

Telemonitoring in Rural Elder Nutrition Centers: Demonstration Project of Hypertension Management

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Organization:	LeadingAge
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Summary: Despite extensive public and professional education and the availability of efficacious treatments, hypertension remains the most common and strongest risk factor for cardiovascular disease in North America. Hypertension is present in more than 70 percent of Americans aged 80 and older, and it is the single most important risk factor for stroke. Improved approaches to patient self-management are increasingly viewed as an integral part of the health care process, and offer particular promise for conditions such as hypertension. Telehealth may provide a novel approach to enhancing the ability of older adults to manage hypertension and other chronic conditions, especially if this technology is delivered in community-based settings that are easily accessed by seniors.

This project is one of the Agency for Healthcare Research and Quality (AHRQ)-sponsored Accelerating Change and Transformation in Organizations and Networks (ACTION) projects designed to promote innovation in health care delivery by accelerating the diffusion of research into practice. Under the leadership of Dr. Helaine Resnick, this demonstration project was conducted by a partnership consisting of researchers from LeadingAge and Wright State University; Healthanywhere, a telehealth technology company; and four senior centers in Ohio. The study was designed to explore the feasibility of installing telehealth kiosks in community-based senior centers and using telehealth technology to manage blood pressure (BP) in a setting that targets high-risk elderly patients. Study participants included hypertensive adults who received nutrition assistance at one of the four senior centers involved in the project. Two of the centers installed telehealth kiosks that allowed participants to conduct self-monitoring of their BP any time they use the center. Two sites did not have kiosks and served as control facilities. Blood pressure data from telehealth stations at the intervention centers were streamed to a secure central server managed by a telehealth vendor and monitored by study nurses. Data was collected on hypertension baseline and endpoints such as physician visits and medication titrations, with a focus on comparisons between participants at intervention and control facilities.

The results of this pilot study are the first step in determining the promise of further research in this area.

Project Objectives:

- Determine proof-of-concept for a system in which telehealth monitors can be utilized to manage BP in a community setting that targets high-risk elders. **(Achieved)**
- Compare BP control in a telehealth group to BP control in a control (non-telehealth) group. **(Achieved)**

2011 Activities: Enrollment and participant followup were completed in 2010; the focus of activity in 2011 was on data analysis and development of the final report. The project was completed in April and a final report was delivered to the AHRQ in June.

Impact and Findings: Study participants were highly compliant with use of the technology, but use dropped

off somewhat over the 10 months of followup. Ninety-five percent of participants reported being “very comfortable” with use of the telehealth kiosk at the end of the study, and senior center directors reported overall satisfaction on the part of their clients and their staff with the kiosk. Many participants commented on the convenience of having the equipment set up at the senior center because they were there on a regular basis for activities. Thus, participation and ongoing BP measurements did not impose any added burden on seniors beyond the time involved in taking the measurements. Center directors also reported that at the completion of the project, they felt that the telehealth device was easy for seniors to use and that staff were seldom tapped for questions or assistance.

Study nurses reported a high degree of satisfaction with the technology, but indicated that having access to the health care portal on a mobile device would have been a good addition to the technology platform. Nurses reported the ability to provide quick and effective nursing interventions in response to elevated blood pressure readings but expressed that greater access to participants’ physicians would have helped study nurses utilize the technology more effectively. Based on these findings, future research might explore how to move the nurse monitoring aspect of the project into the primary care setting or integrate it into the senior center’s stream of services allowing direct communication with the primary physicians’ office. Although an office-based approach to nurse management was beyond the scope of this project, this project highlights the potential additional benefits that could be realized by incorporating nurse-mediated management in the office setting. However, financing is one of the major barriers inhibiting the proliferation of this type of technology. Therefore, incorporating nurse-mediated management in the office setting would not be feasible unless it was covered by Medicare or other health insurance plans.

Future research on the efficacy and cost-effectiveness of this telehealth approach for chronic disease management could provide evidence supporting the adoption of this approach into regional or national networks of senior centers. Studies could also focus on operational and logistical issues associated with building bridges between physicians who care for seniors and senior centers that are routinely utilized by these individuals. This line of investigation would significantly contribute to advancing community-based, communication-focused technologies for this vulnerable population.

Target Population: Elderly*, Hypertension, Low SES/Low Income*, Rural Health*

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: Knowledge Creation

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