
National Health Statistics Reports

Number 198 ■ January 25, 2024

Alzheimer Disease or Other Dementias in Adult Day Services Centers, 2020

by Priyanka Singh, M.P.H., Jessica P. Lendon, Ph.D., and Manisha Sengupta, Ph.D.

Abstract

Objectives—Alzheimer disease or other dementias are among the most common chronic conditions of adult day services center (ADSC) participants. This report compares prevalence of these conditions (referred to collectively as dementia) among participants in ADSCs that provide specialized care for dementia with other ADSCs, by census region, metropolitan statistical area status, chain affiliation, and ownership type.

Methods—This report uses data from the ADSC component of the 2020 National Post-acute and Long-term Care Study. The survey collects data on ADSCs every 2 years from all 50 states and the District of Columbia. Data were collected from January 2020 through mid-July 2021. The results are based on survey responses from about 1,800 eligible ADSCs from a census of 5,500 ADSCs and are weighted to be nationally representative. The percentage of participants diagnosed with dementia is calculated from responses to a question about the number of current participants diagnosed with dementia. Geographical and ADSC characteristics include census region, metropolitan statistical area, ownership status, and chain affiliation.

Results—In ADSCs that provide specialized dementia care, 42.2% of participants had dementia, while 22.7% of participants also had dementia in ADSCs that do not specialize in dementia care. The overall prevalence of dementia was similar across regions, with a slightly lower percentage in the West. Dementia was more prevalent in ADSCs in metropolitan statistical areas, nonchain centers, and nonprofit centers. In general, for each of the selected characteristics, the prevalence of dementia was higher in specialized centers than in nonspecialized centers.

Keywords: specialized care • long-term services and supports • dementia • National Post-acute and Long-term Care Study

Introduction

Adult day services centers (ADSCs) are a growing sector of the U.S. home- and community-based long-term care

delivery system. ADSCs provide daytime services to adults with disabilities who often have multiple chronic conditions, including Alzheimer disease or other dementias (referred to in this report as

dementia) (1,2). In 2020, one-quarter of ADSC participants were diagnosed with dementia-related conditions, which are consistently among the top five chronic conditions of participants (1,3,4). Dementia is a common factor leading to the transition to receiving long-term care services, such as nursing home care (5). Because delaying institutionalization is a primary goal of ADSCs, they also seek to meet the needs of a growing population of adults with dementia who are living in the community.

The growing number of people with chronic illnesses and disabilities who wish to receive home and community-based services contributes to the need for ADSCs to specialize in services for those with dementia. Many ADSCs specialize in dementia care with specially trained staff, activities, and facilities (6). ADSCs offer social activities such as art and music therapy, games, and group exercises appropriate for people with dementia (7). Specialized dementia care in ADSCs may postpone nursing home placement and decrease hospital readmission (5). In the 2020 National Post-acute and Long-term Care Study (NPALS), 24.7% of participants in ADSCs were reported to have dementia, and 14.0% of ADSCs reported specializing in dementia (8).



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics



A study using 2016 NPALS data found that ADSCs that provide medical services were more likely to specialize in dementia care than nonmedical centers (9). However, little is known about the prevalence of dementia among participants in specialized ADSCs and the characteristics of these specialized centers, regardless of their medical services status.

This report uses data from the 2020 NPALS to provide the most current national prevalence of dementia among all ADSC participants and compares prevalence by whether ADSCs provide specialized care for dementia based on selected characteristics, including census region, metropolitan statistical area (MSA) status, chain affiliation, and ownership type.

Methods

Data source

This report uses the ADSC survey component of the 2020 NPALS (10,11). NPALS collects data on ADSCs every 2 years from all 50 states and the District of Columbia. The survey, known as the National Study of Long-term Care Providers before 2020, collected data from ADSCs in 2012, 2014, 2016, 2018, and 2020 (2–5).

