JAMDA 26 (2025) 105890

JAMDA

journal homepage: www.jamda.com

Original Study

Trends in Assisted Living and Memory Care Supply From 2019 to 2023

Eric Jutkowitz PhD [a,b,c,*], Gauri Gadkari MS [a], Erh-Chi Hsu MPH, RN [d], Ozcan Tunalilar PhD [e,f], Lindsey Smith PhD [f,g], Cassandra L. Hua PhD [h], Jennifer N. Bunker MPH [d], Kali S. Thomas PhD [d]

[a] Department of Health Services, Policy & Practice, Brown University School of Public Health, Providence, RI, USA
[b] Providence Veterans Affairs Medical Center, Center of Innovation in Long-Term Services and Supports, Providence, RI, USA
[c] Evidence Synthesis Program Center, Providence VA Medical Center, Providence, RI, USA
[d] School of Nursing, Johns Hopkins University, Baltimore, MD, USA
[e] Nohad A. Toulan School of Urban Studies and Planning, Portland State University, Portland, OR, USA
[f] PSU Institute on Aging, Portland State University, Portland, OR, USA
[g] OHSU-PSU School of Public Health, Oregon Health & Science University, Portland, OR, USA
[h] Department of Public Health, University of Massachusetts Lowell, Lowell, MA, USA

Keywords:
Assisted living
memory care
dementia
long-term care

A B S T R A C T

Objectives: Describe geographic variation from 2019 to 2023 in assisted living (AL) and memory care supply, and its correlation with county-level characteristics.
Design: Descriptive study of the supply of AL and memory care.
Setting and Participants: Licensed AL communities in the United States operating in 2019 and 2023.
Methods: Data come from a national list of licensed ALs and the US Census Bureau's American Community Survey. The primary outcomes of interest were AL supply and memory care supply (beds per 1000 adults aged 65+ at the county level). We descriptively evaluated county characteristics by AL supply in 2019 and the change in AL supply from 2019 to 2023.
Results: In 2023, counties with the highest AL and memory care supply were more likely to have greater wealth, higher educational attainment, and were urban. Between 2019 and 2023, 43% of counties had a decrease in AL supply, 35% of counties had no change in AL supply, and 22% of counties had an increase in AL supply. Counties with a decrease or no change in AL supply compared with increase in AL supply had a larger proportion of the population aged 65+ years, lower median household income, and were more rural. Between 2019 and 2023, 29% of counties had a decrease in memory care supply, 37% had no change in memory care supply, and 34% had an increase in memory care supply. Counties with unchanged or a decrease in memory care supply had lower educational attainment, more poverty, lower home values, and were more rural.
Conclusions and Implications: We found low overall availability of AL and memory care supply and decreases in their supply in rural and socioeconomically disadvantaged counties. It is important to incentivize ALs, including memory care, to operate in underserved areas to ensure equitable access to these important long-term care settings.

Assisted living (AL) is a licensed residential setting that provides 24-hour supervision and meals to older adults in a homelike setting, but not 24-hour nursing services. In addition, more than 80% of residents in AL pay out-of-pocket for their care.[1]

AL has become an important site of care for people with dementia: more than 40% of AL residents have a dementia diagnosis[2,3] and 70% of residents are living with cognitive impairment.[4,5]

The authors were supported by a grant from the National Institute on Aging (1R01AG082308-01).

This secondary analysis was approved by the Institutional Review Board of Brown University under protocol 2023003523. This study is also covered by Centers for Medicare and Medicaid Services data use agreement: RSCH-2024-70576.

