

**Habitat For Humanity**



**Implementation Initiative Evaluation Report  
(2018-2021)**

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## Introduction

### CAPABLE – An Evidence-Based Program

The Community Aging in Place, Advancing Better Living for Elders (CAPABLE) is a theory-driven, evidence-based, client-directed, and home-based intervention developed by researchers from Johns Hopkins University. CAPABLE has been proven to increase community-dwelling older adults' mobility, functionality, and capacity to “age in place” or “age in community.”

CAPABLE consists of ten home visits, including six visits by a trained occupational therapist (OT), four visits by a trained registered nurse (RN), and minor home repairs done by a handy worker. This interprofessional team works with the older adult who identifies his/her priority goals and determines an action plan that can be accomplished within four to six months. Both clinicians are trained by Johns Hopkins in the CAPABLE protocol, with visit sequence, content, and participant-directed interaction strategies that utilize motivational interviewing techniques. Motivational interviewing features active empathetic listening recognizes the participant's strengths and helps the person to identify solutions to needs or problems they perceive.

Through the series of visits, the clinicians and the participant assess limitations and strengths in the person's activities of daily living, emotional and physical health, and home environment. The OT and the RN separately focus on key priorities with the participant in their respective home visits. The participant identifies up to three goals with each of these clinicians. The participant works with these clinicians to brainstorm an action plan. The action plan includes components focusing on the home environment and on the person's actions or routine within the home—what he or she wants to change or modify. This includes minor home repairs, new supplies, or adaptative equipment, and other modifications to achieve improvement in the goals identified. The RN visits usually focus on issues such as pain, depression, strength and balance, medication management, and how the individual communicates with his/her healthcare providers. Both the OT and the RN continue to visit the person in iterative home visits ), checking i on the action steps completed, the effectiveness of the strategies the participant chose, and what more can be done to achieve the goals. Each visit builds on the others by increasing the

participant's capacity to function at home. The OT conducts the final visit (#10) after all the home repairs/modifications have been done. The participant determines if his or her goals have been met.

## **Habitat for Humanity International (HFHI)**

Habitat for Humanity International (HFHI) is a Christian, nonprofit housing organization with the vision of a world where everyone has a decent place to live. Founded in 1976, Habitat has a local presence in more than 1,100 communities in the United States and in more than 70 countries around the world. In the United States, Habitat works with low-income families to improve housing and living conditions in their local neighborhoods. By working together, supported by volunteers, homeowners and residents can achieve the strength, stability, and independence they need to build a better life for themselves, their families, and their communities. Habitat embarked upon an "Aging in Place" initiative in 2013. A primary goal has been to provide local offices with the knowledge and tools to ensure that each interaction with an older adult will lead to a holistic support system: safety and security in the home plus access to other services necessary to live independently as long as possible and continue to contribute to the community.

## **Weinberg Foundation Grant**

HFHI received a \$1.25 million grant from The Harry and Jeanette Weinberg Foundation on July 23rd, 2018, for implementing the CAPABLE program to support aging-in-place services for low-income older adults. There were five Habitat for Humanity affiliate sites approved to implement CAPABLE under this grant project. This included:

1. Habitat for Humanity of Metro Denver,
2. Twin Cities Habitat for Humanity,
3. Philadelphia Habitat for Humanity,
4. Habitat for Humanity Metro Maryland, and
5. Habitat for Humanity Susquehanna.

Each affiliate site determined how to offer CAPABLE as part of the organization’s “Aging in Place” (AIP) services offered to homeowners. Each site identified a healthcare partner (one or more organizations) to provide the OT and RN services. These five affiliates were able to augment the typical CAPABLE budget cap for home repairs and modifications (usually about \$1,300) so that Habitat could offer more extensive critical home repairs for individuals needing this. For example, such critical home repairs included fixing or replacing flooring, furnace, roof, renovating a kitchen or bathroom to make it accessible, or adding a ramp. These critical home repairs could be included by virtue of the Weinberg Foundation grant and other funds raised to leverage the work. Individuals who were living in homes having extensive damage or deterioration could have these critical home repairs done first, prior to the more modest CAPABLE modifications. The five affiliates began their Community Aging in Place, Advancing Better Living for Elders (CAPABLE) program under this Weinberg Foundation grant in late 2018.[ CAROL].

HFHI and Habitat affiliates were interested in CAPABLE because of its strong evidence base. It had been proven in randomized control trials to be effective in improving functional capacity and extending the ability of a person to continue to reside in his/her home. CAPABLE focuses on community-dwelling older adults. The affiliates and HFHI wanted to ensure service models in their older adult programs aligned with best practice, connected to specific positive health outcomes and provided robust support to older adults living in their communities.

## **Site Overview and CAPABLE Implementation Approach**

### **Habitat for Humanity of Metro Denver**

Habitat for Humanity of Metro Denver had an existing partnership with Colorado Visiting Nurse Association (CVNA). About four years ago (prior to this current grant), CVNA was interested in CAPABLE and asked Habitat to work with them. It was a part of Habitat Metro Denver’s strategic plan to do aging-in-place work, and the partnership provided an opportunity to create evidence-based programming. Habitat Metro Denver partnered on an initial application to the Kaiser Permanente Foundation for grant funding --to pilot CAPABLE. Habitat Metro Denver was the handy worker partner on that award and the CAPABLE program has been growing since then. Initially, CVNA contracted with Habitat, took care of working with the grant funder

(Kaiser Foundation) and Habitat of Metro Denver was reimbursed for materials and labor. With this grant the roles switched and Habitat was the grantee and contracted with CVNA. The partners have continued to adapt and revise the program as they continued to learn.

The participants in the CAPABLE program are adults ages 65 and over in low-income households. Participants were screened and selected by the Colorado Visiting Nurse Association, as Habitat Metro Denver's healthcare partners in the CAPABLE program. Incorporating larger critical home repairs has been effective for certain clients. At the same time, it can cause delays for the client in meeting desired milestones for CAPABLE and is more complicated for Habitat. Habitat Metro Denver has designed a two-part program where they adhere to the CAPABLE timeline with CVNA (or other partners) and then identify specific participants who have those additional home repair needs. A separate complimentary program provides home repairs that are outside the scope of CAPABLE. Being able to target specific home repair needs where the impact will be more effective has been helpful. Habitat Metro Denver plans to continue CAPABLE. However, the implementation and sustainability are highly dependent on CVNA, the healthcare partner.

### **Twin Cities Habitat for Humanity**

The Twin Cities Habitat for Humanity (TCHFH) site partnered with Allina Home Health (AHH), one of the largest non-profit home health providers in the Twin Cities area for providing CAPABLE. The partnership has been very successful. Both HFH and AHH are motivated by the people they serve and the services they provided because the AHH process of the provider aligned with many of the CAPABLE requirements, including the integration of a person-centered approach. Allina provided the OT and RN visits, and Habitat provided the home modifications for each qualified homeowner. Allina also referred clients to CAPABLE. The CAPABLE modifications are run separately from Twin Cities Habitat's existing home repair program. The project supervisor works with the OT/Nurse team and reviews the clients to determine priorities around home modification. Twin Cities Habitat utilized volunteers to build support ramps and do exterior work. The Twin Cities Habitat for Humanity will continue working on the health and housing partnership with Allina, but not the full CAPABLE model. Funding was secured through a HUD grant in 2021 for the next three years and will do a modified service that uses some of the components found in the CAPABLE program.

## **Philadelphia Habitat for Humanity**

Philadelphia Habitat for Humanity partnered with both the College of Nursing and Health Professions at Drexel University and the College of Rehabilitation Sciences at Thomas Jefferson University. This partnership provides the nursing and OT services in the CAPABLE model. Both institutions had experience with ABL (the precursor to CAPABLE) and had worked with Dr. Sarah Szanton. Both partnerships have service agreements with the Philadelphia Habitat. The teams built an effective partnership. CAPABLE sits within Habitat's home repair program. Construction projects for critical home repair is done with in-house repair/construction specialists with occasional sub-contracting. While Critical Home Repair does slow down the original vision of CAPABLE, it also addresses the importance of maintaining the home for future generations. Habitat Philadelphia believes it is important to be able to connect those two streams of work. Philly HFH plans to continue e CAPABLE with another organization taking the lead and the Habitat taking the construction handyperson role. The goal would be to have one partner that is implementing/leading CAPABLE, with the Habitat affiliate providing the sub-contracting home repair services.

## **Metro Maryland Habitat for Humanity**

Habitat for Humanity Metro Maryland originally partnered with Holy Cross Hospital, a major hospital system in the region. However, The Metro Maryland Habitat ended up contracting directly with an OT and Nurse to facilitate the CAPABLE program because many of the patients from the hospital did not qualify for the CAPABLE program. The methods used for communication with the OT/Nurse storage of data files are HIPAA compliant. CAPABLE is within the community development department of the Habitat affiliate and it functions as an add-on to the home repair service. This structure is beneficial because it is easier to integrate CAPABLE into usual work. The repair coordinator has worked with the OT/Nurse team and was the main point of contact for the participant. Sub-contractors were used in the beginning of the program, with a construction supervisor and volunteers hired to do some of the repair work. After COVID-19 hit the community, most interior work was sub-contracted. Habitat for Humanity Metro Maryland plans to continue implementing an integrated service model, incorporating both an OT and RN in their repair work but does not plan to continue the full CAPABLE model after 2021.

## Habitat for Humanity Susquehanna

Habitat for Humanity Susquehanna partnered with the University of Maryland Medical System, WATCH (Wellness Action Team of Cecil and Harford County). WATCH provided referrals, OTs, and Nurses at the beginning of the implementation of CAPABLE. WATCH was successful but the partnership was interrupted during the COVID-19 shutdown in 2020. After COVID-19 restrictions were eased, an OT was contracted and continued work. One new nurse trained but left, signifying that healthcare partner staff turnover was a struggle. HFH Suquehanna's repair program continued and those applicants who were possibly eligible for CAPABLE were offered the program. Senior Handy Service was then contracted to do the construction work. When a candidate was identified, the WATCH team served as a clearing house and went through their system to see if the client was already being served by a different program. If not, then they were a viable candidate. Then Habitat would contact the OT. The OT set up actual meetings with the client. Then the OT would write up the work order – and Habitat would send the work order to the handyman partner. Habitat would go with handyman to meet the client and then move forward. If funding is available, then the Susquehanna site desires to continue to work with the healthcare partner who would lead the CAPABLE effort. This Habitat affiliate will continue to work with older adults, building off learnings from CAPABLE to build a strong program.

