Aging in Place: Do Older Americans Act Title III Services Reach Those Most Likely to Enter Nursing Homes?

December 2019

Background

While the majority of older adults prefer to remain living in their homes and communities as they age (Vasunilashorn et al., 2012, AARP 2014), some are more likely than others to require nursing home care. Research has shown that certain characteristics often predict who will need nursing home care (Gaugler et al., 2007). Understanding these predictors is key to helping families and communities connect frail older adults with the programs and services they need to maintain their independence and age-in-place.

Title III of the Older Americans Act (OAA), enacted in 1965, guides the coordination and delivery of home- and community-based services that help older adults remain in their homes and delay or eliminate the need for nursing home care. All Americans over the age of 60 are eligible to receive OAA programs and services, but states must target individuals with the greatest economic and social need with a particular emphasis on those who are most vulnerable.

This brief provides an overview of the characteristics of people using OAA services as compared with a nationally representative population of older adults. Specific predictors are examined to see if differences exist between these two populations. The purpose is to better understand the pathway to nursing home use and how the OAA is meeting its goal of reaching the most vulnerable older adults.

ACL
Administration for Community Living

Predictors of Nursing Facility Use

Researchers have been studying predictors of nursing home admission for more than a decade (Gaugler et al., 2007). Predictors showing consistent, strong evidence for nursing home admission are presented in Table 1. These predictors are based on a number of studies that approached the research topic in different ways (Cai et al., 2009; CMS, 2012; Holup et al., 2017; Luppa et al., 2009; Luppa et al., 2010; Van Rensenbergen et al., 2010):

- ▪ Identifying characteristics of recently admitted nursing home residents,

- ▪ Examining individuals' characteristics longitudinally in several survey waves,

- ▪ Analyzing state Medicaid data, and

- ▪ Reviewing existing literature for predictors with strong evidence.

Table 1. Selected Predictors of Nursing Home Admission

Predictor	The likelihood of being admitted to a nursing home is higher…
Age	Each year a person ages
Race and ethnicity	If a person is white, non-Hispanic
Living arrangement	If a person lives alone
Functional impairment	If a person has one or more functional impairments
Cognitive impairment	If a person has a cognitive impairment such as dementia
Chronic conditions	If a person has multiple chronic conditions
Medications	If a person take multiple medications
Health status	If a person perceives himself or herself as being less healthy

It is important to note that many of the factors found to predict nursing home admission presumably also correlate with and/or influence each other in addition to their connection with nursing home admission. For example, persons with a higher number of medical conditions and medications may also have a higher risk of more serious functional impairment in addition to a higher risk of nursing home admission.

Comparison of Nursing Home Admission Predictors and Characteristics of Persons Receiving Title III OAA Services

Predictors of nursing home admission often overlap with common characteristics of individuals receiving Title III services. AoA's National Survey of Older Americans Act Participants (NSOAAP), conducted in 2017, provides information on some of the characteristics of individuals receiving OAA Title III services. Nationally representative comparison data come from the Current Population Survey (CPS), the National Health and Aging Trends Study (NHATS), and the National Health and Nutrition Examination Survey (NHANES). Multiple studies are used as comparison data because not all of the OAA client characteristics were available from any one study. Using the NSOAAP, we compare characteristics of those receiving Title III services to a nationally representative population sample of older adults.[1] Some of these estimates are included in Table 2, and further comparisons and analyses are discussed below.

Table 2. Demographic and Socioeconomic Characteristics of Individuals Age 60+, by Title III Program and Nationally (Percentages)

Category	Characteristic	Case Management	Congregate Meals	Home Delivered Meals	Homemaker Services	Transportation Services	National Population (age 60+)
Age	60-64	8	9	9	7	10	24
	65-74	30	43	28	25	34	43
	75+	62	48	63	68	56	33
Annual household income	Below $20,000	73	45	71	77	69	18
Marital status	Married	19	40	23	14	17	57
Race	White/Caucasian	75	80	78	76	69	83
Hispanic origin	Hispanic or Latino	6	10	5	7	7	9

Note: Data for case management, congregate meals, home-delivered meals, homemaker services, and transportation services are from the 2017 National Survey of Older Americans Act Participants (NSOAAP). Data for the national 60+ population are from the 2017 Current Population Survey (CPS).

---

[1] Percentage calculations throughout this brief exclude missing, inapplicable, and "don't know" responses.

