

## Health reform in the Obama era: The case for heart and stroke research

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**H**eart disease is the leading cause of mortality in the United States, and stroke is the number 3 killer. Although these diseases result in major permanent disability, programs that focus on heart disease and stroke research, prevention, and treatment receive disproportionately low funding from the National Institutes of Health (NIH), Centers for Disease Control and Prevention (CDC), and the Health Resources and Services Administration. The NIH invests only 7% of its budget on heart research and a mere 1% on stroke. We must do better.

Several beneficial goals should be considered as the nation contemplates health reform: (1) increase congressional awareness of the importance of heart and stroke research; (2) increase public awareness of the importance of heart and stroke research; and (3) increase funding for federal heart and stroke research. Several innovative federal research initiatives need continued support.

For instance, telemedicine is being considered as a means of increasing early administration of tissue plasminogen activator for the treatment of stroke in underserved inner city and rural areas. Acute stroke treatment is best done when appropriate imaging can be undertaken and access to facilities that have been primed to actively treat patients with thrombolysis are available. Research to define the time window in which the clinical treatment of acute stroke remains effective for reducing morbidity and mortality is ongoing; perhaps, there will be evidence for opening indications to treatment within 4.5 hours. Other interesting and innovative programs include defining genetic risk factors for intracranial aneurysms. Genomics may

identify individuals who are at high risk and need more intensive screening based on objective markers and family history. A large epidemiologic survey of stroke incidence and mortality is needed. Preliminary data suggest that while increased mortality has been identified in the stroke belt, which mainly comprises the southeastern part of the United States, stroke risk factors may not be exponentially different. This finding indicates the need to both identify risk factors and to treat appropriately.

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CREST (Carotid Revascularization Endarterectomy versus Stenting Trial) is a prospective, randomized, multicenter clinical trial of carotid endarterectomy (CEA) versus carotid artery stenting (CAS). The trial, which is sponsored by the National Institute of Neurological Disorders and Stroke (NINDS) and support from a device manufacturer, is designed to examine prevention for stroke in patients with symptomatic stenosis of 50% or more. When completed, the goal is to provide data regarding stenting to the US Food and Drug Administration. Although CREST affords a great opportunity to potentially prevent stroke, there are also many challenges in conducting this innovative clinical research. Recruitment into the trial has been difficult, but NINDS is invested in achieving an appropriate sample size to answer important questions regarding CEA

and CAS for stroke prevention.

Another ongoing trial, the WARCEF (Warfarin versus Aspirin in Reduced Cardiac Ejection Fraction) trial, compares the efficacy of aspirin with warfarin to determine if either treatment is superior for preventing the combined end point of all-cause mortality and stroke in patients with a left ventricular ejection fraction below 0.35. Then there is SPRINT (Systolic Blood Pressure Intervention Trial), which is a randomized, multicenter clinical trial that will test the effects of intensive lowering of systolic blood pressure (SBP) on preventing cardiovascular disease (CVD). Approximately 7500 participants who are 55 years of age or older with an SBP of 130 mm Hg or higher and at least 1 additional CVD risk factor will be randomized into either the lower SBP goal of less than 120 mm Hg (intensive treatment group) or the standard SBP goal of less than 140 mm Hg (control group). Only 2 high-risk groups will be excluded: patients with diabetes and those who have experienced a stroke. This is because these populations are the target of other ongoing National Heart, Lung, and Blood Institute (NHLBI) and NINDS trials that are testing a lower BP goal. The primary composite end points in SPRINT will be CVD mortality and nonfatal myocardial infarction, stroke, and heart failure. Several secondary outcomes will be examined, such as quality of life, cost-effectiveness, and markers of renal functioning in non-chronic kidney disease participants. Overall, NINDS appears committed to avoiding missed opportunities to decrease stroke, morbidity, and mortality by underfunding important basic translational and clinical research.

Individuals and the various professional organizations must be a consistent voice



and advocate for maintaining and expanding funding for the NHLBI, NINDS, and the CDC's division for heart disease and stroke prevention. The ABC supports increased appropriations for these organizations and is proud to be an active member of the National Forum, a coalition of more than 80 organizations that collaborate to provide national leadership for those committed to building a heart-healthy and stroke-free society.

The National Forum provides leadership for the implementation of "A Public Health Action Plan to Prevent Heart Disease and Stroke." This national plan to chart a course for the prevention of heart disease and stroke was first published in 2003 and was updated in spring 2008. The National Forum will convene an important Expert Symposium entitled "Economics of Cardiovascular Disease: Defining the Research Agenda" on May 14, 2009 to

evaluate the economic and public health implications of heart disease and stroke prevention, and to identify key areas for future research.

Visit [www.hearthealthystrokefree.org](http://www.hearthealthystrokefree.org) to learn more about the National Forum. Each individual can make a difference, and, as clinicians, it is especially important for us to remain vigilant in our commitment to combat morbidity and mortality from heart disease and stroke. •