

Treatment and prevention in the ‘buckle’ of the stroke belt

During the last 20 years, North Carolina has edged toward the top of an ignominious list. The state currently has the sixth highest incidence of stroke mortality in the nation. There’s no time to waste in turning this trend around. ■■■■■■■■■■



The map beside Dr. Wayne Rosamond shows flags identifying the locations of participating hospitals in the North Carolina Stroke Care Collaborative.

Annually, 27,000 North Carolinians suffer strokes; one dies every two hours. These statistics led researchers to label certain North Carolina counties as part of the “buckle” of the Stroke Belt, which runs through the southeastern United States. Stroke risk in the region is two to three times greater than the national average.

Recognizing stroke risks and symptoms and providing appropriate and timely treatment are critical to preventing stroke and lessening its long-term impacts. For more than a decade, UNC Gillings School of Global Public Health researchers have dedicated themselves to reducing the impact of the nation’s third highest killer. They identify “best practices” in stroke treatment and prevention, help hospitals implement quality of care improvement programs, and train medical personnel to recognize and respond quickly to stroke symptoms.

“We want to improve patients’ care – wherever they may be – should they have a stroke in North Carolina,” says Wayne Rosamond, PhD, epidemiology professor and principal investigator for the North Carolina Stroke Care Collaborative (NCSCC).

The NCSCC works with 56 of the state’s 102 hospitals, from Henderson County’s Park Ridge Health in the west to Carteret County General Hospital in the east. Participating hospitals range from the 25-bed Transylvania Medical Center to Pitt County Memorial (745 beds, affiliated with East Carolina University’s Brody School of Medicine), Duke University Medical Center (989 beds)

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Dr. Rosamond meets with research team members Emily O'Brien (seated) and Kathryn O'Brien to review the latest data from the stroke registry.

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– Wayne Rosamond, PhD

and Greensboro-based Moses Cone Health System (529 beds).

With Centers for Disease Control and Prevention funding, the collaborative created an interactive database so that a hospital's stroke care performance can be monitored and compared to similar facilities. Each month, NCSCC hosts webinars for stroke experts to address specific quality improvement topics, and they assist hospitals in giving emergency medical technicians and caregivers advanced education in both identifying and reacting appropriately to a stroke.

NCSCC annually awards up to 12 grants to fund initiatives that meet individual hospital needs. For example, for 2009–2010, Catawba Valley Medical Center received

\$15,000 for a stroke nurse coordinator. NCSCC also collaborates with the Registry of the Canadian Stroke Network. In February, the NCSCC joined with UNC's Department of Emergency Medicine to participate in a seminar, presented at the International Stroke Conference 2011, about integrating a stroke registry into EMS data sources.



Dr. June Stevens

However, ensuring that patients receive appropriate services is only part of the stroke-prevention equation, says June Stevens, PhD, nutrition and epidemiology professor and nutrition department

chair. Health care providers also should focus on helping individuals tackle obesity – a substantial, preventable stroke risk factor.

“Obesity increases the risk of stroke, because it raises the likelihood of high blood pressure,” Stevens says. “In fact, we've found that if you have a significant weight gain over an extended period of time, your risk is substantially higher than if you maintain your weight.”

In a soon-to-be published study of 15,000 people from North Carolina, Mississippi and Minnesota, Stevens and her colleagues found that a 10- to 30-percent weight gain between age 25 and middle age resulted in a 29 percent increase in stroke risk. Individuals who gained more than 30 percent of their body weight had a 64 percent higher risk. These results were compared to individuals who maintained their weight within 3 percent of the initial measurement.

“People already know obesity isn't healthy,” Stevens says. “They also need to know about evidence that shows they're at high risk for stroke – so they can do something about it.”

– Whitney L.J. Howell