

Bringing Communities and Technology Together for Healthy Aging

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Organization:	University of Wisconsin - Madison
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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 well as 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 is implementing a 5-year strategy to develop, test, and disseminate a program of cost-effective integrated ICT addressing the top five reasons 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 and data on the assets, issues, and needs of local communities and service providers, and to assess older adult and caregiver technology acceptance. Concurrently, AARC is adapting an existing ICT, the Comprehensive Health Enhancement Support System (CHESS), 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, known as Elder-CHESS (E-CHESS), is a suite of electronic services intended to support older adults and their informal caregivers by facilitating aging in place and improving quality of life. E-CHESS 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 E-CHESS as the platform, additional ICTs will be developed, including: a driving system to help older adults drive safely and retain independence longer; service dependability systems to support improvements in the dependability of services provided to older adults' home; and a falls-prevention system to sustain the benefits of an evidence-based falls-prevention program for older adults.

The research team will conduct a randomized trial to evaluate E-CHESS. Older adult-caregiver dyads will be randomized to receive E-CHESS for a 9-month period and followed for an additional 9 months,

or to a control group that will receive E-CHESS 9 months after being randomized. This 18-month trial will allow the research team to assess E-CHESS outcomes such as psychosocial benefits to older adults and caregivers, and cost-effectiveness regarding health care use. Lastly, E-CHESS and its related driving, falls prevention, and service dependability systems will be promoted and widely disseminated.

In addition to developing and evaluating E-CHESS and its integrated systems, AARC will fund additional pilot projects to support other research related to improving older adult independence.

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 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 E-CHESS across multiple platforms, with optimized interfaces for various mobile, tablet, laptop, desktop, and Web-enabled TV devices, thereby maximizing functionality across users. **(Ongoing)**
- Evaluate E-CHESS by testing the impact of E-CHESS on elder independence and quality of life as well as to determine the cost effectiveness of E-CHESS to reduce health care utilization. **(Upcoming)**
- Promote wide dissemination of E-CHESS and its related driving, falls prevention, and service dependability systems both locally and nationally. **(Upcoming)**

2011 Activities: The research team conducted environmental scans, focus groups, and key informant interviews to gather information about existing services, gaps in services, barriers to living independently, and the needs of older adults to inform the development of E-CHESS. The team focused on building and refining three components of the system thus far: 1) enhancing communication between older adults and family caregivers; 2) addressing older adults' perceptions of vulnerability; and 3) addressing medication management issues.

As last self-reported in the AHRQ Research Reporting System, project progress and activities are mostly on track and project budget spending is roughly on target.

Preliminary Impact and Findings: To design E-CHESS to assist the caregivers of older adults with expanding their social network, the research team conducted interviews with caregivers such as a spouse or partner. These interviews revealed that the caregivers are not necessarily interested in expanding their social network because they worry they will be grouped with people they find boring or that participation in such a group will increase their burden rather than reduce it. Caregivers did express interest in easy-to-use technology to communicate with others.

Target Population: 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.