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# Home Sweet Home

Interprofessional Team Helps Older Adults Age in Place Safely

Pictured: Carol Glover, CAPABLE program participant

**Ms. V**, 68 years old, has chronic bronchitis, depression, and painful arthritis. She lives in a two-story row home in Baltimore with her 20-year-old granddaughter, JJ, and her husband. She needs assistance from JJ to get in and out of the tub and wash her back. She has trouble walking more than two blocks due to shortness of breath. She also experiences pain from bending and stooping due to arthritis, which makes it difficult for her to pick up mail that has been delivered through the door slot or get pots and pans from low cabinets. Ms. V is the primary caregiver for her husband, who is recovering from several strokes and is not able to leave their home. She receives little assistance from her family, except for JJ. Ms. V used to walk around a nearby reservoir for daily exercise, but now she rarely walks or goes anywhere, including her church (a place she loves), because she doesn't have the time due to caregiving responsibilities, is unable to leave her husband alone, and has declining endurance. Her time is consumed by caring for

The Baltimore-based CAPABLE program combines the talents of occupational therapists, registered nurses, and handymen to address clients' self-identified problems in home safety, fall prevention, and basic and instrumental activities of daily living.

her spouse and doing housework. Most importantly to her, she has no time for herself, especially to take part in organized social or leisure activities, like gardening or going to church.

Ms. V has been in her home for more than 20 years. Her home tour revealed several issues and challenges. There are eight front steps to enter the house, with bilateral railings, and a back turf-covered porch that has seven steps. Ms. V's living room is tidy and uncluttered, yet there are 13 scatter rugs throughout her home. In the first floor bathroom, the floor is collapsing, the rug slides, there are no grab bars in the tub, and the tub surface has no tread. The basement flooring is loose and torn in

many areas. The washer and dryer are too low, and there are no railings on the 14 steps leading to the second floor.

## THE PROBLEM

Ms. V's case is not unlike that of the more than 39 million older adults in the United States.<sup>1</sup> It is estimated that by 2050, the same population will more than double to 88.5 million.<sup>1</sup>

Older adults almost universally report wanting to age in their own homes. However, as the population ages, so do the homes in which they reside. Many older adults live on a fixed income, and they have high fixed costs, such as medical and prescription bills. This can make repairing and maintain-

ing a home difficult. Low-income and minority older adults are also more likely to live in deteriorated housing<sup>2</sup> and to lack the resources necessary to modify their homes to compensate for their declining capabilities.

At the federal, state, and local levels, there are few programs that address both appropriate housing and health needs for seniors, as they usually address one or the other but do not link health needs and housing conditions.<sup>3</sup> Because housing conditions can pose health hazards and functional challenges,<sup>4</sup> both the person and the environment are important considerations when helping older adults stay safe and independent in their own homes. To address this gap in the care of older adults, a team of researchers at the Johns Hopkins Center for Innovative Care in Aging is testing a program that includes occupational therapists, registered nurses, and handymen.

### A POSSIBLE SOLUTION

The Johns Hopkins School of Nursing program, called Community Aging in Place, Advancing Better Living for Elders (CAPABLE), uses the three-pronged approach of an occupational therapist, registered nurse, and handyman working in a coordinated fashion to address clients' self-identified problems in the areas of home safety, fall risk and prevention, and carrying out activities of daily living (ADLs) and instrumental ADLs (IADLs). The occupational therapy component specifically tackles dysfunction in ADLs, IADLs, functional mobility, and leisure and socialization and how the home environment, as described in Ms. V's case, contributes to daily functional challenges.

Through a \$4-million, 5-year grant from the National Institutes of Health, CAPABLE builds on and extends the Advancing Better Living for Elders (ABLE) program, a previous occupational therapy intervention with low-income older adults in Baltimore City that was developed by author Laura N. Gitlin and her colleagues at Thomas Jefferson University (TJU) and is designed to maximize functionality in older adults aging with a disability.<sup>5-7</sup> ABLE is currently used by some home care agencies, including Jefferson Elder Care, a home care program at TJU



that provides evidence-based services. ABLE involves up to five home visits by an occupational therapist; one home visit by a physical therapist; and recommendations for and training in home modifications to address client-identified functional difficulties, home safety concerns, fear of falling, and fall risks. In a randomized trial of 319 older adults in Philadelphia from 2000 to 2005, ABLE reduced functional difficulties, improved home safety, enhanced efficacy in carrying out everyday activities at 6 and 12 months, and reduced mortality risk up to 3 years from study enrollment.<sup>5,8</sup> CAPABLE expands ABLE to include two additional components. First, it adds a nurse to help older adults address pain, depression, and medication issues that contribute to functional difficulties, to provide strength and balance training, and to facilitate skills in communicating effectively with primary care clinicians about medical issues.<sup>9</sup> Second, CAPABLE provides home repairs in addition to home modifications to address housing conditions that pose a risk to daily functioning.

