Heart Disease and Stroke

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PROGRESS REVIEW

In the eighth of a series of assessments of *Healthy People 2010,* Surgeon General and Acting Assistant Secretary for Health Richard Carmona chaired a focus area Progress Review on Heart Disease and Stroke, which constitute the first and third leading causes of death in the United States. He was assisted by representatives of the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC), which share the agency lead for this focus area. For information about the focus area, see the chapter text at **www.healthy people.gov/document/html/volume1/12heart.htm**. The meeting agenda, summary data tables, and charts are available on the National Center for Health Statistics (NCHS) Web site at **www.cdc.gov/nchs/about/otheract/hpdata2010/fa12/ heart.htm**.

Data Trends

NCHS Director Edward Sondik reported on the latest data for objectives in the Heart Disease and Stroke focus area. His principal focus was on knowledge, risk factors, and deaths associated with coronary heart disease (CHD) and stroke, with an emphasis on disparities and trends.

During the last two decades of the 20th century, the age-adjusted rate of deaths from CHD declined sharply, falling from nearly 350 per 100,000 in 1980 to 196 in 2000. The prospect is for the decrease to continue, but more effort will be required to lower the rate enough in the intervening years to reach the *Healthy People 2010* target of 166 per 100,000 (Obj. 12-1). Demographically, males died from CHD at a 40-percent higher rate than females in 2000. Among racial/ethnic groups, blacks showed the greatest disparity from the average in 2000, with a CHD death rate of 243 deaths per 100,000. Geographically, CHD death rates have tended to be higher in the southern and southeastern States, particularly those along the Ohio and Mississippi river valleys and in the Appalachian region, as well as in New York, Oklahoma, Michigan, Rhode Island, and a portion of California.

The age-adjusted death rate for stroke declined during the 1980s and early 1990s (from 96.4 per 100,000 in 1980), plateaued in the early 1990s, then resumed a downward trend in the late 1990s, to reach a rate of 61 in 2000. To achieve the 2010 target of 48 per 100,000, an accelerated rate of decrease is required (Obj. 12-7). Of 5 racial/ethnic groups for whom data are available, the highest age-adjusted stroke death rate in 2000 was recorded for blacks (85) and the lowest for Hispanics (39). The age-adjusted death rates for females and males were about equal. Geographically, age-adjusted average annual stroke death rates are highest in the southeastern States, particularly in the so-called "stroke belt," a region comprising Georgia, South Carolina, eastern North Carolina, and adjacent parts of neighboring States. Rates are lowest in the Northeast and the noncoastal Southwest.

CHD and stroke are two of the largest components of cardiovascular disease (CVD). As such, they are exacerbated by many of the same modifiable risk factors, including obesity, cigarette smoking, and lack of physical activity. Of the chronic risk factors for CVD, comparison

of data from the survey periods 1988–1994 and 1999–2000 shows a downward trend in high blood cholesterol levels in adults of all gender and racial/ethnic groups for whom data are available (Obj. 12-14). Regarding the prevalence of high blood pressure (hypertension), there has been little change over a decade in the degree of disparity between blacks on the one hand (highest prevalence) and whites and Mexican Americans (about equal prevalence) on the other. There is also still an educational gradient, with prevalence being highest in those with less than a high school education, lower in high school graduates, and lowest in those with at least some college education (Obj. 12-9). The increasing prevalence of diabetes poses a major and growing threat to heart health as well, in that the proportion of heart disease deaths due to diabetes is projected to increase from 21 to 29 percent of the total over the first quarter of the 21st century.

In 2001, knowledge about the early warning symptoms of CVD was measured nationally for the first time. The age-adjusted proportion of adults who were knowledgeable about the symptoms of a heart attack *and* the importance of calling 911 was 46.2 percent (Obj. 12-2). For stroke, the age-adjusted proportion of adults who were knowledgeable about the early warning symptoms was 77.5 percent (Obj. 12-8).

