

Aging Gracefully in Place: An Evaluation of the Capability of the CAPABLE[®] Approach

The Johns Hopkins University (JHU) CAPABLE (Community Aging in Place-Advancing Better Living for Elders) program¹ is a person-directed approach to both homes and the older adults living in them. Over the course of about five months, clients receive home visits from an occupational therapist (OT) and a registered nurse (RN), who work with clients on self-directed goals, and from a home repair professional, who provides needed goal-related home repairs and modifications. The ultimate goal is to increase elderly residents' control over their physical function and improve their housing conditions so they can remain in their homes and move more independently and safely both indoors and outdoors.

Through Aging Gracefully, a study organized by the National Center for Healthy Housing (NCHH), four U.S. partner teams in urban and micropolitan² communities implemented the CAPABLE program: Greensboro, North Carolina (NC); Wilkes-Barre, Pennsylvania (PA); South Burlington, Vermont (VT); and San Diego, California (CA).³ Having seen JHU's success when premiering the program in Baltimore, NCHH wanted to learn how the CAPABLE model could be effectively implemented by relatively smaller, diverse organizations, with varying housing types, partnering strategies, and client bases.

At the four partner locations, a total of 153 clients completed both the CAPABLE program and the evaluation. The study demonstrated health and home improvements for clients, positive experiences and opportunities for partner CAPABLE teams, and great societal benefits. This brief presents some of the key client, program, and societal benefits; for further information about how these four programs worked and how to implement CAPABLE in your community, we recommend reviewing our [Implementation Guide](#).

Client Benefits

- 1. Physical and Mental Health Improvements.** Clients experienced improvements in many key health outcomes—Activities of Daily Living (ADLs),⁴ Instrumental Activities of Daily Living (IADLs),⁵ quality of life, falls efficacy, depression, and pain interference with normal activities.
 - Clients reduced their ADL limitations by two points, reporting difficulty with an average of 3.7 ADLs at baseline versus 2.1 after CAPABLE. A change of 1 point is considered clinically relevant.
 - CAPABLE yielded a more than 20% increase in the percentage of clients who reported no difficulty with bathing, lower body dressing, getting in and out of beds and chairs, using the toilet (almost 40% increase), and walking across a small room.
- 2. Access to Home Repair Services.** Conducting home modifications is just as essential an element of CAPABLE as the nursing and occupational therapy. The most common specific home modifications delivered through Aging Gracefully were fall prevention and grab bars, home organization, floor repairs, home safety devices, door repairs, and accessibility modifications.
- 3. Access to Medical Equipment and Needed Personal Items.** The most common durable medical equipment and assistive devices delivered through CAPABLE were non-grab bar fall prevention

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² The U.S. Census defines micropolitan areas as areas having at least one urban cluster of at least 10,000 but less than 50,000 population.

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⁴ ADLs are defined as eight activities essential to daily self-care: walking across a small room, bathing, upper and lower body dressing, eating, using the toilet, transferring in and out of bed, and grooming.

⁵ IADLs are defined as eight independent living skills: using a telephone, shopping, preparing food, light housekeeping, washing laundry, traveling independently, taking medications independently, and managing finances independently.

items (e.g., reachers, stepstools), personal care items (e.g., long-handled grooming aids, no-tie shoelaces), sleep-related items (wedge pillow, white noise machine), bathroom fall prevention items (tub/shower transfer bench/seat, raised toilet seat), IADL aids (e.g., home cleaning and cooking aids, folding grocery cart), pain reduction items (e.g., pain relief patches, heat therapy, muscle roller stick), and safe mobility/transfer equipment (bed assist bar, car assist handle).

