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Original Study

Is Aging in Place Delaying Nursing Home Admission?

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A B S T R A C T

Objectives: This study examines whether aging in place (community-based living before admission to a nursing home) delays nursing home admission among New York State home health care recipients.
Design: Retrospective cohort study (January 2007–December 2012).
Setting: New York State.
Participants: Adults age 65+ who received home health services for at least 2 months before permanent nursing home admission.
Measurement and Analysis: Permanent transition is defined as home care patients who are discharged to and stay at a nursing home for more than 3 months. Data were abstracted from the Minimum Data Set (MDS) and Outcome and Assessment Information Set (OASIS). Descriptive and bivariate Kruskal-Wallis and χ^2 tests were performed.
Results: The average age of nursing home residents at admission remained steady at 83 years between 2007 and 2012. The proportion of minority populations (Asian, black, Hispanic/Latino) increased, whereas the white population declined ($P < .0001$). The average length of stay at home increased 8 months, from 17 months in 2007 to 25 months in 2012 ($P < .0001$). Chronic conditions with significant increases in prevalence during the study period were hypertension ($P < .0009$), dementia ($P < .0001$), heart failure ($P = .05$), urinary incontinence ($P < .0001$), and bowel incontinence ($P < .0001$). Increases in functional disabilities requiring extensive human assistance included toileting, dressing, personal hygiene, and transferring (all $P < .001$).
Conclusion: Home health services enabled recipients to remain at home 8 months longer, thus delaying nursing home entry. Given the increase in prevalence of comorbidities and disability, we anticipate a concomitant increase in support services at the nursing home. These results may inform policy and staffing decisions regarding adjustments in required caregivers' credentials and nurse-patient ratios.

Advances in science and medical technology, combined with healthier lifestyles, is increasing the life expectancy of Americans to approximately 82 years.[1] Additionally, those born between 1946 and 1964 (the "Baby Boomers") will all reach 65 years of age by the year 2030, accounting for 1 in 5 of the total US population. This represents a substantial increase from 13% of older adults in 2010.[1,2] As the proportion of older adults expands, a concomitant increase in chronic conditions and functional disabilities is expected,[3] driving up health care costs and straining the health care workforce.[4,5]

Given that most older adults prefer to live at home in the community for as long as possible,[6] health care organizations and policy makers are increasingly supporting the notion of "aging in place": providing the resources necessary to allow older adults to remain in their homes and communities. The shift away from institutionalized care may alleviate the financial pressures of caring for the burgeoning elderly population while optimizing health outcomes and prolonging independence. This initiative, however, requires substantial expertise, as well as technology advances and policy innovations in a variety of fields, including health care, building design, and land use planning.[7,8] Support for community-based living to enhance the ability of independent living of older adults was first codified at the federal level by the Older Americans Act of 1965, but funding was slow to follow. In 1981, the Medicaid Home and Community-Based Services waiver program was enacted under Section 1915(c) of the Social Security Act,

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and further solidified during the following 2 decades. Today, community-based living and home and community-based services have been elevated to a national priority through policies such as the Deficit Reduction Act of 2005 and the Affordable Care Act of 2010 (Figure 1).[9]

Certified Home Health Agencies (CHHAs) provide intermediate and/or skilled nursing care within the homes of individuals who are eligible to receive home health agency (HHA) services.[10] Intermediate and skilled nursing care provided through HHAs range from homemaker service, activities of daily living (ADLs), to administration of medications. ADL tasks include feeding, dressing, bathing, transferring, and using the toilet.[11] The HHAs work to foster independence for the individual by improving or slowing the progression of disability to delay nursing home (NH) admission.[12,13]

Despite several decades of precedence and policy support, few studies have assessed the impact of CHHA services in promoting aging in place. The extant literature tends to focus on descriptive work related to the housing preferences of older adults.[14–16] Few quantitative studies have measured the impact of CHHA services with respect to improved health outcomes, physical function, and long-term cost-effectiveness.[17–20] This study measures aging-in-place trends in New York State (NYS) by examining the length of stay (LOS) from the inception of receiving CHHA care to permanent transition to a NH. We hypothesize that effective home health services fosters aging in place, thus delaying NH entry.

Methods

Study Design

This was a retrospective cohort study from January 2007 to December 2012 in NYS. Inclusion criteria for the study population were as follows: older adults (65+) who received care from a home health care agency for more than 2 months at baseline, followed by a permanent transition to an NH. Individuals were excluded if gender or date of birth changed within their record, indicating irregularities in data collection.

