

Pushing boundaries on Alzheimer's detection, prevention, cure and care

Alzheimer's disease (AD), the most common cause of dementia, occurs when toxic proteins accumulate in the brain, resulting in memory loss and impaired daily functioning. In the absence of definitive therapies for AD, clinical trials are essential for developing effective prevention, detection and treatment.

The Cognitive Clinical Trials Unit (CCTU) in Tallaght University Hospital (TUH) has become Ireland's leading AD clinical trials unit. Under Professor Seán Kennelly, the CCTU trials operate in parallel to the specialist clinical memory services at the TUH Institute of Memory and Cognition, offering patients access to novel interventions. An early adopter of routinely utilising cerebrospinal fluid AD biomarkers to support diagnosis in people with mild memory problems, this timely, accurate, biomarker-supported diagnosis facilitates clinical trials participation.

Better detection: The ENBIND study is longitudinally investigating potential immune and digital biomarkers indicative of cognitive

“We are at a very exciting tipping point in the quest to have our first definitive treatment for Alzheimer's disease”

Professor Seán Kennelly

Director of the Cognitive Clinical Trials Unit in Tallaght University Hospital

risk in otherwise healthy middle-aged people with Type 2 diabetes. Further projects with industry partners, such as the EI-funded GaitKeeper project, explore the use of artificial intelligence to analyse speech and walking pattern changes as digital biomarkers of cognitive decline.

Prevention: The BRAIN-Diabetes (Border

Region Area Lifestyle Intervention Study for Healthy Neurocognitive Ageing in Diabetes) project aims to develop a healthy brain lifestyle programme for people with Type 2 Diabetes Mellitus (T2DM) in the border areas of Ireland.

Cure: The EU201 study investigates a novel investigational medicine targeting toxic tau protein accumulations in the brain; while monitoring changes in neuroimaging, electroencephalogram and cognition, in people with mild AD.

Enhanced care: The VINCI-AD study is investigating the potential role for transcutaneous vagus nerve stimulation in promoting cognitive enhancement in AD.