* Address correspondence to Eric Jutkowitz, PhD, Brown University School of Public Health, Box G-S121-6, 121 S. Main Street, 6th Floor, Providence, RI 02912.
E-mail address: Eric_Jutkowitz@Brown.edu (E. Jutkowitz).

https://doi.org/10.1016/j.jamda.2025.105890
1525-8610/

Although AL has the potential to help residents with dementia age in a homelike environment with high quality of life, only about 25% of ALs provide dementia-specific care (sometimes called "memory care"), and most AL residents with dementia do not live in an AL licensed or certified for memory care.[4,6,7]

AL is one of the fastest growing long-term care options in the United States and, with the aging of the US population and declining pool of family caregivers, ALs will continue to play an important role in the continuum of care for older adults.[5] For example, one-third of adults aged 65+ in the community who need assistance with daily living have unmet care needs.[8] In addition, consumers report a preference for AL communities over other residential settings such as nursing homes.[9] However, access to AL is not universal. Prior work has reported on the supply of AL—most recently in 2017[4,10,11]—finding large disparities in county-level supply of AL beds by socioeconomic status, especially for beds in memory care ALs. Specifically, higher AL bed supply was positively associated with higher county-level measures of income, education, wealth, and employment. However, with the global COVID-19 pandemic, much has changed in the market for long-term care since this study of AL availability in 2017. First, the COVID-19 pandemic has resulted in shifts in people's preferences toward receiving long-term care at home rather than in nursing homes.[12,13] Second, variations in the implementation of COVID-19 public health protocols differed among counties and states, potentially impacting AL communities' financials and ability to remain open.[14] Third, the economy experienced a significant shock with increased work-from-home allowances, which could have enabled people to provide caregiving from home.[15] This, in turn, could have delayed AL entry, affecting occupancy rates and ultimately, AL providers' financial viability.

In this article, we report the supply of AL beds in 2023, we calculate the change in supply of AL beds from 2019 to 2023, and we describe the characteristics of counties where the supply of AL beds increased, decreased or remained constant.

Methods

Data and Sample

We created an AL county-year-level dataset. First, our team compiled a national directory of ALs for 2019 and 2023 by searching publicly available records of AL state licensing agencies.[6] Each of the annual files contains approximately 37,000 ALs, their address, whether they provide licensed memory care, and the number of beds. Using ArcGIS, County FIPS were assigned to each AL via the 2023 Census Bureau's cartographic boundary file in a spatial join. We excluded 2 states from analyses: Minnesota, due the state's restructuring of licensed AL in 2019, and Connecticut, due to unique state licensing processes that excludes specific AL location data.

Second, we linked the national AL directory with the US Census Bureau's 2022 American Community Survey (ACS) 5-Year Data for each year, which provides county-level economic (eg, unemployment, home value, owner-occupied housing, poverty) and demographic data (eg, race, age, education).[16] From the ACS data, we selected variables that described county-level age (median and percent older than 65 and 85 years), education, household income, unemployment rate, poverty rate, and race. To examine rurality, we used the US Department of Agriculture's Economic Research Service's 2023 rural-urban continuum codes, which assigns 9 levels of "metro" (ranked 1–3) and "nonmetro" (ranked 4–9) ranking at the county level.[17] We included variables on the supply of home health agencies and nursing home beds, as these services are potentially a substitute for AL.[4,18] Finally, we included a variable for the proportion of AL beds that were from small ALs (<25 beds) in a county. Supplementary Material A provides additional details on the data.

Statistical Analysis

First, we described the county characteristics by AL bed supply in 2023. To accomplish this, we calculated the number of AL beds (overall and memory care) per 1000 adults 65+ at the county level. We stratified counties by market share (no AL in a county and quartiles among counties with ≥1 AL). Among counties with ≥1 AL, we examined differences in characteristics between counties in the highest and lowest quartiles by reporting standardized mean differences (SMD) between groups. Following guidance in the literature, we consider an SMD as very small (<0.2), small (0.2–0.5), medium (0.5–0.8), and large (>0.8).[19]

Second, we described the change in county-level AL bed supply (overall and memory care) from 2019 to 2023 per 1000 adults aged 65+ years. We also examined the characteristics of counties that had an increase, decrease, and no change in supply for all AL beds and separately for memory care beds. A change in supply was defined as a difference of more than 1 bed per 1000 older adults (meaning, change < -1 = decrease in supply, and change >1 = increase in supply).[20] The differences between counties with an increase and those with a decrease or no change were similar. Therefore, we grouped the no change and decrease groups together. To examine the supply of memory care beds, the analysis was limited to the 30 states with complete memory care licensure data. For both comparisons, we limited to counties with at least 1 AL or 1 memory care AL, respectively.