CAPABLE involves up to 10 in-home visits (six occupational therapy visits and four registered nurse visits) over a 4-month period, and the visits are staggered, so that the occupational therapist visits twice before the registered nurse visits for the first time. The first two visits focus on evaluating the participant and the home, and the later visits focus

on providing education, identifying barriers to function as directed by the client, making goals, solving problems, and conducting training. All visits are customized to the particular functional needs of the participant. Following a home evaluation conducted by the occupational therapist, the handyman receives instructions on home repairs; modifications; and assistive devices, assistive technology, or durable medical equipment specified by the occupational therapist. The handyman's organization, CivicWorks, in Baltimore, orders the items, with an average of \$1,200 in grant money covering the materials and labor. CivicWorks is also an AmeriCorps site and therefore is able to provide an apprentice plus an experienced handyman for the cost of one handyman.

As in ABLE, an essential feature of CAPABLE is that the areas addressed are driven by the client and his or her self-perceived needs. Also, there is interdisciplinary coordination, as team members consult one another regularly via e-mail, text messages, phone calls, and in-person team meetings. One of the occupational therapists is the central liaison for all issues with the handyman aspect of CAPABLE and receives weekly updates to ensure that the client's goals are being met in a coordinated fashion. For more on this process, see Table 1 on page 11.

On the first visit, the occupational therapist issues the participant a folder

**Table 1. OT, HM, and RN Visits Over a 4-month Period for Each CAPABLE Client**

	Occupational therapist (OT) and participant together	Handyman and apprentice	Registered nurse (RN) and participant together
<b>Visit 1*</b>	Introduction; evaluate activities of daily living (ADLs) and instrumental ADLs and mobility; issue fall prevention and recovery pamphlet (from CDC).		Introduction and assessment of pain, mood, strength, balance, polypharmacy and primary care provider access/communication.
<b>Visit 2</b>	Determine goals and conduct house tour/evaluation.		Determine goals together, start to brainstorm goal #1.
<b>After visit 2</b>	Develop work order for handyman (HM). Send to HM and receive pricing.		Review medication list, including interactions and possible deletions.
<b>Visit 3</b>	Brainstorm and develop action plan with client for identified goal #1.	HM conducts site visit then gives OT pricing; starts work and continues until complete.	Brainstorm and provide develop action plan for client identified goal #2.
<b>Visit 4</b>	Brainstorm and develop action plan with client for identified goal #2; issue assistive equipment/durable medical equipment when available.		Brainstorm and provide action plan for client identified goal #3.
<b>Visit 5</b>	Brainstorm and develop action plan with client for identified goal #3; review HM work with participant.		
<b>Visit 6</b>	Wrap up, help participant generalize solutions for future problems; review goals.		

\*The visits are staggered so that OT visit 1 and 2 occur before RN visit 1. RN has four visits; the OT has six.

to keep CAPABLE appointment calendars, hard copies of the brainstorming and action plans the participant does with the registered nurse and occupational therapist, and fall prevention pamphlets for reference. To date, all clients have preferred paper copies, but electronic versions are also offered. The participant and occupational therapist use a standardized assessment tool, the Clinician and Client Assessment Protocol (C-CAP), initially developed in ABLE,<sup>10</sup> in which the client and occupational therapist work together to identify areas of concern. Specifically, the areas examined include:

1. ADLs: bathing, grooming, eating and drinking, toileting, taking undergarments on and off (hooks, fasteners, buttons, zippers, snaps), taking clothing on and off, donning and doffing socks and shoes (including Velcro and ties), resting and sleeping, and engaging in sexual activity
2. IADLs: housekeeping, bed making, washing dishes by hand, grocery

shopping, using the telephone, taking medicines, managing finances, maintaining health, prepping and cleaning for meals, caring for pets, participating in leisure activities, working or volunteering, and participating in organized social activities

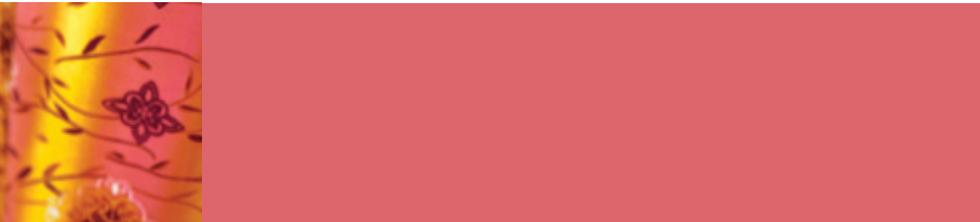
The participant works with the occupational therapist to set three goals based on difficulties found in the self-report and observation during the C-CAP. On the next visit, the occupational therapist finalizes goals with the participant and completes a home-risk evaluation, plus introduces fall prevention and recovery strategies.

