Heart Disease and Stroke

For more information about CDC's cardiovascular health program,
visit http://www.cdc.gov/nccdphp/cvh/index.htm

Arkansas

Improving Quality of Care and Health Outcomes by Providing Cardiovascular Disease Guidelines to Physicians and Patients

Public Health Problem

Heart disease is the leading cause of death in Arkansas, and the state ranks second in the country in deaths from stroke. Arkansas has a higher rate of heart disease than the rest of the nation, and this high rate might, in part, be because the state has higher-than-average rates of risk factors: 30% of people in Arkansas have high blood pressure (versus 26% in the nation); 26% smoke cigarettes (versus 23% in the nation), and 27% are physically inactive (versus 24% in the nation), 2001 Behavioral Risk Factor Survey data indicate. These risk factors significantly increase the potential for heart disease and stroke.

Program Example

The Arkansas Cardiovascular Health Program collaborates with partners on the Arkansas Wellness Coalition to improve health outcomes by promoting nationally recognized peer-reviewed guidelines for physician care and patient self-management. Other coalition members include the American Heart Association, Arkansas Department of Health's Diabetes Control Program, Arkansas Quality Improvement Organization, Arkansas Medicaid, University of Arkansas for Medical Sciences, managed care organizations, and pharmaceutical companies. The coalition's first goal is to consolidate efforts between health care providers and advocacy organizations to improve quality of care and health outcomes for targeted diseases. The second goal is to improve the consistency and efficiency of care by providing common core principles, and the third goal is to put in place recognized standards of care. The Arkansas Cardiovascular Health Program has played a key role in developing a tool kit of resources to promote these quality improvement goals. The tool kit includes chart tracking forms as well as principles for the primary and secondary prevention of heart disease and stroke, based on the American Heart Association and the American College of Cardiology guidelines. The coalition has distributed toolkits to 3,600 primary care providers in the state.

Implications and Impact

This intervention is evidence of how public health leadership within a state cardiovascular health program can promote health system changes that support the prevention of heart disease and stroke. The intervention is being evaluated by using Health Plan Employer Data and Information Set data, which are collected by health plans that are members of the Arkansas Wellness Coalition.

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Kentucky

Working With Partners to Address the Secondary Prevention of Death and Illness Among People With Coronary Artery Disease

Public Health Problem

In Kentucky, heart disease and stroke accounted for 37% of all deaths in 2000, with 11,936 (30%) people dying of heart disease and 2,637 (7%) dying of stroke. In addition, about 40% of all hospitalizations in the state were due to cardiovascular disease, resulting in hospital costs exceeding $863 million, according to the *Kentucky State of the Heart 2000* report.

Program Example

The Kentucky Department of Public Health's Cardiovascular Health Program partnered with the American Heart Association Kentucky Affiliate, the Kentucky Hospital Association, Healthcare Excel, and the American College of Cardiology to improve quality of care and patient care management. The partners used the American Heart Association's *Get With the Guidelines—Coronary Artery Disease* to improve patient outcomes in acute care settings. In April 2003, a statewide training program was launched in Lexington, with 142 people from 57 hospitals across the state participating. The state Cardiovascular Health Program provided funds to cover the training costs and the annual Patient Management Tool fee for hospitals starting the program by June 2003. Twenty-five hospitals in major metropolitan and rural areas in all five regions of Kentucky are conducting this secondary prevention program. Regular technical assistance is provided through telephone conference calls to the participating hospital teams by the American Heart Association, the state Cardiovascular Health Program, and the project's information technology manager.

Implications and Impact

These partners shared the vision of reducing deaths, disability, and recurrent heart attacks among patients with coronary artery disease and successfully collaborated to put in place secondary prevention guidelines in hospitals across Kentucky. By uniting and leveraging their strengths and resources, each organization contributed to the development of a hospital-based quality improvement infrastructure that focuses on protocols to ensure patients are treated and discharged with appropriate medications and risk counseling. The impact of this intervention is being evaluated by assessing compliance with secondary prevention measures. As more acute care hospitals across the state launch quality improvement programs, reductions in illness and death from heart disease and stroke are expected.