Demographics

Age

A review of 36 studies found strong evidence that older age is a key predictor of nursing home admission (Luppa et al., 2009). Sixty-eight percent of NSOAAP respondents receiving homemaker services are aged 75 or older, as are 62% of those receiving case management services, 56% of those receiving transportation services, 63% of those receiving home-delivered nutrition services, and 48% of those receiving congregate nutrition services. Nationally, among the population age 60 and over, only 33% are age 75 years or older. This indicates that individuals receiving Title III services tend to be older on average than the national population.

Annual Household Income

With the exception of those receiving congregate nutrition services, the majority of NSOAAP respondents have an annual household income below $20,000, including 77% of those receiving homemaker services, 73% of those receiving case management services, 69% of those receiving transportation services, and 71% of those receiving home-delivered nutrition services. In comparison, on a national level, only 18% of individuals over age 60 reported an annual household income below $20,000, indicating much lower annual household incomes among OAA participants than the national population.

Marital Status

Most individuals receiving Title III services are unmarried (including those that are widowed, divorced, or separated). NSOAAP results show that 86% of those receiving homemaker services are unmarried, in addition to 81% of those receiving case management services, 83% of those receiving transportation services, 77% of those receiving home-delivered nutrition services, and 60% of those receiving congregate nutrition services. In comparison, less than half (43%) of the national population reported being unmarried.

Race and Hispanic Origin

Demographically, white, non-Hispanic individuals were found more likely to enter nursing homes than individuals of other ethnicities (Cai et al., 2009). Similar to the national population, the majority of OAA clients are White/Caucasian. Among homemaker service clients, 76% are White/Caucasian, as are 75% of those receiving case management services, 69% of those receiving transportation services, 78% of those receiving home-delivered nutrition services, and 80% of those receiving congregate nutrition services. The second largest race group receiving Title III services is Black/African American, followed by American Indians and Alaska Natives, Asian Americans, and Native Hawaiians or other Pacific Islanders. The national population displays similar trends, with a slightly higher percentage of individuals (83%) reporting as White/Caucasian. Depending on service category, between 5% (home-delivered meals) and 10%
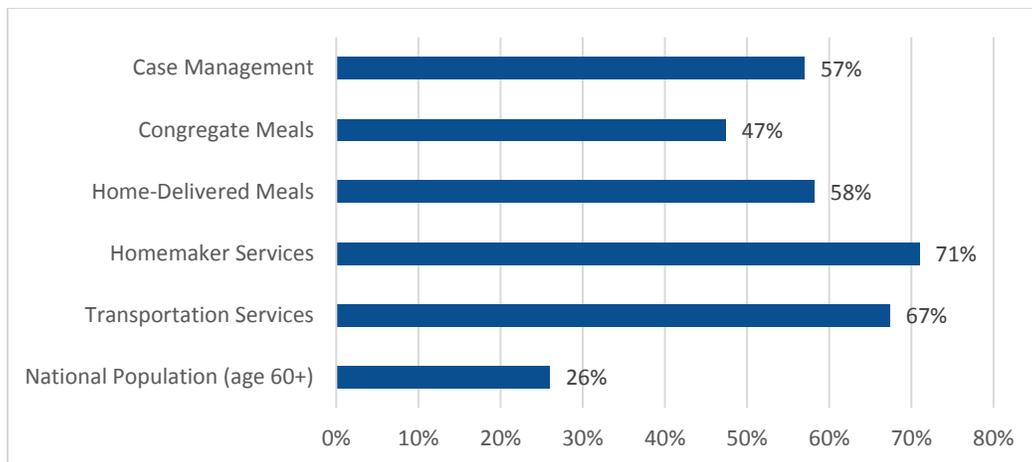
(congregate meals) of persons receiving services reported being Hispanic or Latino. Similarly, 9% of the national population aged 60+ are of Hispanic origin.

Living Arrangement

Studies show individuals who live alone are more likely to end up entering nursing homes (Cai et al., 2009). The percentage of OAA participants living alone are 71% among the homemaker services group, 57% among the case management services group, 67% among the transportation services group, 58% among the home-delivered nutrition services group, and 47% among the congregate nutrition services group. According to CPS national data of those 60+, only 26% of individuals live alone, indicating that more OAA participants live alone compared with the general United States population over age 60. This is displayed in Figure 1.

