RESEARCH WITH A HEART

MUSC Awarded Grant to Study Health Disparities in Stroke Recovery

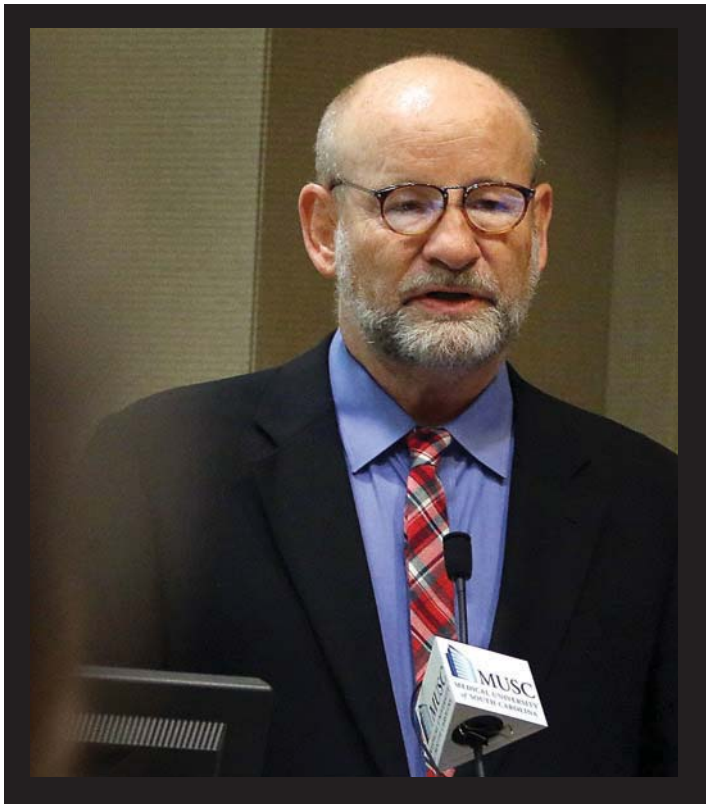
BY CELIA SPELL

African Americans are more likely to experience a stroke and be more adversely affected by it than their white counterparts. In South Carolina, the buckle of the stroke belt, African Americans are twice as likely to die from stroke when compared to whites. Less well known is that recovery after stroke is poorer for African Americans than for whites, and that access to rehabilitation (or lack thereof) does not completely account for this discrepancy.

With the support of a $4 million grant from the American Heart Association (AHA), the largest AHA grant ever given to a South Carolina institution, MUSC is endeavoring to improve stroke recovery in African Americans through a multidisciplinary project that brings together basic and translational researchers in regenerative medicine, neuroscience, and nursing. The four-year project, entitled Wide Spectrum Investigation of Stroke Outcome Disparities on Multiple Levels (WISSDOM), includes research projects with the potential to not only improve our understanding of why African Americans don't fare well in recovery but to use those insights to make a difference in the lives of stroke patients through community interventions.

Mark Kindy, Ph.D., and **Leonardo Bonilha, M.D., Ph.D.,** of the College of Medicine and **Gayenell Magwood, Ph.D., RN,** of the College of Nursing are all principal investigators of the subprojects conducted through WISSDOM. Kindy is exploring whether known stroke risk factors such as hypertension and diabetes that disproportionately affect African Americans also play a role in their recovery from stroke. To do this, he will study the effect of such metabolic factors on vascular stiffness in animal models. Bonilha is using innovative neuroimaging techniques to assess the integrity of brain tissue and neuroplasticity (i.e., the ability of the brain to repair itself) in African American and white patients so that questions about why African Americans have poorer stroke recovery than whites can be answered. Magwood is exploring whether a community-based intervention—a 12-week home-based program coordinated by a nurse and delivered by a community health worker—can improve stroke recovery after patients finish with rehabilitation.

As Director of WISSDOM, **Robert J. Adams, M.D., MS**, Professor of Neurology, will oversee the four-year project and serve as its key contact. **Daniel T. Lackland, Ph.D.**, a long-time collaborator of Adams who has devoted his 30-year career to addressing health disparities in South Carolina and beyond, will serve as WISSDOM's Training Director. **Bruce Ovbiagele, M.D.**, Chair of Neurology, will serve as the head of its advisory committee.



Photograph by Sarah Pack

Dr. Robert J. Adams, Director of WISSDOM

With this WISSDOM grant and the $10.8 million COBRE (Center of Biomedical Research Excellence) in Stroke Recovery awarded last year to found the Stroke Recovery Research Center, MUSC has been rising to the forefront of stroke recovery and rehabilitation research in South Carolina. **Steve Kautz, Ph.D.**, Chair of the Department of Health Sciences and Research and Co-Director of the Center for Rehabilitation Research in Neurological Conditions, is the principal investigator for the COBRE grant.

According to Adams, "The WISSDOM Center will synergize COBRE research by adding a special emphasis on disparity to the overall goal of learning about neuroplasticity and stroke recovery and enhancing recovery for everyone who has a stroke. I could not be happier about having the two grants more or less starting up at the same time and creating synergy right out of the gate."