Core Digital Measures of ADRD conceptual model

ALZHEIMER'S DISEASE & RELATED DEMENTIAS
Digital Measures Development

DATAcc
Digital Health Measurement Collaborative Community

by DIGITAL MEDICINE SOCIETY

Specific health experiences

- *"I would not remember where I left anything and it would be difficult."*
- *"I hope she remembers where her things are, doesn't get confused around the house."*
- *"I would be uninhibited, at ease, the words would come easily and I wouldn't have to get out of awkward situations."*
- *"I worry when I can't sleep I lie down and can't sleep, I get worried I often wake up at night."*
- *"If my Mobility were to worsen than at home, I may become a further fall risk, and I wouldn't be able to enjoy all of the rooms and areas of my home. I would simply sit on the couch and wait for my bedtime."*

Meaningful aspect of health

- Remembering where things are
- Speech fluency
- Being able to find the right word
- Getting to sleep
- Not waking up in the night
- Keeping active
- Staying physically mobile

Concept of interest

- Visuospatial memory
- Expressive communication
- Sleep disruption
- Non-sedentary behavior

Outcomes to be measured

- Reaction time
- Correct responses
- Task score
- Single-feature score
- Multi-feature score
- Initial sleep onset latency
- Frequency of wake events
- Ratio/percent of active time in the active window
- Average non-sedentary time in the active window

Examples of measurement approaches

Augmented reality (AR)-based place and find, visuospatial paired associate learning

Picture description task, structured word finding

Actigraphy-based sleep measurement, at-home electroencephalogram (EEG)

Actigraphy-based activity measurement