

Dr. Ralph Sacco Opens Dean's Distinguished Lecture Series with Reasons for Hope in Preventing Cognitive Decline

At the inaugural presentation of University of Miami Miller School of Medicine Dean Henri Ford's distinguished lecture series, Ralph Sacco, M.D., MS, told an overflow crowd on Jan. 30 about the groundbreaking advances his teams have made in predicting stroke and cognitive decline — advances that inspire him to forecast a brighter future for preventing stroke.



Dr. Ralph Sacco

Dr. Sacco, who is chair of the Department of Neurology, Olemberg Family Chair in Neurological Disorders, Miller professor of neurology, public health sciences, human genetics and neurosurgery, and executive director of the Evelyn McKnight Brain Institute, said it's always hard to be the inaugural speaker in a series, but "it's terrific to try to inspire younger people, especially about careers in translational research."

He echoed Dean Ford's comments in his introduction: "The objective of this lecture series is really to feature some prominent scientists from around the world so we can benefit from their expertise and knowledge, but also inspire the community to continue the pursuit of discovery that hopefully will be translated into clinical interventions for the benefit of our patients."

Dr. Sacco's pioneering 27 years of work on the Northern Manhattan Study at UM and Columbia University, along with all his other research and advocacy, illustrates the importance of team science, a priority for the Miller School which he emphasized throughout his presentation. "It really makes a huge

difference,” said Dr. Sacco, who is also senior associate dean for clinical and translational science and director of the Clinical and Translational Science Institute at the Miller School.

There are “dire concerns” about stroke as what Dr. Sacco refers to as a “tsunami” approaches: By 2025 10 percent of the total population will be over 65. The American Heart Association predicts that stroke prevalence will increase by 25 percent by 2030, and along with that direct medical costs for treating stroke are projected to increase by 238 percent.

Concerns about dementia are also growing as about 30 million people worldwide are affected, including 30 percent of people over age 80. The burden could triple by 2050, having the most serious effect on minorities, low-income people and the most elderly.

The broader concept of brain health is growing, Dr. Sacco said, and in fact is one of the pillars of the Miller School’s strategic research plan. It grew out of the commonalities between vascular disease and cognitive decline and stroke. Vascular conditions can lead to a decline in cognition, so focusing on these risk factors makes a difference.

Focusing on subclinical disease, which is developing before there are symptoms, is also essential to reducing the damage caused by heart disease and stroke. “We need to be thinking about shifting the curve to earlier in the process of these diseases,” Dr. Sacco said. “It gives you more opportunity for intervention.”



Dean Henri Ford introduces Dr. Ralph Sacco.

The Northern Manhattan Study looked at risk factors for stroke — particularly among Hispanics, as the first study to show greater incidence in that population — and learned that traditional risk factors remain critically important. In defining ideal cardiovascular health, the American Heart Association promoted “Life’s Simple 7” based on many studies: The list includes never having smoked or having quit more than a year ago, and meeting targets for body mass index, physical activity, cholesterol, healthy diet, blood pressure and fasting blood glucose.

A very low percentage of the Northern Manhattan Study population met the factors, and there was a huge disparity across race and ethnic groups. “We need to be focusing on health behavioral modifications and not just medications,” Dr. Sacco said. “If we can do it, we can reduce the disparities.”

Dr. Sacco’s work has included strong collaboration with the John P. Hussman Institute for Human Genomics to find new genetic determinants for stroke. Gene discovery could help define risk and open up novel therapeutic targets.

To improve the forecast “tsunami” of cognitive decline and stroke, “we want to be thinking about what we can do now in terms of implementing and improving policies, what’s called implementation science,” Dr. Sacco said. Mobile technologies are exploding, combining data for sleep, physical activity, blood sugar rhythm and other measurements with health care coaching. “We need to make behavioral change easy, fun and meaningful,” Dr. Sacco said. “If we can begin to implement some of these things, we could hopefully improve the forecast for the future of stroke prediction.

“We all need to be advocates and lobby appropriately to have collaborative approaches to shift the population to ideal health,” he added. “We need to be advocates for policy change - things like a tobacco tax, physical education policies in schools, reductions in sodium, reducing barriers to the receipt of medications.”

Improving the forecast relies heavily on work across departments, institutes and centers, at the University of Miami and every institution. “Ultimately it’s all about team science, interdisciplinary science and research that hopefully can lead to a brighter forecast for preventing stroke and cognitive decline,” Dr. Sacco said.

“I am giving this talk up here, and I’m grateful to the Dean for giving me this opportunity, but it’s really about the team. Without the teamwork, working across different disciplines, I would never have been able to be here, delivering this [lecture](#).”