NPALS obtained a list of all ADSCs from the National Adult Day Services Association database and created a census of 5,500 ADSCs surveyed from January 2020 through mid-July 2021. The results are based on survey responses from about 1,800 eligible ADSCs for a weighted response rate of 43.0%. Data were collected by mail and web questionnaires, with nonresponse follow-up by computer-assisted telephone interviews. To be eligible for the study, an ADSC must have met three criteria:

- a. Licensed or certified by the state specifically to provide adult day services
- b. Or accredited by the Commission on Accreditation of Rehabilitation Facilities
- c. Or authorized or otherwise set up to participate in Medicaid—through a Medicaid state plan, Medicaid waiver, or Medicaid managed

care, or as part of a Program of All-inclusive Care for the Elderly.

2. Had an average daily attendance of one or more participants based on a typical week.
3. Had one or more participants enrolled at the designated ADSC location at the time of the survey.

For more information about methodology, see <https://www.cdc.gov/nchs/data/npals/2020-NPALS-methodology-documentation-508.pdf> (10).

Measures

The number of participants in ADSCs diagnosed with dementia, referred to as “participants with dementia,” was measured using responses from a questionnaire item that asks, as a combined item, how many currently enrolled participants had been diagnosed with Alzheimer disease or dementia. The percentage is calculated by dividing this number by the total number of enrolled participants. ADSC specialization in dementia care (specialized in dementia) was measured using two survey items. Respondents were asked, 1) “Is this a specialized center that serves only participants with particular diagnoses, conditions, or disabilities?” and, if yes, 2) “In which of the following diagnoses, conditions, or disabilities does this center specialize? (mark yes or no): a. Alzheimer disease or other dementias.” Centers were considered specialized in dementia if respondents selected yes for both the first question and Part a of the second question. Centers were considered nonspecialized in dementia if respondents selected yes for the first question but did not mark yes on “Alzheimer disease or other dementias” for the second question, or if respondents selected no for the first question.

Region, MSA status, ownership type, and chain status were also included. Region was defined using the four U.S. Census Bureau regions: Northeast, Midwest, South, and West (for a list of states in each region, visit: https://www2.census.gov/programs-surveys/sahie/reference-maps/2020/us_regdiv.pdf). The MSA status category includes MSA, defined as a core urban area population of 50,000 or more; micropolitan statistical

area, a core urban area population of at least 10,000 (but fewer than 50,000), or neither (12). Ownership type was categorized as either for-profit, including private, publicly traded, and limited liability companies; or nonprofit, including private nonprofit organizations and government (federal, state, county, or local). Chain status is based on yes or no responses to the question, “Is this center owned by a person, group, or organization that owns or manages two or more adult day services centers? This may include a corporate chain.”

Data analysis

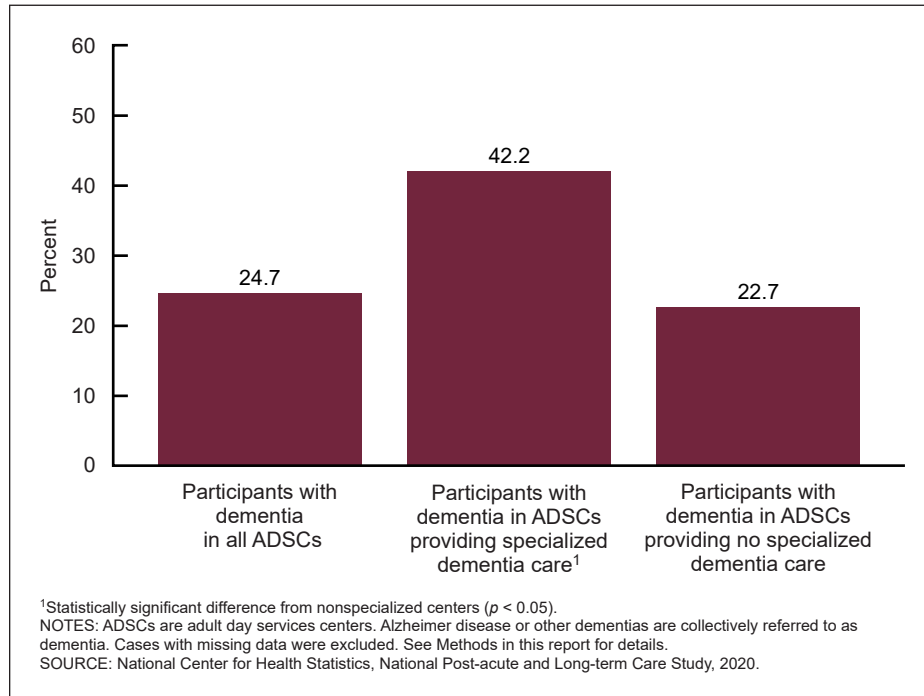
Estimates of the percentage of dementia among participants by center specialization and characteristics are presented. Differences were evaluated using chi-square tests and *t* tests using *p* less than 0.05 as the level of significance. The study excluded missing data from the analyses on a variable-by-variable basis. Less than 10% of cases were missing for all variables (8.5% missing for participants with dementia, 2.2% for center specialization, and 1% for ownership and chain status). Because estimates were rounded, individual estimates may not sum to 100%.

