

FACTS

An Ounce of Prevention...

The Value of Prevention for Cardiovascular Disease

OVERVIEW

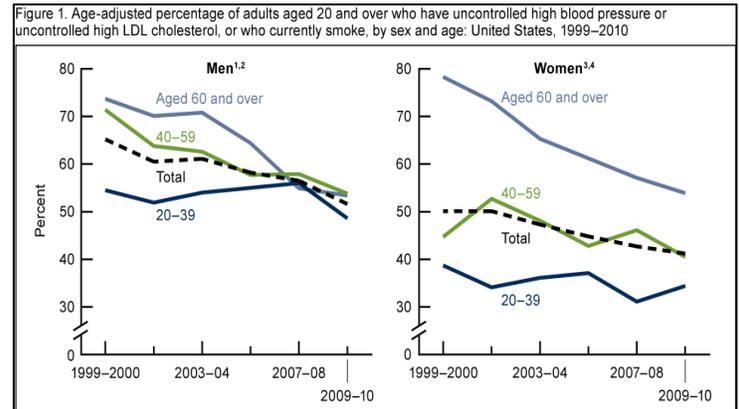
Cardiovascular disease (CVD) is the leading cause of mortality in the U.S.¹ The factors that increase risk of CVD can begin in childhood¹ and are influenced by unhealthy environments and behaviors and modifiable risk factors such as smoking, obesity, physical inactivity, high blood pressure, elevated blood cholesterol, and type 2 diabetes.^{1,2} Research has shown that preventative measures are cost-effective and have a valuable impact on public health and the productivity of our nation's workforce.³ The ultimate goal of CVD prevention is to increase the number of years that people can enjoy a high quality of life.

MAKING THE CASE

- Research shows that reducing modifiable risk factors such as hypertension and smoking results in lower incidence of heart attack and stroke.^{1,4}
- Counseling to improve diet or increase physical activity lowers the likelihood of obesity, hypertension, and high cholesterol.^{5,6}
- Comprehensive coverage of tobacco cessation services in the Medicaid program can lead to reduced hospitalizations for heart attacks.⁷ It also leads to \$3.12 in medical savings for each program dollar spent and a \$2.12 return on investment to Medicaid for every dollar spent.^{7,8}
- Approximately 44% of the decline in U.S. age-adjusted CHD death rates from 1980-2000 can be attributed to improvements in risk factors including reductions in total blood cholesterol, systolic blood pressure, smoking prevalence, and physical inactivity.⁹ However, these improvements have been partially offset by increases in body mass index and prevalence of diabetes.⁹
- Estimates of investments in community-based programs to increase physical activity, to improve nutrition, and to prevent smoking and other tobacco use can save \$16 billion on healthcare costs within five years.¹⁰
- Every \$1 spent on workplace wellness, decreases medical costs by about \$3.27 and increases productivity, with absenteeism costs decreasing by about \$2.37.¹¹
- Comprehensive school-based initiatives to promote healthy eating and physical activity can reduce overweight and obesity rates over adolescents' lifespans, decrease medical care costs by \$586 million and have shown a cost effectiveness of about \$900-\$4305 per quality-of-life-year saved.^{12,13,14}

HOW ARE WE DOING?

In 2011-2012, about 92% of adults had at least one of seven risk factors for cardiovascular disease that could be reduced via preventive efforts.¹ Although the prevalence of some risk factors has been decreasing and we are placing a greater emphasis on prevention, we still have a long way to go to reach our goals.¹ In 2013, 43 states had adult obesity rates that equaled or exceeded 25%, with 20 exceeding 30%.¹⁵



SOURCE: Fryer CD, et al. NCHS Data Brief #103: Prevalence of Uncontrolled Risk Factors for Cardiovascular Disease: United States, 1999–2010. August 2012.

- The obesity epidemic is spreading to our children at an alarming rate. 31.8% of children and adolescents ages 2-19 are considered overweight or obese.¹
- The number of obese preschoolers aged 2-5 jumped from 5% to 10% between the late 1970s and 2008.¹⁶ Additionally, research has shown that obese children's arteries resemble those of a middle-aged adult.¹⁷ However, we are making some progress. Recent studies have shown the progression of childhood obesity is slowing in some age groups and in a few major metropolitan areas.¹⁸
- After years of steady progress, declines in the use of tobacco by youth have slowed, however each day more than 3,200 young people under 18 years of age smoke their first cigarette.¹⁹ In 2013, 23.3% of high school students reported current use of at least one tobacco product.²⁰ If the current rate of smoking persists, 5.6 million of today's youth will die prematurely from smoking-related illness. That would represent 1 in every 13 children who are alive today.¹⁹ And children are increasingly using the new smokeless tobacco products entering the market as well as cigars.²¹
- About 1 of 3 U.S. adults (about 80 million people) have high blood pressure.¹ Only 54% of these people have their blood pressure under control.¹

