



Designing Usable Technologies for Older Adults via Data-Driven Whole-Person User Personas

Robin R. Austin, PhD, DNP, DC, RN-BC, FAMIA, FNAP*, Ratchada Jantraporn, PhD(c), MS, RN, Jenna Marquard, PhD, & Martin Michalowski, PhD, FAMIA
University of Minnesota, School of Nursing
PennAITech Healthy Aging Focus Pilot Core

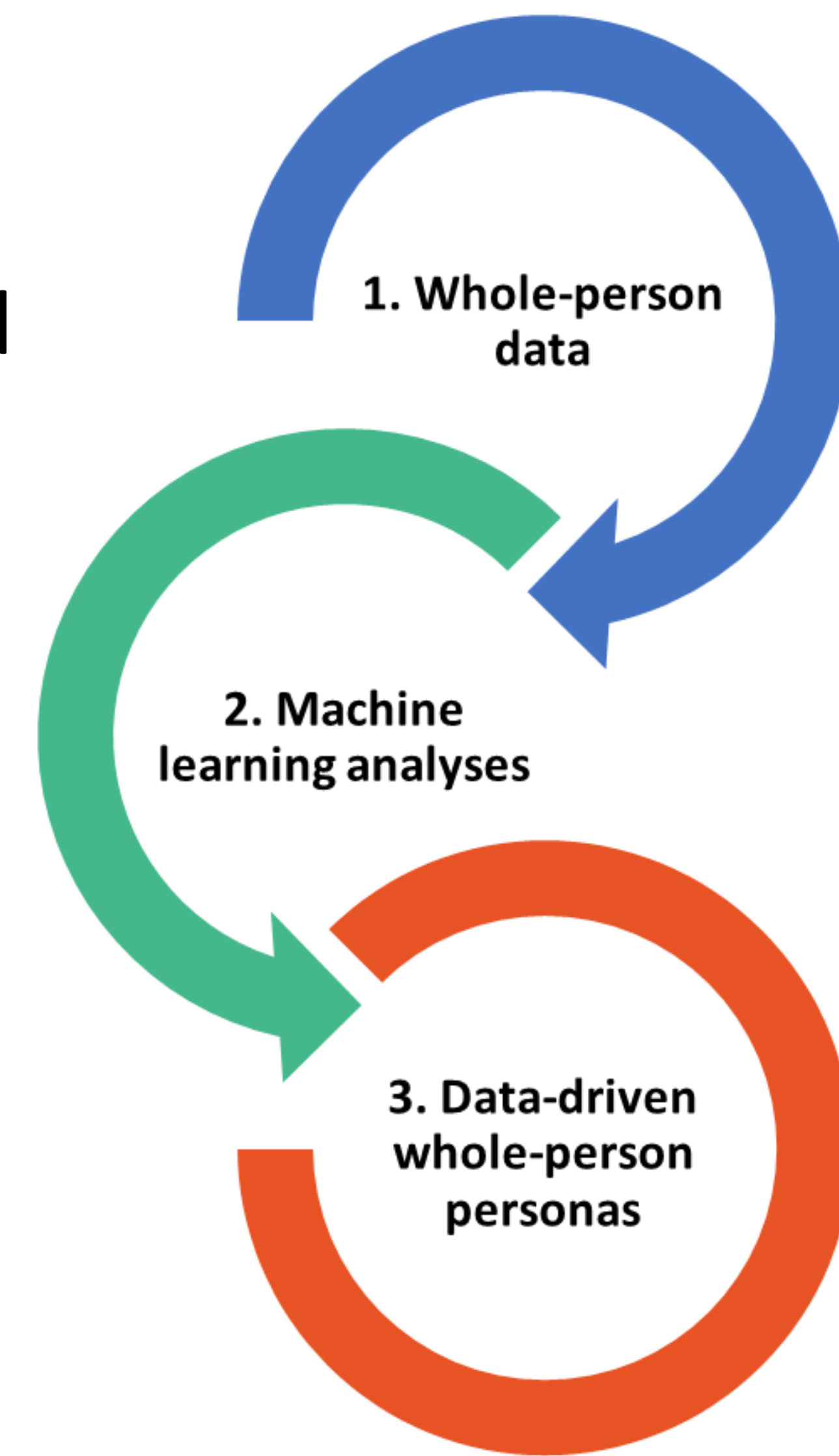


PennAITech

The goal of this research is to use machine learning analysis to examine whole-person health of older adults using consumer-generated health data (CGHD).

Aim 1: Use machine learning approaches with the CGHD frequently used to develop user personas.

Aim 2: Create a set of data-driven user personas based on the machine learning data analysis to guide future work and the design of novel technologies to support a diverse range of older adults.