Data analyses were performed using complex survey weights in Stata/SE version 17.0. The analyses accounted for the complex survey design, and weights were used to adjust for unknown eligibility status and nonresponse (11,12). Results are nationally representative. All estimates presented meet National Center for Health Statistics reliability and confidentiality guidelines (13).

Results

Specialized dementia care

About one-quarter of all ADSC participants had a diagnosis of dementia (24.7%). The prevalence of dementia was higher in ADSCs that specialized in dementia care (42.2%) than in nonspecialized centers (22.7%) (Figure 1).

Figure 1. Percentage of adult day services center participants with dementia, overall and by specialized dementia care: United States, 2020

Census region

The percentage of ADSC participants with dementia, regardless of center specialization, was higher in the Midwest (32.1%), Northeast (28.5%), and South (24.5%) compared with the West (21.1%) (Figure 2). The percentage of participants with dementia was also statistically higher in the Midwest than in the South.

The percentage of participants with dementia in specialized centers was statistically higher in the Midwest (49.5%) and West (48.8%) than in the Northeast (31.9%).

The percentage of participants with dementia in nonspecialized centers was higher in the Midwest (30.0%) and Northeast (28.1%) compared with nonspecialized centers in the South (22.3%) and West (18.5%). The percentage with dementia in nonspecialized centers was also statistically higher in the South than in the West.

Among regions, the prevalence of dementia was higher in specialized ADSCs than in nonspecialized centers in the Midwest, South, and West, but prevalence was similar by specialty type in the Northeast.

MSA status

The percentage of participants with dementia, regardless of ADSC specialization, was higher in MSAs (25.1%) compared with micropolitan statistical areas (20.9%) and areas that were neither metropolitan nor micropolitan (18.2%) (Figure 3).

The percentage of participants with dementia in specialized ADSCs was higher in MSAs (43.0%) compared with micropolitan statistical areas (29.5%) and areas that were neither (25.4%).

The percentage of participants with dementia in nonspecialized ADSCs was statistically higher in MSAs (23.0%) than in areas that were neither metropolitan nor micropolitan (17.4%).

Specialized centers in MSAs had a higher percentage of participants with dementia compared with nonspecialized centers. No significant differences were seen between specialty type in micropolitan statistical areas and areas that were neither metropolitan nor micropolitan.

Chain status

The percentage of participants with dementia, regardless of specialization, was higher in nonchain ADSCs (25.0%) than in chain-affiliated centers (20.1%) (Figure 4).

The percentage of participants with dementia in specialized centers was higher in nonchain centers (50.5%) than in chain-affiliated centers (30.4%). The percentage of participants with dementia in nonspecialized centers was higher in nonchain centers (25.0%) than in chain-affiliated centers (20.1%).

For both chain-affiliated and nonchain centers, the percentage of participants with dementia was higher in specialized centers than in nonspecialized centers.

Ownership type

The percentage of participants with dementia, regardless of specialization, was higher in nonprofit ADSCs (28.7%) than for-profit centers (21.0%) (Figure 5).

The percentage of participants with dementia in specialized centers was higher in nonprofit centers (57.0%) than in for-profit centers (23.2%). The percentage of participants with dementia in nonspecialized centers was also higher in nonprofit centers (24.9%) than in for-profit centers (21.0%).

Among nonprofit centers, the prevalence of dementia was higher in specialized ADSCs than in nonspecialized centers. No difference among for-profit centers was observed between specialized and nonspecialized centers.

