Secondary Prevention of Alzheimer's Disease: the EPAD and AMYPAD studies

F. Barkhof [1,2], S. Ingala [1], C. Ritchie [3]

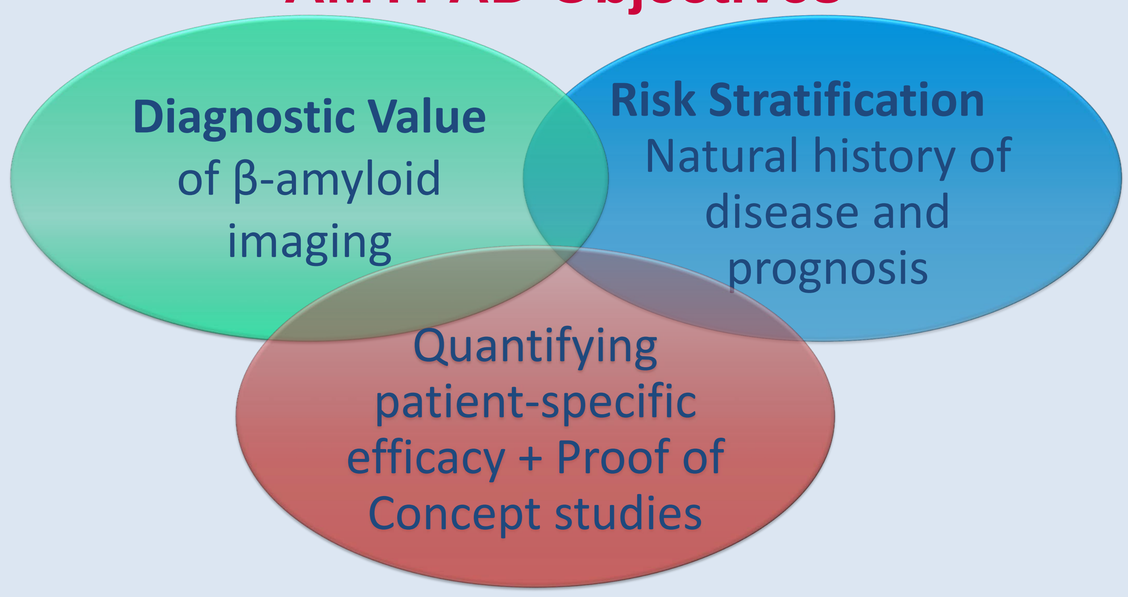
[1] Department of Radiology & Nuclear Medicine, Neuroscience Amsterdam, VU University Medical Center, the Netherlands; [2] Institutes of Neurology and Healthcare Engineering, University College London, UK; [3] Centre for Clinical Brain Sciences, Dept. of Psychiatry, University of Edinburgh, UK

Corresponding author: f.barkhof@vumc.nl

Background

Alzheimer's disease (AD) is the main cause of dementia and affects more than 40 million people worldwide [1]. In order to develop a treatment to prevent or delay the onset of AD, the identification of subjects at a preclinical or prodromal stage is required [2]. Beyond studies in familial/genetic populations, opportunities exist to identify subjects at risk for sporadic AD based on APOE-ε4, CSF biomarkers, imaging and other risk factors. Secondary prevention is the focus of two intimately related IMI-funded projects, EPAD and AMYPAD.