Results

Supply of ALs in 2023

We identified 34,679 ALs with a capacity for 1,329,491 residents across 48 states and DC (excluding Connecticut and Minnesota) operating in 2023. Figure 1A shows AL penetration (all beds), by county, in 2023. Most counties (77%; 2353 of 3048 counties) had at least 1 AL operating in 2023. Figure 1B shows AL memory care penetration by county in the 30 states with complete memory care licensure data. Among the 30 states, 992 of 2058 counties (48%) had at least 1 AL with memory care.

Table 1 shows counties with no AL compared with counties with at least 1 AL were in more rural areas (rurality score 6.9 vs 5.3 to 4.2). Counties with the lowest supply of AL had on average 8 beds per 1000 adults aged 65+ years. In contrast, counties with the highest supply of AL had on average 44 beds per 1000 adults aged 65+ years. On average, median household income was $59,298 in low AL supply counties and $70,041 in high AL supply counties. There were large (SMD >0.8) and medium differences (SMD 0.5 to 0.8) between counties with low and high AL supply in terms of median age, education, household income, the proportion of unemployed individuals, and the proportion of people living in poverty (Figure 2). There was a similar pattern between low and high memory care supply counties with respect to education (Figure 2 and Supplementary Material B). In contrast from all AL, there was no meaningful difference between low and high memory care supply counties with respect to median age, household income, the proportion unemployed, and the proportion in poverty.

Change in Supply of ALs

Among 2421 counties with at least one AL in 2019 or 2023, 43% of counties had a decrease in AL supply, 35% of counties had no change in AL supply and 22% of counties had an increase in AL supply (Figure 3A). All differences between counties with an increase and decrease in AL supply had very small or small SMD (Figure 4 and Supplementary Material C). Comparing counties with an increase

