



# The Geography of Long-Term Care: Implications for SSI and Understanding Disparities in Living Arrangements Among Older Adults

*Gargi Chaudhuri, University of Wisconsin-La Crosse; Mary K. Hamman, University of Wisconsin-La Crosse; Meghan Jenkins Morales, University of Wisconsin-Madison; Stephanie Robert, University of Wisconsin-Madison; Milanika Turner, Florida Agricultural and Mechanical University  
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Given the aging of the population and growing racial/ethnic diversity among older adults, it is important to better understand how to improve equitable access to needed long-term care (LTC) services. This study explores the spatial distribution of LTC facilities in the U.S. to examine how that distribution is associated with the racial context of local areas.

## **Housing Wealth and the Ability to Pay for LTC**

Persistent disparities in access to housing, including overt racism in lending practices, have created unequal opportunities to acquire housing wealth (Joint Center for Housing Studies, 2019) which is what many Americans faced with LTC needs rely upon to finance the services needed. Furthermore, systemic racism and barriers to economic advancement have created higher poverty rates and disability incidence among people of color. These socioeconomic and racial disparities create differences in the ability to pay for LTC across both individuals and local areas and because the LTC industry is increasingly privatized, the locations of LTC facilities likely mirror these differences.

To investigate how the spatial distribution of LTC facilities is associated with the racial landscape across the U.S. we: (1) examined whether the socioeconomic context of the local area and/or historical redlining help explain any racial disparities in the distribution of LTC facilities, (2) tested the moderating effects of state-level policy (i.e. variations spending on home and community-based services (HCBS)) on the association between the racial landscape and the spatial distribution of LTC facilities, and (3) explored how the spatial distribution of LTC offerings impact county-level SSI enrollment. The focus of this project is on paid LTC services that are provided outside the home in three distinct LTC settings: adult day centers, assisted living facilities (with and without nursing services), and nursing homes.

Data for the analyses were acquired from several sources. Our LTC facility data came from the Historic Business Series of the Data Axle database which includes records for all US businesses from 1998 to present. We also utilized SocScape high-resolution grids derived from Decennial Census data for the entire U.S. to measure ethnic and racial composition from 2000-2020 and provide spatial covariates that describe local populations. To measure other characteristics of local areas that may influence facility locations, we used block-level data from Census-published tables based on the 2000 Decennial Census and the 2006-2010 and 2016-2020 five-year estimates of the American Community Survey (ACS). We



inferred state HCBS Medicaid waiver participation from Centers for Medicare and Medicaid Services (CMS) Form 64 expenditure data. Finally, historical redlining data were from Home Owners' Loan Corporation (HOLC) maps provided as an ArcGIS data layer from Esri and as tract-level summaries of these data prepared by Meier et al. (2020).

## **Differences in Abundance of Facilities across Racial Landscapes**

Using the aforementioned sources, we find strong evidence of differences in the abundance of facilities across predominantly White and non-White areas. Analyzing data across the continental U.S., we found that in population adjusted models LTC facilities of all types were more abundant in predominantly non-White than in predominantly White areas. In U.S. cities, our estimates indicated that predominantly non-White areas have more adult day centers than predominantly White areas; however, White areas have more assisted living facilities (without nursing care).

Thus, we infer that there are different patterns in the geographic distribution of assisted living facilities with cities having more located in White areas. The relative lack of any facilities in rural areas and lower racial diversity of rural populations likely influence our findings for the continental US. We also find that controlling for socioeconomic characteristics of local areas substantially mediates estimated racial disparities in the spatial distribution of LTC facilities. This mediation effect suggests that differences in socioeconomic characteristics help explain why LTC facilities are more likely to locate in non-White areas.

## **The Role of Historical Discriminatory Housing Practices**

We analyzed the potential mediating role of historical redlining and found that all race-based differences in urban areas are smaller (in absolute value) – falling to nearly zero – after controlling for historical redlining. These findings suggest a substantial share of the differences we find in the racial disparities in the distribution of LTC facilities may be attributable to the lasting effects of systemic racism in home mortgage loan policies. Yet, this finding should be interpreted with caution because we had to exclude several cities from the analysis because the spatial regression models did not converge.

## **The Role of Contemporary State-Level Policies**

Public support to help low-income individuals and families pay for care varies significantly across states – and even within states. Our analysis indicates that state's policy regimes may influence LTC facility locations. In states with more generous supplements to SSI and with higher proportions of total Medicaid LTC spending allocated to HCBS, the differences we find in facility abundance between predominantly White and non-White areas are smaller than in states that do not offer SSI supplements or that spend less on HCBS.

## **Implications**

This study demonstrated that there is uneven geographical distribution of LTC facilities (nursing homes, assisted living facilities, and adult day centers) across the U.S. We find dramatic changes in the mix of facilities that serve persons with long-term care needs from 2000 to 2020, with a very large increase in assisted living facilities without nursing. Analysis of racial disparities suggests access to assisted living facilities may be more limited in predominantly non-White communities. Care in assisted living facilities is very expensive, and rising costs have outpaced inflation over our study period. Racial disparities in



financial resources, like housing wealth, likely influence the locations of these primarily for-profit institutions.

- Since SSI benefits have not kept pace with inflation and continue to be small relative to the costs of care in community-based settings, it is reasonable to assume the ability to pay for needed services among persons who receive SSI is falling. Yet, we find evidence that SSI state supplements are associated with lower disparities, which may be indicative of better access to care in non-White communities.
- The geographic distribution of LTC facilities likely plays a role in producing racial disparities in LTC use. Our estimates of disparities in facility locations in urban communities aligns with disparities in LTC use in prior literature. The lack of congruence with our statewide estimates suggests there may be rural/urban differences in how the racial composition of place affects LTC distribution.
- Housing wealth plays an important role in ability to pay for long-term care, and we find redlining mediates the association between local racial composition and LTC facility locations, though these findings merit further investigation because our methodology substantially limited the number of cities included in the analysis.
- Our work provides evidence that the characteristics of the local population may lead to differential LTC investment, exacerbating disparities in health by race and socioeconomic status among persons with long-term care needs.

These findings indicate policies that make long-term care more affordable to low-income persons and families could also lead to more equitable distributions of facilities across neighborhoods.

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