AMYPAD Objectives



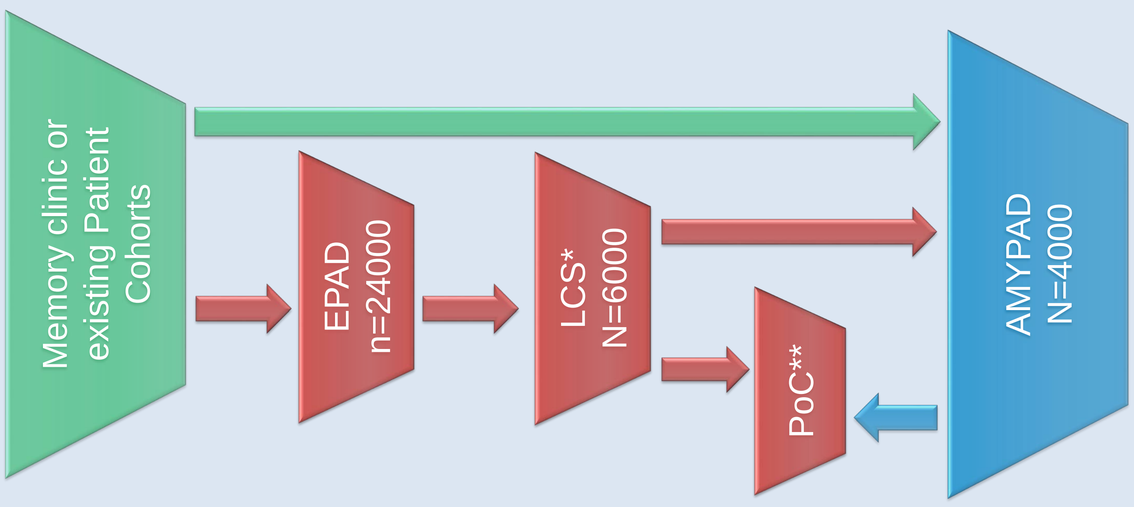
European Prevention of AD (EPAD) study

- 6000 subject enrolled (existing natural history cohorts + studies of subjects with subjective memory complaints or mild cognitive impairment);
- Aims to obtain ~80% positivity for amyloid (CSF or PET);
- The cohort will be followed longitudinally and constitute a trial-readiness cohort for early proof-of-concept (PoC) studies targeting preclinical and prodromal AD.
- www.ep-ad.org

Amyloid Imaging to Prevent AD (AMYPAD) study

- Aims to identify how ß-amyloid PET can be used, either alone or in combination with other assessments, for
  - Early diagnosis of AD;
  - Prognostic stratification of subjects enrolled in clinical trials;
  - Therapy monitoring.
- Tracers:
  - 18F-Florbetaben (Piramal Imaging);
  - 18F-Flutemetamol (GE Healthcare).
- www.amypad.eu

The EPAD-AMYPAD Funnel

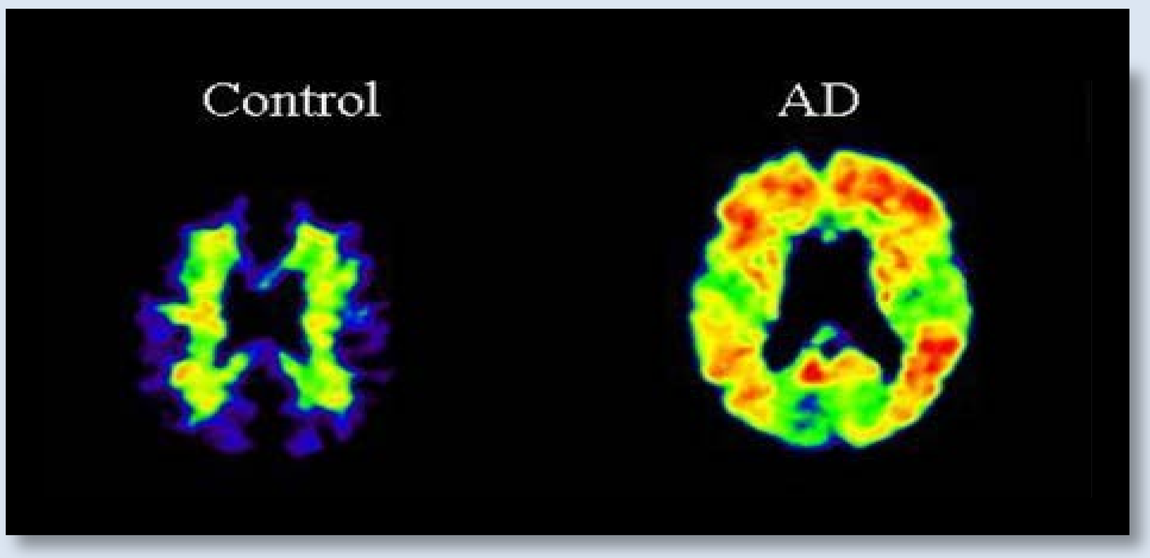


EPAD: European Prevention of Alzheimer's Disease
IMI 1 Project (start 01/2015)

AMYPAD: Amyloid Prevention of Alzheimer's Disease
IMI 2 Project (start 10/2016

*LCS: Longitudinal Cohort Study (EPAD) ; **PoC: Proof of Concept study

Amyloid PET [3]



References

[1] Scheltens P. *et al*. Alzheimer's disease. *Lancet* 2016; 388(10043):505-17
[2] Ritchie C.W. *et al*. Development o interventions for the secondary prevention of Alzheimer's dementia: the European Prevention of Alzheimer's Dementia (EPAD) project. *Lancet Psychiatry 2016*; 3:179-86.
[3] Tolboom N. *et al*. Detection of Alzheimer Pathology in vivo using both 11C-PIB and 18F-FDDNP-PET. *The Journal of Medicine 2009*; 50(2):191-197