Clinical Polysomnography Trial of Suvorexant for Treating Insomnia in Alzheimer’s Disease
W. Joseph Herring¹, Paulette Ceesay¹, Ellen Snyder¹, Donald Bliwise², Kerry Budd¹, Jill Hutzelmann¹, Joanne Stevens¹, David Michelson¹
¹Merck & Co., Inc., ²Emory University School of Medicine

Objective:
To evaluate suvorexant for treating insomnia in patients with Alzheimer’s disease (AD) using gold-standard sleep laboratory polysomnography (PSG) assessments.

Background: Sleep disturbance and insomnia are common in patients with AD but evidence for the efficacy of sleep medications in this population is limited, with few randomized controlled trials. Furthermore, potential worsening of cognitive impairment/next-day function is a concern. Suvorexant, a first-in-class orexin receptor antagonist that enables sleep to occur via competitive antagonism of wake-promoting orexins, is approved for treating insomnia in elderly and non-elderly adults. Its clinical profile may help to address an important unmet medical need in patients with AD who have insomnia.

Design/Methods: This randomized, placebo-controlled trial consisted of a screening period followed by a double-blind 4-week treatment period (clinicalTrials.gov NCT02750306). Participants were required to meet diagnostic criteria for both AD and insomnia and have a qualified trial partner. Eligible participants were randomized to suvorexant 10 mg (could be increased to 20 mg) or placebo. Assessments included overnight sleep laboratory PSG visits, an electronic sleep diary (completed by the trial partner), an activity/sleep watch (worn by the patient), and exploratory measures of cognition and neuropsychiatric behavior. The primary hypothesis is that suvorexant is superior to placebo in improving PSG-derived total sleep time (TST) at Week-4.

Results:
Enrollment of the trial started in May 2016 and completed in September 2018. A total of 285 participants were randomized from 35 sites in 8 countries worldwide. Results will be available in 2019 and will be presented at the meeting.

Conclusions:
This is the largest randomized controlled trial of the effects of a sleep medication on PSG sleep measures undertaken in an AD population. Results from the trial will help inform on the efficacy and safety of suvorexant for treating insomnia in AD.