



European Prevention of Alzheimer's Dementia (EPAD) Goal

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





EPPIA



SMEs



Academia



Patient Organisation



Other Industry



Co-ordination: Serge Van Der Geyten
Co-coordination: Craig Ritchie

Slides from Craig Ritchie





EPAD Registry

integration



Cohort A



Cohort B

Cohort C

Readiness cohort



Selection criteria

Trial cohort

placebo

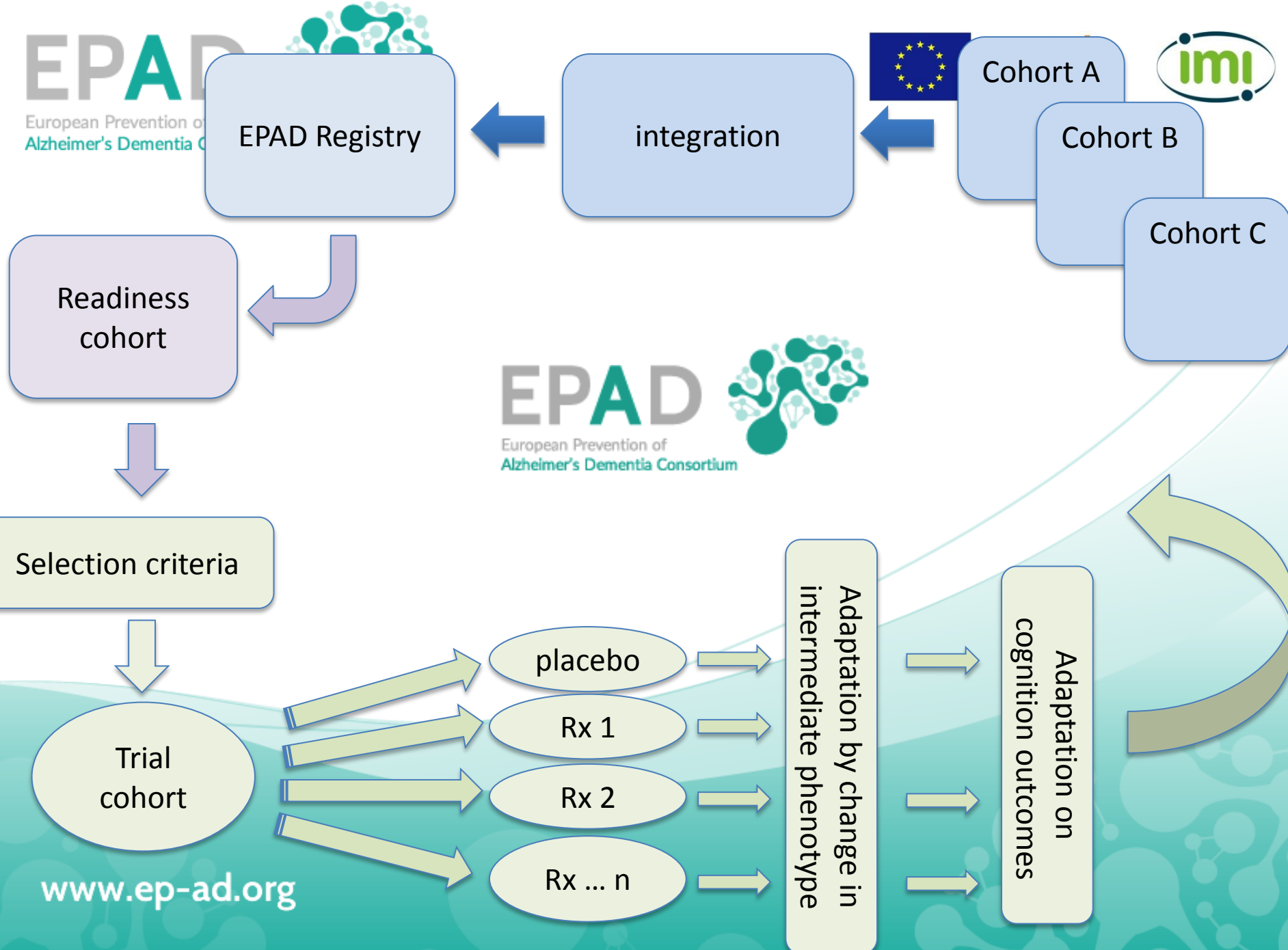
Rx 1

Rx 2

Rx ... n

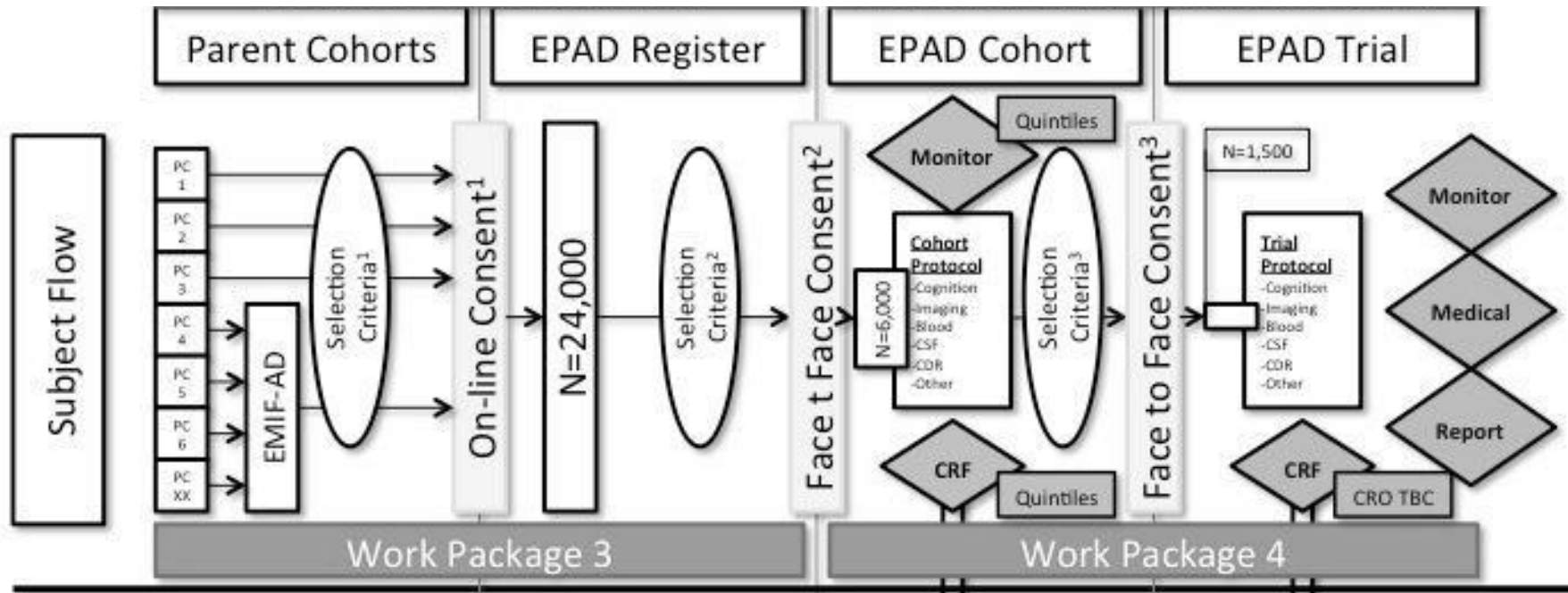
Adaptation by change in
intermediate phenotype