- A sedentary lifestyle contributes to CHD. However, moderate-intensity physical activity, such as brisk walking, is associated with a substantial reduction in chronic disease.^{22,23} It is estimated that for every \$1 invested in walking trails and programs, \$3 could be saved in healthcare costs.^{3,24} Still, 30% of U.S. adults report that they do not engage in any leisure-time aerobic physical activity.¹
- At least 68% of people age 65 or older with type 2 diabetes die from some form of heart disease and 16% die of stroke.¹ Unfortunately, diabetes prevalence increased 90% from 1995-1997 to 2005-2007.²⁵ About 29.2 million have diagnosed or undiagnosed diabetes, and the prevalence of pre-diabetes in the adult population is 35%.^{1,26} Diabetes disproportionately affects African Americans, Mexican Americans, Hispanic/Latino individuals, and other ethnic minorities.¹
- Approximately 27% of U.S. adults have high low-density lipoprotein (LDL), or “bad” cholesterol.¹ Despite cholesterol screening levels reaching as high as 84% in some states, fewer than half of adults with high LDL cholesterol are receiving cholesterol lowering treatment, and only one-in-three with high LDL cholesterol have their condition under control.^{1, 27}

THE ASSOCIATION ADVOCATES

In order to achieve its goals of improving the cardiovascular health of the U.S. population by 20% by the year 2020,²⁸ the association advocates for:

- The Prevention and Public Health Fund, maintaining the Fund at funding levels designated through the Affordable Care Act.
- Million Hearts, a national initiative to prevent one million heart attacks and stroke by 2017.
- Comprehensive clean indoor air laws.
- Excise taxes on all tobacco products.
- Funding for comprehensive smoking cessation/prevention programs at all levels and in all coverage plans; for programs that eliminate health disparities; for active transportation such as walking and biking trails, Safe Routes to School, and Complete Streets; coordinated school health programs; and state heart disease and stroke programs.
- Strong implementation of FDA regulation of tobacco.
- Comprehensive health care coverage for preventive services; prevention, diagnosis, and treatment of overweight and obesity;
- Efforts to design workplaces, communities, and schools around active living; integrating physical activity opportunities throughout the day.
- Sports, community recreational opportunities, parks, and green spaces.
- Quality physical education in schools at recommended amounts of activity.
- Accurate measures of obesity and related risk assessments in diverse populations.
- Comprehensive worksite wellness programs.
- Strong local wellness policies in all schools.
- Comprehensive obesity prevention strategies in early childhood and day care programs.
- Access to healthy foods by eliminating food deserts and improving access.

- Updated nutrition standards for all foods sold in school.
- Robust nutrition standards in all government nutrition assistance or feeding programs.
- Strong nutrition and physical activity standards for universal pre-k and child care programs.
- Improved food labeling and menu labeling in restaurants and where foods are sold for immediate consumption.
- The removal of industrial *trans* fats from the food supply and assure the use of healthy replacement oils.
- Less junk food marketing and advertising to children.
- Limiting added sugars and sodium in the food supply.

¹ Mozaffarian, D., et al. Heart disease and stroke statistics-2015 update: a report from the American Heart Association. *Circulation*. 2015. 131(4): e29-e322.

² Yang Q, et al. Trends in cardiovascular health metrics and associations with all-cause and CVD mortality among US adults. 2012. *JAMA*.307:1273-1283.

³ Weintraub, WS., et al. Value of primordial and primary prevention for cardiovascular disease a policy statement from the American Heart Association. 2011. *Circulation* 124:8: 967-990.

⁴ Spring, B et al. Better Population Health Through Behavior Change in Adults A Call to Action. 2013. *Circulation* 128.19: 2169-2176.

⁵ Eckel, RH, et al. 2013 AHA/ACC Guideline on Lifestyle Management to Reduce Cardiovascular Risk: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. 2013. *Journal of the American College of Cardiology*.

⁶ U.S. Preventive Services Task Force. Final Recommendation Statement: Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults with Cardiovascular Risk Factors: Behavioral Counseling. 2014. Available at:

<http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/healthy-diet-and-physical-activity-counseling-adults-with-high-risk-of-cvd>. Accessed on March 17, 2015.

