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Eyes Behind the Video Camera: Partnering with Families for Home Safety

The *Florida Chart Book on Disability and Health* identifies that five of the top 10 counties with the highest proportion of elders with self care deficits lie within the catchment boundary of the North Florida/South Georgia Veterans Health System (NFSGVHS) (Figure 1).[1] The focus of the Geriatric Research, Education and Clinical Center (GRECC) of the NFSGVHS is the frail older adult. The mission of the health system's inpatient Geriatric Evaluation and Management (GEM) unit, which is the primary clinical demonstration and teaching site of the GRECC, is to provide geriatric rehabilitation, or restorative care, with the goal of returning frail elders back home.

Unfortunately, many of the veterans who live in rural north central Florida and south Georgia reside some distance from the health system's two medical centers, which are located in Lake City and Gainesville, FL. Therefore, it can be time prohibitive and costly for staff to perform adequate in-home safety assessments and make appropriate recommendations for home modifications when frail, elderly veterans are returning home after an inpatient stay. "Home Safety Assessment: A Pilot Project" was initiated on the GEM unit to examine whether a family member can act as the "eyes" of an occupational therapist registered/licensed (OTR/L) and obtain meaningful home safety assessment data.

WHY THE NEED FOR HOME SAFETY ASSESSMENTS?

Accidental falls are the leading cause of injury and death from injury in the aged.[2] Presently, half of the nation's elders live in nine states, led by California, Florida, and New York.[3] According to census data from 2000, over 700,000 older Floridians reported physical limitations in walking, lifting, reaching, and climbing stairs and approximately 200,000 indicated they had self-care problems.[1] Because of the growing elderly population, disability is becoming a national public health concern.[4] By 2020, fall-associated injury for people aged 65 and older is estimated to cost $54.9 billion per year in current U.S. dollars.[5]

Health care policy makers understand the link between health and housing. For example, a report on aging points out that "as the population ages in an aging housing stock, it becomes difficult to distinguish a health concern from a housing concern."[6] Life altering changes can occur in elders as a direct response to such relatively minor changes in physical function as the inability to climb steps due to arthritis. Policy makers realize that the cost of current long-term care models is not sustainable. "Aging in place" is one solution. The long-established aging in place concept is the ability for a person to grow older safely in noninstitutional housing of his or her choice by using assistive equipment, technology, and services as his or her function declines.[7] There is growing urgency for home assessments and home modifications to effectuate aging in place.

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The VHA's Geriatric Research, Education and Clinical Centers (GRECCs) are designed for the advancement and integration of research, education, and clinical achievements in geriatrics and gerontology throughout the VA health care system. Each GRECC focuses on particular aspects of the care of aging veterans and is at the forefront of geriatric research and clinical care. For more information on the GRECC program, visit the web site (http://www1.va.gov/grecc/). This column, which is contributed monthly by GRECC staff members, is coordinated and edited by Kenneth Shay, DDS, MS, director of geriatric programs for the VA Office of Geriatrics and Extended Care, VA Central Office, Washington, DC.

WHAT DOES A HOME SAFETY ASSESSMENT ENTAIL?

A home safety assessment is a detailed study of the home, its environment, and the people who live in it. A home safety assessment is especially indicated for an individual who has had a recent change in health, has had increased difficulty functioning safely in the home, or is experiencing increased caregiver burden. OTR/Ls specialize in assessing individuals in the context of their environment and disability. They individualize home modification to improve the person's quality of life.

The monetary charge for a home assessment is based on the professional time spent on the property. It does not include time spent driving to and from the home or analysis of the assessment data. In the VA, home assessments by an OTR/L are primarily performed for patients in the Home-Based Primary Care (HBPC) program—which provides longitudinal care in the homes of veterans with complex, chronic conditions for which clinic-based care is not effective[8]—or if a facility has a Low Activities of Daily Living Monitoring Program (LAMP). All functionally impaired veterans whose quality of life would be enhanced by assistive aids are entiltled to a broad range of durable medical equipment and a one-time home modification grant from the VA of $1,200 to $4,300. Veterans who are highly compensated for their injuries may receive substantially more financial assistance through the VA for home modifications. An article published in 1999 reported that treatment through the VA HBPC program over two years reduced hospital bed days of care by 58% and total health care costs by $494 per month for 30 patients randomly selected for analysis.[9]

Outside of the VA, for an OTR/L to go into an individual's home, in most states, requires a community nursing referral and a written order by a physician. Medicare and Medicaid will pay for limited medical equipment, such as walkers and wheelchairs, but not for home modifications. State and local governments may offer programs that assist in paying for home modifications. Currently, however, the main source of payment for these modifications is private pay. To ensure that even more frail seniors have a choice in their care and living arrangements, other, new, low-cost models of home care need to be developed.