Discussion

This report studies the national prevalence of dementia among ADSC participants, by dementia care specialization and selected characteristics. In 2020, about one-quarter of ADSC participants had been diagnosed with dementia. In ADSCs that provided specialized dementia care, about 42% of participants had dementia compared with about 23% of participants in nonspecialized ADSCs.

According to the Alzheimer's Association, in 2020, about 6.1 million

Figure 2. Percentage of adult day services center participants with dementia, by specialized dementia care and region: United States, 2020

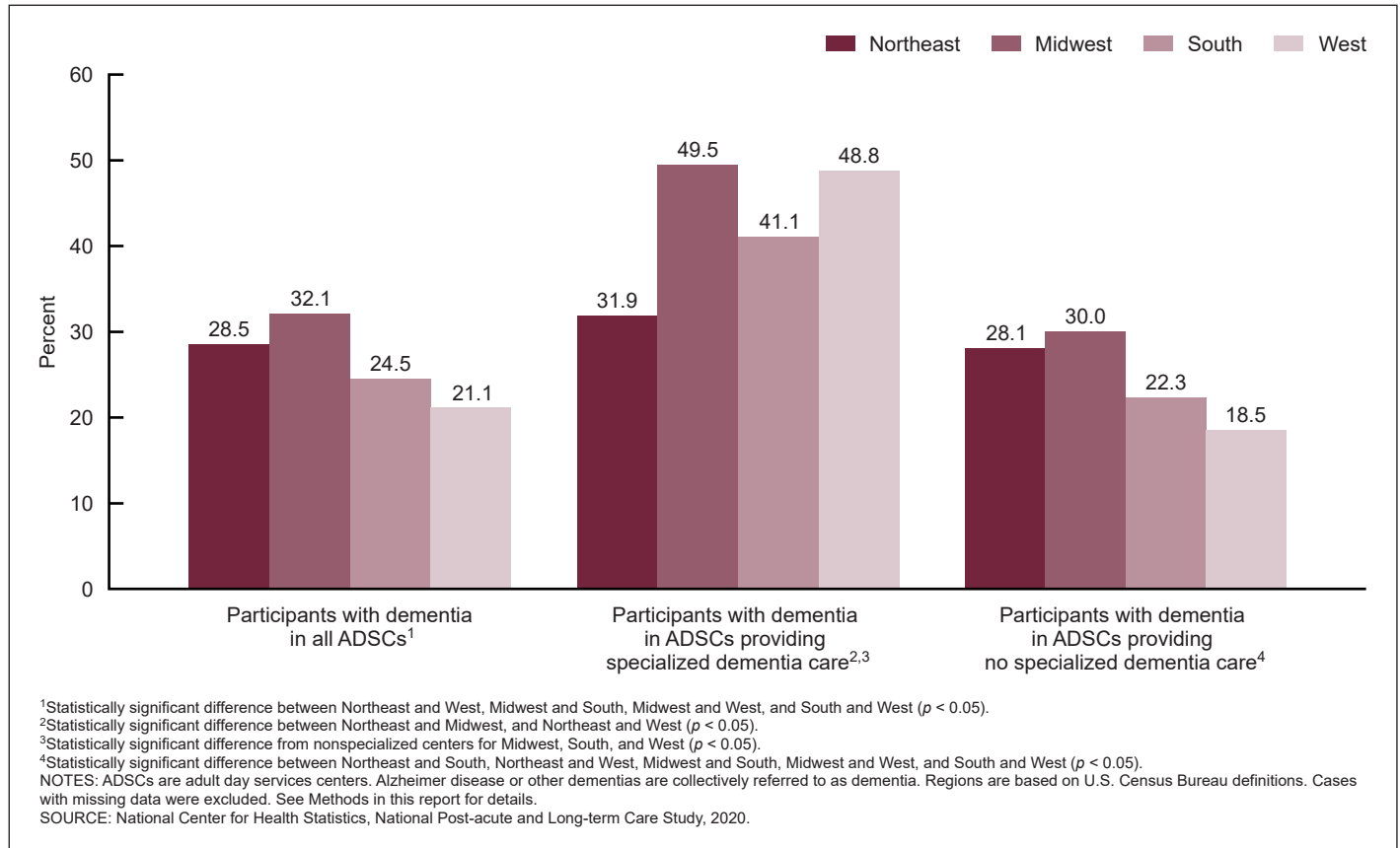


Figure 3. Percentage of adult day services center participants with dementia, by specialized dementia care and metropolitan statistical area: United States, 2020