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Reducing Deaths Following Heart Attacks and Strokes Through High-Quality Secondary Prevention

Public Health Problem

Cardiovascular diseases, mainly heart disease and stroke, are the leading cause of death for both men and women in Maine. Each year in this state, about 29,000 hospitalizations are due to heart disease and stroke. About $437 million was spent for heart disease and stroke-related hospital charges in 2000 alone—a figure that represents 26% of all hospital charges.

Program Example

The Cardiovascular Health Program in the Maine Department of Human Services, Bureau of Health, collaborates with the Maine Cardiovascular Health Council and the American Heart Association New England Affiliate to address secondary prevention. The state's Cardiovascular Health Program is partnering with the American Heart Association to provide regular training for health care providers to improve patient care. The American Heart Association's hospital quality assurance program, *Get With the Guidelines*, is being used. Nine hospitals now participate in the project, which improves patient treatment and follow-up after a heart attack or stroke. The Maine Taskforce on Cardiovascular Disease Prevention, the medical advisory arm of the state Cardiovascular Health Program, has created a system of enrolling patients in cardiac rehabilitation programs. Another partner, the Maine Cares Coalition, a network of provider-sponsored community-based support programs, is working to ensure that treatment for patients with coronary heart disease and congestive heart failure follows national guidelines. To date, more than 2,000 patients have enrolled in the Maine Cares Coalition program.

Implications and Impact

Maine's efforts demonstrate the importance of using recognized guidelines for primary prevention as well as for secondary prevention, which leads to reduced deaths following heart attacks and strokes. Already, statewide improvements have been observed in the increased use of lipid-lowering medication and reductions in cholesterol levels.

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Missouri

Partnering With Federally Qualified Health Centers to Prevent Heart Attacks and Strokes

Public Health Problem

Missouri has one of the nation's highest rates of cardiovascular disease, mainly heart disease and stroke. It ranks second in the nation in deaths from coronary heart disease. Heart disease and stroke claimed 174,640 lives in Missouri between 1990 and 1997, and cardiovascular disease accounted for nearly 41% of all deaths in 1998. Nearly 211,000 hospitalizations in Missouri were attributed to heart disease and stroke in 2000, and direct medical costs exceeded $3 billion.

Program Example

The Missouri Cardiovascular Health Program is partnering with the Missouri Diabetes Prevention and Control Program and Federally Qualified Health Centers (FQHCs) to administer and evaluate a comprehensive approach to improving standards of care for patients with cardiovascular disease, diabetes, and hypertension. The partners are using a registry of clinical data on patients, thus making it possible to aggressively follow up on and monitor patients. The FQHCs offer a unique opportunity to reach Missouri's high-risk minority and low-income residents, many of whom live in rural areas. Nearly 185,000 Missourians used FQHCs as their source of primary health care in 2001. In addition, the Missouri Cardiovascular Health Program has partnered with the Missouri Patient Care Review Foundation, the American Heart Association, and the Missouri Hospital Association to promote the American Heart Association's guidelines for the primary and secondary prevention of cardiovascular disease. Together, these partners are working with health care systems, including FQHCs, medical schools, and insurance organizations.

Implications and Impact

This intervention shows how people benefit when state heart disease and stroke prevention programs provide leadership and partner with organizations that provide, monitor, and pay for primary and secondary prevention services. The state's participation in this collaborative with FQHCs is enhancing efforts to aggressively prevent heart disease and stroke, eliminate disparities, and increase people's access to quality care in these health care settings.

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South Carolina

Improving Blood Pressure Control in High-Risk Populations

Public Health Problem

High blood pressure affects one of every four adults in South Carolina. Left uncontrolled, high blood pressure significantly increases a person's risk for stroke, heart attack, heart failure, and kidney disease. Only about 34% of people with diagnosed high blood pressure have it under control, national data show, and related hospitalization costs are high. In South Carolina, hospitalization costs for stroke alone totaled more than $222 million in 2000.

Program Example

In South Carolina, many collaborators are working together to support the Hypertension Initiative, which aims to improve blood pressure control, especially in underserved, high-risk populations. The South Carolina Cardiovascular Health Program provides support to increase hypertension expertise among primary care providers statewide, particularly providers in rural areas and those with substantial numbers of Medicaid patients. Strategies include peer-led training on best practices for providers, quality-of-care monitoring, and feedback. The Carolina Medical Review, the state's quality improvement organization, is analyzing the South Carolina Medicaid database to determine how these strategies are affecting quality of care. About 50% of hypertensive patients have controlled blood pressure, according to baseline data from participating providers who are reporting on patients under active care. The Hypertension Initiative's goal is to increase this to 70% of patients. Collaborators include the Medical University of South Carolina, the Duke Foundation, the Agency for Healthcare Research and Quality, and the pharmaceutical industry.