HOME SAFETY ASSESSMENT USING A VIDEO CAMERA

One previous study evaluated remote video home assessment, but the researchers used a health care provider (rather than a family member) to operate the camera.[10] Our project team purchased a low-cost, easy to operate video camera and developed a one-page measurement guide for the families to record width of doorways and height of entryways. Patients who participated in the project were receiving care on the GEM unit and had a variety of disabilities, such as loss of function due to stroke, loss of balance, amputations, and deconditioning. During a family member visit with the patient on the GEM unit, the OTR/L approached the family about the video project. Before issuing the camera to the close family member, the OTR/L made sure that he or she could operate the video camera, read a measuring tape, and understand the measurement guide and which areas to film.

Once the family member returned the video camera, the OTR/L viewed the video, reviewed measurement guide results, and used this information to determine the need for equipment and home modifications. Feedback was provided to the GEM interdisciplinary team, the patient, and the patient's family. Appropriate, durable medical equipment was ordered and the recommended home modifications were explained to the patient and the family.

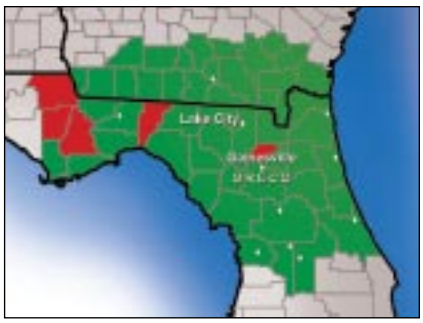

Figure 1. North Florida/South Georgia Veterans Health System catchment area (green). This area includes five of Florida's top 10 counties with the highest proportion of elders with self-care deficits (red).

Twenty-nine men aged 46 to 89 years (15 were aged 78 or older) enrolled in the project. The majority lived more than an hour's drive from the Gainesville VA Medical Center. Sixty percent of the patients required a walker for mobility within the home.

Several problem areas in the home were targeted, such as the bathroom, doorways, and the entry into the home. Every patient assessed had bathroom safety concerns. One patient was employing sawhorses as grab bars (Figure 2). Bathroom equipment was identified as being needed and items provided included grab bars of varying sizes, raised toilet seats, shower chairs, and off-set hinges to widen doorway openings. Thirty-eight percent of the project participants required modification with the addition of a ramp or installation of handrails. Follow-up videos and in-home visits to assure proper utilization of equipment were not included in the scope of our project.

The OTR/Ls spent up to an hour teaching the family camera usage and then reviewing the home video data. This freed up an estimated 116 hours (4 hr/patient x 29 patients) that would have been required for OTR/Ls to

travel and perform one hour of in-home assessment for each program participant. Given an average OTR/L salary of $30 per hour, the project saved an estimated $3,480 overall.

The video project team was consistently satisfied that patients' family members had obtained meaningful video information that allowed the OTR/Ls to individualize their home safety recommendations. Based on comments by the OTR/Ls and the families, response to the project has been quite positive.

WHERE DO WE GO FROM HERE?

From our experience with this pilot project, we conclude that family members can assist in obtaining meaningful home safety assessment data by being the "eyes" behind the camera. Although many of our patients receive therapies through community home care agencies after discharge, by obtaining these early home assessments, patients' safety needs can be addressed prior to discharge. This nontraditional approach has the potential to broaden the availability of home safety assessments—especially for the rural, frail elders who are being discharged from an acute care or long-term care setting to home. GRECC investigators and their NFSGVHS collaborators are in the process of refining a second phase of the pilot project, which will assess patient outcomes and also compare in-home OTR/L assessments with assessments made with a video camera alone.

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Figure 2. A still video shot of one patient's bathroom. The use of the saw horses as grab bars was identified as a major safety concern by the occupational therapist from the video-taped home assessment.

Author disclosures

The authors report no actual or potential conflicts of interest with regard to this column.

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