To address the participant's chosen goals, the occupational therapist brainstorms and develops an action plan with the client to discover why problems may be occurring, what the possibilities are of fixing them, and two things the client will implement for the upcoming week or two until a strategy that works is established. At the end of all six of the

occupational therapy sessions, the client receives a booklet of strategies, initially developed in ABLE and now expanded to include a broader range of tips reflecting the nurse component (given by the registered nurse on the last visit) that is also reviewed by the occupational therapist with the client, focusing on ADLs, falls, and safety.

To complement the occupational therapy work on functional goals, the nurse addresses medical issues that inhibit daily function, such as pain, mood, medication adherence and side effects, and strength and balance. For example, when a client has pain that interferes with his or her ability to cook, the registered nurse reviews current pain medication, tailors an exercise program suited to the individual, and encourages increased communication with the client's primary care provider to address unresolved pain. The occupational therapist evaluates the need for assistive devices, assistive technology, and/or durable medical equipment;

examines environmental factors that could exacerbate pain while standing or sitting; and introduces strategies to decrease pain while the client performs IADLs (e.g., recommending weight shifting or sitting vs. standing, ordering a high back chair with arms). Then the occupational therapist gets the handyman involved for any modifications that could be implemented (e.g., lowering or raising a cooking surface, checking for floor stability).



CAPABLE differs from traditional home care in important ways. In CAPABLE, the attention is directed to the ability of the person to function in his or her home environment versus addressing a specific injury or impairment. The occupational therapist acts as a consultant, observing and discussing with clients the difficulties they encounter performing valued daily activities. Importantly, the condition of the home itself is considered in terms of how it can best support the client. Whereas traditional occupational therapy and registered nurse home care is client centered, CAPABLE is client *directed*. This is an important difference. The functional areas addressed are those that the client self-identifies as most important. Personal goals such as walking around a nearby lake or getting to church at least twice a month become the focus of treatment.

CAPABLE was initially tested in a Johns Hopkins University Institutional Review Board–approved pilot study in 2010 with 40 low-income adults in Baltimore City, Maryland, and is now being tested in a larger, more rigorous randomized trial funded by the National Institute on Aging (NIA) as well as in a demonstration project funded by the Centers for Medicare & Medicaid Services as part of the Patient Protection and Affordable Care Act.<sup>11</sup>

Results from this pilot phase are encouraging; participants reported

improved ability to perform their ADLs and IADLs. The number of domains they reported difficulties in improved from an average of 2.1 ADL difficulties at baseline to 0.7 ADL difficulties postintervention, and from an average 2.3 different IADL difficulties to 1.2 postintervention, along with a decrease in their fear of falling. Of those who received CAPABLE services, 100% indicated it helped them, and 94% stated that their lives had been made easier, their quality of life had

improved, and ADLs and IADLs became easier.<sup>12</sup> CAPABLE is now being implemented with 500 people in the CMS demonstration project and 300 people in the NIA randomized trial. Results will be available sometime in 2015 or 2016.

### MS. V, REVISITED

Here were the three goals Ms. V identified:

- Walk one lap around a reservoir near her home with one rest break (problem addressed: decreased exercise due to caregiving responsibilities and declining endurance).
- Attend church at least once a month (problem addressed: decreased socialization due to lack of family support).
- Safely reach items on the floor and above the shoulder with modified independence using adaptive equipment (problem addressed: difficulty stooping, crouching, bending, reaching overhead).

Besides working on specific functional goals, there are a few safety items CAPABLE offers every participant. In Ms. V's case, this meant that the handyman installed a grab bar for Ms. V's tub and fixed the bathroom floor so that it was safe and usable for all members of the household. The occupational therapist added a tub clamp bar, placed nonskid tread tape on the tub surface, and laid nonskid bath rugs on the floor.

