LOCAL RESEARCH TARGETING:

Alzheimer's Disease

Piedmont Triad unique in providing better opportunity for study

By Rebecca Holder

It's hard to imagine anything that robs a person's independence more surely, or more completely, than Alzheimer's disease. That's why what's happening on Medical Center Boulevard in Winston-Salem is so important. Nestled within Wake Forest Baptist Medical Center, the *Alzheimer's Disease Prevention Program* (ADPP) is working alongside the J. Paul Sticht Center on Aging and the Roena B. Kulynych Center for Memory and Cognition Research to make growing older better. In the case of the ADPP, it is to stop a stealthy thief by focusing on research, education, and treatment aimed at preventing Alzheimer's disease and late-life cognitive decline.

"The ADPP is one of only a handful of Alzheimer's disease research programs in the Southeast," says Dr. Suzanne Craft, Research Director of the Sticht Center and Co-director of the Kulynych Center. "We typically have 12 to 15 studies underway here in Winston-Salem. Many of these are multi-site studies with anywhere from three to fifty sites participating across the country involving a multitude of researchers and participants. We're currently the lead site on two studies. Our location in the Piedmont Triad region of North Carolina is an area that has high rates of diabetes, hypertension and metabolic disease, providing an opportunity for study not as well represented at other Alzheimer's disease center locations." With the ADPP, the diverse study participants in this area are providing data researchers might not otherwise have an opportunity to gather.

For Dr. Laura D. Baker, Associate Professor of Internal Medicine and a cognitive neuroscientist, the diversity among research participants, the Piedmont Triad as a whole, and the medical community at Wake Forest Baptist, is a chief benefit and one of the most enriching aspects of her work. "Alzheimer's disease is two to three times more prevalent among African-American women. In the ADPP, African-Americans represent about 30% of our study participants; the national average is less than 10%. That voice in our studies is so important for everyone," says Dr. Baker.

Data collection, particularly among high-risk groups, is essential if Drs. Craft and Baker are to achieve the goal of prevention. "Prevention is a word that has only been used in relation to Alzheimer's disease in the last few years," Dr. Craft explains. "There is primary prevention where you stop something completely. With Alzheimer's disease, the type of prevention we're focused on is understanding what makes someone more vulnerable to the disease, addressing those risk factors, thereby delaying the onset or slowing the progression of the disease. This type of prevention is attainable; possibly within the next five to ten years."

According to Dr. Baker, the ADPP studies look at "why memory and thinking skills change as we get older, who is at highest risk for these changes, and what can we do to slow the progression." Answering those questions involves looking at and interpreting a wide range of information. "Intervention studies focus on ways to improve the health of the body and brain through lifestyle changes—diet, exercise—and other treatments that help restore normal activity in the brain," states Dr. Baker. "All of our studies involve collecting various measurements that will help us know if there is a benefit of the treatment; why there is a benefit—what are we improving; and, who benefits the most. We are conducting studies that follow participants with certain risk factors over a period of time, diet studies of different nutritional components, exercise studies looking at low-intensity versus high-intensity programs and insulin nasal spray studies."

The insulin nasal spray studies have been promising; particularly since Type 2 diabetes increases a person's risk of developing Alzheimer's disease by 65% and is the most potent risk, other than age, for the development of the disease. Dr. Craft, lead author of the study, notes that "insulin detemir (a biosynthetic recombinant 'human' insulin) can provide effective treatment for people diagnosed with mild cognitive impairment and Alzheimer's-related dementia." As exciting as the nasal spray study results were, Dr. Craft is equally excited about the overall direction of Alzheimer's disease research. "There is a much broader focus on prevention and preserving function. The research community is working diligently to identify windows of opportunity—places to intervene and delay the disease."