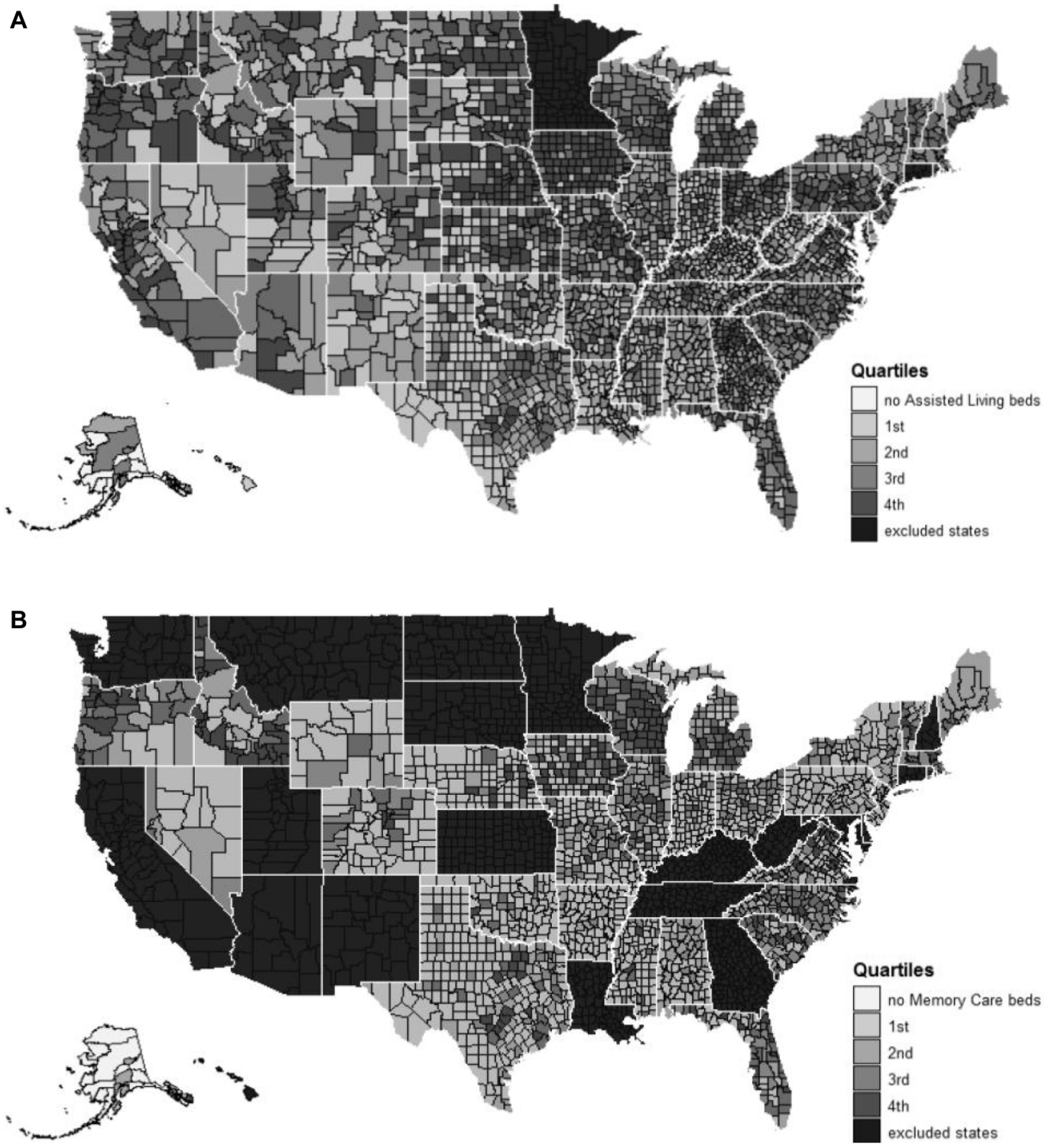

Fig. 1. Geographic variation in AL and memory care supply (2023). (A) National AL supply (2023). (B) National memory care supply (2023).

vs no change or decrease in AL supply, we found those with no change or decrease in AL supply had a larger proportion of population older than 65 years, a smaller median household income, and were in more rural counties (again, small SMD for all).

Among 922 counties in 30 states with complete data on memory care licensure, 29% had a decrease, 37% had no change, and 34% had an increase in memory care supply (Figure 3B). Like all ALs, differences between counties with an increase and decrease in memory care supply had very small or small SMD (Figure 4 and Supplementary Material C). Counties with no change or a decrease in memory care supply had lower educational attainment, more of the population in poverty, lower home values, and were in more rural counties (small SMD for all).

Finally, in 169 counties there was an increase in memory care supply and a decrease or no change in overall AL supply (Supplementary Material D). Notably, these counties had a high median household income, a high median home value, and were in urban areas.

Table 1
County Characteristics, by AL Bed Supply in 2023

County Characteristics, Mean (SD)[†]	No AL	AL Beds per 1000 Older Adults - Quartiles[*]			
		1 (Low)	2	3	4 (High)
Number of counties	695	588	589	588	588
No. beds per 1000 people 65+ y	0	8.1 (3.2)	17.1 (2.2)	25.7 (2.9)	44.5 (13.6)
