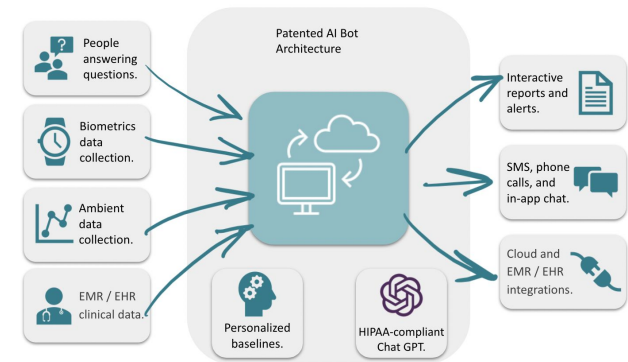


Gene Wang, Chief Scientist, FutureCare
JH AITC AD/ADRD Focus Pilot Core

Background

- **Caregivers (CGs) for People with Dementia (PWD)** experience higher levels of anxiety than their age-matched counterparts without caregiving duties^{1,2} and **anxiety** is exceptionally prevalent among caregivers, which is associated with **suicidal ideation**^{2,3}.
- FutureCare has previously developed a **sensor-based in-home support system (PPCg by FutureCare)** for familial dementia CGs, which showed a significant decrease in anxiety among CGs who used this system compared to a control group of CGs who did not use the system⁴.
- The present study improves on previous research by making three major, user-friendly substitutions:
 - **Apple Watches** in place of the 12 ambient sensors that PPCg uses;
 - **One weekly 24-item survey administered through a bot** in place of a quarterly 500-item online survey;
 - An upgraded wellness report using **HIPAA-compliant generative AI** in place of previous basic reports
- **AI Bot Features:**
 - Alert on falls, predict falls before they occur, detect wandering of PWD, alert with GPS location of missing PWD, monitor sleep quality trends, recommend ways to improve sleep, monitor caregiver and PWD fitness, recommend ways to improve health.

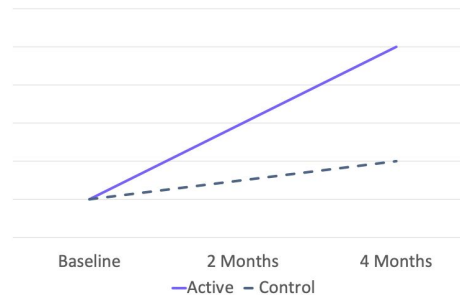
AI Bots Product Architecture



Method

- **Participants:** 40 familial CGs of people with dementia recruited through Alzheimer Association's Trial Match database.
- **Method—4-Month Randomized Controlled Trial (RCT):** Active – 20 CGs receive 2 Apple Watches (one for CG and one for PWD) and complete 5-minute weekly wellness surveys; Control – 20 CGs do not receive Apple Watches and complete 5-minute weekly wellness surveys.
- **Measures:** Self-reported CG anxiety⁵ and depression⁶ (reverse-coded) and well-being⁷, averaged to compute an overall wellness score.
- **Procedure/Timeline:** March – April 2023: Beta testing, May – August 2023: RCT for first participants, July – October 2023: RCT for final participants, October – November 2023: Data analysis and reporting.

Predicted Results



We predict that, over the course of the trial (and beyond), CGs who relied on Apple Watch bot monitoring and the weekly survey will report increasing wellness scores.

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