NIH Launches Alzheimer’s Disease Neuroimaging Initiative 3

On September 8, the National Institutes of Health (NIH) announced the launch of the next major phase of the long-running Alzheimer’s Disease Neuroimaging Initiative (ADNI), which functions as a consortium of medical and research centers investigating the causes, diagnosis, and progression of AD. ADNI3 has been funded by NIH at ~$40 million over the next 5 years, an amount that will be supplemented with anticipated private sector contributions of $20 million through the Foundation for the National Institutes of Health (FNIH). Private sector funding donated to the project through the FNIH will come from pharmaceutical, imaging, and clinical trial management companies and nonprofit organizations.

Brain imaging, including molecular imaging techniques to identify biomarkers needed for detection of AD onset and monitoring of progression, will be a focus of the new initiative. The current ADNI is one of the largest public–private partnerships in AD research and is supported by the National Institute on Aging (NIA) at NIH through a grant to the nonprofit Northern California Institute for Research and Education (San Francisco). Michael Weiner, MD, of the San Francisco Department of Veterans Affairs Medical Center and the University of California, San Francisco (UCSF), is principal investigator for the study.

“We are thrilled to embark on this next phase of discovery, enhanced by sophisticated new technologies and computational methods that we could only dream about when we launched the study in 2004,” Weiner said. “ADNI has made a profound difference in clinical trials, developing and refining the biomarker tools needed to see Alzheimer’s-related brain changes in the living brain—even in people free of symptoms. ADNI3 will play an even more influential role as these biomarkers are enlisted in the search for treatments for this devastating disorder.”

“ADNI3 will move the bar higher still in this collaborative effort to gain a clear understanding of the subtle Alzheimer’s-related brain changes in volunteers, long before symptoms appear, and the biological changes that mark its progression,” said NIA Director Richard J. Hodes, MD. “These insights are vital to researchers and clinicians working worldwide in their selection of clinical trial volunteers and the testing of promising interventions.” ADNI3 recruitment is beginning now and will seek up to 1,200 volunteers over the age of 55 to join about 800 current participants at 60 sites in the United States and Canada. The volunteers represent the full range of the disease, including those with normal cognition, mild cognitive impairment, and AD.

Among the new elements to be incorporated into ADNI3 research are: (1) exploration of the utility of tau tracers in AD and elucidation of the interactions of tau and amyloid proteins in disease initiation and progression; (2) studies on connections between the structure and function of brain changes in AD, including implementation of methods developed by the NIH-funded Human Connectome Project for MR imaging; (3) assessment of money handling/management as an early sign of cognitive impairment through administration of the Financial Capacity Instrument, which will assess volunteers’ performance in real-life money skills; and (4) recruitment and tracking of cognitive changes in volunteers online via the Brain Health Registry, a resource promoting dementia clinical trials sponsored and managed by UCSF.

ADNI3 will build on discoveries made during earlier phases of the initiative. ADNI1 started in 2004, ADNI-GO (Grand Opportunity) began in 2009, and ADNI2 in 2010. The initiative has been enhanced by insights gained from the conduct of a U.S. Department of Defense–supported study on the role of traumatic brain injury and posttraumatic stress disorder in AD development in Vietnam veteran volunteers. A key feature of ADNI has been its focus on collaboration and rapid data sharing. To speed the pace of analysis and findings, ADNI investigators make their collected data widely available. The study has been used in more than 1,200 research papers. PET and MR imaging, as well as clinical, genetic, and fluid biomarker data are available to qualified researchers worldwide through a web-based database. To date, more than 8,500 researchers have sought access. ADNI is a founding member of the World Wide ADNI, an umbrella organization modeled after ADNI. More information about ADNI is available at http://www.adni-info.org/.

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