

## Providing an Inestimable Resource on Cognitive Aging in Older Women

The Women's Health Initiative Memory Study (WHIMS; Sally Shumaker, PhD, PI; Mark Espeland, PhD, Co-PI, and Steve Rapp, PhD, Co-PI), an ancillary study to the larger WHI, began in 1996 as a randomized clinical trial with 7,427 women between the ages of 65 years and 79 years, who were enrolled in the WHI Hormone Therapy clinical trials (conjugated equine estrogen [CEE] alone vs. placebo and CEE plus medroxyprogesterone [MPA] vs. placebo). The aims of WHIMS were to determine whether randomization to CEE alone or in combination with MPA reduced the incidence of all-cause dementia or protected global cognitive function. In 2004, the main results of the parallel trials were published, reporting that taking hormone therapy actually *increased* incident dementia and mild cognitive impairment as well as negatively affected global cognitive function.



**Dr. Steve Rapp, PI of the WHIMS ECHO Study and Professor of Psychiatry and Behavioral Medicine, with a secondary appointment in PHS.**

In 2005, with the early termination of the WHI Hormone Therapy trials, WHIMS transitioned to a prospective observational study to examine the long-term impact of hormone therapy on the incidence of cognitive impairment and global cognitive function, as well as to identify predictors of cognitive aging. Several ancillary studies to WHIMS were funded by NIA that examined structural brain changes (WHIMS MRI 1 & 2) and trajectories of cognitive changes (WHI Study of Cognitive Aging). Then in 2007, WHIMS transitioned to the Epidemiology of Cognitive Health Outcomes (WHIMS ECHO) with the aims of continuing examination of the long-term impact of hormone therapy; defining trajectories of cognitive aging; relating cognitive changes (impairment and global cognitive function) to medical, genetic, psychosocial and environmental correlates; and identifying predictors of cognitive function in older women. During the current WHIMS ECHO funding cycle (2016-2021; Steve Rapp, PhD, PI), we will also examine predictors of cognitive "resilience" or preserved cognitive function.

For over 20 years the WHIMS suite of studies has been a highly successful collaborative effort between scientists and staff at Wake Forest School of Medicine and investigators from the NIH and other institutions throughout the U.S. and beyond. This effort together with the vast data in the WHI has created a resource of inestimable value for understanding cognitive aging in older women.