## Methods

### Participant Selection

Each of the five Habitat for Humanity affiliate sites set forth its own recruitment strategies. The inclusion (selection) criteria for inviting potential candidates were: 1) age 65 and older, 2) having at least one limitation of activities of daily living (ADL) or instrumental activity of daily living (IADL), 3) not bed-bound, 4) cognitively able to engage in the program, and 5) homeowners. These selection criteria are consistent with those recommended by Johns Hopkins.

### Measures

For this Weinberg Foundation grant initiative, Habitat for Humanity International required sites to use the same pre- and post-measures of health outcome changes as were used by Johns Hopkins in their CAPABLE research studies. The outcomes included: Activities of Daily Living (ADL) function, instrumental activities of daily living (IADL) function, depression, and falls efficacy (pre to post). Instruments used to measure these outcomes included the Katz Index of Independence in Activities of Daily Living (Shelkey & Wallace, 1999), the Patient Health Questionnaire (PHQ-9; Kroenke & Spitzer, 2002), and the Falls Efficacy Scale (FES-10; Tinetti & Richman, 1990).

**Activities of Daily Living** (ADL; Shelkey & Wallace, 1999). Participants rated whether they had difficulties performing each ADL from 0 (*No and don't need help*), to 1 (*Yes but don't need help*), and to 2 (*Need help regardless of difficulty*). There were eight ADLs assessed: eating, bathing, toileting, dressing the upper body, dressing the lower body, getting in and out of chairs, walking across a small room, and grooming.

**Instrumental Activities of Daily Living** (IADL) was measured by eight items on an adjectival and point scale as follows: 0 (*No difficulty and don't need help*), 1 (*Yes difficulty, but don't need help*), and 2 (*Need help regardless of difficulty*). The eight IADLs assessed included: preparing meals, doing dishes, shopping, using phones, laundry, traveling, taking medications, and managing money.

The total score of ADL and IADL limitations ranged from zero to 16, with a higher score standing for more ADL or IADL limitations.



**Depression.** Sites used eight of the nine items from the Patient Health Questionnaire (PHQ-9; Kroenke & Spitzer, 2002) to measure participants' depressive symptoms. The "PHQ-8" was derived from the PHQ-9 by removing the last item regarding "self-harm." Each item asks the participant to rate eight statements with 0 (*not at all*), 1 (*several days*), 2 (*more than half the days*), and 3 (*nearly every day*). The pertaining to their emotional health. The total score ranges from 0 to 24. Participants who reported PHQ-8 scores that were from 5-9 were considered to have mild depression, a score of 10-14 indicated potential moderate depression, a score of 15-19 indicated moderate-severe depression, and 20 and above indicated severe depression. The Cronbach alpha of this PHQ was .75 for both pre-and post-measurements, indicating a good internal consistency between measured items and that the measurement is valid.

**Falls Efficacy Scale.** Program sites used the Tinetti Falls Efficacy scale (FES-10; Tinetti & Richman, 1990) to measure participants' fall efficacy. Participants rated 10 statements each from 0 (*not confident at all*) to 10 (*very confident*). A mean score was generated for each participant with a higher mean score referring to a higher level of fall efficacy. The Cronbach alpha of the FES-10 were .91 and .90 for pre-and post-measurements, respectively, showing that the fall efficacy scale measured participants in a consistent way.

## Data Management and Analyses

For this grant initiative, Habitat for Humanity International required sites to use the data software tool, REDCap which is a secure platform for organizations to set up and design a research or evaluation project, enter data, and aggregate results ([About – REDCap \(projectredcap.org\)](#)). All Habitat affiliate project managers familiarized themselves with this data collection tool and trained volunteers or staff on how to enter data. Participants were assigned codes so that names and other identifying information were not used. All sites could access the project data set remotely. The HHI project manager maintained the project data set and monitored data entry throughout the three years of the project. Johns Hopkins evaluation staff were provided access to the project data set and downloaded the pre/post data to perform statistical analysis using R (v.4.1.1) and R Studio (2021.09.0+351). All statistical significance was set to a  $p$ -value smaller than .05 ( $p < .05$ ). A  $p$ -value that is smaller than 0.05 means that the differences detected by the pre- and post-measurement are statistically significant and not likely are caused by chance.

## Results

### Aggregate Enrollment

Across the five sites, the total number of individuals enrolled in CAPABLE was 427 participants (between 2018 and 2021). Out of these 427 participants enrolled in CAPABLE for which there was baseline data, 348 also had post-completion data reported (82%). At the time for reporting, all CAPABLE clients were enrolled and modification work was complete for the majority of clients (all but 20), however post-completion data was still underway at the sites. Habitat plans to continue to update the results as final data is received. Also, some participants may have completed the program but refused the post-CAPABLE assessment. Others may have dropped out earlier so no final data was collected.

Johns Hopkins evaluation staff combined scores across all five Habitat affiliates to examine pre and post-scores for each measure. Twenty-six participants did not report the site at which they participated in CAPABLE and therefore the results cannot be attributed to any specific site, but have been included in this analysis

The overall completion rate was 81%. Across sites, the rate ranged from 49% to 100%. This compares to other CAPABLE sites that achieved from 65-90% completion. Table 1 presents the summary of the CAPABLE and HFHI partnership and recruitment information.

Table 1 *Partnership and Recruitment Information – All Sites*

| Site           | Partner  | Enrolled   | Completed  | %          |
|----------------|--|------------|------------|------------|
| Denver City    | Colorado Visiting Nurse Association  | 151        | 128        | 85%        |
| Twin Cities    | Allina Home Health   | 101        | 92         | 91%        |
| Philadelphia   | College of Nursing and Health Professions at Drexel University;<br>College of Rehabilitation Sciences at Thomas Jefferson University | 49         | 24         | 49%        |
| Metro Maryland | Holy Cross Hospital  | 79         | 55         | 70%        |
| Susquehanna    | University of Maryland Medical System  | 35         | 35         | 100%       |
| <b>Total</b>   |  | <b>427</b> | <b>348</b> | <b>81%</b> |

## Pre-Post Outcomes

Across all five sites, the baseline ADL scores ranged from 0 to 16. Twenty participants reported no ADL limitations and two participants reported a score of 16. Scores from the IADL assessments ranged from 0 to 16 as well, with fourteen individuals indicated having no IADL limitations and five participants having a score of 16. The average baseline score of the Patient Health Questionnaire\_8 was 6.42 (which indicates moderate depressive symptoms) and the average fall efficacy score measured at the baseline was 66.5 which indicates low confidence in not falling).

At the endpoint of the CAPABLE program, ninety-six participants reported having no ADL limitations, and 48 participants had no IADL performance issues. The average PHQ\_8 scores decreased to 4.47 (improved) and the average fall efficacy score reached 79.46. These are clinically and personally impactful changes.

Overall, CAPABLE improved participants' ADL and IADL performance, reduced their depressive symptoms and increased their fall efficacy. CAPABLE participants reported having better ADL performance. Participants' mean ADL limitations reduced from 4.6 to 2.31, a 50% improvement,  $t = 9.58, p < .001$ . This improvement aligns almost exactly with prior CAPABLE implementations including in the original CAPABLE research site. The average IADL limitations were decreased from 6.82 to 4.99, a 27% improvement,  $t = 5.68, p < .001$ . CAPABLE reduced the depressive symptom scores of participants from 6.42 to 4.47 (a 30% improvement),  $t = 5.47, p < .001$ . Participants reported that their fall efficacy was also improved from an average of 66.5 to 79.46 (increased by 16%),  $t = -7.38, p < .001$ . Table 2 summarizes the overall improvements for each measurement area across all CAPABLE sites combined.

In summary, reviewed across all sites, all four measurements achieved statistically significant improvements. As Table 2 shows, the combined scores indicate strong positive outcomes observed across the four measures.

**Table 2a**

|       | n   | Baseline   | n   | Completion  | Sig. |
|-------|-----|------------|-----|-------------|------|
| ADL   | 402 | 4.6±3.33   | 305 | 2.31±3      | ***  |
| IADL  | 392 | 6.82±4.17  | 299 | 4.99±4.24   | ***  |
| PHQ_8 | 333 | 6.42±4.66  | 281 | 4.47±4.15   | ***  |
| Falls | 364 | 66.5±24.63 | 310 | 79.46±20.93 | ***  |

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ ; Statistical significant means that the difference observed between the scores at baseline and that of post-completion are not likely caused by pure chance. As the p-value gets smaller (down to .001) this indicates stronger significance and more robust evidence that the intervention caused the results observed.

Where others CAPABLE sites conducted an evaluation of these health outcomes, the results are similar. ADL functional status change is most often reported as a measured outcome with post-CAPABLE results showing a 50% improvement.