Salient Challenges and Current Strategies

In the discussion that followed, the main themes were introduced by Claude Lenfant, Director of NIH's National Heart, Lung, and Blood Institute (NHLBI), and by James Marks, Director of CDC's National Center for Chronic Disease Prevention and Health Promotion. Participants in the review identified a number of obstacles to achieving the objectives and outlined steps being taken to meet these challenges, including the following:

- The burden of heart disease and stroke is projected to cost more than $351 billion in 2003 and to grow in the decades immediately ahead.
- The lag between the discovery of more efficacious forms of treatment and their incorporation into routine patient care ("bench to bedside") ranges from about 15 to 20 years.
- Even with the increasingly successful efforts to prevent and control heart disease, further advances will be difficult as the population ages, especially if disparities continue to widen.
- About 50 million adult Americans have high blood pressure (hypertension), a major risk factor for CHD, stroke, kidney disease, and heart failure. High blood pressure is much more common in older people and has nearly a 40-percent greater prevalence in blacks than in whites.
- While about 90 percent of adults have a good idea of whether their blood pressure is high or not, the distribution of blood pressure levels across the population has not changed appreciably in 20 years.
- "A Public Health Action Plan to Prevent Heart Disease and Stroke," released by the Department of Health and Human Services, is an important step toward achievement of the *Healthy People 2010* objectives in heart disease and stroke. The plan charts a course for CDC and collaborating public and private partners to help meet national goals for preventing heart disease and stroke over the next two decades and beyond.
- NHLBI educational programs and initiatives that address CVD include the National High Blood Pressure Education Program, the National Cholesterol Education Program, the National Heart Attack Alert Program, the Obesity Education Initiative, and the Women's Heart Health Education Initiative.

- The Department of Veterans Affairs incorporates clinical reminders in its electronic records to ensure comprehensive followup of heart disease and stroke patients.
- In an NHLBI collaboration with the National Recreation and Park Association, the Hearts N' Parks program encourages people living in 50 magnet center sites located in at-risk communities to follow a heart-healthy eating plan and to increase their level of physical activity.
- In September 2001, the National Heart Attack Alert Program and the American Heart Association launched the *Act in Time to Heart Attack Signs* campaign, which urges anyone who feels heart attack symptoms or observes the signs in others to call 911 within 5 minutes.
- CDC is expanding its State-based heart disease and stroke prevention program to enhance national and State partnerships and public health capacity to (1) improve cardiovascular health and prevent and control CVD; (2) translate prevention science into strategies and practices; (3) monitor changes in heart disease and stroke risk factors, program outcomes, and policy and environmental indicators; and (4) maximize resources through collaboration with partners.
- NHLBI's Enhanced Dissemination and Utilization Centers (EDUCs) are targeting 12 high-risk communities where disease death rates from CHD and stroke are extremely high to implement innovative strategies for addressing health disparities.
- The National Institute of Neurological Diseases and Stroke initiated a national campaign, *Know Stroke. Know the Signs. Act in Time.*, to teach people the warning signs of a stroke and then to call 911 to get to a hospital quickly for treatment.
- Ischemic strokes, the most common kind, can now be treated with the drug t-PA, which dissolves artery-obstructing clots, but patients must arrive at a hospital within 1 hour after the initiation of symptoms to undergo tests before receiving treatment during the 3-hour time window. Currently, only 1 to 2 percent of eligible acute stroke patients receive this therapy.

Approaches for Consideration

Among suggestions offered by discussion participants for strategies to effect needed improvements were the following:

- Strive to accelerate the translation of research findings and the implementation of "best practices" in clinical and community settings.
- Explore ways to create incentives for the provision of prevention services by providers of health care to people who may be at risk from CVD.
- Fully implement the Public Health Action Plan developed by CDC and its national partners.
- To realize maximum benefits for heart health from smoking-control programs, emphasize the importance of smoking cessation, as well as non-initiation.
- In conveying messages to the public about heart disease and stroke prevention and control, seek out new and nontraditional avenues and partners.
- Focus more sharply on environmental strategies in primary and secondary prevention activities targeted at populations and communities.
- Ensure that the necessary infrastructure for prevention and treatment is in place to take advantage of research advances on CVD.
- Expand efforts to monitor and evaluate the progress of survivors of stroke in the years following their attack.

- Develop a comprehensive and integrated national surveillance system for CVD risk factors, morbidity and mortality, and the quality and outcome of CVD prevention and care activities.
- Seek and define more predictive measures for the disability and loss of quality of life that can result from CVD.
- Expand NHLBI's EDUCs and national education program efforts that address disparities in CVD rates.
- Partner with municipalities in taking steps to ensure that 911 dialing is provided in localities in the United States where it is not now available.
- Encourage health professionals and professional societies to support the development of partnerships in care between patients/families and their healthcare providers to improve adherence to medical and educational advice.

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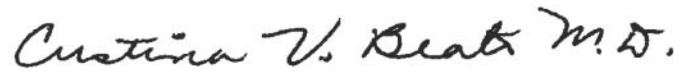

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