The occupational therapist also issued a long-handled sponge to make bathing easier for Ms. V and her husband. The handyman added a railing on the back steps, fixed and replaced wood planks on the ramp and deck, and removed the deteriorating turf on the steps for safer mobility. The front top step was re-cemented to increase stability, which also increased safety for others coming and going. Bilateral railings were placed inside to the second level, making it easier and safer for Ms. V to climb the stairs. The basement floor was removed and new linoleum was placed in needed areas to reduce fall risk. The dryer was raised by a 4-inch platform to ensure proper body mechanics during use. Scatter rugs were removed or double-sided taped to reduce fall risk. The occupational therapist also issued Ms. V a reacher for easier access to overhead and floor items. The nurse readjusted Ms. V's medications with her primary care provider by using generic forms and re-examining her intake; began an exercise routine using a combination of the Otago Programme (fall prevention exercises for older adults developed in New Zealand)<sup>13</sup> and Tai Chi to alleviate her pain; and changed her husband's insulin to a generic brand to save money, which reduced stress. The occupational therapist and Ms. V addressed each of her goals through the brainstorming and action plan activities during sessions 3 to 5 and gained the following results.

At the end of Ms. V's 4-month participation in the study, she was walking for pleasure (and exercise) at least once and often twice a day, in the mall, on streets, at the reservoir, and elsewhere. Ms. V stated that she had gained strength, endurance, and the determination to do something good for herself every day, and that she was having less pain because of it. She began ushering at church every other Sunday and felt relief in realizing through the brainstorming process that her husband did not need around-the-clock assistance to be safe. In response to her not attending to all his demands, Mr. V began doing more for himself, which reduced stress for Ms. V and was also likely healthy for Mr. V. By using the reacher issued by the occupational therapist, there was not much Ms. V could not grab. Ms. V had gained a new spirit by the second

## FOR MORE INFORMATION

### **OTA/CDC Falls Prevention Project**

[www.aota.org/en/practice/productive-aging/falls/cdc](http://www.aota.org/en/practice/productive-aging/falls/cdc)

OTA Fact Sheet

**Home Modifications and Occupational Therapy**  
<http://tinyurl.com/pahjq43>

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### **Occupational Therapy and Home Modification:**

#### **Promoting Safety and Supporting Participation**

Edited by M. Christenson & C. Chase, 2011. Bethesda, MD: American Occupational Therapy Association. (Earn 2 AOTA CEUs [25 NBCOT PDUs, 20 contact hours]. \$259 for members, \$359 for nonmembers. To order, call toll free 877-404-AOTA or shop online at <http://store.aota.org/view/?SKU=3029>. Order #3029. Promo code MI)

### **Occupational Therapy Practice Guidelines for Home Modifications**

By C. Siebert, 2005. Bethesda, MD: AOTA Press. (\$59 for members, \$84 for nonmembers. To order, call toll free 877-404-AOTA or shop online at <http://store.aota.org/view/?SKU=1197C>. Order #1197C. Promo code MI)

### **Occupational Therapy Practice Guidelines for Productive Aging for Community-Dwelling Older Adults**

By N. Leland, S. J. Elliott, & K. Johnson, 2012. Bethesda, MD: AOTA Press. (\$69 for members, \$98 for nonmembers. To order, call toll free 877-404-AOTA or shop online at <http://store.aota.org/view/?SKU=2220>. Order #2220. Promo code MI)

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### **Strategies to Advance Gerontology Excellence: Promoting Best Practice in Occupational Therapy**

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### **Ways of Living: Intervention Strategies to Enable Participation, 4th Edition**

By C. H. Christiansen & K. M. Matuska, 2011. Bethesda, MD: AOTA Press. (\$89 for members, \$126 for nonmembers. To order, call toll free 877-404-AOTA or shop online at <http://store.aota.org/view/?SKU=1970B>. Order #1970B. Promo code MI)

occupational therapist visit. “You both taught me that it’s okay to take time for myself and that I deserve it!” she said.

## CHALLENGES AND SUCCESSES

Because the work involves a team of three professionals, scheduling conflicts often arise with clients, such as when participants have other appointments or when they do not feel well and need to reschedule. Also, clients need many more housing repairs than can be handled within the CAPABLE approach. There is also a learning curve in transitioning from clinician to consultant and not treating but guiding clients through their journey with us and toward their goals.

Improving safety in homes via strategies and modifications and keeping people in their homes (usually a source of meaning) is a success for older adults, their families, and our society. Because the home is such an intimate setting, a bond can occur between team members and participants that can promote cultural experiences for all parties involved. Observing clients transform into a safer and more efficient people in their homes is very rewarding as well.

If proven efficacious and cost effective by this larger study, CAPABLE has the potential to change the paradigm of care for older adults with functional

difficulties by integrating a home repair and home modification perspective in health care provision and using a client-directed approach. ■

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