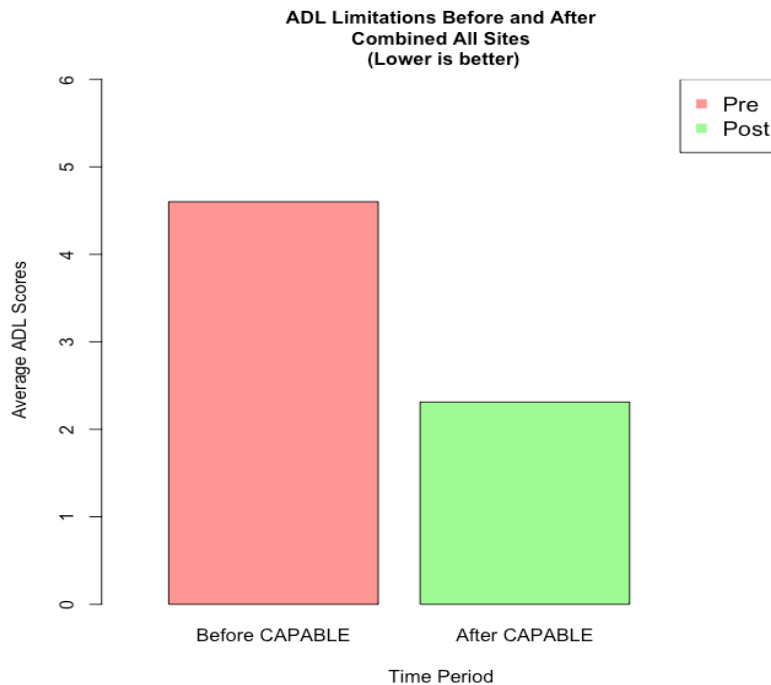
Table 2b presents the overall results and displays by individual sites

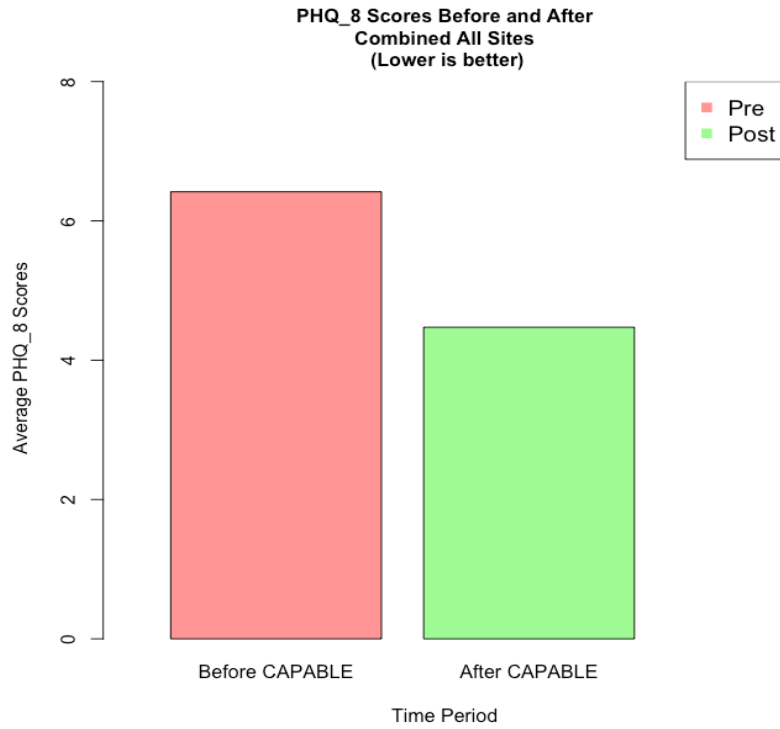
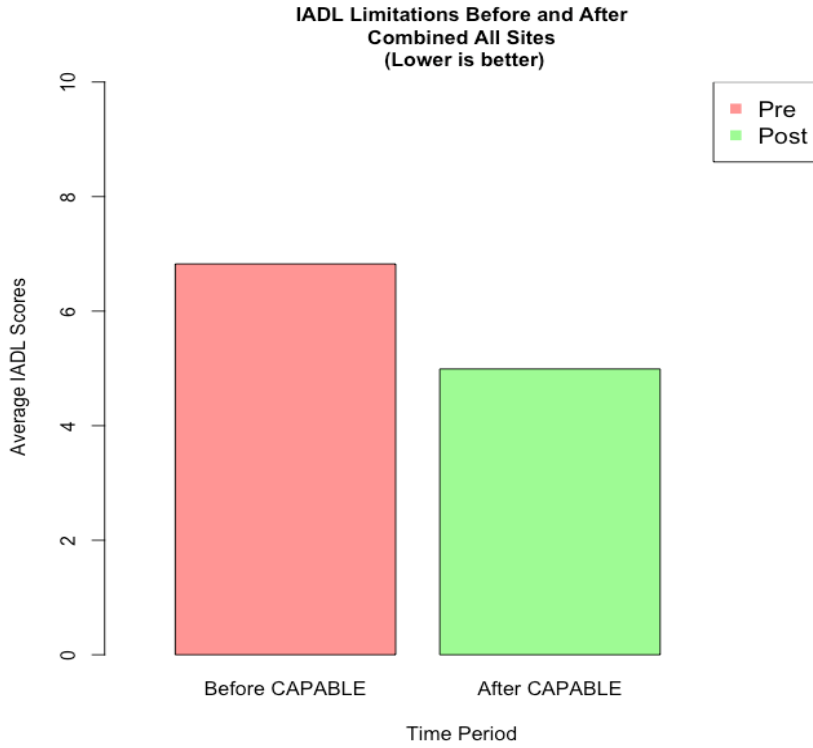
|      | All Sites |         | Denver      |         | Twin Cities |         | Philadelphia |         | Metro_MD         |         | Susq             |         |                  |
|------|-----------|---------|-------------|---------|-------------|---------|--------------|---------|------------------|---------|------------------|---------|------------------|
|      | n         | Mean±SD | n           | Mean±SD | n           | Mean±SD | n            | Mean±SD | n                | Mean±SD | n                | Mean±SD |                  |
| Pre  | ADL       | 402     | 4.6±3.33    | 151     | 4.69±3.53   | 101     | 4.51±2.95    | 43      | 4.7±3.2          | 71      | 4.61±3.68        | 35      | 4.4±3.15         |
|      | IADL      | 392     | 6.82±4.17   | 151     | 8.39±4.3    | 98      | 6.95±3.5     | 41      | 4.61±3.4         | 67      | 5.19±4           | 34      | 5.35±3.82        |
|      | PHQ8      | 333     | 6.42±4.66   | 139     | 7.24±5.05   | 93      | 6.14±3.79    | 23      | 6.09±4.7         | 46      | 4.5±3.32         | 32      | 6.62±5.94        |
|      | Falls     | 364     | 66.5±24.63  | 140     | 64.3±22.95  | 91      | 65.66±22.87  | 44      | 69.43±24.89      | 59      | 71.91±29.59      | 29      | 65.25±26         |
| Post | ADL       | 305     | 2.31±3      | 127     | 2.56±3.07   | 92      | 1.92±2.63    | 14      | 2.57±2.03        | 37      | 2.51±4.06        | 31      | 1.94±2.05        |
|      | IADL      | 299     | 4.99±4.24   | 127     | 6.47±4.59   | 89      | 4.31±3.35    | 12      | <b>3.92±3.18</b> | 38      | 3.24±3.78        | 30      | 3.4±4.12         |
|      | PHQ8      | 281     | 4.47±4.15   | 113     | 5.62±4.38   | 90      | 3.62±3.63    | 8       | <b>3.75±3.37</b> | 36      | <b>3.25±2.89</b> | 31      | <b>4.45±5.22</b> |
|      | Falls     | 310     | 79.46±20.93 | 126     | 76.87±21.46 | 89      | 79.68±19.99  | 19      | 82.75±17.66      | 41      | 87.4±17.99       | 31      | 78.09±22.29      |

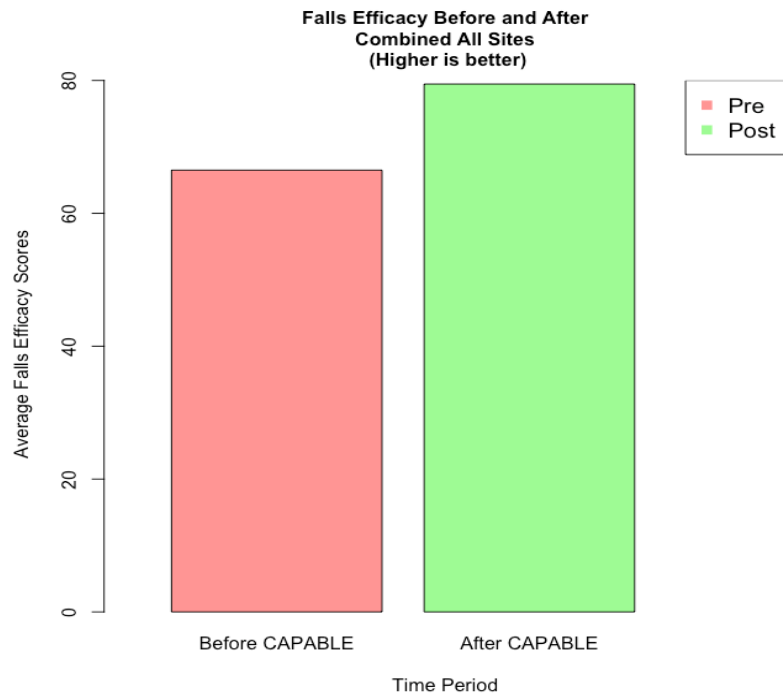
These results were achieved in both men and women as shown below Table 2c

|                   | Pre                |                   | Post              |                                    |
|-------------------|--------------------|-------------------|-------------------|------------------------------------|
|                   | Male               | Female            | Male              | Female                             |
| <b>ADL_pre</b>    |                    |                   | <b>ADL_post</b>   |                                    |
| Mean (SD)         | 4.50 (3.37)        | 4.63 (3.33)       | Mean (SD)         | 2.73 (3.62) 2.16 (2.72)            |
| Median [Min, Max] | 4.00 [0, 16.0]     | 4.00 [0, 16.0]    | Median [Min, Max] | 2.00 [0, 16.0] 1.00 [0, 13.0]      |
| <b>IADL_pre</b>   |                    |                   | <b>IADL_post</b>  |                                    |
| Mean (SD)         | 7.08 (4.69)        | 6.66 (3.93)       | Mean (SD)         | 5.02 (4.11) 4.93 (4.21)            |
| Median [Min, Max] | 6.00 [0, 16.0]     | 6.00 [0, 16.0]    | Median [Min, Max] | 4.00 [0, 16.0] 4.00 [0, 16.0]      |
| <b>PHQ_9_pre</b>  |                    |                   | <b>PHQ_9_post</b> |                                    |
| Mean (SD)         | 6.18 (4.34)        | 6.50 (4.81)       | Mean (SD)         | 4.05 (3.51) 4.66 (4.45)            |
| Median [Min, Max] | 5.50 [0, 20.0]     | 5.50 [0, 22.0]    | Median [Min, Max] | 3.00 [0, 15.0] 3.00 [0, 21.0]      |
| <b>falls_pre</b>  |                    |                   | <b>falls_post</b> |                                    |
| Mean (SD)         | 64.2 (26.8)        | 67.8 (23.6)       | Mean (SD)         | 80.2 (21.5) 79.4 (20.7)            |
| Median [Min, Max] | 67.7 [0.300, 98.9] | 71.7 [0.100, 100] | Median [Min, Max] | 87.0 [0.400, 100] 85.7 [6.10, 100] |

Figure 1 – 4.