Figure 1. Percentage of Persons Age 60+ Living Alone, by Title III Program and Nationally

Data for Case Management, Congregate Meals, Home-Delivered Meals, Homemaker Services, and Transportation Services from the 2017 National Survey of Older Americans Act Participants (NSOAAP). Data for National Population (age 60+) from the 2017 Current Population Survey (CPS).

Independent Functional Capability

ADL Limitations

Functional impairment, as measured by difficulty performing activities of daily living (ADL), is a consistent predictor of potential nursing home admission (Cai et al., 2009; Holup et al., 2017). Thirty-one percent of persons receiving home-delivered meals reported having three or more ADL limitations, as did 28%, 32%, 16%, and 10% of persons receiving homemaker, case management, transportation, and congregate meal services, respectively.[2] Further, 45% of

---

[2] ADL limitations included for the NSOAAP data count include bed/chair transfer, bathing, dressing, walking, eating and toileting.

persons receiving case management services have difficulty bathing, as do 38% of those receiving home-delivered meals, 37% of those receiving homemaker services, 20% of those receiving transportation services, and 14% of those receiving congregate meals. Data from the NHATS, a study sponsored by the National Institute of Aging, which surveys Americans over the age of 65, provides a comparison. According to NHATS, 19% of the nationally representative sample of adults age 65 or older have difficulty bathing independently.

Chronic Conditions

Multiple studies have identified dementia diagnosis and other chronic conditions as either strong predictors of nursing home placement or very prevalent among recently admitted nursing home residents (CMS, 2012; Holup et al., 2017; Luppa et al., 2009; Van Rensenbergen et al., 2010). Studies also noted that as a person's comorbid chronic conditions increased in number, the person's risk of hospitalization and acute care utilization, which included nursing facility use, also increased. In some service categories, prevalence of certain chronic conditions among persons receiving Title III services was similar to national data obtained through NHATS. However, while chronic condition prevalence rates vary widely across Title III service categories, rates of some chronic conditions among Title III participants are much higher than the overall national rates. For example, 19% of persons receiving case management services have Alzheimer's or dementia, compared to only 9% of the NHATS population. Research indicates dementia and cognitive impairment are also powerful predictors of nursing home admission (Luppa et al., 2009; Cai et al., 2009).

Seventeen percent of persons receiving congregate meals services and 17% of persons receiving home-delivered meal services reported having cancer, as did 18% of those receiving homemaker services, and 20% of those receiving case management services. In comparison, the national rate of cancer among older adults was 7%. Persons receiving Title III services are also much more likely than the national population to have had a heart attack; while only 3% of the NHATS population reported having had a heart attack, heart attack prevalence among persons receiving Title III services ranged from 33% (persons receiving congregate meals) to 52% (persons receiving case management services).

Number of Medications

Individuals prescribed a high number of prescriptions were found more likely to be placed in a nursing home (Luppa et al., 2009). To examine prescription medication use, data from the National Health and Nutrition Examination Survey (NHANES) were used to compare persons receiving OAA Title III services with the national population of adults over age 65.[3] With the

---

[3] More recent data was not available, so NHANES data is from 2013-2014. The NSOAAP and NHANES survey instruments request information about prescription medication use in slightly different ways: NHANES collects

exception of congregate meal participants, persons receiving Title III services reported taking a greater number of prescription medications, on average, than the national population. Nationally, 42% of individuals over age 65 reported taking five or more prescription medications within the past thirty days. In comparison, 67% of persons receiving home-delivered meals reported taking an average of five or more prescription medications each day, as did 69% of those receiving homemaker services, 60% of those receiving transportation services, and 73% of those receiving case management services.

Self-Rated Health Status

According to a detailed analysis of 36 related studies, risk of nursing home admission increases between two- and six-fold for individuals with low self-rated health status (Luppa et al., 2009). Respondents to NHATS and NSOAAP were asked to rate their health as excellent, very good, good, fair, or poor. With the exception of persons receiving congregate meal services, a greater percentage of OAA Title III participants rated their health status as fair or poor than did persons in the national population. While 25% of NHATS respondents reported their health was poor or fair, 53% of persons receiving homemaker services rated their health as poor or fair, as did 36% of persons receiving transportation services, 24% of persons receiving transportation services, 49% of persons receiving home-delivered meals, and 46% of persons receiving case management services. Persons receiving OAA Title III services, then, are more likely to rate their health poorly, a characteristic correlating with greater likelihood of nursing home admission.