Median age	42.8 (6.2)	42.5 (5.2)	41.8 (5.3)	40.7 (4.9)	39.9 (4.8)
Percent of population age 65+ y	20.7 (5.6)	20.2 (4.6)	19.9 (4.9)	18.8 (4.5)	18.7 (4.3)
Percent of population age 85+ y	2.2 (1.2)	2.2 (0.7)	2.3 (0.8)	2.2 (0.9)	2.5 (1.1)
Less than high school	14.3 (7.2)	13.1 (5.3)	11.4 (4.6)	10.3 (4.6)	9.4 (4.5)
High school diploma or more	85.7 (7.2)	86.9 (5.3)	88.6 (4.6)	89.7 (4.6)	90.6 (4.5)
College education or higher	48.8 (10.9)	51.2 (9.5)	54.5 (8.9)	57.7 (9.9)	59.7 (10.3)
Median household income, $	56,275 (14,849)	59,298 (14,662)	62,797 (14,569)	67,506 (17,692)	70,041 (18,199)
Unemployment rate	5.5 (3.5)	5.5 (2.1)	5.1 (2.3)	4.8 (1.7)	4 (1.7)
Percent persons in poverty	16.6 (7.6)	15.8 (5.6)	14.3 (5.3)	13.2 (4.8)	12.2 (4.9)
Percent owner-occupied housing	74.8 (9.3)	73.6 (8.4)	72.6 (7.7)	71.2 (8)	70.3 (8.8)
Median home value, $	150,300 (98,823)	188,068 (129,198)	192,414 (92,896)	221,848 (127,792)	229,534 (155,585)
Percent White population	77.8 (20.3)	77.3 (18.1)	79.1 (16.6)	78.5 (16.1)	81.4 (15.1)
Percent Black population	8.4 (15.8)	11.2 (16.1)	9.7 (14)	9.3 (13.3)	6.8 (11.8)
Percent Hispanic population	12 (19.2)	10.6 (15.7)	8.9 (11.6)	9.7 (11.3)	8.9 (9.8)
Rurality index (1 = most urban, 9 = most rural)	6.9 (2.7)	5.3 (2.7)	4.8 (2.8)	4.2 (2.8)	4.7 (2.9)
Number of home health agencies	0.5 (0.7)	0.3 (0.4)	0.4 (0.4)	0.4 (0.4)	0.5 (0.5)
Certified nursing beds	41.9 (41.4)	38.1 (24.1)	36.9 (20.5)	35.4 (22.3)	43.4 (28.5)
Proportion of AL beds from small facilities (≤25 beds)	0	0.5 (0.5)	0.2 (0.3)	0.2 (0.3)	0.2 (0.2)