## Site-Specific Results

### *Denver City (Colorado)*

A total of 151 older adults enrolled in the Denver City site and 128 completed the post-completion measurement. Participants reported improvements in ADL performance as the ADL limitation scores dropped from 4.69 to 2.56, a 45% improvement,  $t = 5.39, p < .001$ .

IADL reduced from 8.39 to 6.47, a 23% improvement,  $t = 3.57, p < .001$ . Depressive symptom scores declined from 7.24 to 5.62, a 22% improvement,  $t = 2.73, p = 0.01$ . Fall efficacy improved from 64.3 to 76.87, a 16% improvement,  $t = -4.62, p < .001$ . All of the four measurements improved significantly at the Denver site.

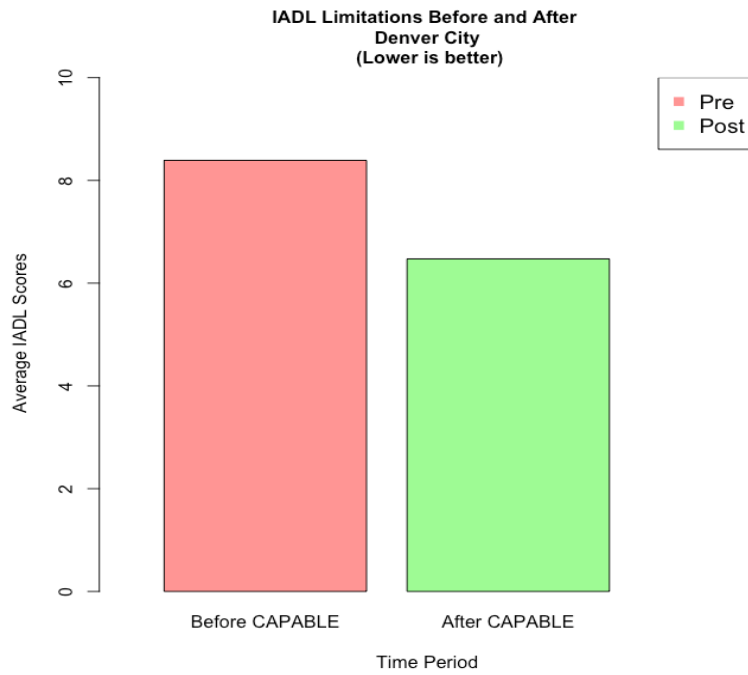
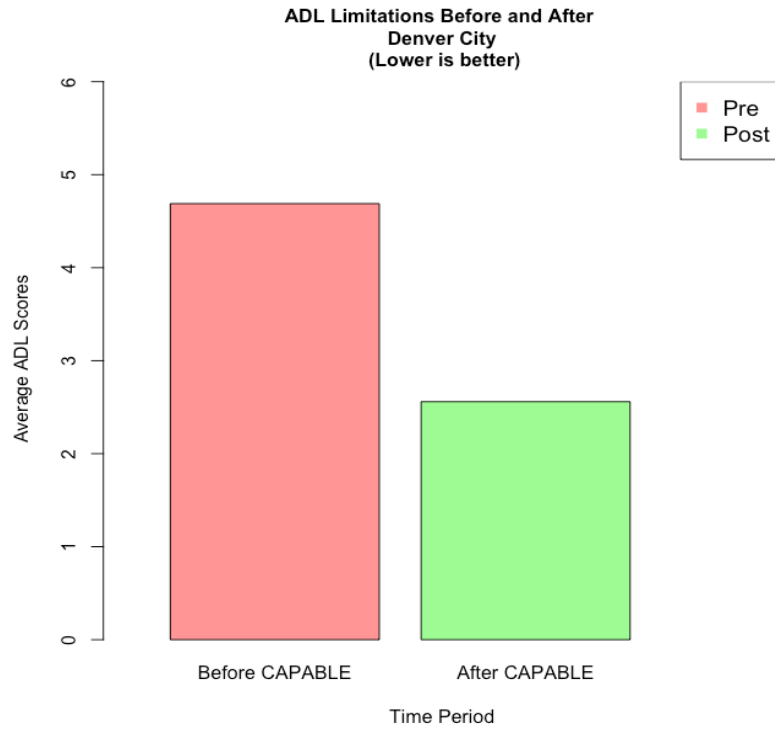
Table 3 summarizes the change in Denver. The Denver site has achieved significant improvement in all four outcomes.

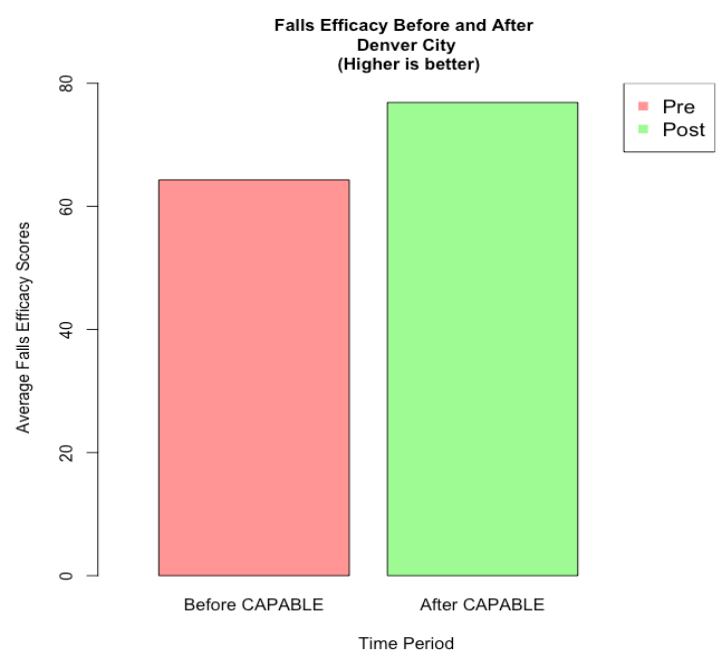
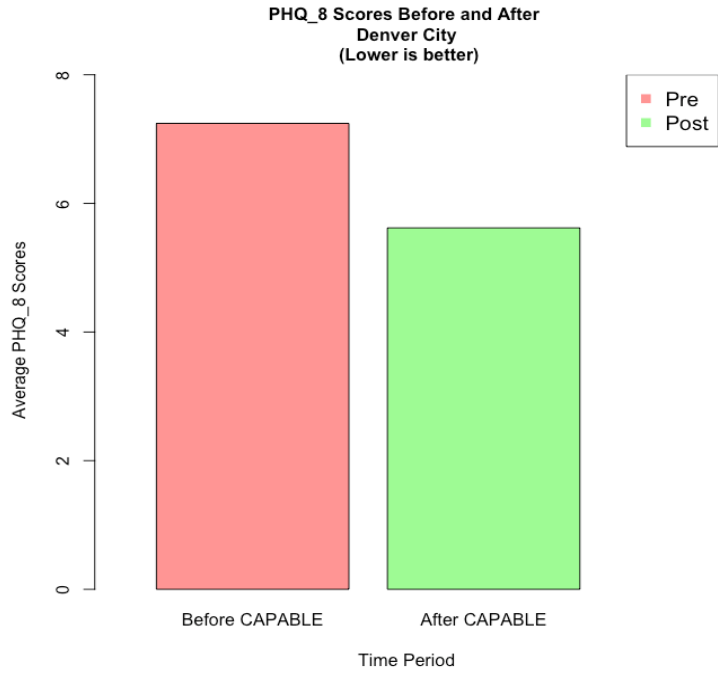
**Table 3**

|       | Pre n | Mean±SD    | Post n | Mean±SD     | Sig. |
|-------|-------|------------|--------|-------------|------|
| ADL   | 151   | 4.69±3.53  | 127    | 2.56±3.07   | ***  |
| IADL  | 151   | 8.39±4.3   | 127    | 6.47±4.59   | ***  |
| PHQ_8 | 139   | 7.24±5.05  | 113    | 5.62±4.38   | **   |
| Falls | 140   | 64.3±22.95 | 126    | 76.87±21.46 | ***  |

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; Statistical significant means that the difference observed between the scores at baseline and that of post-completion are not likely caused by pure chance.