Conclusions and Implications

Given the predictors of nursing home admission, persons receiving Title III services are at a higher risk for nursing home admission. On average, they are older, tend to have more difficulty performing daily activities, have a greater number of prescription medications and chronic conditions, and are more likely to live alone. Yet across all service categories, a majority of participants agreed that the services they receive help them remain living at home and out of nursing facilities. This is true for 98% of those receiving homemaker services, 92% of those receiving case management services, 87% of those receiving transportation services, 92% of those receiving home-delivered nutrition services, and 65% of those receiving congregate nutrition services. By mitigating the underlying factors or predictors of nursing home admission, OAA Title III services are successfully targeting individuals with the greatest economic and social needs, and helping those who are at greatest risk delay or avoid admission to nursing homes.

---

information on the number of prescription medications taken by respondents in the *past thirty days.* NSOAAP collects information on the number of prescription medications taken by respondents *on average each day.*

To learn more, access or download OAA data through the online AGID at AGID.ACL.GOV. All of the NSOAAP data used in this report is accessible through AGID. AGID also includes visual tools such as maps and graphs to examine population characteristics and programs by categories such as state, funding source, services received, and year.

References

AARP (September 2014). Home and Community Preferences of the 45+ Population 2014. Available at https://www.aarp.org/content/dam/aarp/research/surveys_statistics/il/2015/home-community-preferences.doi.10.26419%252Fres.00105.001.pdf

Gaugler J., Duval, S., Anderson, K.A., and Kane, R.L. (2007). *BMC Geriatrics*. Predicting nursing home admission in the U.S: a meta-analysis. Available at https://www.ncbi.nlm.nih.gov/pubmed/17578574

Vasunilashorn, S., Steinman, B.A., Liebig, P.S, and Pynoos, J. (2012). *Journal of Aging Research*. Aging in place: Evolution of a research topic whose time has come. Available at https://www.hindawi.com/journals/jar/2012/120952/

Studies Reviewed for Predictors of Nursing Home Admission

Cai, Q., Salmon, J.W., and Rodgers, M.E. (2009). *Social Work Health Care*. Factors associated with long-stay nursing home admissions among the US elderly population: Comparison of logistic regression and the Cox proportional hazards model with policy implications for social work. Available at https://www.ncbi.nlm.nih.gov/pubmed/19197772

CMS (2012). "Chronic Conditions among Medicare Beneficiaries." Centers for Medicare and Medicaid Services. Available at https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/chronic-conditions/downloads/2012chartbook.pdf

Holup, Amanda, et. al.; Florida Policy Exchange Center on Aging, School of Aging Studies, University of South Florida (2017). *Journal of Post-Acute and Long-Term Medicine*. Profile of Nursing Home Residents Admitted Directly from Home. Available at https://www.jamda.com/article/S1525-8610(16)30369-3/pdf

Luppa, Melanie, et. al (November 23, 2009). *Age and Ageing*. Prediction of institutionalization in the elderly: a systematic review. Available at https://academic.oup.com/ageing/article/39/1/31/41239

Luppa, Melanie, et. al (June 2010). *BMC Health Services Research*. Predictors of nursing home admission of individuals without a dementia diagnosis before admission – results from the Leipzig Longitudinal Study of the Aged. Available at https://www.ncbi.nlm.nih.gov/pubmed/20584341

ACL — Administration for Community Living

Van Rensbergen, Gilberte, and Nawrot, Tim. "Medical Conditions of Nursing Home Admissions. *BMC Geriatrics.* 2010. Available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2912913/

Data Sources

Administration for Community Living, AGing Integrated Database (AGID). (2016). Data Source: Profile of State OAA Programs. Available at https://agid.acl.gov/StateProfiles/Profile/Pre/?id=109&topic=0

Current Population Survey (CPS). (2017). United States Census Bureau. Available at https://www.census.gov/cps/data/cpstablecreator.html

Health, United States, 2016. Centers for Disease Control and Prevention. Figure 15. Available at https://www.cdc.gov/nchs/data/hus/2016/fig15.pdf

NHATS Public Use Data. Round 7, sponsored by the National Institute on Aging (grant number NIA U01AG032947) through a cooperative agreement with the Johns Hopkins Bloomberg School of Public Health. Available at https://www.nhats.org