⁷ Land T, et al. A Longitudinal Study of Medicaid Coverage for Tobacco Dependence Treatments in Massachusetts and Associated Decreases in Hospitalizations for Cardiovascular Disease. 2010. *PLoS Med*: 7(12): e1000375.

⁸ Richard P, et al. The return on investment of a Medicaid cessation program in Massachusetts. 2012. *PLoS Med*:7(1):e29665.

⁹ Ford E. et al., Explaining the decrease in U.S. deaths from coronary heart disease, 1980-2000. 2007. *New Engl J Med*. 356; 2388-2398.

¹⁰ Trust for America’s Health. Prevention for a Healthier America: Investments Disease Prevention Yield Significant Savings, Stronger Communities. 2009 Available at <http://healthamericans.org/reports/prevention08/Prevention08.pdf>. Accessed on February 17, 2015.

¹¹ Baicker, K., et al. Workplace wellness programs can generate savings. 2010. *Health Affairs*, 29(2). doi: 10.1377/hlthaff.2009.0626

¹² Brown HS et al. The cost-effectiveness of a school-based overweight program. *International Journal of Behavioral Nutrition and Physical Activity*:4.1: 47.

¹³ Tran BX, et al. Life course impact of school-based promotion of healthy eating and active living to prevent childhood obesity. 2014. *PLoS*; 9(7):e102242.

¹⁴ Wang I.Y, et al. Long-term health and economic impact of preventing and reducing overweight and obesity in adolescence. 2010. *J Adolesc Health*; 46(5):467-73.

¹⁵ Centers for Disease Control and Prevention. Obesity Prevalence Maps. 2014. Available at <http://www.cdc.gov/obesity/data/prevalence-maps.html> Accessed on March 17, 2015.

¹⁶ National Center for Health Statistics. Prevalence of Obesity Among Children and Adolescents: United States, Trends 1963-1965 Through 2007-2008. 2010. Available online at: http://www.cdc.gov/nchs/data/hestat/obesity_child_07_08/obesity_child_07_08.pdf. Accessed on February 18, 2015.

¹⁷ Le, J, et al. “Vascular age” is advanced in children with atherosclerosis-promoting risk factors. 2010. *Circulation: Cardiovascular Imaging* 3.1: 8-14.

¹⁸ Center for Disease Control and Prevention. Obesity Prevalence Among Low-Income, Preschool-Aged Children — New York City and Los Angeles County, 2003-2011. *MMWR*: 2013; Vol.62, No.2. Available online at: <http://www.cdc.gov/mmwr/pdf/wk/mm6202.pdf>. Accessed on February 18, 2015.

¹⁹ U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. 2014. Available at: http://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm Accessed March 18, 2015.

²⁰ Center for Disease Control and Prevention. Tobacco Use Among Middle and High School Students — United States, 2013. 2014. *Morbidity and Mortality Weekly Report*: 63(45): 1021-1026.

²¹ Centers for Disease Control and Prevention. [Tobacco Use Among Middle and High School Students—United States, 2013](http://www.cdc.gov/mmwr/pdf/wk/mm6202.pdf). 2014. *Morbidity and Mortality Weekly Report*. 63(45):1021-6.

²² Williams PT, et al. Walking versus running for hypertension, cholesterol, and diabetes mellitus risk reduction. 2013. *Arteriosclerosis, thrombosis, and vascular biology*: 33.5: 1085-1091.

²³ American Heart Association. The American Heart Association Physical Activity Recommendations for Adults. 2015. Available at: http://www.heart.org/icc/groups/heart-public/@wcm/@fc/documents/downloadable/ucm_469557.pdf. Accessed on May 7, 2015.

²⁴ Weintraub WS, et al. Value of primordial and primary prevention for cardiovascular disease: a policy statement from the American Heart Association. 2011. *Circulation*.124:967-990.

²⁵ Centers for Disease Control and Prevention. State-specific incidence of diabetes among adults — participating states, 1995-1997 and 2005-2007. 2008. *MMWR*. 57(43).

²⁶ Center for Disease Control and Prevention. National Diabetes Statistics Report, 2014. 2014. Available at: <http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf>. Accessed March 18, 2015.

²⁷ Centers for Disease Control and Prevention. Vital signs: prevalence, treatment, and control of high levels of low-density lipoprotein cholesterol: United States, 1999-2002 and 2005-2008. 2011. *MMWR* ;60:109-114.

²⁸ Lloyd-Jones DM, et al. Defining and Setting National Goals for Cardiovascular Health Promotion and Disease Reduction: The American Heart Association’s Strategic Impact Goal Through 2020 and Beyond. *Circulation*, 2010; 121: 586-613.