### *Twin Cities (Minnesota)*

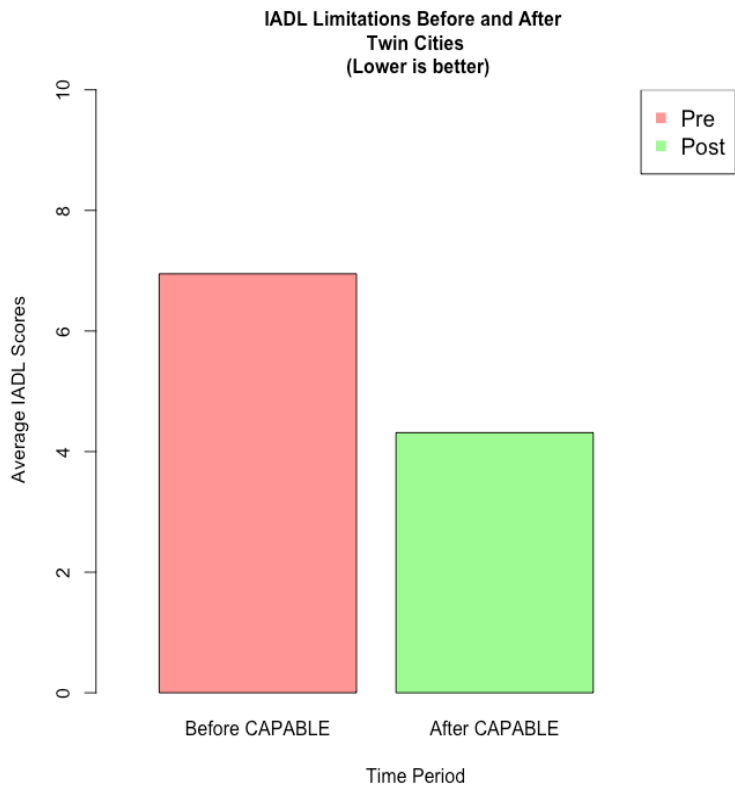
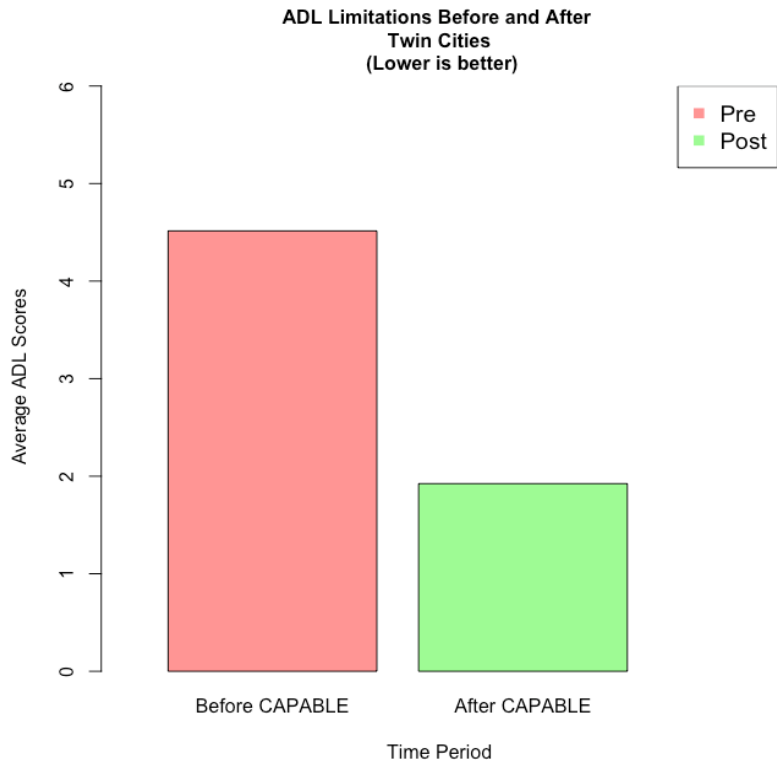
One hundred and one older adults enrolled in the Twin City site and 92 completed the post-completion measurement. Participants reported improvements in ADL performance as the ADL limitation scores dropped from 4.51 to 1.92, a 57% improvement,  $t = 6.45, p < .001$ . Participants' IADL limitation scores dropped from 6.95 to 4.31, a 38% improvement,  $t = 5.25, p < .001$ . The depressive symptom scores dropped from 6.14 at baseline to 3.62 upon program completion, which stands for an improvement of 41%,  $t = 4.59, p < .001$ . Fall efficacy increased from 65.66 to 79.68, a 18% improvement,  $t = -4.38, p < .001$ . The Twin City site has all four measurements significantly improved.

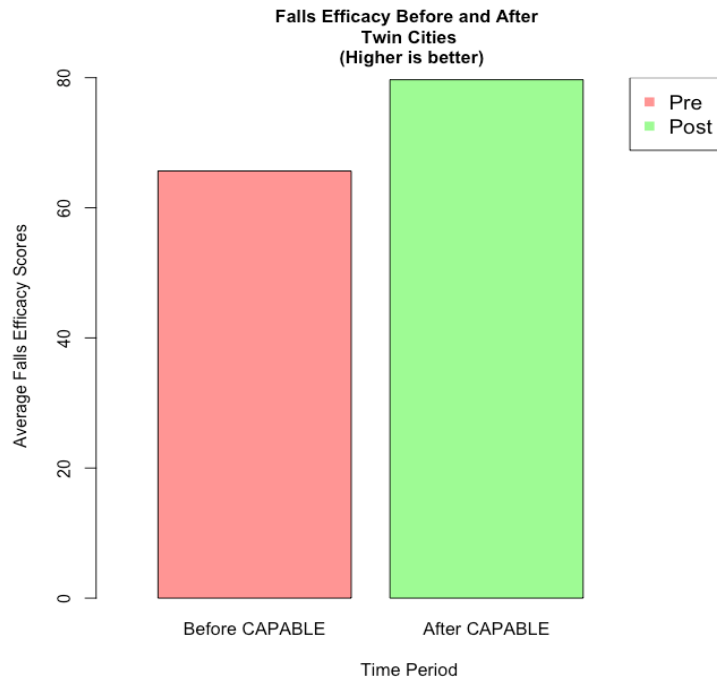
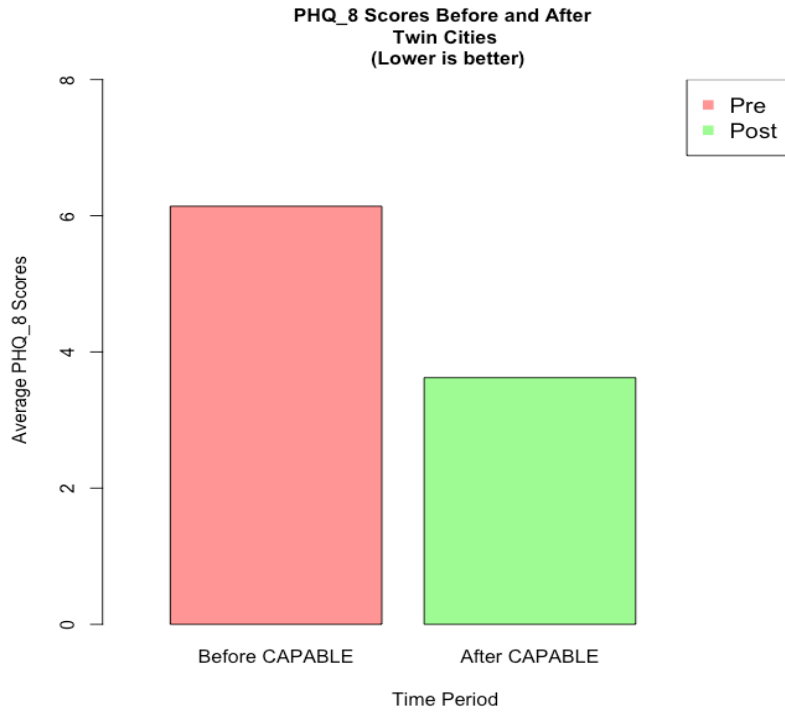
Table 4 summarizes the changes experienced through the CAPABLE program led by the Twin Cities Habitat for Humanity. Across all four outcomes, the Twin Cities site observed strong improvement.

**Table 4**

|       | Pre n | Mean±SD     | Post n | Mean±SD     | Sig. |
|-------|-------|-------------|--------|-------------|------|
| ADL   | 101   | 4.51±2.95   | 92     | 1.92±2.63   | ***  |
| IADL  | 98    | 6.95±3.5    | 89     | 4.31±3.35   | ***  |
| PHQ_8 | 93    | 6.14±3.79   | 90     | 3.62±3.63   | ***  |
| Falls | 91    | 65.66±22.87 | 89     | 79.68±19.99 | ***  |

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ ; Statistical significant means that the difference observed between the scores at baseline and that of post-completion are not likely caused by pure chance.