4. **Improved Independence and Quality of Life.** Having a reduction in pain, an easier time with everyday tasks, or an increase in mobility allows CAPABLE clients to enjoy greater independence, especially if home modifications include installation of railings, ramps, or other accessibility upgrades on home entrances, as the NC program did. The NC project director also observed that CAPABLE inspired some homeowners to continue with CAPABLE recommendations long after the five-month program ended—for example, motivating people to start exercising, volunteer in the community, and stop smoking. He noted the program restored purpose in older adults because they were trained and were able to use their homes more purposefully.
5. **Improved Healthcare Access for Isolated Clients.** CAPABLE services created opportunities to reach clients who are unable to access on-site services. As one CA nurse (whose prior experience had been in clinics rather than in home health) noted: “It’s been a really rewarding experience It has opened my eyes to how hard it can be for people to come into a clinic. I know our director wants to see if we can use this pilot to bring home health into our clinic work.”
6. **Greater Agency over Health Issues.** CAPABLE is built on the concept of the client “driving the bus” as they set their own goals, which then determine what the RNs, OTs, and home repair will focus on. The PA OT said that about 50% of her clients knew exactly what problems they wanted to focus on, while the other 50% thought she, the OT, should dictate their needs. With advice from JHU, OTs found that gently working with clients to probe deeper into their ADL difficulties helped clarify problems and safety hazards for clients. The PA OT said that CAPABLE OTs help clients “turn on that light bulb.” She gave an example: “One client had a lot of back pain but couldn’t recognize how that affected her function. She liked cooking but couldn’t stand. She went to art classes but couldn’t stand. I did functional standing tolerance, and it improved function in multiple areas beyond just dealing with back pain. They know their impairments but don’t know how to make an end goal to improve function.” Through CAPABLE home visits, the OT and RN help the clients do just that.

Benefits to Partner Programs

1. **Partnerships Improve Service Quality.** The NC team noted that, in their routine work, OTs and RNs educate patients on needed home modifications but have no way to guarantee such work will get done. In the home repair professionals’ routine work, they can do home modifications but cannot provide education on the safe way to use the modification. CAPABLE training with the client on the actual home modifications was something OTs and RNs had not experienced before, and they loved that they could do follow-up training once modifications were in place. Home repair personnel loved the fact that clients learned the safest way to use the newly installed home accessibility and other home modifications.
2. **Opportunity to Leverage Other Funding.** Through CAPABLE, especially in locations with strong home repair programs, organizations may be able to leverage the work with other funding to provide additional services. NC strategically decided that accessibility modifications such as access ramps or outdoor concrete step repair at single-family homes were necessary if these modifications fit the client CAPABLE goals of being able to move independently and safely from their home into their yards or communities. NC had a separate funding stream which allowed them to include these more expensive home modifications into their CAPABLE demonstration.
3. **Opportunities for a Variety of Organizations to Serve as Project Lead.** CAPABLE requires coordination between OT, RN, and home repair services but does not have a requirement about

which discipline must serve as the project lead, meaning communities can design a program to match their specific strengths.

- 4. Home Repair Draw.** Several Aging Gracefully partners noted the home repair arm of CAPABLE was a big draw for older adults, who were attracted to the idea that home hazards would be fixed. This means it is important to choose the correct home repair specialist to fit the locality's CAPABLE program needs. The implementing organization needs to know which home repair professionals have credibility in their communities. Having a strong home repair organization as the lead organization may help engage older adults and provide a way to address non-CAPABLE deferred maintenance and safety home repair issues.

For example, one NC client had a leaking roof at enrollment. Because of its routine work, the NC home repair organization was able to repair the roof using non-Aging Gracefully funding. The client was thankful and relieved her roof no longer leaked. NC's Project Director feels this type of service was a strength in getting and keeping people in the Aging Gracefully project and will continue to be a plus as NC scales up the program.

- 5. Ability to Follow Through with Patients.** CAPABLE's extended time period and focus on the home setting give the RNs and OTs the opportunity to see clients follow through on their action plans and work toward their function goals. One NC OT noted, "[I've] worked in acute care, inpatient rehab, home health, and outpatient rehab, so [I've] done the gamut and this is the first time that [I've] been able to work with the patient, make recommendations, and see the recommendations be fulfilled, on a consistent basis. 95% of the time [in routine work], I think my recommendations don't come to fruition."
- 6. Ability to Share Tips and Collaborate Among Partners.** All Aging Gracefully partners noted the vital importance of a Site Coordinator to help the team manage the CAPABLE process, resolve specific client issues, and help the team strategize together. For example, an Aging Gracefully OT said she had an issue in which a husband and wife were enrolled. The husband was highly engaged in the process, but the wife would constantly "shut him down." The RN discovered a way to engage the wife, shared the strategy with the OT, which helped the OT better work with both clients. The team noted that "the value of this project is the follow-up and the working collaboratively to make the outcome more successful and sustainable."
- 7. Opportunity to Build Community Partnerships.** In addition to the key coordination among the core OT, RN, home repair team, CAPABLE offers an opportunity to build or strengthen partnerships with other community organizations. Aging Gracefully partners networked with many organizations to recruit and enroll people in need of CAPABLE services: Local Area Agencies on Aging; senior day centers, libraries, and other senior centers; physician referrals; healthcare organizations; other community centers, e.g., for homeless/formerly homeless persons; and local worship centers.
- 8. Emerging Opportunities for Public Funding.** States continuing to experiment with services potentially covered under Medicaid and Medicare may identify opportunities to fund CAPABLE work. Medicaid waiver programs are now permitted to pay for home modifications, and Medicare Advantage Plans can now include home repair services. One potentially relevant factor is that patient satisfaction is a big part of Medicare Advantage state contracts, and Aging Gracefully clients expressed great satisfaction with their CAPABLE services.

