



Australian e-Health Research Centre



## Team Biostatistics

**Team leader:** James Doecke

**Team members:** Timothy Cox, Michael Vacher, Rodrigo Cánovas

### Team overview

The Biostatistics team uses novel statistical methods to analyse biomedical data to identify disease-specific relationships. Our partners rely on our expertise across diverse forms of biomedical data to progress their research from bench to bedside and from data collection to publication in high-impact journals.

developing methodologies to follow patient trajectories through the disease course. The main focus of the team's research is investigating biomarkers related to the identification of Alzheimer's disease. Collaborating with researchers within the Australian Imaging, Biomarkers and Lifestyle (AIBL) study of ageing, team members look at data from cognitive, imaging, biomarkers and lifestyle to both better understand disease pathology, and assess disease.

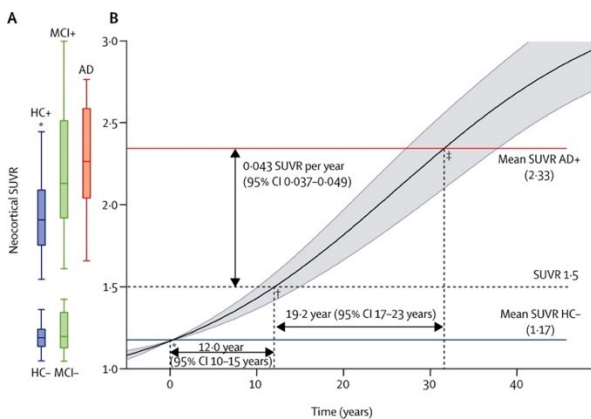


Figure 1: Biomarker model of Alzheimer's disease

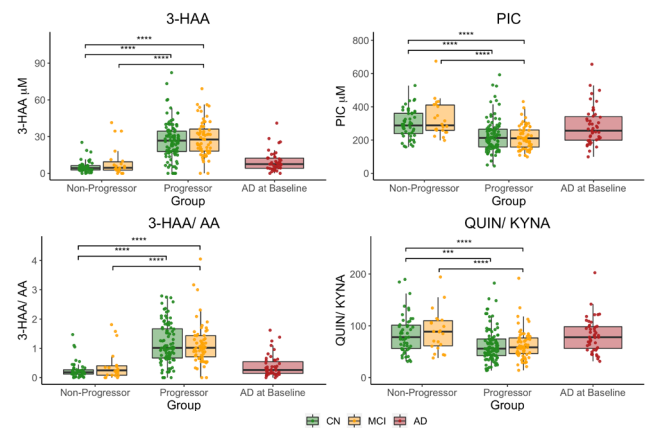


Figure 2: Biomarker identifies cognitive decline prior to the event

From specific disease modelling with biomarkers (Figure 1) through to biomarker identification (Figure 2) and then using data driven models to define clinical groups (Figure 3), our team undertake a wide array of biostatistical techniques to investigate some of the world's largest challenges in biostatistics and medical research.

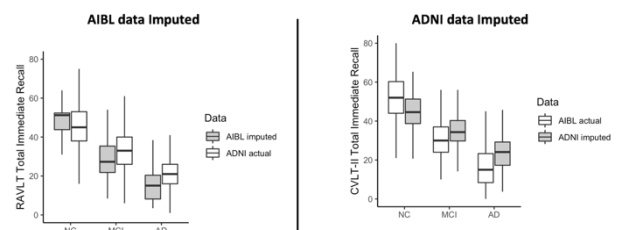


Figure 3: Data driven method to impute complete missing data

### Biostatistical methods and applications in Alzheimer's disease

Working with large research study cohorts, clinical partners and pharmaceutical companies, we have been



**For further information**

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