### Philadelphia (Pennsylvania)

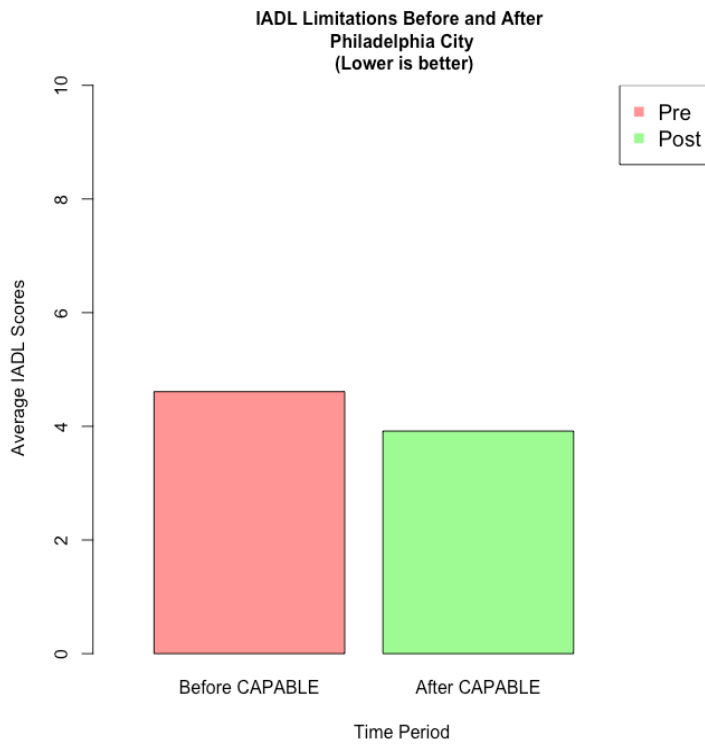
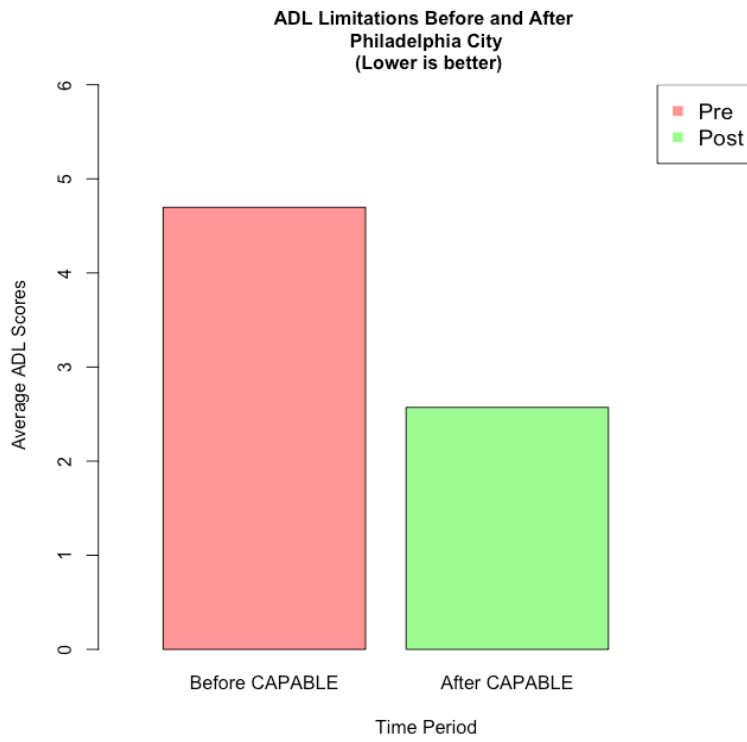
The Philadelphia site recruited 49 older adults and collected 24 participants' post-completion outcomes. This was a lower percentage of retention in the project than the other sites, due to several challenges outside of the Habitat affiliate's control. Initial referral pipelines were slower than anticipated, with two healthcare sites. Also COVID impact delayed projects, and OT and construction lead injuries created unforeseen delays. The site continues to implement, has all (65) clients fully enrolled and plans to have all clients served and data entered by May 2022. Participants reported improvements in ADL performance as the ADL limitation scores dropped from 4.7 to 2.57, a 45% improvement,  $t = 2.92, p = 0.01$ . IADL fell from 4.61 to 3.92, a 15% improvement,  $t = 0.65, p = 0.52$ . Depressive symptom scores reduced from 6.09 to 3.75, a 38% improvement,  $t = 1.51, p = 0.15$ . Fall efficacy improved from 69.43 to 82.75, a 16% improvement,  $t = -2.41, p = 0.02$ . Statistically speaking, the Philadelphia site has two measurements (i.e., ADL and fall efficacy) improved significantly. It is noteworthy that the limited number of post-survey data collection may impact the statistical analysis substantially. This level of change was significant in settings who had more participants finish CAPABLE.

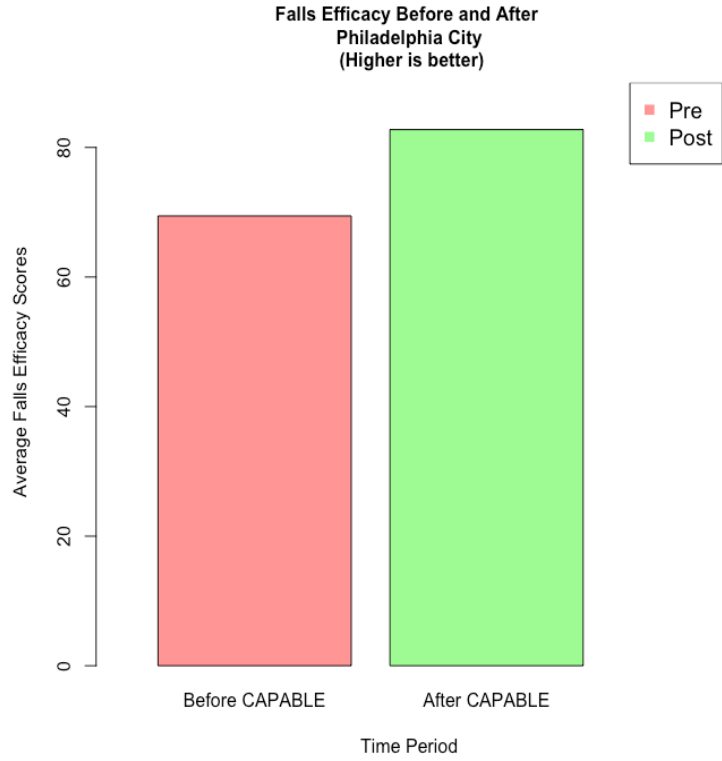
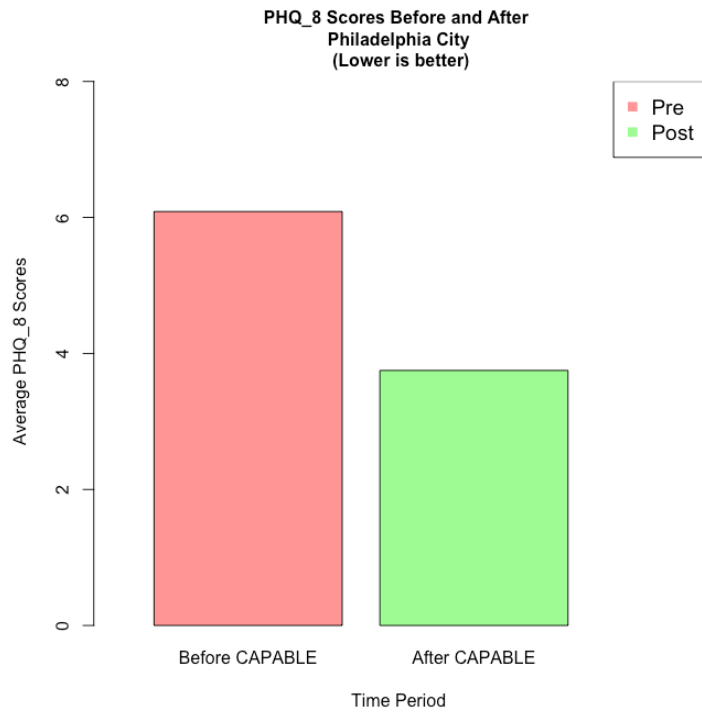
Table 5 summarizes the change in Philadelphia and shows that the site improved ADL performance and increased fall efficacy significantly. However the IADL and PHQ-8 change did not reach the level of statistical significance..

**Table 5**

|       | Pre n | Mean±SD     | Post n | Mean±SD     | Sig. |
|-------|-------|-------------|--------|-------------|------|
| ADL   | 43    | 4.7±3.2     | 14     | 2.57±2.03   | **   |
| IADL  | 41    | 4.61±3.4    | 12     | 3.92±3.18   | 0.52 |
| PHQ_8 | 23    | 6.09±4.7    | 8      | 3.75±3.37   | 0.15 |
| Falls | 44    | 69.43±24.89 | 19     | 82.75±17.66 | *    |

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; Statistical significant means that the difference observed between the scores at baseline and that of post-completion are not likely caused by pure chance.







## Metro Maryland

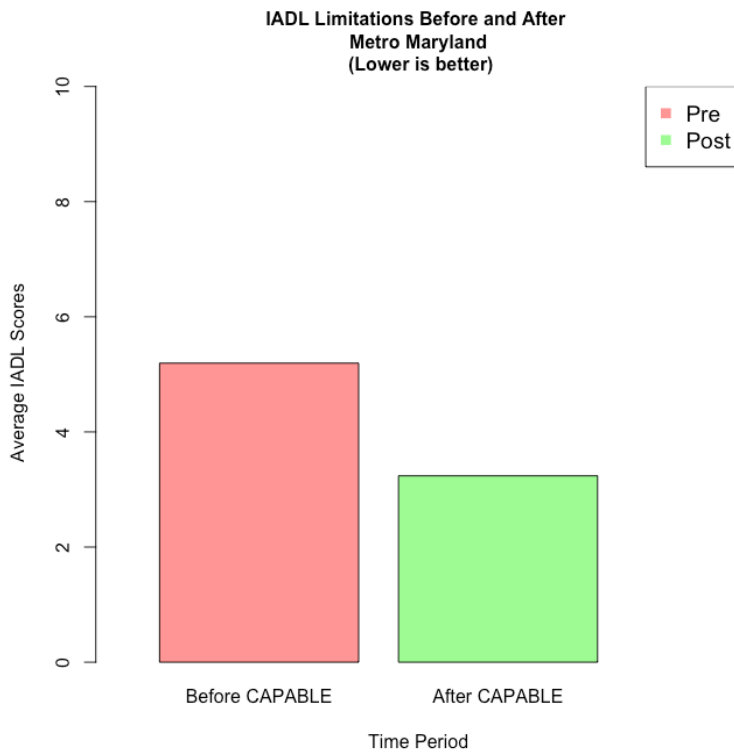
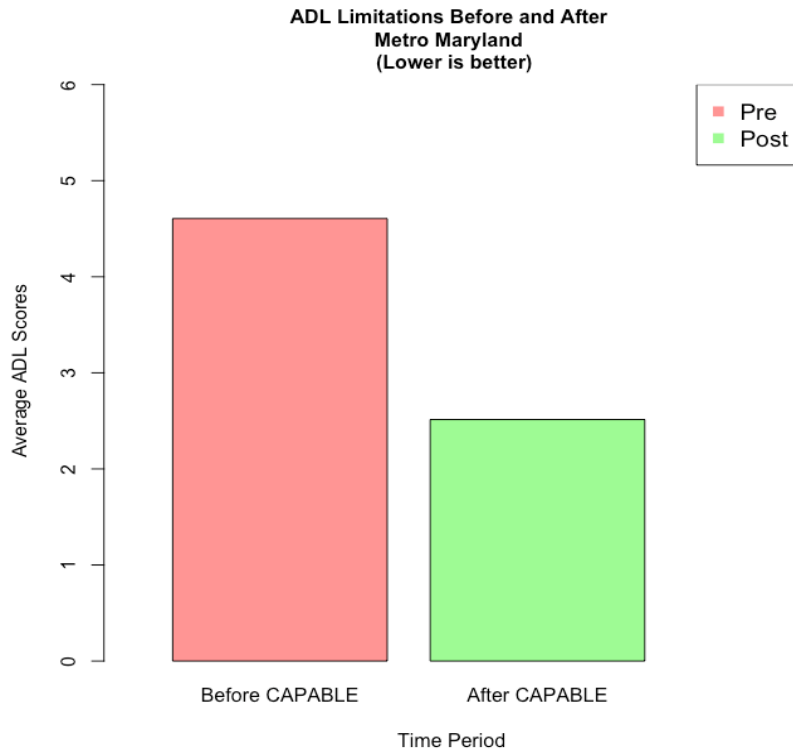
The Metro Maryland site enrolled 79 older adults and 55 participants completed the post-completion measurement. Participants reported improvements in ADL performance as the ADL limitation scores dropped from 4.61 to 2.51, a 45% improvement,  $t = 2.62$ ,  $p = 0.01$ . IADL declined from 5.19 to 3.24, a 38% improvement,  $t = 2.5$ ,  $p = 0.01$ . Depressive symptom scores dropped from 4.5 to 3.25, a 28% improvement,  $t = 1.82$ ,  $p = 0.07$ . Fall efficacy improved from 71.91 to 87.4, a 18% improvement,  $t = -3.25$ ,  $p = 0.002$

