Changes in Long-Term Care Markets: Assisted Living Capacity and the Prevalence of Nursing Home Residents with Dementia from 2019 to 2021

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AcademyHealth ANNUAL RESEARCH MEETING

RESEARCH OBJECTIVE

To evaluate how changes in assisted living (AL) capacity influence the prevalence of nursing home (NH) residents with dementia.

DESIGN, SETTING, AND PARTICIPANTS

- DATA: AL licensing data for 2019 and 2021, linked with NH data from LTCFocus.org.
- SAMPLE: 12,261 NHs in the contiguous US operating in 2019 and 2021 with data on residents' dementia diagnoses.
- EXPOSURE: Number of AL beds within a 15-mile radius of a given NH.
- OUTCOME: Percent of residents with a dementia diagnosis in each NH.
- COVARIATES:
  - Market characteristics: # of other NH beds within the market and # of beds in NHs with dementia special care units.
  - NH characteristics: payer mix (percentage of Medicare residents; percentage of Medicaid residents), facility size (total number of beds), occupancy rate, ownership structure (chain membership vs not), and profit status (for-profit vs. non-profit).

METHODS

We used linear models with year and facility fixed effects to examine the relationship between changes in AL capacity and memory care AL capacity and the percent of NH residents with dementia, adjusting for market and time-varying NH characteristics.

ACKNOWLEDGEMENTS

This work was supported by the National Institutes on Aging (Grant 7RF1AG082308-02).

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RESULTS - ALL ASSISTED LIVING COMMUNITIES