[*]Connecticut and Minnesota excluded. County N = 3048. Quartile cutoff: (0, 13.30), (13.30, 20.99), (20.99, 31.40), (31.40, 124.47). 2023 county lines as defined by Census bureau's cartographic shape file for 2023.
[†]Mean (SD) of the proportion of population in 2023.

Discussion

wIn our analysis of AL and memory care supply, we found that AL and memory care presence in counties continues to be positively associated with higher income and higher education levels of the population and negatively associated with unemployment and poverty. These associations are directionally the same as findings from 2017.[4] In contrast to findings from 2017, there are no longer substantial differences in memory care supply based on county median age, rurality index, and number of home health agencies. Taken together, we can conclude that the AL and memory care industry has not experienced substantial shifts in recent years.

Importantly, AL predominantly serves private pay older adults, and our data demonstrate that AL and memory care supply is greater in counties with higher median income. In addition, AL supply was lowest in rural areas. These findings have implications for access to

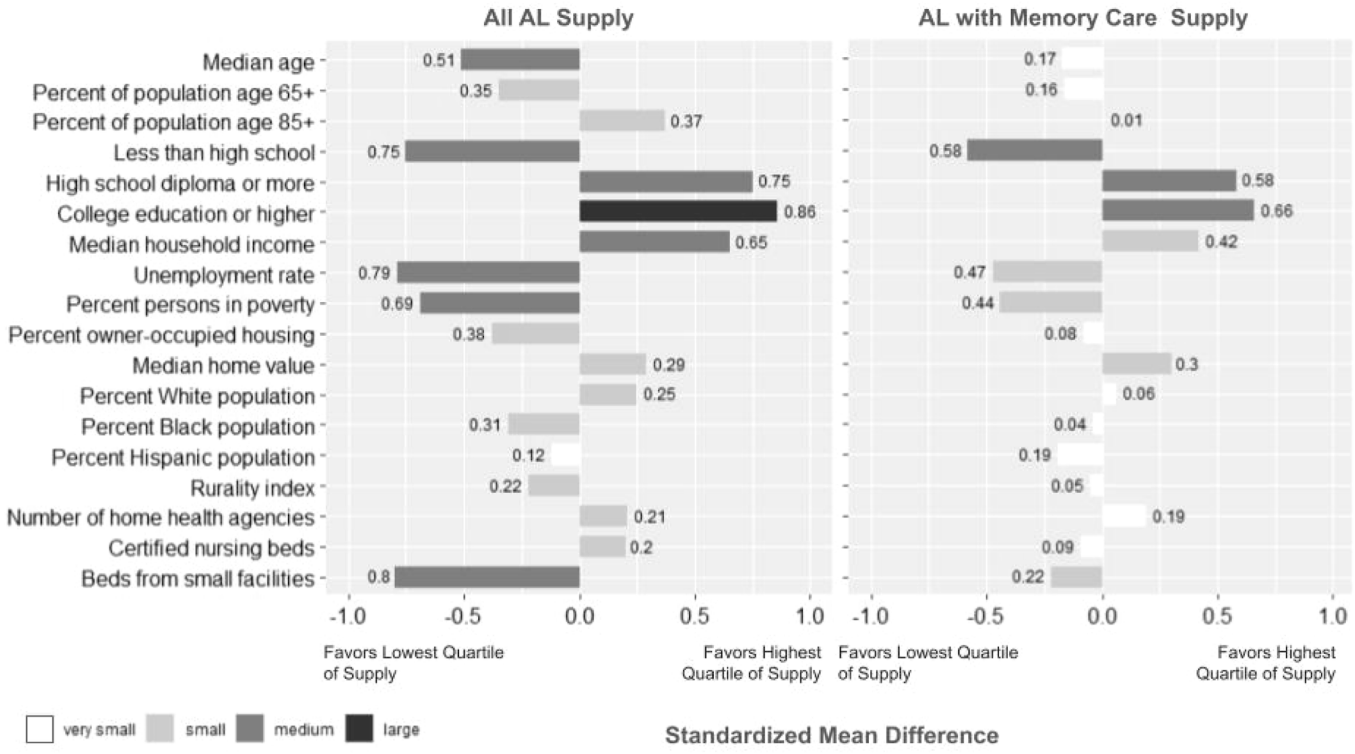

Fig. 2. County-level differences between highest and lowest quartile of AL supply (2023).

