

Bringing Communities and Technology Together for Healthy Aging

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Organization:	University of Wisconsin - Madison
Mechanism:	RFA: HS10-016: Active Aging: Supporting Individuals and Enhancing Community-based Care through Health Information Technology (P50)
Grant Number:	1P50 HS 019917
Project Period:	June 2011 – May 2016
AHRQ Funding Amount:	\$9,502,788

Summary: For many older adults, aging in place and living independently as long as possible are important goals. Assistive technology can extend the period of independent living and support older adults, as can informal and formal caregivers by providing information, skill-building, and social support. Many technologies have been developed to assist aging in place, yet in general, adoption has been slow because technology is not designed for older adults.

The Active Aging Research Center (AARC), a consortium of partners from the University of Wisconsin-Madison, State government, and community-based organizations, is developing and implementing an integrated information and communication technology (ICT) system to facilitate and enhance aging in place. ICT consists of the hardware, software, networks, and media for collecting, storing, processing, transmitting, and presenting information. Working with community-based Aging and Disability Resource Centers (ADRCs) and the older adults and families they serve, AARC completed the second of a 5-year strategy to develop, test, and disseminate a program of cost-effective integrated ICT addressing the top-five reasons that older adults in Wisconsin leave their homes: 1) loneliness and isolation; 2) falls; 3) relapse from proven falls-prevention strategies; 4) loss of driving privileges; and 5) unreliable home services.

The program involves several components conducted in overlapping phases, starting with community-based participatory research to collect information on the assets, issues, and needs of communities and service providers, and to assess older adult and caregiver technology acceptance. AARC has adapted the Comprehensive Health Enhancement Support System, an existing ICT used to help individuals with chronic or life-threatening illnesses improve their quality of life through Web-based support or other kinds of technology. The adapted ICT is called Elder Tree (formerly known as Elder-Chess, or E-CHESS) and is a suite of electronic services intended to support older adults and their caregivers by facilitating aging in place and improving quality of life. Elder Tree will offer support in the form of information (e.g., healthy reminders and tips), social support (e.g., discussion groups and private messaging), interactive tools (e.g., calendar of events), and local resources (e.g., links to ride-share services and aging offices). Elder Tree is incorporating findings from community-based participatory research and is being designed to work across several interfaces, including mobile, tablet, laptop, desktop, and Web-enabled TV devices.

With Elder Tree as the platform, additional components are being developed and include a system to help older adults drive safely and retain independence longer, systems to support improvements in the dependability of services provided to older adults' homes, and a system to sustain the benefits of an evidence-based falls-prevention program.

The research team will conduct a randomized trial in the third year of the project to evaluate Elder Tree. Older adult-caregiver dyads will be randomized to receive Elder Tree for a 12-month period and be followed for an additional 6 months, or to a control group that will receive access to Elder Tree 12 months after being randomized. This 18-month trial will allow the research team to assess Elder Tree outcomes such as psychosocial benefits to older adults and caregivers and cost-effectiveness of health care use. Elder Tree and its driving, falls-prevention, and service-dependability systems will be promoted and disseminated widely.

Specific Aims:

- Assess the assets and needs of elders, caregivers, ADRCs, communities, and medical and social-service providers in urban, suburban, and rural counties in Wisconsin. **(Ongoing)**
- Adapt Elder Tree (formerly E-CHESS) to facilitate aging in place by addressing the issues of loneliness and isolation, falls, relapse from proven falls-prevention strategies, loss of driving privileges, and unreliable home services that hinder or prevent older adults from living independently in their home. **(Ongoing)**
- Deliver Elder Tree across multiple platforms, with optimized interfaces for various mobile, tablet, laptop, desktop, and Web-enabled TV devices, thereby maximizing functionality across users. **(Ongoing)**
- Evaluate Elder Tree by testing its impact on elder independence and quality of life as well as to determine its cost-effectiveness in reducing health care utilization. **(Upcoming)**
- Promote wide dissemination of Elder Tree and its related driving, falls prevention, and service dependability systems both locally and nationally. **(Upcoming)**

2012 Activities: During the second year of the project, the research team focused on: 1) community engagement efforts; 2) information gathering via focus groups, interviews, questionnaires, and pilot tests with caregivers, older adults, and service providers in the three partner counties of Milwaukee, Richland, and Waukesha; and 3) tool and system development across all project components. Elder Tree and its social media, falls prevention, and medication manager tools were developed and iteratively refined in three rounds of pilot testing among older adults. The community-based research continued with activities in the partner communities. Strategy teams including older-adult caregivers, community leaders, and ADRC employees were established in each county to engage communities, build support for Elder Tree, and develop inventories of community assets for older adults. The inventories are a listing of resources that help older adults live independently. Information-gathering efforts were conducted to inform the development of the driving, service dependability, and falls-prevention systems as well. Prototype ICTs for these systems are underway.

Preliminary Impact and Findings: The research team has documented several lessons to date: 1) older adults will use technology if it meets their needs; 2) it is critical to engage older adults early and often, meaning it is important to ask them to use the technology device within 24 hours of being trained; and 3) the community engagement and asset development process was time consuming and labor intensive. An abbreviated process will be used as Elder Tree is disseminated to other communities.

Target Population: Adults, Elderly*

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Implementation and Use

**This target population is one of AHRQ's priority populations.*