Implications and Impact

More than 300 participating providers from 38 of the state's 46 counties are involved in these quality improvement efforts, which will affect about 70,000 hypertensive patients statewide. Data on quality improvements are being shared with the South Carolina Cardiovascular Health Program. In addition, this approach for improving quality of care has been adopted by the American Society of Hypertension.

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Promoting High-Quality Cardiovascular Care by Promoting the Adoption of Secondary Prevention Guidelines

Public Health Problem

Heart disease is the number one cause of death in Texas, and stroke is close behind at number three. Together, heart disease and stroke are the number one drain on health care resources in the state. Hospital charges in Texas for ischemic heart disease, hemorrhagic stroke, ischemic stroke, and congestive heart failure were an estimated $7.5 billion in 2002.

Program Example

In February and April 2003, the Texas Cardiovascular Health and Wellness Program held forums with representatives of major health systems to develop strategies for improving quality of care for the secondary prevention of heart disease and stroke. Participants were from health plan organizations, the Texas Medical Association, the American Heart Association Texas Affiliate and its national office, hospitals, business groups, the state's quality improvement organization, and other health care systems. Three strategies were identified as a result of this collaborative effort, known as the Texas Cardiovascular Quality and Patient Safety Initiative: promote the adoption of the American Heart Association and the American College of Cardiology secondary prevention guidelines, identify physicians who can be leaders and champions in promoting adoption of these guidelines, and develop a program to recognize hospitals and providers that adopt and follow the guidelines. The initiative covers primary and specialty care and hospital settings.

Implications and Impact

The Texas initiative shows how state cardiovascular health programs can provide the leadership needed to bring together key health care organizations to develop system interventions that promote the adoption of secondary prevention guidelines. Universal adoption of these guidelines can help to eliminate health disparities and help people with heart disease and stroke have better health outcomes, including improved quality of life and reduced risk for recurrent events.

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Improving Health Outcomes Through Partnerships With Health Plans

Public Health Problem

Cardiovascular disease, mainly heart disease and stroke, is the leading cause of death in Wisconsin. Cardiovascular-related hospitalization charges topped $1.6 billion in the state in 2000 alone. High blood pressure is a major risk factor for both heart disease and stroke. One of every four Wisconsin adults report they have been told by a health professional that they have high blood pressure. An estimated 30% of people who have high blood pressure are unaware of it, according to a national report. Although 59% of people with high blood pressure receive treatment, only 34% of them have their blood pressure under control.

Program Example

Wisconsin's Cardiovascular Health Program collaborated with many public and private health organizations to increase the percentage of patients who have their high blood pressure under control. In just 1 year, these partners increased by 10% the number of health maintenance organization (HMO) patients with their high blood pressure under control. In 2000, the Wisconsin Cardiovascular Health Program joined the Wisconsin Collaborative Diabetes Quality Improvement Project, which has numerous collaborators, including a statewide group of HMOs and health systems. Participating HMOs represented 84% of the people enrolled in HMOs in the state in 2000 and more than 98% of those enrolled in 2001. The Cardiovascular Health Program asked that the 20 participating health plans with commercial enrollees collect 4 Health Plan Employer Data and Information Set (HEDIS) cardiovascular-related measures. These data provided a baseline assessment for planning quality improvement strategies within health plans. Among participating health plans, only 48% of patients were found to have their high blood pressure controlled. On the basis of this information, the health plans put into place strategies to improve blood pressure control. As a result, by 2001, 58% of patients had their high blood pressure controlled. The Cardiovascular Health Program is currently coordinating the development and launch of a cardiovascular risk reduction initiative among project partners. The initiative will address high blood pressure and high cholesterol.

Implications and Impact

Wisconsin's experiences demonstrate the opportunity for state programs to serve as catalysts for health system improvements that lead to the prevention of heart disease and stroke. Public health programs accomplish this by serving as a neutral entity for convening health system organizations, sharing quality improvement data, providing a population-based perspective, and promoting health system changes that lead to better health outcomes.

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