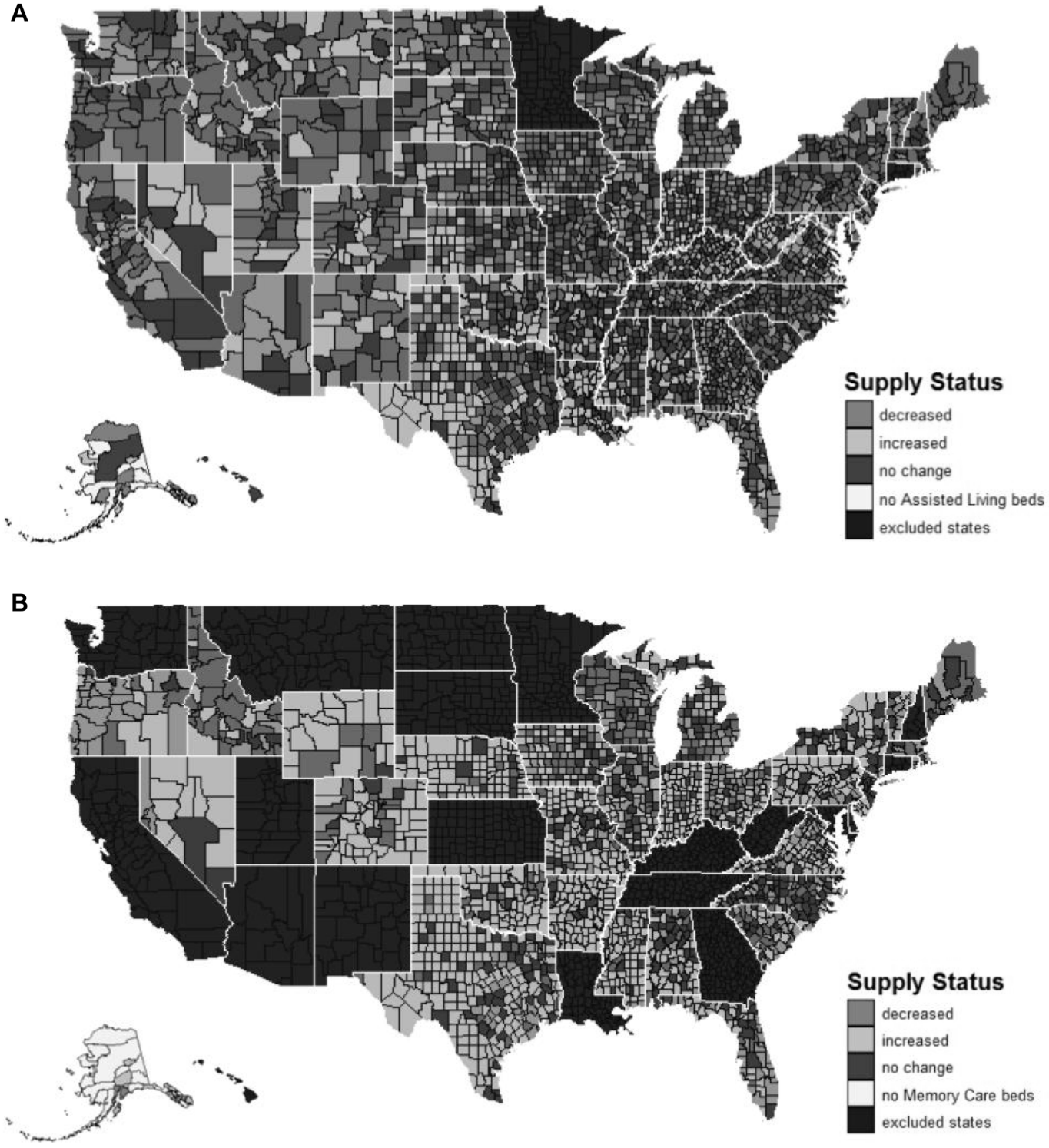

Fig. 3. Geographic variation in AL and memory care supply from 2019 to 2023. (A) Change in AL supply from 2019 to 2023. (B) Change in memory care supply from 2019 to 2023.

AL. Older adults with limited lifetime earnings are more likely to need long-term care and are more likely to receive Medicaid-funded long-term care.[21,22] In addition, individuals in rural areas often have greater health needs, are older, and have lower incomes.[23] These findings suggest that AL developers may need greater incentives to serve lower income, rural populations to increase access to this sector of long-term care. One possible solution is expanding the public financing of AL through Medicaid programs and increasing the existing Medicaid payment rate to make serving populations in these traditionally underserved areas financially viable for AL owners and operators.[24] Although Medicaid pays for AL in 46 states and Washington, DC, the proportion of AL residents enrolled in Medicaid varies significantly across states.

In this study, we identified 169 counties with a decline or no change in AL but an increase in memory care supply. These counties were characterized by greater measures of socioeconomic status (eg,