Data Source

Outcome and Assessment Information Set (OASIS) and the Minimum Data Set (MDS) were linked and used for the study. The OASIS is a source of health assessments for all patients receiving intermediate and/or skilled health care from CHHAs from Medicare-certified home health agencies. The OASIS assessment forms are completed on admission, discharge, and every 60 days if the patient continues to receive home health services. The OASIS record contains unique patient identifiers, clinical assessment variables, start-of-care date, and date of completed assessment.[21] The MDS contains assessment forms for all patients residing in a Medicare-certified NH. Similar to the OASIS, the MDS record includes unique patient identifiers, clinical assessment variables, and the date of completed assessment. These 2 datasets were linked within the NYS Department of Health (NYSDOH) and unique patient identifiers were removed before being given to the researchers. The data acquisition and use agreements were in compliance with the NYSDOH and University at Albany Internal Review Board guidelines and research protocol.

Study Variables

Sociodemographics included age (in years) on enrollment in CHHAs and age at permanent admission to the NH, gender, and race (categorical variables: White, Asian, Black, Hispanic Latino, and other). The outcome variable of LOS (in months) was defined as the time between start of care in a CHHA and the time at admission (permanent transition) to an NH. Presence of the following comorbidities was coded using binary variables: hypertension, dementia, diabetes, depression, arthritis, asthma, and heart failure. Bowel and urinary incontinence were also coded in a binary fashion (1 = always continent; 0 = otherwise). All ADL functional disability measures in

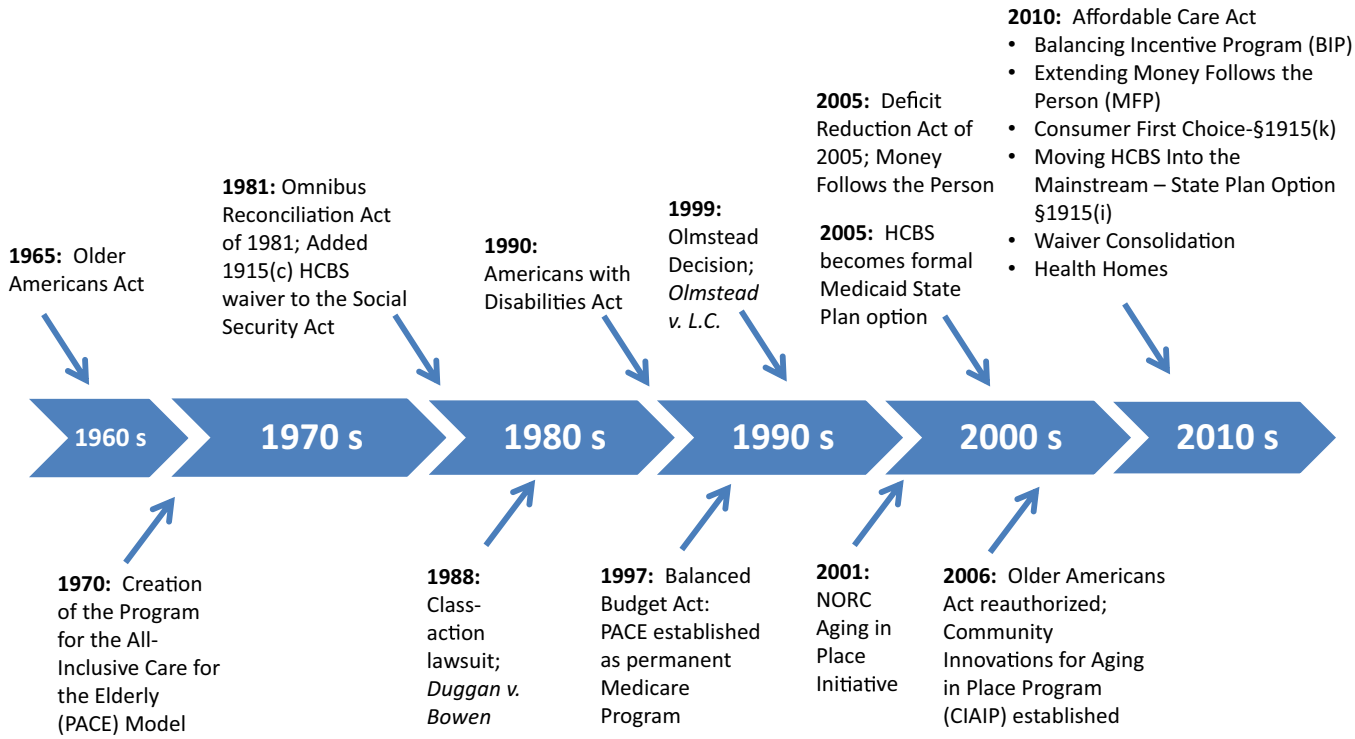

Fig. 1. Federal policies that support aging in place.