Adaptation on
cognition outcomes





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





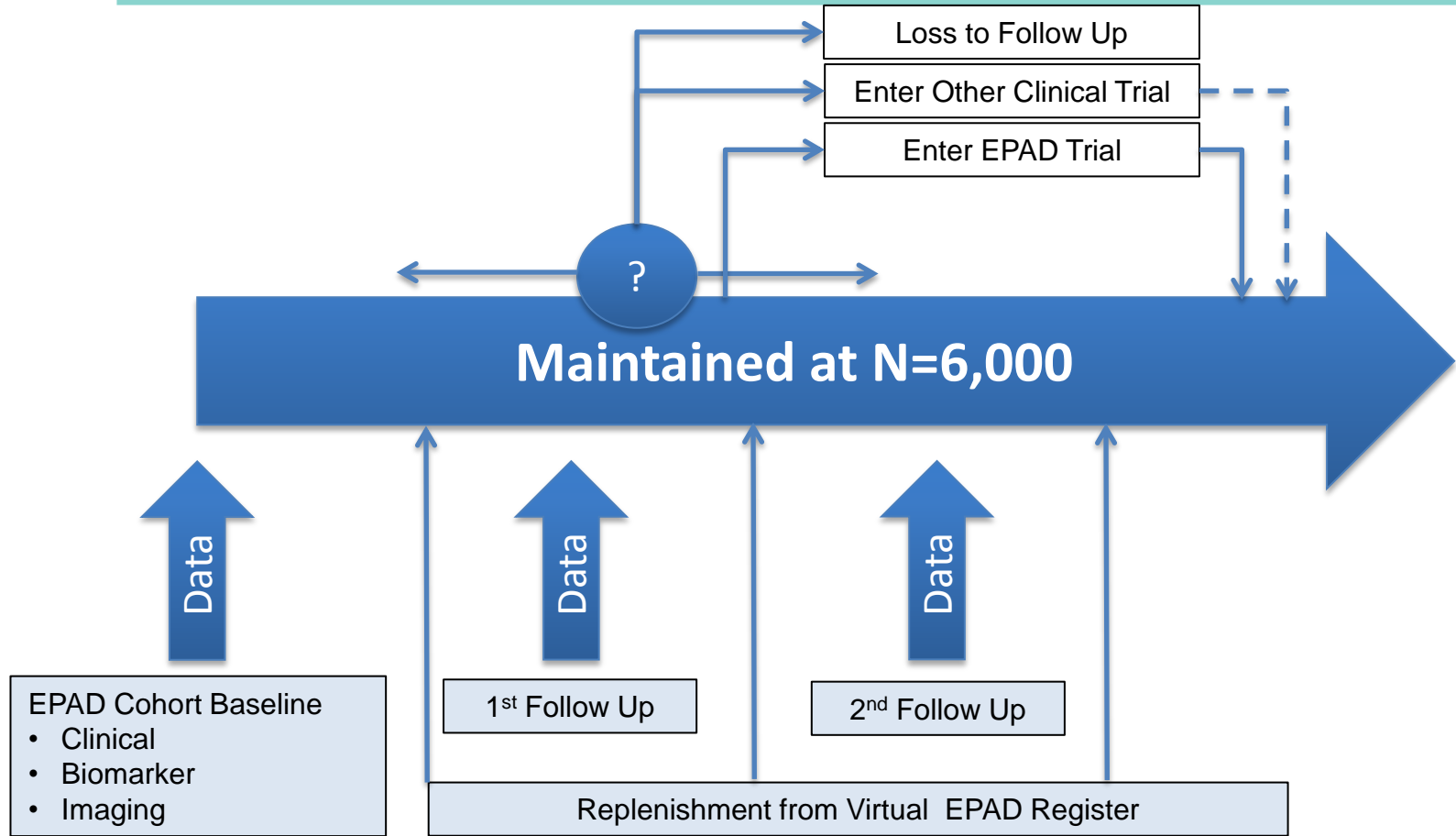
Finding and filtering for EPAD LCS

- 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





The EPAD LCS Protocol

- Annual assessments
 - 6/12 Cognition Assessment
- EPAD Neuropsychological Evaluation (ENE)*
- Neuroimaging*
- 100% will give CSF Sample for A β /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





EPAD Neuropsychological Examination (ENE)

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