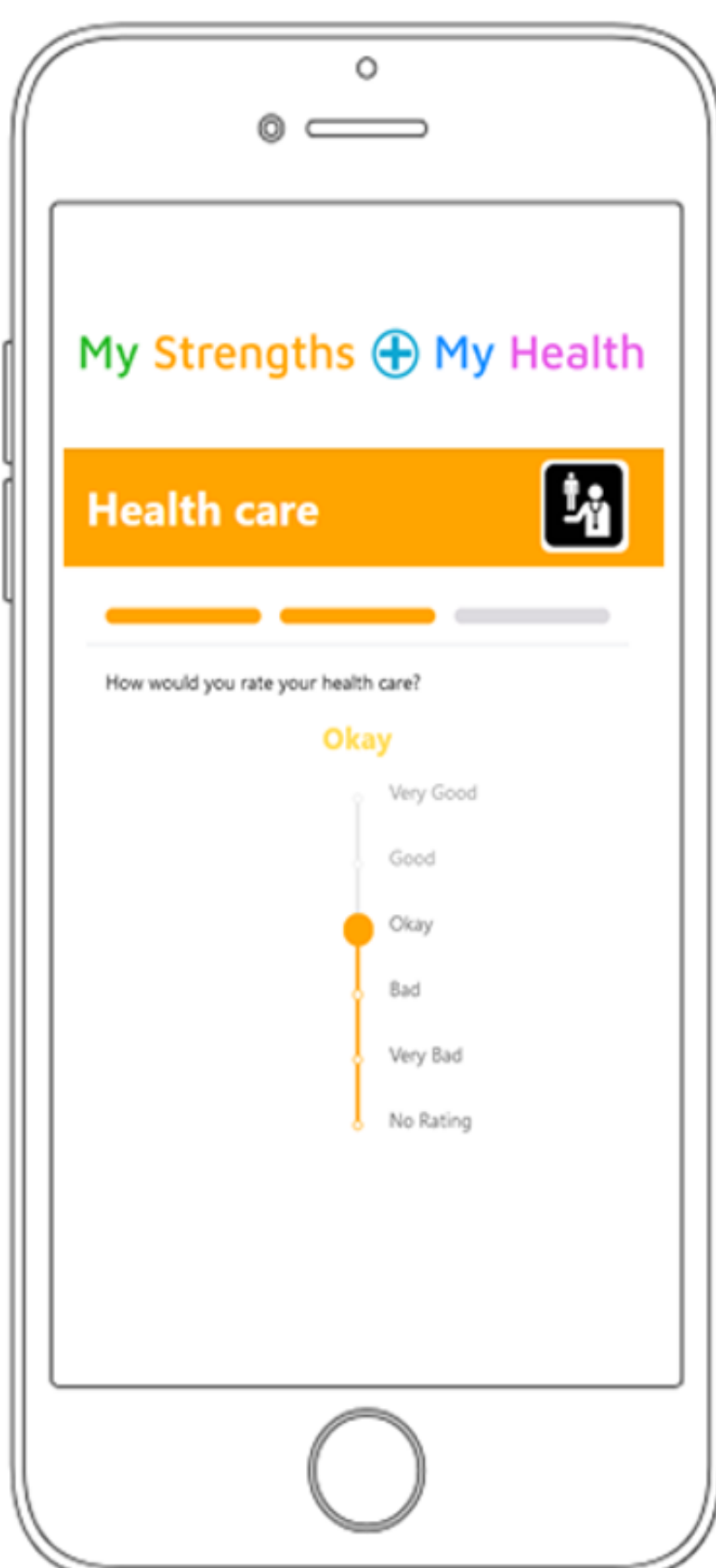
1. Whole-person consumer-generated health data takes into account where a person lives, psychosocial components, physical health, and health behaviors.

