Healthy North Carolina 2020
A Better State of Health

UPDATE

November 2013 | Cardiovascular Disease

HNC 2020 Objective	Baseline	Current	Target
Reduce the cardiovascular disease mortality rate (per 100,000 population)	256.6 (2008)	237.2 (2012)	161.5

Cardiovascular disease (CVD) includes heart disease, stroke, other diseases of the circulatory system and congenital cardiovascular defects. While heart disease and stroke respectively comprise the second and fourth leading causes of death in North Carolina, total cardiovascular disease was the leading cause of death in 2012.[1] North Carolina's mortality rates due to major CVD remain slightly higher than the national average, however, the difference between the rates has narrowed, with North Carolina's rates decreasing by more than 50 percent from about 555 deaths per 100,000 persons in 1979 to 242 deaths per 100,000 persons in 2009.[2]

Over the last three decades, North Carolina's mortality rate for heart disease has been basically equal to the national average. Unlike heart disease, stroke mortality in North Carolina has been consistently higher than in the United States as a whole. Although the difference has narrowed, particularly in the last 10 years, North Carolina maintains the 10th highest stroke mortality rate in the nation.[3] This variation between the rates has contributed to the overall CVD mortality in North Carolina being higher than the national average. Efforts to maintain the downward trend in stroke mortality will require continued emphasis on prevention measures that reduce the incidence of strokes along with improved access to care and coordination of care along the stroke care continuum.

Although there has been a decline in major CVD mortality, the proportion of premature CVD deaths (people under age 65) has been rising since the late 1990s.[4] This trend has been at least partially attributed to an increase in modifiable risk factors, such as hypertension, obesity, high cholesterol and diabetes, in the last decade.

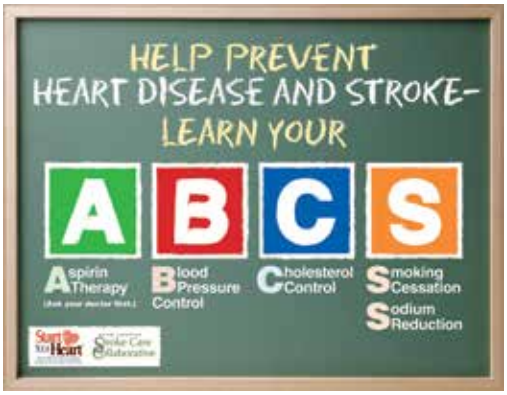
The national rise in the proportion of premature CVD deaths was recently highlighted in the Centers for Disease Control and Prevention's (CDC) *Morbidity and Mortality Weekly Report (MMWR)*. These deaths were identified as those that occurred in people younger than 75 that could have been avoided by more effective public health measures, lifestyle changes or medical care. Age, race and ethnicity, sex and geographical location were identified as key contributing factors to this outcome.[5]

If North Carolina maintains the present downward trend in CVD mortality and follows the precedent set in meeting the *Healthy NC 2010* objectives for heart attack and stroke, the state should achieve the *Healthy NC 2020* objective. Meeting this objective will require a combination of targeted community and clinical preventive measures that are evidence-based, linked and driven by a diverse group of committed partners.

North Carolina's prior success in cardiovascular health can be attributed to a number of factors, a major contributor of which has been the strong partnerships that have been forged between numerous diverse entities and individuals. There was an early recognition of the value of partnerships in North Carolina when 25 partner organizations endorsed a state health department work group's recommendation to establish a legislative heart disease and stroke prevention task force. This recommendation led to the establishment of the N.C. Heart Disease and Stroke Prevention Task Force by the N.C. General Assembly in 1995 to address two of the state's leading causes of death, disability and health care costs. Later named the Justus-Warren Heart Disease and Stroke Prevention Task Force (Task Force), in honor of two of its earlier legislator champions, it serves as a national model. Additional information about the Task Force, its accomplishments and some of the evidence-based strategies underway in North Carolina can be found in the November/December 2012 issue of the *North Carolina Medical Journal*.

The Task Force's third comprehensive state plan, *The North Carolina Plan for Prevention and Management of Heart Disease and Stroke 2012–2017* (the Plan)[6] represents the shared vision of numerous partners and key stakeholders that contributed to its development and remain vested in its implementation. The Plan provides goals, objectives and strategies along the continuum of care from prevention through post-acute and transitions of care. It also highlights the importance of addressing disparities and

access to care, including increasing the capacity for treatment and services via telehealth technologies.