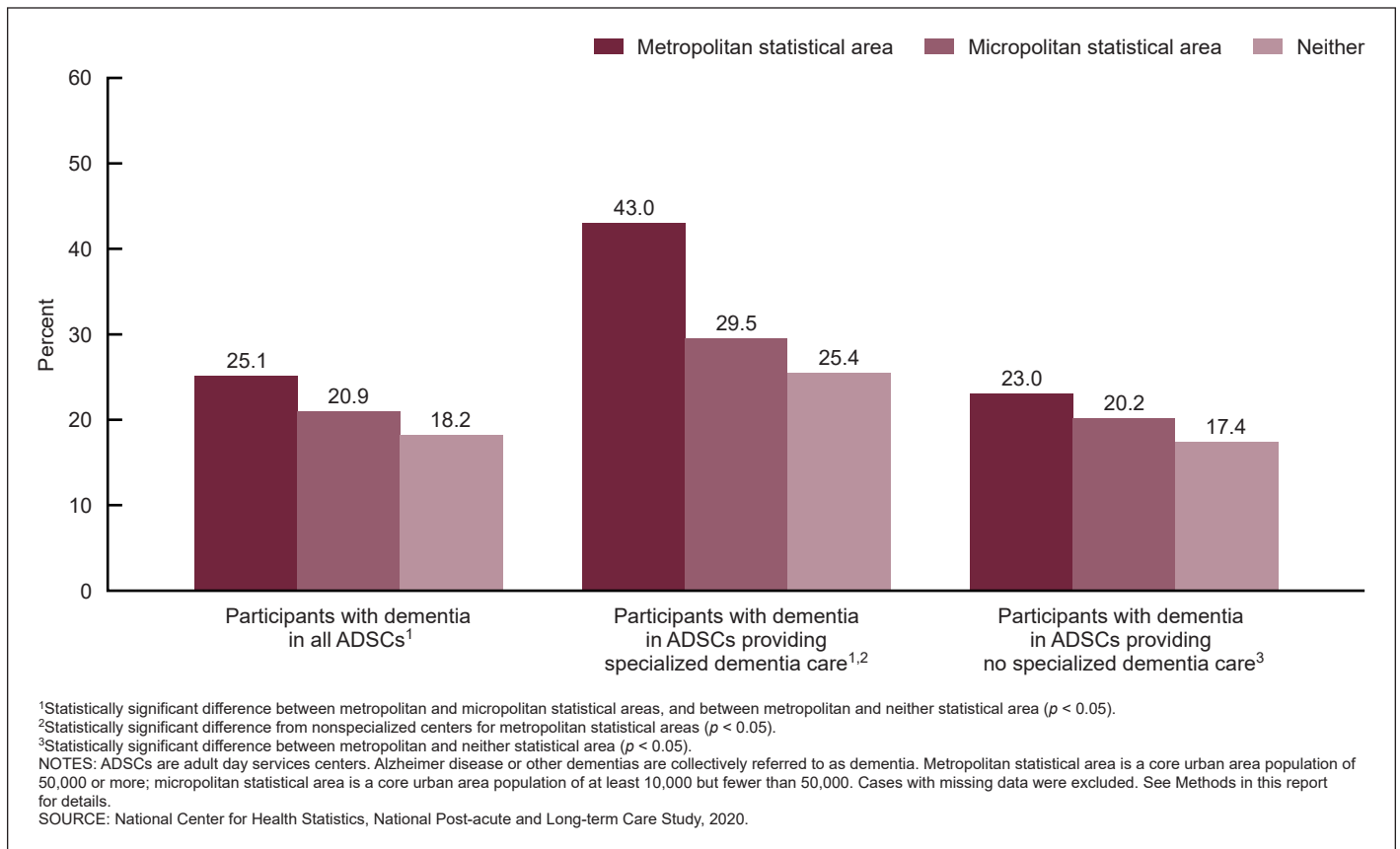
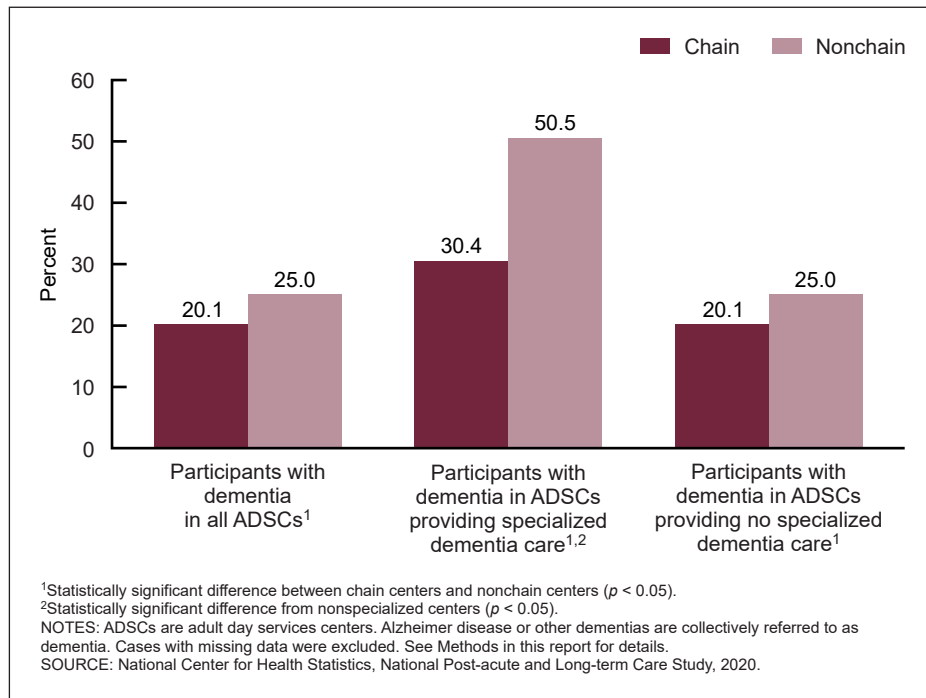
