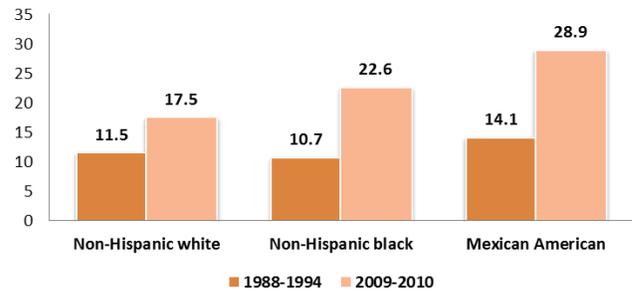


The graph above shows the prevalence of obesity among several different age groups between boys and girls in the U.S. Note that prevalence is highest, at 20.1% for boys between the ages of 6 and 11.⁵

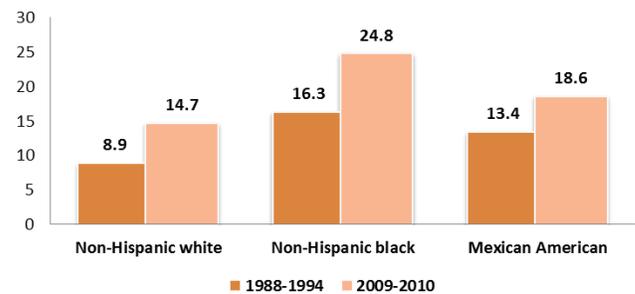
Child obesity rates vary by race/ethnicity

The two graphs below show a high incidence of obesity among boys and a marked difference between Non-Hispanic white boys (17.5% in 2009-2010) and Mexican American boys (28.9% in 2009-2010).⁴

Prevalence (%) of obesity in boys aged 12-19 years, by race and ethnicity



Prevalence (%) of obesity in girls aged 12-19 years, by race and ethnicity



References

- ¹NHLBI. Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents: Summary Report. http://www.nhlbi.nih.gov/guidelines/cvd_ped/summary.htm
- ²NHLBI. What Are Coronary Heart Disease Risk Factors?. <http://www.nhlbi.nih.gov/health/health-topics/topics/hd>
- ³AMA. Go A S et al. *Circulation* 2013;127:e6-e245. <http://circ.ahajournals.org/content/127/1/e6.full>
- ⁴CDC. 2012. Prevalence of Obesity Among Children and Adolescents: United States, Trends 1963-1965 Through 2009-2010. http://www.cdc.gov/nchs/data/hestat/obesity_child_09_10/obesity_child_09_10.pdf
- ⁵CDC. Prevalence of Obesity in the United States, 2009-2010. 2012. <http://www.cdc.gov/nchs/data/databriefs/db82.pdf>