Figure 1. 2021 Nursing Home Dementia Prevalence and Assisted Living Distribution

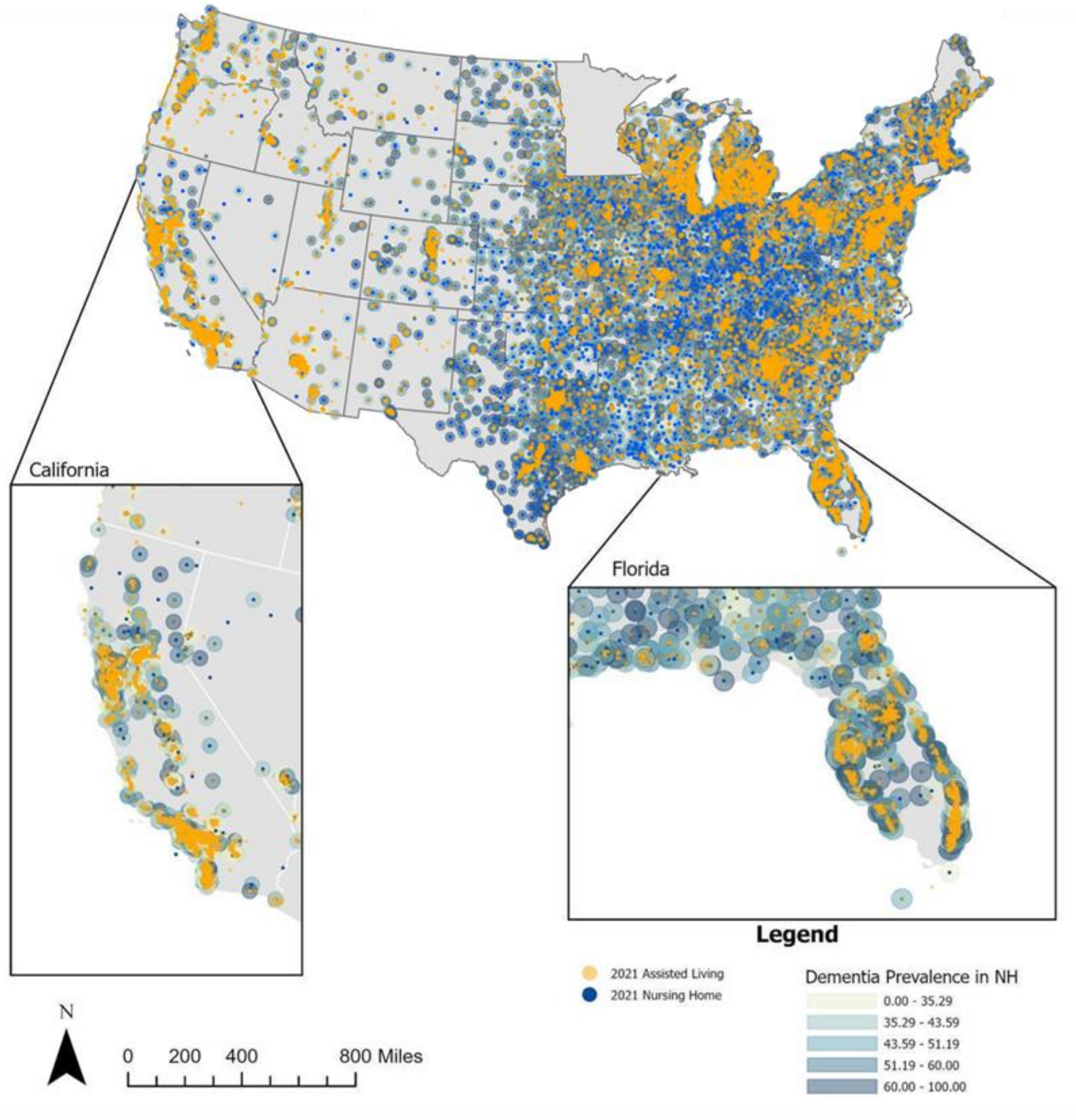


Table 1. Nursing Home Characteristics in 2019 and 2021 (N = 12261)

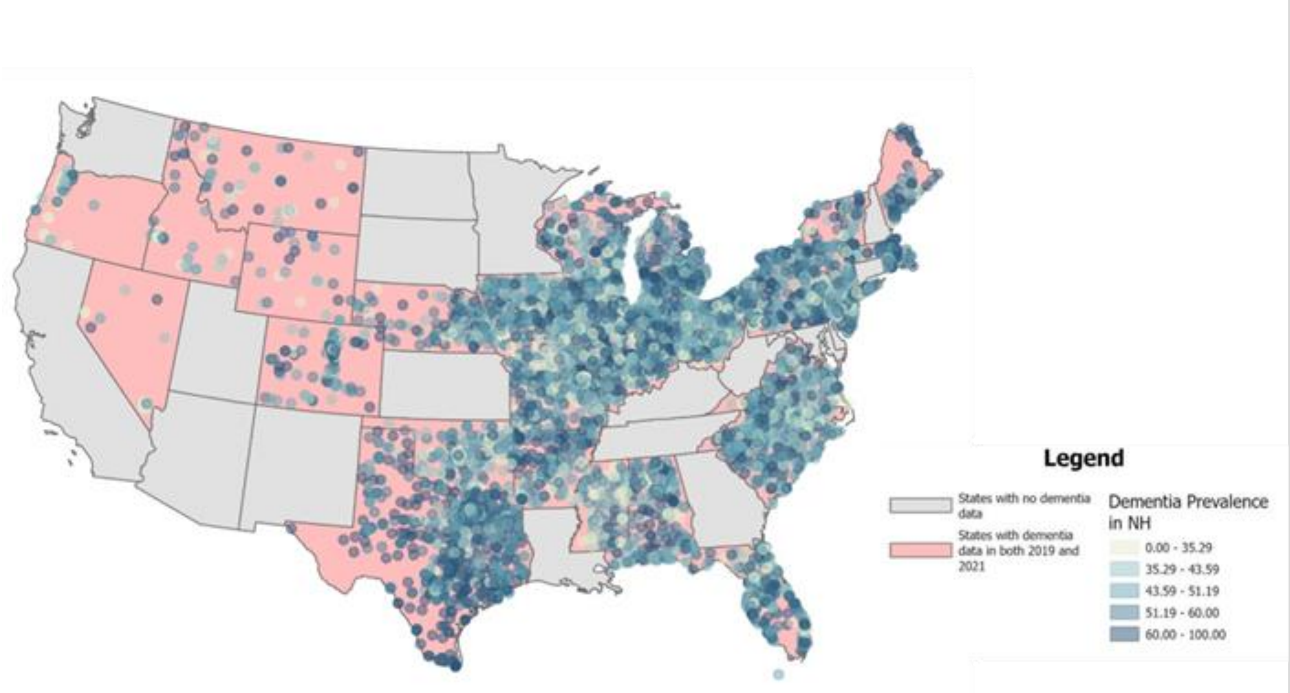
Characteristic	2019	2021	p-value[1]
% Residents with Dementia, mean (SD)	50.7 (14.7)	48.6 (14.7)	<0.001
% Residents with Medicaid Primary Payer, mean (SD)	62.3 (20.8)	62.4 (20.8)	0.96
% Residents with Medicare Primary Payer, mean (SD)	11.5 (9.4)	12.0 (10.2)	0.025
Total Beds, mean (SD)	114.5 (59.2)	114.1 (58.1)	0.57
Occupancy Rate %, mean (SD)	81.4 (13.9)	74.6 (15.9)	<0.001
Part of a Chain, n (%)	7,209 (59%)	7,169 (58%)	0.60
For Profit, n (%)	8,845 (72%)	8,887 (72%)	0.55
# AL Beds in the market, mean (SD)	2,768.77 (3,734.96)	2,966.2 (4,027.4)	0.027
# Other NH Beds in the market, mean (SD)	3,760.4 (6,616.3)	3,744.5 (6,532.0)	0.93
# Other NH Beds with Dementia Special Care Unit in the market, mean (SD)	521.4 (863.5)	534.6 (825.0)	0.001

