Alzheimers Disease Neuroimaging Initiative

Principal Investigators

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Contact information of lead PI
Country

USA

Title of project or programme

Alzheimers Disease Neuroimaging Initiative

Source of funding information

NIH (NIA)

Total sum awarded (Euro)

€ 36,697,247.71

Start date of award

30/09/2004

Total duration of award in years

11

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Acquired Cognitive Impairment... Aging... Alzheimer's Disease... Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD)... Behavioral and Social Science... Bioengineering... Brain Disorders... Clinical Research... Clinical Research - Extramural... Clinical Trials and Supportive Activities... Dementia... Diagnostic Radiology... Effectiveness Research... Neurodegenerative... Neurosciences... Prevention... Translational Research

Research Abstract
Overall: Project Summary/Abstract The overall goal of the Alzheimer's Disease (AD)

Neuroimaging Initiative (ADNI) is to discover, standardize, and validate biomarkers for AD treatment trials. Validation is accomplished by comparing and correlating clinical/cognitive with biomarker data. Impact of ADNI has been to optimize, standardize and validate biomarkers, especially brain amyloid by PET and CSF measurements of A? peptides, termed "A? amyloid-phenotyping." There are 907 papers published using ADNI data. We will follow-up with annual visits, 697 subjects previously enrolled in ADNI2 (cognitively normal controls, subjects currently enrolled subjects with MCI, and patients with dementia diagnosed as AD) and will enroll 371 new subjects, while collecting clinical, cognitive, MRI (structural, diffusion, perfusion, resting state), amyloid PET, FDG PET, cerebrospinal fluid (for a A?, tau, phosphotau, and other proteins), genetic and autopsy data. In addition longitudinal measurements of brain tau PET will be performed on all subjects. All data is available without embargo to from USC/LONI/ADNI. Specific Aims: 1. Longitudinal changes in cognition and associated biomarkers: To determine those measures of cognition and function, including composite measures, and those biomarker measures which best capture longitudinal change with highest statistical power to detect treatment effects in clinical trials. Longitudinal change of brain tau tangles measured with tau PET will be correlated/compared with other measures. 2. Prediction of cognitive decline: To determine the clinical, cognitive, and biomarker measures which best predict decline of cognition in cognitively normal controls, subjects with MCI, and patients with dementia. In addition, to determine those biomarkers, especially tau PET, which correlate with cognitive decline. 3. Validation: To validate biomarker measures obtained at baseline and longitudinally by correlating results with "gold standard" clinical measurements and pathology. 4. Clinical trial design: To determine the optimum outcome measures (especially rate of cognitive decline and tau PET), predictors of cognitive decline, and inclusion/exclusion criteria for clinical trials of cognitively normal subjects (for secondary preclinical AD trials) and MCI patients (for prodromal AD trials). 5. Discovery: To determine the effects of other known disease proteins found in AD brains (e.g. alpha- synuclein, TDP 43,progranulin) and genes, and newly discovered proteins (from proteinomics), genes,and other analytes (from metabolomics) which provide useful information concerning the pathogenesis/diagnosis of AD. Discovery is conducted through the add-on studies led/driven by ADNI investigators with oversight by the NIA and the ADNI Resource Allocation Review Committee (RARC). ADNI methods and data are used in study design by government and industry funded clinical trials. Continuation of ADNI will help lead to development of effective treatments which slow progression and prevent AD.

Lay Summary
Overall: Project Narrative Alzheimer's disease (AD) causes cognitive impairment and dementia in millions of Americans and costs more than $100 billion/year in the USA. The Alzheimer's Disease Neuroimaging Initiative (ADNI) is a large multisite public private partnership that will validate brain imaging, blood tests, and other diagnostics. This initiative will greatly facilitate design of clinical treatment trials and will help develop new diagnostic techniques, which identify AD at an early stage, ultimately leading to effective treatment and prevention of AD.

Further information available at:

Types:
Investments > €500k

Member States:
United States of America

Diseases:

Alzheimer's disease & other dementias

Years:
2016

Database Categories:
N/A

Database Tags:
N/A