

Research focuses on understanding the “When” of Alzheimer’s

Tobey Betthausen, PhD, MS

Research is a critical pillar of the Alzheimer’s Association. Tobey Betthausen has received an Alzheimer’s Association Research Fellowship Award to help in advancing our mission for a world without Alzheimer’s.

Dr. Betthausen’s research focuses on understanding the timing of the sequence of events in the progression of Alzheimer’s disease using neuroimaging and fluid biomarkers. The goal is to move towards better characterizing the risk of dementia and a timeline for when impairment may occur for people with pre-clinical Alzheimer’s.

“One of the big struggles in our research field is if someone is showing signs of cognitive decline, they want to know when they’ll develop dementia, and how much time they have, Betthausen said. “There is a big need to understand this timing to help families.”

One of the ways to better understand this timing is by looking at imaging to measure amyloid plaque, abnormally configured proteins thought to play a central role in Alzheimer’s disease. They are finding that the process of accumulating amyloid is very consistent. By looking at how much amyloid there is, and for how long it’s been in the brain, researchers can drill down to understand when they might become impaired (at an individual level). This, coupled with looking at other risk factors (genetics, other lab tests, other imaging tests and how they perform on cognitive test) will help to better predict timing.

“Looking at another field, for instance, a lot of people can understand cancer and its different stages,” Betthausen said. “If someone is at an early stage of cancer, there are many things a doctor can predict and tell a patient timing for certain aspects of the disease. In the field of Alzheimer’s and dementia, we don’t know this aspect of it yet.”

“Research is so important in the field of Alzheimer’s and dementia, Betthausen said. “A challenge in Alzheimer’s research is that the disease can be very long, and in order to understand it, we have to follow it in order to put the pieces together.”

Dr. Betthausen has a personal connection to dementia, as grandparents on both sides of his family were impacted by dementia. “It’s incredible to see what people are capable of when caring for people with dementia,” Betthausen shared. “My mom and grandmother come to mind as caregivers – the things they do – it’s incredible and selfless.”

Dr. Betthausen is an Assistant Professor in the Division of Geriatrics and Gerontology at UW-Madison. He has been a researcher for nearly a decade and enjoys the practical and applied aspects of his research. He is committed to developing tools that can be integrated into the clinic to improve patient care and management.