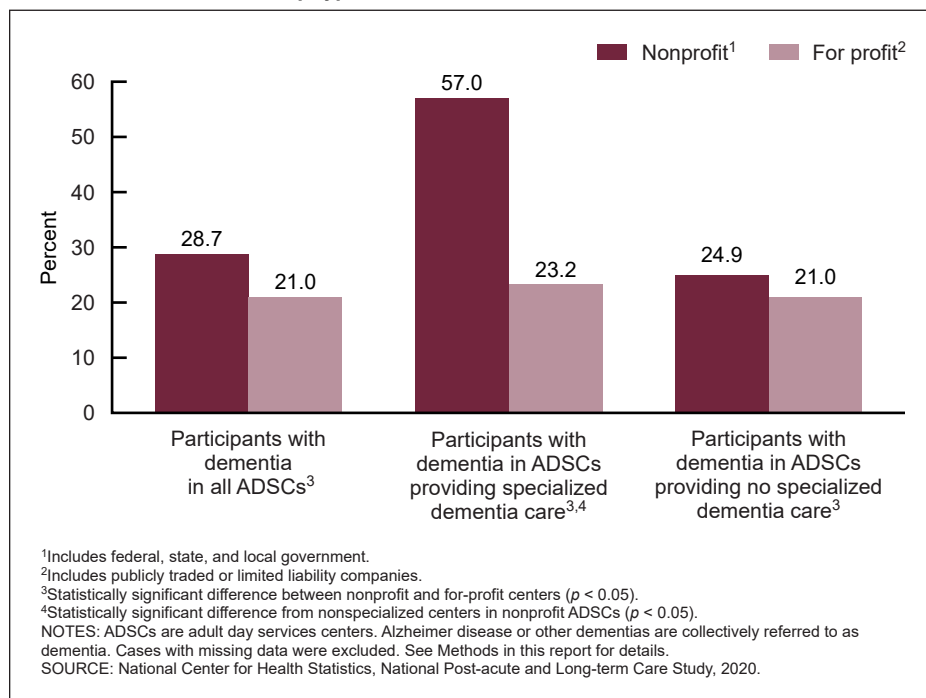


