

Healthy Aging and Senile Dementia (HASD)

- NIH/NIA AG003991 and Avid Radiopharmaceuticals, a wholly owned subsidiary of Eli Lilly
- This is a longitudinal study of aging, beginning at age 65. Imaging includes MRI, amyloid AV45-PET, and tau T807 PET.

Structural MR and amyloid PET imaging has been proposed by the National Institute on Aging as methods to subdivide preclinical Alzheimer Disease (AD) into discrete stages of (1) amyloidosis, followed by (2) amyloidosis plus neurodegeneration, both of which precede (3) subtle cognitive decline, followed by progression to mild cognitive impairment (MCI) and AD dementia.

The HASD imaging core will provide MR and PET support to test how these stages relate to the transition of normal to impaired cognitive performance (Project 1), sleep disturbance (Project 2) and genetic analyses (Project 3).

The following aims will be pursued: I. We will perform brain MRI and florbetapir F18 (AV45) amyloid imaging every three years for the HSAD and ADRS cohorts (200 participants/year) ; II. Data processing for these imaging tests will include (2a) matched regional volumes, thicknesses, and quantitative PET analyses, (2b) quantitative individual longitudinal participant reports comparing normative values generated by the cohort; and (2c) grouped regional reports based on classifications derived from the Projects and Cores; III. We will generate an online, accessible resource containing source imaging (DICOM), processed imaging, and clinical and biomarker characterization for data sharing outside of our institution, including contributions to the private-public partnership developed by JC Morris, HASD PI, and T. Benzinger, HASD Imaging Core Leader, with Avid/Lilly. This partnership funds the longitudinal MR and amyloid PET imaging for the entire cohort.