The REasons for Geographic And Racial Differences in Stroke (REGARDS) Study and the National Institute of Neurological Disorders and Stroke (NINDS)

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Congratulations to the REGARDS investigators on this initial report of results from this large and growing population-based study of stroke in the United States.1–3 The findings are not novel, showing what has been demonstrated previously in the National Health and Nutrition Examination Survey (NHANES): that control of high blood pressure is not as frequent in blacks as in whites despite more frequent recognition and treatment of hypertension. Agreement with this previous study serves to validate REGARDS and to make more credible future results about stroke in the United States, especially in the stroke buckle and belt, which remain unexplained by the current analyses.

Congratulations also to NINDS. Usually such studies involving careful follow-up of large populations of people come from other National Institutes of Health (NIH) institutes: for example, the Framingham Heart Study, the Cardiovascular Health Study (CHS), and the Atherosclerosis Risk in Communities Study (ARIC). These epidemiologic studies and others are designed to ferret out the causes of vascular diseases including stroke. Such an understanding allows for the possibility of prevention by controlling etiologic risk factors, even without a complete understanding of pathophysiology. Although some might argue with the definitions used in REGARDS, none could deny the opportunity identified by this work to prevent stroke in all Americans, but especially blacks. Overall, blood pressure is controlled in only about half of those with hypertension.

The REGARDS investigators are fast realizing their ambitious plan to recruit and follow 30,000 people: 11,701 participants were included in this report, and 21,140 participants had been recruited as of January 1, 2006, according to the study website (http://www.soph.uab.edu/default.aspx?id=114). The study should become an invaluable resource for all those involved in investigating the causes of stroke. The challenges of large population-based studies go beyond the success of recruiting and following patients. They also include recruiting and retaining talented investigators who will use the data collected to identify etiologic risk factors and to propose ancillary studies to enhance the parent study. As an example, in the Cardiovascular Health Study, anyone can propose to perform analyses and write a paper or can propose an ancillary study, as detailed at the study’s website (http://128.208.129.3/chs/). Of the 416 CHS articles published, 224 of them, over 50%, are from investigators not contracted through CHS to do the work. To date, 121 ancillary studies have been performed using CHS resources.

Given the importance of this study and its focus on stroke, it is disappointing that none of this report’s authors is a neurologist, but not surprising. Outside the specialized setting of randomized clinical trials, neurologists with a view beyond their individual patients to populations are a rare breed. The dearth of such neurologists may reflect a lack of encouragement and opportunities to pursue such a research career. Formal NINDS-supported education of neurologists in epidemiology and biostatistics is limited to 3 programs. The training program in neuroepidemiology at Columbia University started in 1980, at University of Rochester in 1990, and at Harvard University in 2004. On the other hand, the National Heart, Lung, and Blood Institute boasts 13 training programs in cardiovascular epidemiology and biostatistics. NINDS has a longstanding neuroepidemiology branch established by Richard Masland in 1955 and initially headed by Leonard Kurland, considered the father of neuroepidemiology. Yet, the branch now includes only a single senior scientist, Karin Nelson, a skilled pediatric neuroepidemiologist.

Now the burden falls to the REGARDS investigators to convince those who would question the wisdom of NINDS’s investment in epidemiologic studies. These skeptics may believe that important answers will come from work at the bench rather than in the field. Kudos to NINDS for exploring the possibility that both may be needed.

References

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