Greater Societal Benefits

- 1. Proven Cost Savings.** CAPABLE has been evaluated to provide cost savings through several different measures:
 - **Reducing nursing home costs.** Based on their studies in Baltimore, JHU estimates that six OT visits, four RN visits, and handyman repairs cost about \$3,000 per client over a five-month

period.ⁱ Because nursing home care may average \$6,000 per month, if CAPABLE delays nursing home admission by just three weeks, it saves money.ⁱⁱ

- **Reducing Medicare costs.** Ruiz et al. estimated that CAPABLE as executed by JHU in Baltimore reduced total Medicare expenditures by an average of \$2,764/quarter (\$11,000/year for 2 years or \$22,000) for clients relative to comparison group, mostly due to reduced inpatient and outpatient expenditures.ⁱⁱⁱ Ruiz et al. also found that CAPABLE was associated with reduced readmissions and observation stays.
- **Reducing Medicaid costs.** In a single-arm clinical trial, Szanton et al (2018) found that average Medicaid spending per CAPABLE client was \$867 less per month than that of their matched comparison counterparts, with the largest expenditure reductions in inpatient care and long-term services and supports.^{iv}

2. Meeting a Growing Need and Serving Underserved Populations. As the U.S. population ages, there is an increased demand for home health and OT services. In addition, Sandstrom (2017) noted that, while the typical user of OT and PT services are generally persons who have good access to healthcare, his study projects a growth in need for these services among historically underserved populations (e.g., persons of color living in low-income and near-poor households). CAPABLE can help fill this gap by targeting certain populations for services. Two Aging Gracefully outcomes demonstrate this potential:

- CA strategically decided to focus on older adults living in San Diego housing for the formerly homeless, many of whom, for one reason or another, find it difficult to visit their clinics.
- All four Aging Gracefully partners were particularly successful in enrolling extremely low-income older adults, with over 50% of clients having incomes less than 30% AMI.

Sustainability

One of the underlying considerations at heart for any locality looking to implement CAPABLE is the effort to reproduce the program with fidelity to the original JHU approach while also ensuring their program will work for their own communities. CAPABLE was launched in the urban environment of Baltimore; the Aging Gracefully evaluation and others have demonstrated it can effectively serve clients in smaller regions, in a variety of delivery systems and settings.

Given the large numbers of older adults in need of aging-in-place programs such as CAPABLE, its effectiveness with other populations (e.g., those with diminished mental capacity or who use wheelchairs) should be studied. Aging Gracefully partners noted that a shift in payment structure to Medicare or Medicaid may mean that most older adults enter the program through healthcare system referrals. These referrals may miss many people in need who lack a healthcare home, such as the formerly homeless older adults who were the focus of CA's enrollment. Other partners noted many people need services, particularly home modifications and repairs, quicker than a five-month program such as CAPABLE can provide. Still others noted that post-program contact may help sustain benefits.

Our hope is that the client, partner, and societal benefits illuminated in this brief inspire other localities to initiate and implement CAPABLE or other aging-in-place, in-home, holistic programs in their towns and cities, helping older adults in their communities age gracefully in place.

ⁱ Johns Hopkins School of Nursing. (n.d.). CAPABLE FAQs. Retrieved January 14, 2020, from https://nursing.jhu.edu/faculty_research/research/projects/capable/capable-faqs.html

ⁱⁱ Szanton, S. L., Wolff, J. W., Leff, B., Thorpe, R. J., Tanner, E. K., Boyd, C., et al. (2014, March). CAPABLE trial: A randomized controlled trial of nurse, occupational therapist, and handyman to reduce disability among older adults: Rationale and design. *Contemporary Clinical Trials*, 38(1), 102-112. DOI: 10.1016/j.cct.2014.03.005

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- ^{iv} Szanton, S. L., Alfonso, Y. N., Leff, B., Guralnic, J., Wolff, J. L., Stockwell, I., et al. (2018, March). Medicaid cost savings of a preventive home visit program for disabled older adults. *Journal of the American Geriatrics Society* 66(3), 614-620. DOI: 10.1111/jgs.15143