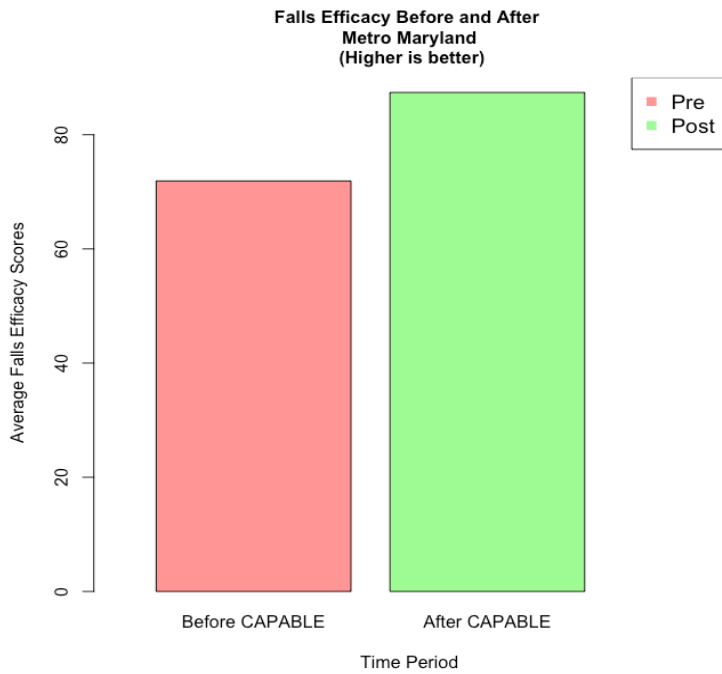
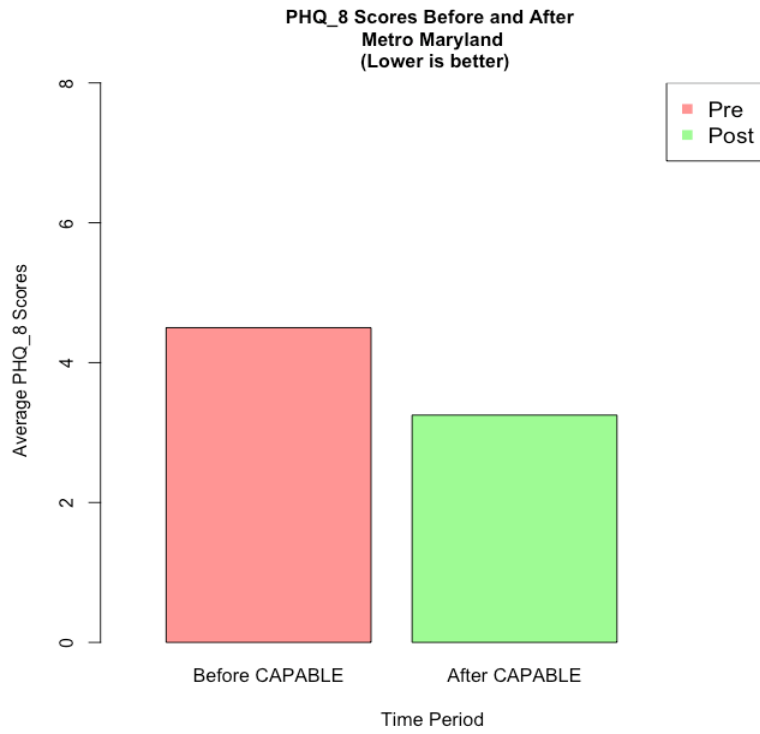
Table 6 Summarizes pre and post changes observed in the CAPABLE program led by the Habitat affiliate in Metro-Maryland Area. Statistically significant changes were seen in three outcome measures: ADL, IADL, and Falls Efficacy. This is remarkable given the small sample size. The fourth, depressive symptoms, showed a clinically significant reduction in score, but it was not statistically significant.

**Table 6**

|       | n  | Mean±SD     | n  | Mean±SD    | Sig. |
|-------|----|-------------|----|------------|------|
| ADL   | 71 | 4.61±3.68   | 37 | 2.51±4.06  | **   |
| IADL  | 67 | 5.19±4      | 38 | 3.24±3.78  | **   |
| PHQ_8 | 46 | 4.5±3.32    | 36 | 3.25±2.89  | 0.07 |
| Falls | 59 | 71.91±29.59 | 41 | 87.4±17.99 | **   |

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ ; Statistical significant means that the difference observed between the scores at baseline and that of post-completion are not likely caused by pure chance.





### Susquehanna (Maryland)

Thirty-five older adults enrolled in the Susquehanna site and 35 completed the post-completion measurement. Participants reported improvements in ADL performance; the ADL limitation scores dropped from 4.4 to 1.94, a 56% improvement,  $t = 3.81, p < .001$ . IADL dropped from 5.35 to 3.4, a 36% improvement,  $t = 1.96, p = 0.05$ . Depressive symptom scores dropped from 6.62 to 4.45, a 33% improvement,  $t = 1.54, p = 0.13$ . Fall efficacy increased from 65.25 to 78.09, a 16% improvement,  $t = -2.05, p = 0.05$ . The Susquehanna site reported three measurements with significant improvements that are ADL, IADL, and fall efficacy. PHQ\_8 was not statistically significant but still presented a 33% improvement on average.

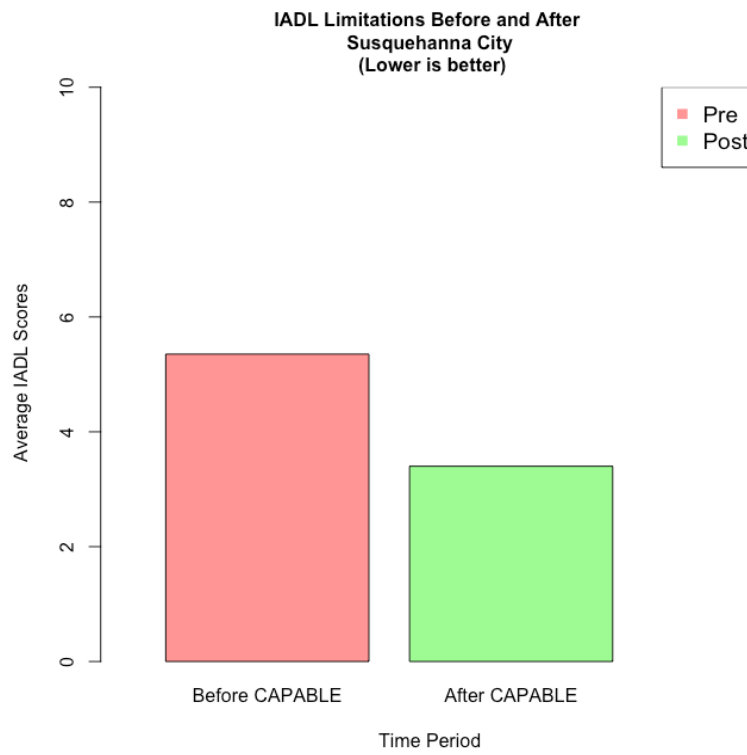
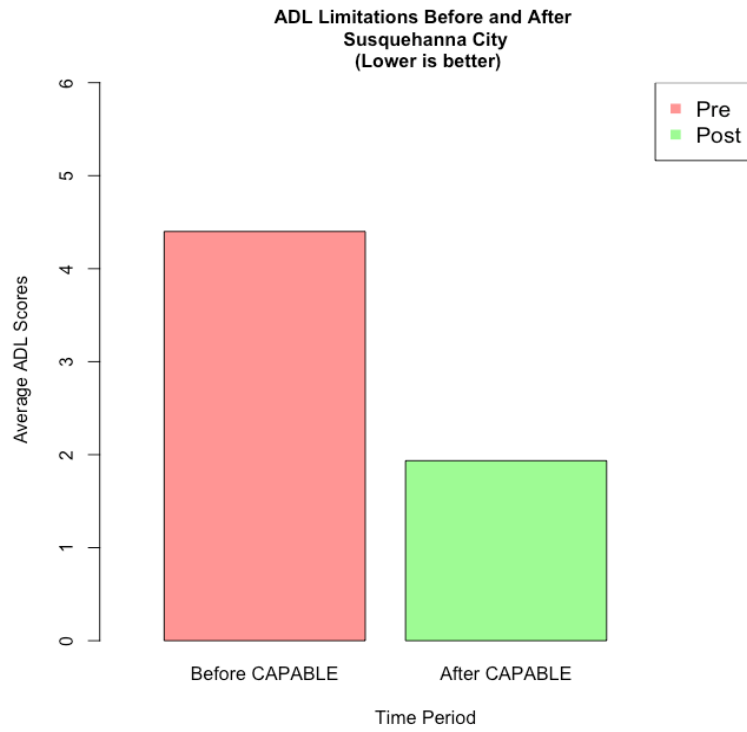
Table 7 summarizes the change in Susquehanna. The site shows strong improvements in ADL, IADL, and fall efficacy.