2. Machine Learning Analyses to identify unique clusters of older adults with similar data to one another.

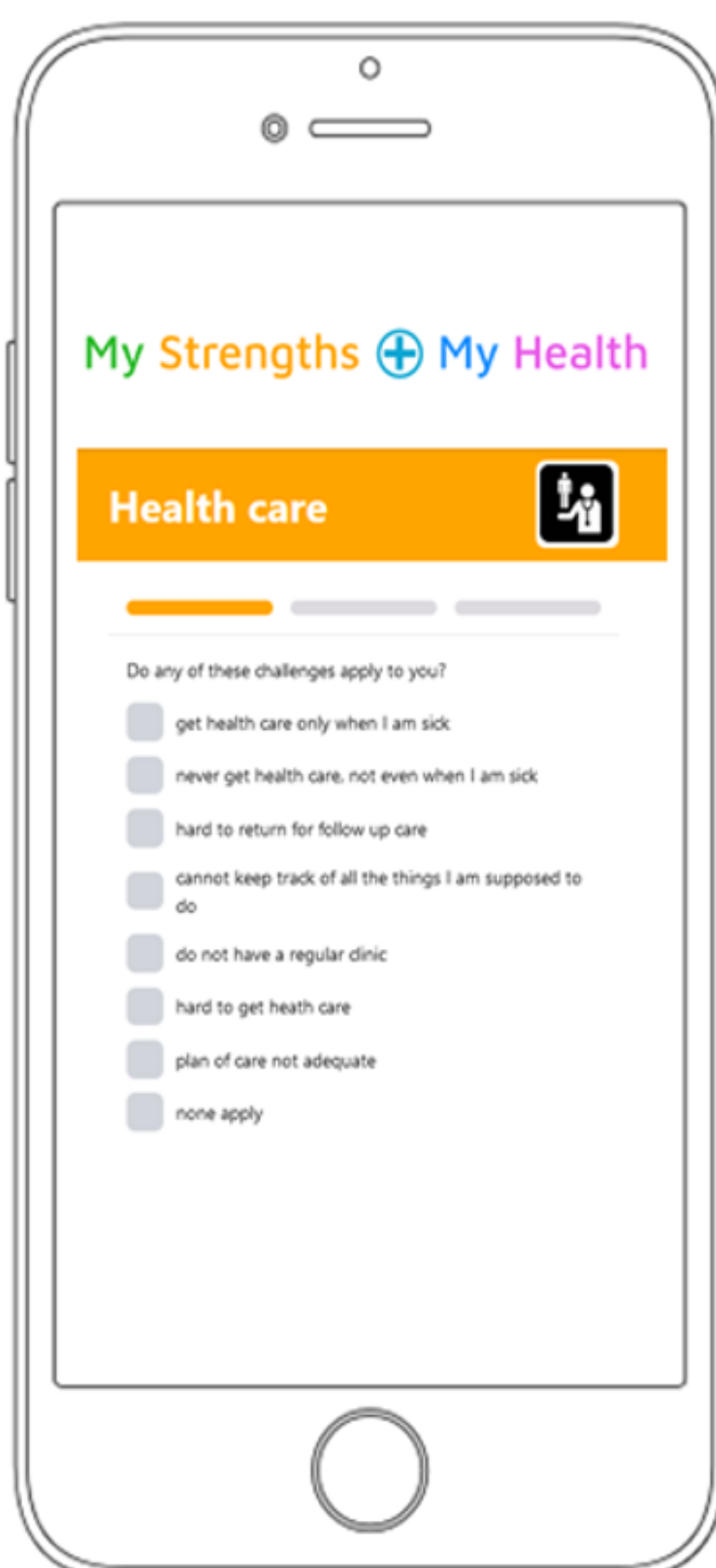
3. Data-driven whole-person personas for healthy aging.

My Strengths + My Health

Strengths/Problems Good or Very good is a "strength"; Else, a "problem"



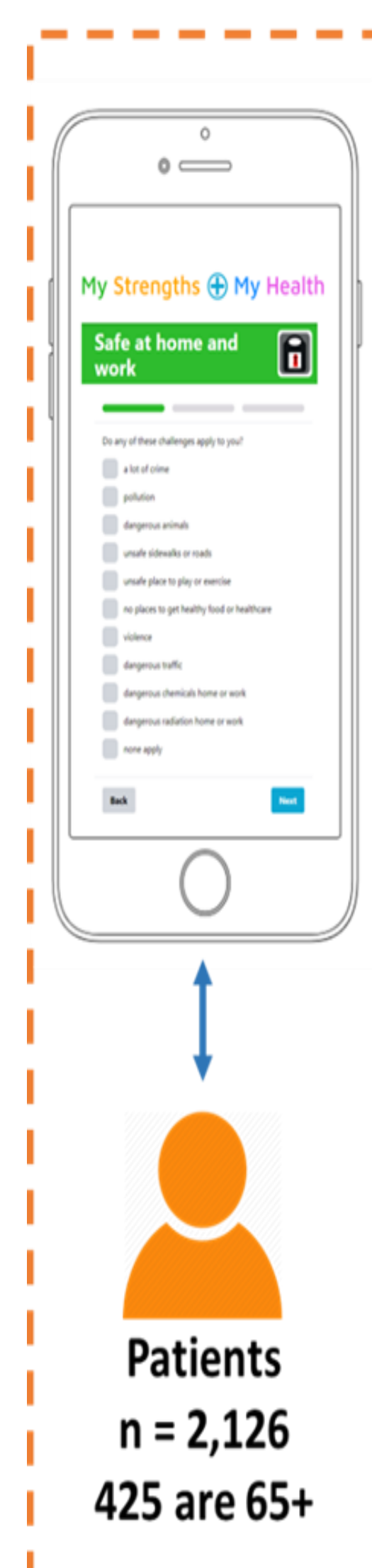
Challenges 335 challenges are mapped to strength/problem categories