Figure 4. Percentage of adult day services center participants with dementia, by specialized dementia care and chain affiliation status: United States, 2020**Figure 5. Percentage of adult day services center participants with dementia, by specialized dementia care and ownership type: United States, 2020**

Americans age 65 and older were diagnosed with Alzheimer disease or other dementias, a population expected to increase to 8.5 million by 2030 and double by 2060 (5). Residents in nursing homes who have dementia may live up to 8 years or more and need increasing levels of care as their cognitive and

physical abilities decline (5). Many people with dementia receive care from either unpaid or paid caregivers at home or in long-term care facilities (5), and most receive care from unpaid family members or friends. About one-half of the unpaid caregivers surveyed in the 2014 Alzheimer's Association

Women and Alzheimer's Poll preferred to have their loved ones with dementia nearby (48%), and 65% of them would prefer to care for their loved ones with dementia at home (5). About one-third of caregivers also believed providing care at home for people with dementia is an obligation (38%) (5). Caregivers manage prescription medications, help with activities of daily living, and offer nutritional diets, exercise, and social engagement. ADSCs play a role in providing this type of care for people with dementia while also offering respite for their unpaid caregivers (5). ADSCs have been shown to provide positive outcomes for both family caregivers and people with dementia (7,14).

These findings indicate that ADSCs in MSAs, nonprofit organizations, and nonchain centers provide services to a higher proportion of participants with dementia, particularly among centers that specialize in dementia care. The prevalence of ADSC participants with dementia was lower in the West compared with other regions. Nearly one-half of participants in specialized centers in the Midwest and West had dementia. Dementia was more prevalent in ADSCs in MSAs, nonchain centers, and nonprofit centers. For most of the selected characteristics, the prevalence of dementia was higher in specialized centers than in nonspecialized centers.

This analysis has some limitations. The data are cross-sectional and cannot demonstrate effectiveness for participants with dementia receiving specialized care in ADSCs. Further, the data are aggregated to the provider level and do not allow analysis to examine relationships between other participant-level sociodemographic or health characteristics and specialized dementia care. The 2020 wave of NPALS was conducted when ADSCs may have temporarily or permanently closed due to the COVID-19 pandemic. This may have resulted in underestimation of the prevalence of dementia among ADSCs as well as the number of centers specialized in dementia care compared with previous years, because certain centers were either temporarily not serving participants or instead serving participants at their place of residence during the pandemic. Despite these limitations, findings from

this report may inform providers, policy makers, researchers, and consumer advocates about the prevalence of dementia in ADSCs in general and in ADSCs that provide specialized care and ADSCs that do not provide specialized care for dementia.

