

# Artificial Intelligence-Augmented Analytics to Enable Patient Centered Palliative Care for Persons with ADRD

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## Background

- ❖ Palliative care (PC) is an interdisciplinary concept aimed at improving well-being of persons with serious illness throughout their course of illness including end-of-life.
- ❖ For individuals with Alzheimer's Disease and Related Disorders (ADRD), PC is particularly challenging, as determining a patient's current status on the ADRD disease course is often difficult.
- ❖ One ubiquitous challenge is the care system's ability to identify patients who will benefit most from PC.
- ❖ Existing prediction models targets end-of-life care for severe dementia patients in institutional settings.

## Unmet Needs and Solution

### PATIENTS/CARE GIVERS

**QUALITY OF LIFE**  
effective symptoms management

**PATIENT SATISFACTION**  
goals of care and advance care planning

**CAREGIVER SATISFACTION**  
family support and care planning

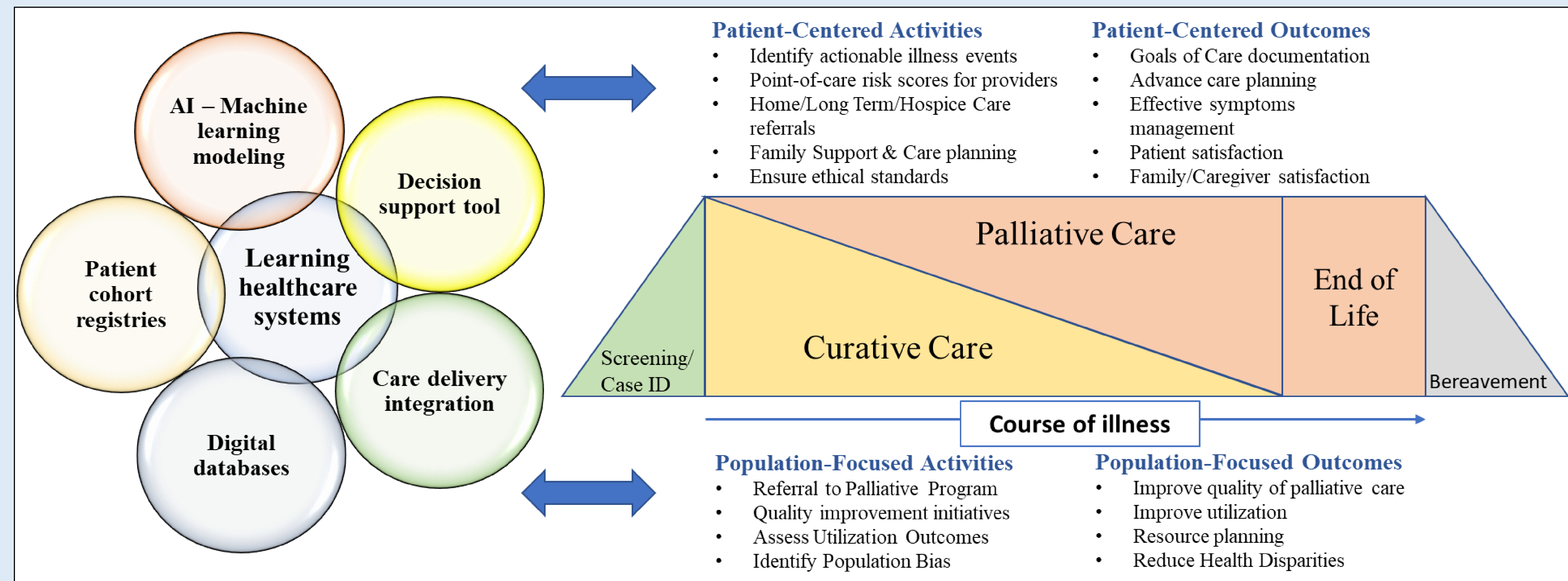
### HEALTH CARE ORGANIZATIONS

**QUALITY IMPROVEMENT**  
reduce variation in referral to palliative care

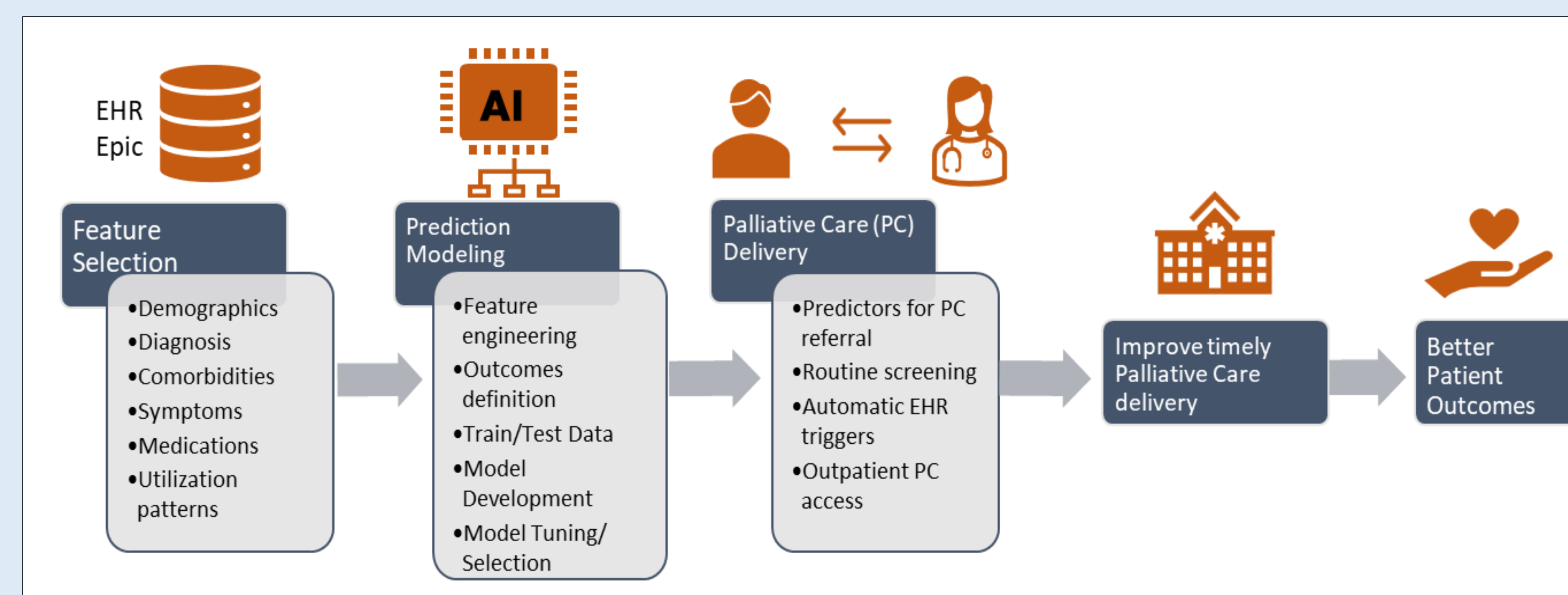
**COST SAVINGS**  
reduce emergency visits and improve treatment planning

**REDUCE DISPARITIES**  
identify population bias

## Logic Model of AI-Analytics Supporting Key Palliative Care Activities



## Pilot Study Aims and Approach



## Team Members

- Jennifer Wolff, PhD (Professor)
- Sydney Dy, MD (Professor)
- Elyse Lasser, DrPH (Scientist)
- Klaus Lemke, PhD (Biostatistician)
- Kadija Ferryman PhD (Ethics Expert)
- Tom Richards, MS (Technology Director)

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## Solution Approach:

- ❖ ML prediction algorithm incorporating rich clinical information available in electronic health records (EHR) data from academic healthcare system over multiple years to identify persons with ADRD who would most benefit from PC.
- ❖ Prediction tool integrable in EHR systems as stand-alone care decision support tool or in complement with existing population health analytics applications.

To achieve our goal of using advanced AI analytic tools to improve PC received by ADRD patients, we propose to:

1. Develop and validate machine-learning (ML) predictive models (PM) to identify ADRD patients who are likely to benefit from PC assessment.
2. Evaluate impact of PM based PC interventions on healthcare utilization outcomes and disparities in PC delivery.