Needs Select any, all, or no needs for strength/problem categories



Prior work

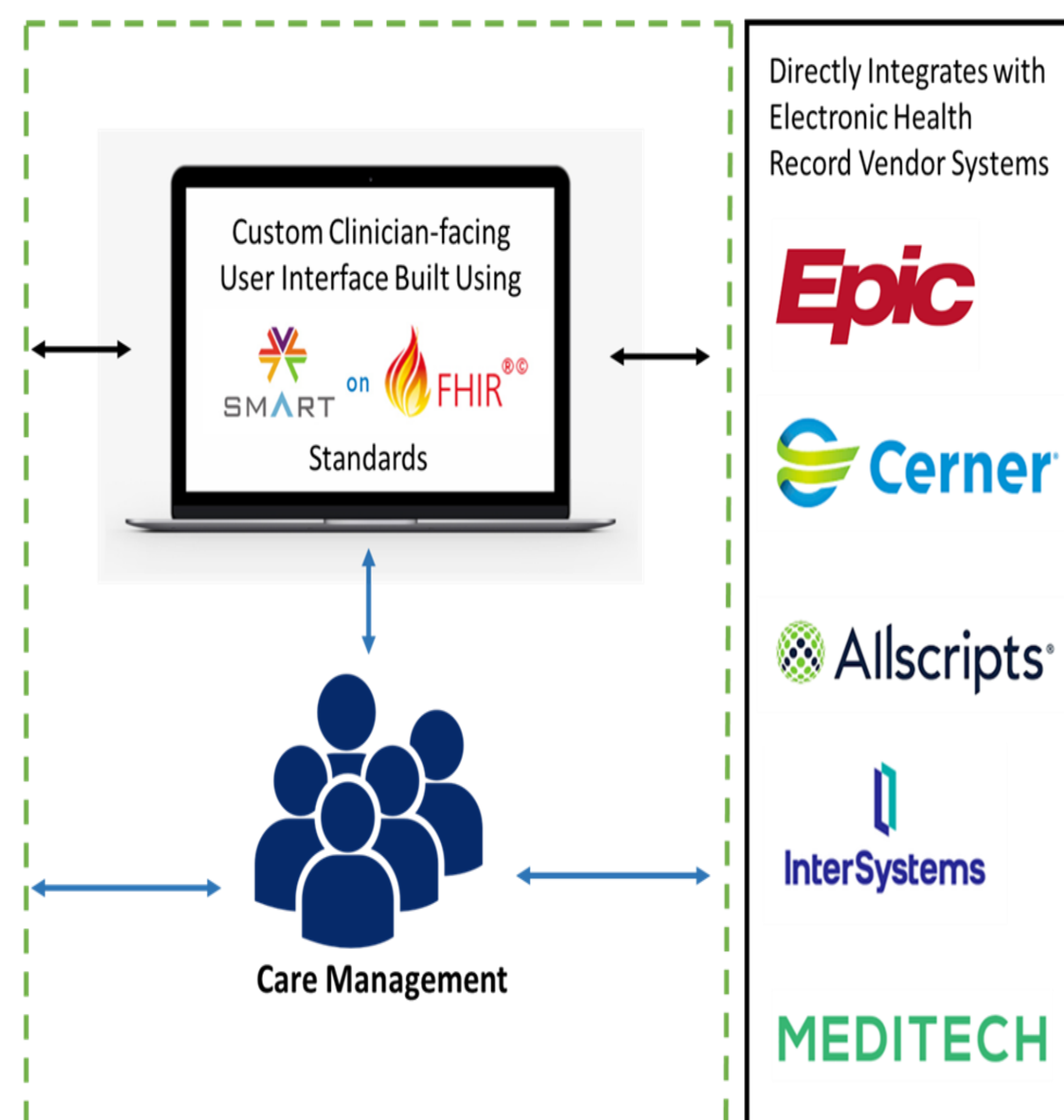


Proposed work

Use machine learning techniques to create data-driven user personas that capture the strengths, problems, challenges, and needs of older adults

Provide guidance to those who are designing technologies for older adults

Long-term work



The **long-term goal** of this research is to improve health outcomes by combining whole-person CGHD with EHR data, to inform clinical conversations, predict patient trajectories, and identify appropriate interventions uniquely tailored to the individual.

Acknowledgements: The PennAITech funding National Institute on Aging grant P30AG073105.

We would like to acknowledge Dr. Karen Monsen a consultant on the project and co-developer of MyStrengths+MyHealth