[1]Wilcoxon rank sum test; Pearson's Chi-squared test
† The sample includes every NH market in the US excluding MN, CT and any market crossing the MN and CT borders.
‡ NH = Nursing Home; AL = Assisted Living; Market = 15-mile radius of a NH

On average, dementia prevalence in NHs decreased from 50.7% (SD=14.7) of residents to 48.6% (SD=14.7) over the study period. Within markets, total AL beds increased averagely from 2,768.8 to 2,966.2 between 2019 to 2021; the average number of memory care beds increased from 949.0 to 961.8 (Table 1). In the adjusted model, a 100-bed increase in AL capacity corresponded with a 0.08 (SE=0.03) percentage point reduction in the prevalence of NH residents with dementia (p<0.001) (Table 2). A 100-bed increase in memory care AL capacity was associated with a lower, but not statistically significant, share of NH residents with dementia (β=-0.01, SE=0.03; p=0.63) (Table 2).

RESULTS - MEMORY CARE ASSISTED LIVING COMMUNITIES

Figure 2. 2021 Nursing Home Markets in States with AL Memory Care Data



RESULTS - MEMORY CARE ASSISTED LIVING COMMUNITIES

Table 2. The Effect of Assisted Living Capacity on the Percentage of Nursing Home Residents with Dementia

	All AL Communities	Memory Care AL Communities
	Adjusted†	Adjusted†
AL Capacity Within a Market (100s)	-0.08 *** (-0.13, -0.03)	AL Memory Care Capacity Within a Market (100s) -0.01 (-0.07, 0.04)
Year = 2021	-2.14*** (-2.37, -1.91)	-2.17*** (-2.43, -1.90)
NH Total Beds	-0.01 (-0.03, 0.00)	-0.01 (-0.02, 0.00)
NH Occupancy Rate	-0.04 *** (-0.05, -0.02)	-0.03 ** (-0.05, -0.01)
NH Part of a Chain = Yes	-0.06 (-0.56, 0.43)	-0.22 (-0.81, 0.38)
NH Run for Profit = Yes	0.03 (-0.88, 0.94)	0.19 (-0.83, 1.21)
NH % Residents with Medicaid Primary Payer	0.03 *** (0.02, 0.05)	0.03 *** (0.02, 0.05)
NH % Residents with Medicare Primary Payer	-0.08 *** (-0.11, -0.05)	-0.10 *** (-0.13, -0.06)
Market: Other NH Beds (100s)	0.02 (-0.09, 0.12)	0.03 (-0.09, 0.15)
Market: Other NH Beds with Dementia Special Care Unit (100s)	0.00 (-0.05, 0.06)	0.03 (-0.04, 0.10)
Constant	55.49	52.88
Fraction of variance due to differences across NHs	0.80	0.80
Number of NHs	12261	8289

* p<0.05 ** p<0.01 *** p<0.001
† Adjusted model includes facility and year fixed effects
‡ NH = Nursing Home; AL = Assisted Living; Market = 15-mile radius of a NH

The sample includes every NH market in the US excluding MN, CT and any market crossing the MN and CT borders.

The sample includes NH markets in 31 states (AK, AL, AR, CO, FL, ID, IL, IN, IA, ME, MA, MI, MS, MO, MT, NE, NV, NJ, NY, NC, OH, OK, OR, PA, RI, SC, TX, VT, VA, WI, WY), excluding those markets crossing borders to non-memory care states.

CONCLUSIONS AND IMPLICATIONS

- Increased AL capacity within 15 miles of a typical NH is associated with a lower prevalence of NH residents with dementia
- Expanded AL may offer alternative care options, potentially delaying NH admission for individuals with dementia.
- In 31 states licensing memory care AL, we observed similar, though not statistically significant, trends. These findings highlight the need for further research on how memory care AL impacts dementia care pathways.
- Future work should explore how general vs. memory care AL differ in supporting dementia care and delaying NH placement.