The European Prevention of Alzheimer's Dementia (EPAD) project aims to develop an infrastructure that efficiently enables the undertaking of adaptive, multi-arm Proof of Concept studies for early and accurate decisions on the ongoing development of drug candidates or drug combinations for the prevention of AD dementia.

Co-ordinator: Serge Van Der Geyten
Co-coordinator: Craig Ritchie
EPAD funnel
Selection of Research Participants

- Access data in Parent Cohorts
- Run Participant Discovery Software (EMIF)
- Generate list to Parent Cohort Owner who invite potential participants to attend local EPAD TDC.
- Parent Cohort Engagement ongoing
Finding and filtering for EPAD LCS

- EPAD LCS is the gateway into the EPAD Project for the Research Participants

- We need to make sure that the LCS population is fit for purpose

- We do this by looking for data that defines the most suitable people from the parent cohorts for EPAD
The EPAD Longitudinal Cohort Study

Maintained at N=6,000

- Loss to Follow Up
- Enter Other Clinical Trial
- Enter EPAD Trial

EPAD Cohort Baseline
- Clinical
- Biomarker
- Imaging

1st Follow Up

2nd Follow Up

Replenishment from Virtual EPAD Register

www.ep-ad.org
The EPAD LCS Protocol

- Annual assessments
  - 6/12 Cognition Assessment

- EPAD Neuropsychological Evaluation (ENE)*
- Neuroimaging*
- 100% will give CSF Sample for Aβ/Tau (Gothenburg)
- Blood, urine and saliva for genomics (blood) and storage for exploratory biomarkers (Edinburgh)
- Safety labs done locally at the TDCs
- Clinical and other risk factors
Cognition (in order of administration)

RBANS (Primary)
- Verbal Episodic Memory: List Learning & Story Memory
- Visual Episodic Memory: Figure Recall
- Visuospatial/Constructional: Figure Copy & Line Orientation
- Language: Picture Naming
- Attention/Executive Functioning: Semantic Fluency, Digit Span, Coding

Four Mountains Task - (allocentric space; Exploratory)
Dot counting - (working memory; Secondary)
Flanker - (choice reaction time and set-shifting; Secondary)
Name/Face pairs - (paired associate learning; Secondary)
Supermarket Trolley Virtual Reality - (egocentric space; Exploratory)
Neuroimaging outcomes

*Structural MRI*
- Cortical thickness, deep GM volumes
- Fractional anisotropy (FA) of temporal lobe, diffusion kurtosis (multi b-value DTI), network alterations

*Functional MRI*
- Global & parietal CBF
- Changes within the default-mode network (DMN) & relation with hippocampal activity (rsfMRI)
- Bolus arrival time (multi-delay ASL)
- Network analysis (rsfMRI)

*PET Amyloid Imaging*
- To be confirmed in IMI2
Conclusions

- April 1st expect First Research Participant to be Recruited into EPAD LCS.

- Success of project predicated on close academic collaboration with Parent Cohorts across Europe and engagement with public on the vision of EPAD.

- Forming a key part of the developing global network of aligning projects:
  - GAP, CPAD, JPAD and APAD