

**Title** Community Aging in Place, Advancing Better Living for Elders: A Bio-Behavioral-Environmental Intervention to Improve Function and Health-Related Quality of Life in Disabled Older Adults

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**Target Population** older adults (65+) with a disability, ADLs, IADLs

**Key Words** activities of daily living, CAPABLE, older adults, housing safety

**Brief Description** A multicomponent intervention combining home repair, nursing, and occupational therapy increased the ability of low-income older adults with a disability to complete activities of daily living (ADLs).

### Article Summary

This research found that a program including (a) home repair and (b) multicomponent behavioral interventions delivered by an occupational therapist and registered nurse successfully increased the ability of older adults with disabilities living on low incomes (less than 200% of the Federal Poverty Level) to complete daily living activities.

The pilot study, published in the *Journal of the American Geriatrics Society*, used a randomized controlled trial to evaluate the effectiveness of the Community Aging in Place, Advancing Better Living for Elders (CAPABLE) intervention for low-income older adults who reported difficulty with activities of daily living. Participants had to: (a) be aged 65 or older, (b) have a low income, (c) have a cognitive function of 24 or higher on the Mini-Mental State Examination, (d) be able to stand with or without assistance, and (e) report difficulties with at least one activity of daily living (ADL) or at least two instrumental activities of daily living (IADLs). Exclusion criteria included: (a) having been hospitalized more than 3 times in the previous year; (b) currently receiving in-home rehabilitation services; (c) having a terminal diagnosis with less than 1 year expected survival or receiving active cancer treatment; (d) planning to move in less than one year; and (e) not being competent to provide informed consent. Participants were randomized into an intervention group ( $n = 20$ ) or a control group ( $n = 15$ ).

The CAPABLE intervention components consist of assessment, education, identifying barriers to functioning (e.g., holes in floors, uneven carpet, pain), and implementing solutions to these barriers. The program was delivered in up to ten 60-minute in-home sessions that spanned a six-month period. A registered nurse and an occupational therapist delivered the intervention and customized it for each participant. Target areas to improve included housing safety, self-care, communication with primary care providers, medication management, strength and balance, depression, and pain. Housing safety consisted of a handyman modifying, repairing, or improving the physical environment of a participant's home to improve usability and safety. Self-care consisted of the occupational therapist and participant identifying ADLs and IADLs of concern (e.g., eating, bathing, transferring in and out of bed) and then devising and working with the participant to improve performance. Communication with the primary care provider consisted of facilitating conversations between

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the participant and their provider or linking them to a new provider if they did not have one. Medication management focused on aiding participants to adhere to their medication regimens. Strength and balance consisted of exercise and fall recovery training. The intervention addressed depression by having the nurse implement an evidence-based depression intervention. Finally, the pain target area was addressed with a pain assessment and training on how to manage pain, as well as advocating with primary care providers regarding pain medication, if needed. Participants in the control condition received ten 60-minute sessions of attention in the form of reminiscing or engaging in sedentary activities (e.g., making a cookbook or scrapbook) with a research assistant.

The primary outcome was improvement in performance of ADLs and IADLs difficulty and secondary outcomes were improvement in health-related quality of life and falls efficacy. Szanton and colleagues collected self-reported data on difficulties performing ADLs and IADLs using the Client-Clinician Assessment Protocol (C-CAP) and measured fall efficacy by asking participants to rate their confidence in performing various activities (e.g., cleaning the house, getting dressed) without falling. They administered the EQ-5D (or Euroqol) to measure health-related quality of life. The occupational therapist coordinated and documented home repairs and improvements with a contracted handyman.

Results indicate that as compared to the control group, participants who received the CAPABLE intervention improved significantly in several outcomes. The data showed a medium to strong effect size for the intervention group as compared to the control group in decreasing the difficulty of ADLs, decreasing the difficulty of IADLs, improving quality of life, and increasing confidence in engaging in a variety of ADLs and IADLs without falling (i.e., falls efficacy). The effect size for ADL difficulty improvement was 0.63, IADL difficulty improvement was 0.62, quality of life improvement was 0.89, and falls efficacy was 0.55. The cost of house improvements was an average of \$1,285 and included such repairs as fixing electrical wiring, repairing a shower leak, adding railings, installing grab bars, and repairing front steps.

These study results provide several recommendations for increasing the ability of low-income older adults with disabilities to improve both their ADLs and their quality of life. Practitioners might address intrinsic factors, such as self-care, medication management, and depression, as well as extrinsic factors, such as the physical housing environment, to accomplish these gains. Interventions integrating nursing, occupational therapy, and home repair services might be more successful in meeting these needs. The positive results of this pilot study suggest testing in a larger trial.

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