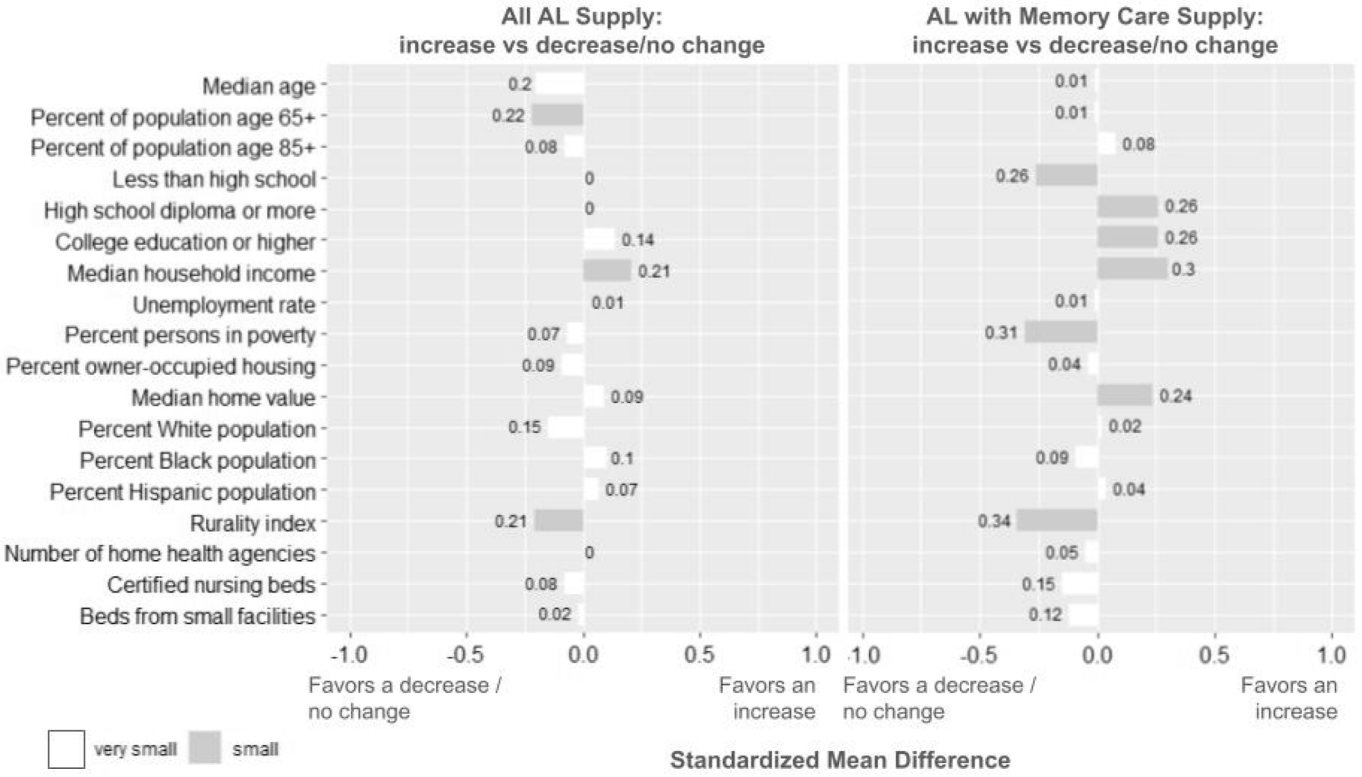

Fig. 4. Standardized mean difference between counties with an increase or decrease/no change (2019 to 2023) in AL/memory care.

higher educational attainment, higher median household income, lower poverty rates, higher median home value). One explanation for the increase in memory care supply and decrease in general AL supply may occur because existing ALs are converting their standard licensed beds to memory care beds. This change could reflect a demand for memory care as the population living with dementia increases, change in marketing practices, or reflect a financial incentive for ALs as they are able to command higher prices (36% more, on average) for memory care beds.[6] Future research is needed to understand how these changes influence who is receiving care in AL and the quality of care that is provided.

Limitations

The study has limitations. First, we excluded data from Connecticut and Minnesota due to incomplete license data in at least 1 of the 2 years, which may mean findings do not generalize to these 2 states. Second, the definition of memory care and AL varies by state; of the 45 states that license memory care, we only evaluated 30 states that had complete licensure data available for provision of memory care at the facility level. Third, we examined the change in supply of memory care for all older adults and assumed the prevalence of dementia did not change over time. Fourth, our study coincided with the COVID-19 pandemic, which may not reflect typical market conditions and be generalizable to changes we would see at different points in time. Fifth, we conducted analyses at the county level, which may not be granular enough to examine supply of AL in some urban areas with large variation in race/income. Sixth, we do not explicitly measure demand for AL in this study; however, we believe that demand is high given existing literature showing consumers on average prefer AL in comparison with nursing homes and a high prevalence of unmet care needs in the community.[9] Seventh, there are likely key factors that we did not measure that associate with change in AL bed supply including regulatory changes, change in staffing requirements, and changes in the local labor market.

Conclusions and Implications

In this paper, we demonstrate that AL supply has continued to grow, despite the barriers faced by AL providers during the COVID-19 pandemic. Importantly, there are different trends for memory care than all AL, and greater AL supply exists in more affluent counties. These findings underscore the need for increased access to care that meets older adults' needs—including those living with dementia—particularly in traditionally underserved areas.

Disclosure

Dr Jutkowitz reported grants from the RGF Environmental Group outside the submitted work; is a co-founder and on the board of directors of Plans4Care Inc, a digital health company that provides personalized, on-demand dementia care; is a consultant to the Lewin Group under their CMS GUIDE contract; and is on the board of directors for PACE-RI. All other authors report no competing interests.

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