



State Heart Disease and Stroke Prevention Programs Address High Blood Cholesterol



High blood cholesterol is a major modifiable risk factor for heart disease and stroke, the first and third leading causes of death in the United States.¹ Yet, a 10% decrease in total blood cholesterol levels can reduce the incidence of heart disease by as much as 30%.²

Cost is an important issue when referring to heart disease and stroke. In 2007, the American Heart Association estimates that the direct and indirect costs for cardiovascular disease will be \$431.8 billion.³ This estimate includes costs of more than \$151.6 billion annually for coronary heart disease. Workplaces are greatly affected with indirect costs that are estimated to top \$148.6 billion in 2007, with those indirect costs relating to lost productivity. Thus, reducing LDL (bad) cholesterol can be cost effective in three ways: direct economic savings from decreased hospital and ambulatory services, preventing coronary heart disease mortality, and preventing the disability, distress and pain associated with coronary heart disease.⁴

Two of the national health objectives for the year 2010 are to reduce to 17% the percentage of adults aged 20 years or older with total blood cholesterol levels of greater than or equal to 240 mg/dL or higher, which is considered high risk; and to increase to 80% the percentage of adults who had their blood cholesterol checked during the preceding 5 years.⁵ An overall national health goal is to eliminate racial/ethnic and other disparities in all health outcomes, including high blood cholesterol.⁵

The proportion of American adults aged 20 years and older having high blood cholesterol levels of 240 mg/dL or higher decreased from 20.8% during 1988–1994 to 16.7% during 2001–2004.⁶ This decrease is likely due to the increased use of cholesterol-lowering medications.⁶ Despite this improvement, from 1991–2003, there was an increase in the proportion of United States participants aged 20 years and older who reported having been told that their blood cholesterol was high.⁷ Furthermore, from 1999–2000, more than 50% (107 million) of adult Americans, particularly women, had blood cholesterol levels of 200 mg/dL or higher, which is above desirable levels (see table 1).⁸

During 1991–2003, the percentage of adults in the United States screened within 5 years increased from 67.5% to 73.1%.⁷ Only a few states (Washington, D.C. and Massachusetts) had achieved the Healthy People 2010 objective of 80% prevalence. Most important, there are racial and ethnic differences in cholesterol screening and awareness. In 2003, Hispanics and Asians/Pacific Islanders, and younger adults (20–44 years), had the lowest prevalence of cholesterol screening, 65.5%, 69.6%, and 59.8%, respectively.⁷ Although the prevalence of cholesterol screening during 1991–2003 was higher among women than men, twice as many men than women were told they had high blood cholesterol.⁷

Efforts, such as public health campaigns and access to affordable treatment are needed to raise awareness and increase screening and control of high blood cholesterol, especially among women,

Examples of High Blood Cholesterol Activities in CDC–Funded State Heart Disease and Stroke Prevention Programs

Missouri

The Missouri Program along with the Missouri Primary Care Association (MPCA) developed and distributed physician and nurse practitioner pocket cards designed to promote use of national hypertension and cholesterol guidelines. Approximately 2,500 cards were distributed to clinics and doctor's offices around Missouri. A survey of health care providers was conducted to determine the value of this resource. It was found that Federally Qualified Health Centers were more likely to find the cards of value (the majority of respondents) and use them to follow guidelines. Also, the MPCA had several centers report that they were using the pocket cards to help them develop standing orders for cholesterol, blood pressure, and A1c level tests for diabetic patients.

Montana

In 2006, Montana's Cardiovascular Health Program conducted a 20-week paid media campaign in Flathead County to increase residents' awareness of the importance of cholesterol control. The Take Control campaign included television, print, and radio ads. To reinforce the campaign messages, the program created a Take Control brochure, which was distributed throughout the community to organizations such as physician offices, assisted living facilities, and pharmacies. The two local hospitals assisted with earned media efforts. In conjunction with the campaign, the program conducted a lipid assessment with a primary care office in Kalispell.

Hispanics, Asian/Pacific Islanders, and younger adults. Lowering high blood cholesterol can reduce the risk for developing or dying from heart disease, including heart attacks; however, less than half of persons who qualify for any kind of lipid treatment for risk reduction are receiving it.⁴

Blood cholesterol levels can be lowered through dietary changes, increased physical activity, weight control, drug therapy, or a combination of these.⁴ The National Cholesterol Education Program (NCEP) recommends that adults 20 years and older have their blood cholesterol levels measured once every 5 years.⁴

A lipoprotein profile is performed to measure different components of total cholesterol as well as triglycerides (another type of fatty substance that increases risk for heart disease). See [NCEP guidelines](#) for treatment recommendations.

State Heart Disease and Stroke Prevention Programs Take Action

State Health Departments work to prevent and control high blood cholesterol and reduce the burden of heart disease and stroke by promoting activities that can be implemented in health care, work sites, communities, and schools. For example, a state program might—

- **Promote policy development, training, and system changes** (e.g., electronic medical records, automated prescription systems, and paper or electronic reminders) to assist health care practitioners in adhering to treatment protocols consistent with national guidelines for preventing and controlling high blood cholesterol.
- **Partner with organizations to assure that detection and follow-up services are available** for controlling high cholesterol in various settings, including health care, work site, and community.
- **Promote the use of clinical care teams** that include health educators to assure consistent screening, detection, risk-factor education, medication monitoring, and follow-up to prevent and control high cholesterol.
- **Educate the public** using simple and frequent messages that high blood cholesterol is a major modifiable risk factor for heart disease and stroke, and that having one's blood cholesterol checked is an important first step in identifying and controlling high blood cholesterol and reducing the risk of heart disease and stroke.
- **Collaborate on professional medical education, self-care workshops, policy interventions, and incentives** to improve detection and control of high blood cholesterol.
- **Encourage health care insurance coverage** for blood cholesterol screening, treatment, and control, as well as rehabilitation services for heart attack and stroke survivors.
- **Partner with other agencies to establish organizational policies and environmental interventions that support healthy lifestyles** including access to screening, low-cost healthy food choices, smoke-free facilities, stress management options, and places for physical activity.

Table 1. ATP* III Classification of LDL, HDL, Total Cholesterol and Triglycerides (milligrams/deciliter [mg/dL]) †

LDL (Bad) Cholesterol	
Less than 100	Optimal
100 – 129	Near optimal/above optimal
130 – 159	Borderline high
160 – 189	High
190 and above	Very high
HDL (Good) Cholesterol	
Less than 40	Low
60 and above	High (Protective against heart disease)
Total Cholesterol	
Less than 200	Desirable
200 – 239	Borderline high
240 and above	High
Triglycerides	
Less than 150	Desirable
150 – 199	Borderline high
200 – 499	High
500 and above	Very high

* ATP=Adult Treatment Panel

†Note: From the *Third Report of the National Cholesterol Education Program (NCEP) on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III)*, by the National Heart, Lung, and Blood Institute of the National Institutes of Health, May 2001, pg. 3.

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