## EXPANDING THE MINORITY BIOMEDICAL PIPELINE—THE WAY FORWARD

Keith C. Norris, MD Executive Vice President for Health Affairs and Research Charles R. Drew University Los Angeles California

Lawrence Y. Agodoa, MD National Institute of Diabetes and Digestive and Kidney Diseases National Institutes of Health Bethesda Maryland

Increasing the nation's cadre of minority clinicians and researchers is a crucial component to providing the opportunity to maintain a high level of scientific productivity and effective medical advances. As part of the strategic plan on minority health disparities, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) has developed a series of programs aimed at increasing underrepresented minority health professionals, with a focus in biomedical research. An effort with high school students began in 1995 at the suggestion of Dr. John Ruffin, director, Office of Research in Minority Health (ORMH). The premier program emerged as the National Institutes of Health (NIH), Howard University Minority High School Summer Research Program. The eightweek program accommodated 26 students from 13 states.

In 2001, the program was transitioned to Charles Drew University of Medicine and Science in Los Angeles, under the leadership of Keith Norris, MD. It then became the NIH/ NIDDK/DREW National High School Student Summer Research Apprentice Program (NHSSSRAP). Norris and Emma Taylor, program coordinator, facilitated expanding the program's reach to encompass 75 students from around the country including Alaska, Hawaii and Puerto Rico while still holding true to its original mission of providing underrepresented minority students with meaningful exposure to scientific research. The NHSSSRAP was one of the earliest biomedical pipeline programs designed to increase the pool of promising disadvantaged and underrepresented students. In an effort to further diversify the training experience for students, the NHSSSRAP transitioned once again in 2007 to become the STEP-UP Program. With NIDDK STEP-UP research education grants, three institutions now lead the program: Charles Drew University of Medicine and Science; the University of Hawaii, Manoa; and the University of California, San Francisco. The goal remains to expose underrepresented minority and disadvantaged students to research now with a focus in the NIDDK mission areas including diabetes, endocrinology, metabolism, nutrition, obesity, and digestive, liver, urologic, kidney, and hematologic diseases. The long-term goal is to increase the number of underrepresented minority and disadvantaged students in the pipeline who are committed to a career in biomedical, behavioral, clinical, or social science research in the NIDDK mission areas.

Pipeline programs like these can make a difference to many racial and ethnic minority students who receive a measurably lower quality K-12 education than White students, score lower on standardized tests, and are less likely to complete high school. Given the present academic environment where Hispanic (11%) and African American (17%) students are much less likely to graduate from a four-year college than White students (30%),<sup>1</sup> pipeline programs like the NHSSSRAP can provide mentorship, inspiration and academic enrichment these students need to achieve success.

A special incentive for students in the program includes the opportunity to participate in a symposium on the NIH campus during which they share their work and accomplishments as well as form peer networks. The work of the students and mentors is contained in this Supplement to *Ethnicity & Disease*. Due to the limited time period for the program, these manuscripts are not traditional peer-reviewed publications, but represent a first step for many toward participation in the rigors and enjoyment of scientific communication. We congratulate the students and mentors who have contributed manuscripts to this issue and look forward to future issues.

## Reference

1. US Census Bureau, 2003.