References

1. Sengupta M, Lendon JP, Caffrey C, Melekin A, Singh P. Post-acute and long-term care providers and services users in the United States, 2017–2018. *National Center for Health Statistics. Vital Health Stat* 3(47). 2022. DOI: <https://dx.doi.org/10.15620/cdc:115346>.
2. Caffrey C, Lendon JP. Service provision, hospitalizations, and chronic conditions in adult day services centers: Findings from the 2016 National Study of Long-Term Care Providers. *National Health Statistics Reports*; no 124. Hyattsville, MD: National Center for Health Statistics. 2019. Available from: <https://www.cdc.gov/nchs/data/nhsr/nhsr124-508.pdf>.
3. Singh P, Lu Z, Sengupta M. Variation in adult day services center participant characteristics by center ownership: United States, 2020. *NCHS Data Brief*, no 453. Hyattsville, MD: National Center for Health Statistics. 2022. DOI: <https://dx.doi.org/10.15620/cdc:122046>.
4. Harris-Kojetin L, Sengupta M, Lendon JP, Rome V, Valverde R, Caffrey C. Long-term care providers and services users in the United States, 2015–2016. *National Center for Health Statistics. Vital Health Stat* 3(43). 2019. Available from: https://www.cdc.gov/nchs/data/series/sr_03/sr03_43-508.pdf.
5. Alzheimer's Association. 2023 Alzheimer's disease facts and figures. *Alzheimers Dement* 19(4):1598-1695. 2023. DOI: <https://doi.org/10.1002/alz.13016>.
6. Conrad KJ, Guttman R. Characteristics of Alzheimer's versus non-Alzheimer's adult day care centers. *Res Aging* 13(1):96–116. 1991. DOI: <https://doi.org/10.1177/0164027591131005>.
7. Gaugler JE, Jarrott SE, Zarit SH, Stephens MP, Townsend A, Greene R. Respite for dementia caregivers: The effects of adult day service use on caregiving hours and care demands. *Int Psychogeriatr* 15(1):37–58. 2003. Available from: <https://www.proquest.com/scholarly-journals/respites-dementia-caregivers-effects-adult-day/docview/1991083264/se-2>.
8. Melekin A, Singh P, Lu Z, Lendon JP, Caffrey C, Sengupta M. Long-term care providers and services users in the United States, adult day services center component: National Post-acute and Long-term Care Study, 2020. Weighted national estimates and standard errors. Hyattsville, MD: National Center for Health Statistics. 2022. Available from: <https://www.cdc.gov/nchs/data/npals/2020-NPALS-ADSC-Weighted-Estimates-508.pdf>.
9. Rome V, Lendon JP, Harris-Kojetin L. Differences in characteristics of adult day services centers, by level of medical service provision. *National Center for Health Statistics. Vital Health Stat* 3(45). 2020. Available from: https://www.cdc.gov/nchs/data/series/sr_03/sr03-45-508.pdf.
10. National Center for Health Statistics. 2020 National Post-acute and Long-term Care Study: Survey methodology for the adult day services center and residential care community components. 2022. Available from: <https://www.cdc.gov/nchs/data/npals/2020-NPALS-methodology-documentation-508.pdf>.
11. National Center for Health Statistics. 2020 National Post-acute and Long-term Care Study: Adult day services center (ADSC) restricted data file, data description and usage. 2022. Available from: <https://www.cdc.gov/nchs/data/npals/2020-NPALS-Adult-Day-Services-Provider-ReadMe.pdf>.
12. U.S. Office of Management and Budget. 2020 standards for delineating core based statistical areas. 86 FR 37770:37770–8. 2021. Available from: <https://www.federalregister.gov/documents/2021/07/16/2021-15159/2020-standards-for-delineating-core-based-statistical-areas/>.
13. Parker JD, Talih M, Malec DJ, Beresovsky V, Carroll M, Gonzalez JF Jr, et al. National Center for Health Statistics data presentation standards for proportions. *National Center for Health Statistics. Vital Health Stat* 2(175). 2017. Available from: https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf.
14. Ellen ME, Demaio P, Lange A, Wilson MG. Adult day center programs and their associated outcomes on clients, caregivers, and the health system: A scoping review. *Gerontologist* 57(6):e85–e94. 2017. DOI: <https://doi.org/10.1093/geront/gnw165>.

**U.S. DEPARTMENT OF
HEALTH & HUMAN SERVICES**

Centers for Disease Control and Prevention
National Center for Health Statistics
3311 Toledo Road, Room 4551, MS P08
Hyattsville, MD 20782-2064

FIRST CLASS MAIL
POSTAGE & FEES PAID
CDC/NCHS
PERMIT NO. G-284

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

For more NCHS NHSRs, visit:
<https://www.cdc.gov/nchs/products/nhsr.htm>.



National Health Statistics Reports ■ Number 198 ■ January 25, 2024

Suggested citation

Singh P, Lendon JP, Sengupta M. Alzheimer disease or other dementias in adult day services centers, 2020. National Health Statistics Report; no 198. Hyattsville, MD: National Center for Health Statistics. 2024. DOI: <https://doi.org/10.15620/cdc:135024>.

Copyright information

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

National Center for Health Statistics

Brian C. Moyer, Ph.D., *Director*
Amy M. Branum, Ph.D., *Associate Director for Science*

Division of Health Care Statistics

Carol J. DeFrances, Ph.D., *Director*
Alexander Strashny, Ph.D., *Associate Director for Science*

For e-mail updates on NCHS publication releases, subscribe online at: <https://www.cdc.gov/nchs/email-updates.htm>.
For questions or general information about NCHS: Tel: 1-800-CDC-INFO (1-800-232-4636) • TTY: 1-888-232-6348
Internet: <https://www.cdc.gov/nchs> • Online request form: <https://www.cdc.gov/info> • CS346048