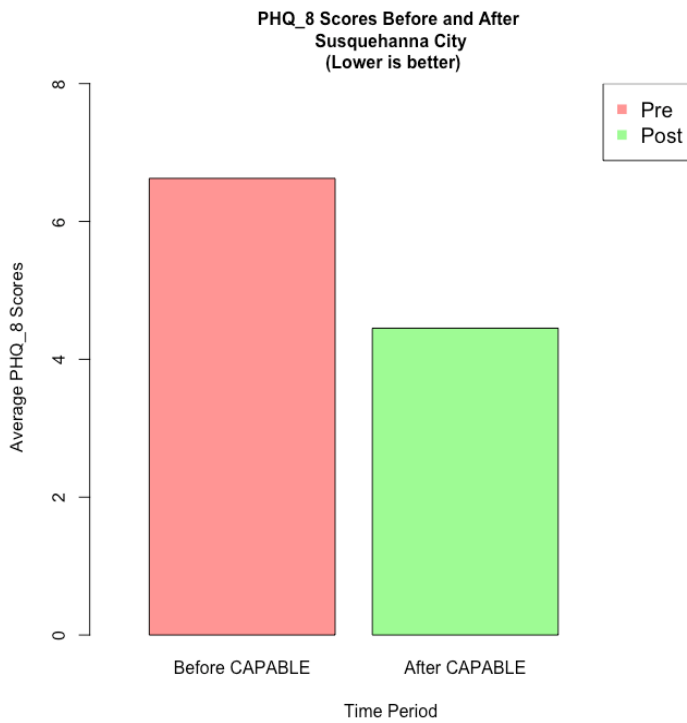
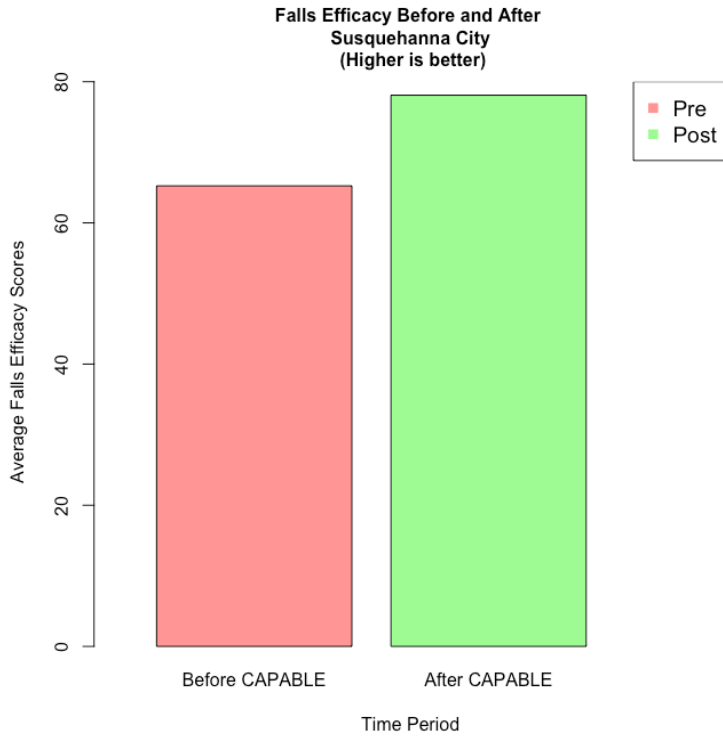
**Table 7**

|       | Pre n | Mean±SD   | Post n | Mean±SD     | Sig. |
|-------|-------|-----------|--------|-------------|------|
| ADL   | 35    | 4.4±3.15  | 31     | 1.94±2.05   | ***  |
| IADL  | 34    | 5.35±3.82 | 30     | 3.4±4.12    | *    |
| PHQ_8 | 32    | 6.62±5.94 | 31     | 4.45±5.22   | 0.13 |
| Falls | 29    | 65.25±26  | 31     | 78.09±22.29 | *    |

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Statistical significant means that the difference observed between the scores at baseline and that of post-completion are not likely caused by pure chance.

Figure 21 -24





## Discussion

The Habitat for Humanity International implementation of CAPABLE was a success despite many logistical challenges and a global pandemic.

Pooling the results, participants across the sites improved in major outcomes. Participants improved in functional status (ADL, IADL), and falls efficacy, and experienced reduced depressive symptoms. Reviewing each HFHI site, ADL and IADL are the two outcomes with the most improvements. The average ADL improvement was about 50%, indicating CAPABLE participants cut in half the number of the ADL limitations as compared to before participating in CAPABLE. Similarly, the number of IADL limitations shrunk by one-third upon the completion of CAPABLE and the average score of depressive symptoms also showed a thirty percent improvement. CAPABLE increased participants' fall efficacy scores as well.

These results are similar to those demonstrated by the Johns Hopkins CAPABLE team in the original randomized controlled trial and in other published works. Among six published studies on the evidence of the CAPABLE program, all reported improved ADL and IADL function (Spoelstra et al., 2019; Szanton et al., 2011; Szanton et al., 2015; Szanton et al., 2016; Szanton et al., 2017; Szanton et al., 2019, Szanton et al., 2021). Three of these studies examined depressive symptoms and found improvements post-CAPABLE (Szanton et al., 2015; Spoelstra et al., 2019; Szanton et al., 2019). Four of the studies measured fall efficacy and showed improvement (Szanton et al., 2011; Szanton et al., 2015; Szanton et al., 2016; Szanton et al., 2019).

Like functional improvement, improvement in falls efficacy promotes an individual's ability to remain living in the community. Falling is a leading cause of death and disability among older adults. CAPABLE increases participants' confidence in completing ADLs without falling.

Living in a familiar environment that is better adapted to their level of function has the potential to increase independence, community engagement, and overall health status. With these improvements, older adults are more likely to be able to age in their communities. In addition, improvement in these abilities can reduce future health care costs. Two studies of CAPABLE reported such reduction in need for medical care services which resulted in cost savings to the Medicare and Medicaid programs. In one study, the average savings for a

CAPABLE participant when followed 24-months later was \$22,120 compared to the average per person cost of \$2,822 to provide the CAPABLE program. (Ruiz et al 2017). Even for partially implemented CAPABLE programs, the average savings were positive--found to be approximately \$614 per participant. (Szanton et al, 2021).

Overall, our evaluation of the pre and post measure data demonstrates that this Habitat for Humanity implementation of CAPABLE achieved expected outcomes. These findings are consistent with those reported in previous CAPABLE studies. With regard to cost-benefit of CAPABLE, we would expect that if the sites could track these individuals out for two years post-CAPABLE, similar results would be found around healthcare utilization. Also, these sites focused part of their budgets on capital project improvements to the home to make it more livable. This has lasting impact for the older person and for housing stability. This is not a factor that we've quantified. We recommend that a methodology for including this benefit be developed to add to the picture of impact.

### **Implementation Findings**

All sites launched CAPABLE within a year, demonstrating the feasibility of CAPABLE implementation, even among housing service providers. All HFHI sites worked with healthcare partners, sometimes more than one. In working with implementation sites over the last four years we've observed that it is no small task to set up workflows across the housing and healthcare sectors to launch a CAPABLE program. While there are great benefits in these partnerships (access to funding, greater outreach, visibility, better integration around efforts of each partner), they also take focused effort. Each organization needs to develop an understanding of the other and integrate the approach so that it is seamless to the older person. CAPABLE relies on a strong interprofessional team that communicates and coordinates effectively over the 4 to 5 months serving the older person. We recommend that new partners take time to develop this understanding, working together on implementation plans, data sharing agreements, and workflows as they prepare to launch CAPABLE.

Habitat affiliates participated in Johns Hopkins CAPABLE technical assistance resources and shared learning meetings throughout the grant timeframe. HFHI and their affiliates report they found positive value from accessing this technical support. In addition, all sites expressed strong recognition of the value of the CAPABLE model. All expressed interest in using what they learned as they continue to work with older adults in their communities. The affiliates also



expressed their willingness to continue CAPABLE with healthcare partners serving as lead organizations in the future, if funding was available.

### **Sustainability**

All programs indicated an interest in offering some kind of aging in place program going forward. One site will continue to work with their healthcare partner to offer CAPABLE (Denver). One site plans to partner with a new healthcare organization who is managing a CAPABLE program as the home repair contractor (Philadelphia). One site is leading a HUD-funded effort with their existing health care partner to offer a reduced set of home visits (Twin Cities). One site was award American Rescue Plan Act (ARPA) funds for ongoing aging in place work and plan to maintain the OT and Nurse as a part of that program (Metro Maryland). The other program would consider serving as the home repair contractor but would look to a healthcare partner to manage and run the CAPABLE program (Susquehanna).

### **Continued Impact**

There will be continued positive impact in these Habitat communities among these older adults, as they are better able to function in their homes. Where critical home repair was also done in addition to CAPABLE, the viability of the home itself is also improved. These older adults who are able to move about confidently and complete their ADLs and IADLs with greater ease means they have a greater sense of control, agency, and potential for greater engagement in activities that they enjoy. If the Habitat sites are able to continue to offer CAPABLE or partner with others to offer CAPABLE, then these benefits should continue to grow.

### **Closing Note**

The Johns Hopkins team working with HHI and the five Habitat affiliates have appreciated their dedication and commitment to improving the lives and homes of older adults. We hope to work with these organizations and with HHI again in the future.

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