The success of approaching cardiovascular issues through a multipronged approach is reflected in the approximately 50 percent reduction in the United States age-adjusted death rate for coronary heart disease between 1980 and 2000. About half of the reduction was attributed to clinical interventions and about half to cardiovascular risk factor reductions/community interventions.[7]

This public health and clinical approach is reflected in the national Million Hearts Campaign, co-led by the CDC and Centers for Medicare and Medicaid Services, to prevent one million heart attacks and strokes during a five-year period ending in 2017. The key components of the Campaign fall within two tracks: the Community Prevention Track and the Clinical Prevention Track. Community Prevention seeks to change the environmental context and targets prevention of tobacco use, decreased sodium and artificial trans fat consumption. Clinical prevention focuses on optimized care through the ABCS (appropriate **A**spirin therapy, **B**lood pressure control [including sodium reduction], **C**holesterol control, and **S**moking cessation); promotion of health information technology; and innovation in health care delivery. This combined approach is critical to North Carolina reaching its share of the one million goal. This has been projected to mean 30,000 fewer heart attacks and strokes in North Carolina during this time period.[8] The Plan captures many of the strategies incorporated in the Million Hearts Campaign.

While this article cannot capture the full spectrum of programs aligned with the Million Hearts community and clinical directions, there are several overarching examples of work in this area. Such programs can be found in the public health and private sectors at the state, regional and local levels as well as programs that are part of a national movement.

Significant examples of strategies noted in the Plan were encompassed in the work of the N.C. Division of Public Health, Chronic Disease and Injury (CDI) Section's former Heart Disease and Stroke Prevention, Diabetes Prevention and Control, and Physical Activity and Nutrition Branches, now consolidated into the Community and Clinical Connections for Prevention and Health (CCCPH) Branch; the CDI Tobacco Prevention and Control Branch and WISEWOMAN Program; and partners at the state, regional and local levels. The CCCPH Branch addresses the four chronic disease domains of surveillance and epidemiology; environmental approaches; health system improvements; and community-clinical linkages through evidence and practice-based interventions to improve physical activity and nutrition, reduce obesity, prevent and control diabetes, and promote cardiovascular health, with a focus on high blood pressure.

The activities of the CCCPH Branch will be aligned with the work of the N.C. Community Transformation Grant (CTG), also within the CDI Section. In addition to the CTG work in tobacco free living, active living and healthy eating, the clinical preventive services component targets high blood pressure, high cholesterol and tobacco cessation in its work with health care providers and the community and the promotion of linkages between the clinical domains and community resources.

The actions outlined in the Plan provide a roadmap to reduce the burden of cardiovascular disease in North Carolina through the collective work of many partners. Achievement of the goals and objectives of the Plan and those of other groups seeking to promote cardiovascular health will require collective and coordinated efforts at both the clinical and community levels by numerous individuals and organizations.

[1] State Center for Health Statistics, unpublished data provided 10/25/2013.
[2] Centers for Disease Control and Prevention (CDC). CDC WONDER; compressed mortality file; underlying cause-or-death. http://wonder.cdc.gov/mortsql.html. Updated 2012. Accessed 05/17/2012.
[3] Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File, 1999–2010. CDC WONDER online Database. http://wonder.cdc.gov/mortSQL.html. Accessed 05/30/2013.
[4] Centers for Disease Control and Prevention (CDC), National Center for Health Statistics, Compressed Mortality File, 1979–1998 and 1999–2009. CDC WONDER Online Database, 2011. http://wonder.cdc.gov/mortSQL.html.
[5] September 3, 2013, Centers for Disease Control and Prevention's (CDC) *Morbidity and Mortality Weekly Report (MMWR)*. www.cdc.gov/mmwr/pdf/wk/mm62e0903.pdf.
[6] The North Carolina Plan for Prevention and Management of Heart Disease and Stroke 2012–2017. www.startwithyourheart.com/resources/NCPlanforPrevention&ManagementofHeartDisease%20andStroke2013.pdf.
[7] Ford ES, et al. NEJM 2007;356(23):2388–97.
[8] Bertoni AG. 30,000 Fewer Heart Attacks and Strokes in North Carolina: A Challenge to Prioritize Prevention. *NC Med J.* 2012;73(6):449–56.