

# What is CART?

The Collaborative Aging (in Place) Research using Technology (CART) study uses technology to assess activity in a home, with the eventual goal of detecting the onset of medical problems that may need a doctor's attention. By participating in this three-year long study, the subject will be helping researchers find new ways to keep older adults healthy and living independently in their homes as they age, especially those who may not have easy access to medical care.

## Reviewed & Approved By:

OHSU

PI: Dr. Jeff Kaye

OHSU IRB: #17123

## For more information:

Contact study coordinator  
**Jennifer Marcoe**

Phone: 503-928-7292

Email: [marcoej@ohsu.edu](mailto:marcoej@ohsu.edu)

\*Please do not share sensitive  
information via email

**Oregon Health & Science University**

3181 S.W. Sam Jackson Park Rd.  
Portland, Oregon 97239



The  
**CART**  
Research Study

## Inclusion Criteria:

- Is at least 62 years old
- Lives independently or with a partner who is over 18
- Is considered low-income (50% median income limits in Portland)
- Lives in a home that has the ability to host a reliable broadband internet connection

## Exclusion Criteria:

- Conditions that would limit physical participation (e.g. wheelchair bound)
- Diagnosis of any uncontrolled medical condition that is expected to preclude completion of the study (e.g. late stage cancers).
- More than two people live in the residence
- Diagnosis of Alzheimer's or Dementia

## What else is involved?

- In-home cognitive assessments
- A weekly online survey about mental health
- \$49 monthly stipend to offset Internet access costs at home

## How the technology works

After undergoing a screening process, researchers will install motion sensors in each room of the subject's home, as well as devices like a digital watch, scale and pillbox. These sensors and devices are sensitive to a person's presence and can continuously measure home-based activity in real-time.

Using an internet connection, data from these devices is sent securely to the research team's servers. Innovative algorithms can translate the raw data into meaningful information.

The sensors are discreet and the devices do not interfere with daily life, so the participant does not need to change their daily routines.

No video or audio data are obtained.

## What the technology can measure:

- Mobility (walking speed, movement between rooms)
- Socialization (outings, phone calls, emails sent)
- Medication adherence
- Sleeping patterns
- Physiologic function (BMI, pulse)

