

July 2022



NURSING HOMES IN RURAL AMERICA: A CHARTBOOK

**KEY FACTS ABOUT NURSING HOME
AVAILABILITY IN RURAL AMERICA**

RUPRI CENTER FOR RURAL HEALTH POLICY ANALYSIS



Table of Contents



Introduction

Executive Summary

Section 1: Nursing Home Availability

- Figure 1 Percent of Counties with Nursing Homes 1
 - ◆ Figure 1.1 Counties without Dually or Medicare Certified Nursing Homes
 - ◆ Figure 1.2 Counties without Dually or Medicaid Certified Nursing Homes 2
- Figure 2 Percent of Counties with Swing-bed Hospitals
- Figure 3 Percent of Counties with Nursing Homes by Swing-bed Hospital Availability 3
- Figure 4 Percent of Counties with Access to Post-acute Care and Long-term Care Service
 - ◆ Figure 4.1 Counties without Dually or Medicare Certified Nursing Homes and without Hospitals with SNF-type Swing Beds 4
 - ◆ Figure 4.2 Counties without Dually or Medicaid Certified Nursing homes and without Hospitals with NF-type Swing Beds 5

Section 2: Supply of Nursing Home Beds

- Figure 5 Number of Nursing Homes Beds per 1,000 Population Aged 65 and Older 6
- Figure 6 Number of Nursing Homes Beds per 1,000 Population Aged 65 and Older by Swing-bed Hospital Availability
- Figure 7 Dually or Medicare Certified Nursing Home Beds per 1,000 Population Aged 65 and older at the County Level 7
- Figure 8 Dually or Medicaid Certified Nursing Home Beds per 1,000 Population Aged 65 and Older at the County Level

Section 3: Nursing Home and Resident Characteristics

- Figure 9 Nursing Home Certification Status 8
- Figure 10 Number of Nursing Home Beds
- Figure 11 Nursing Home Occupancy Rates 9
- Figure 12 Nursing Home Ownership Status
- Figure 13 Nursing Home Payer Mix 10
- Figure 14 Overall 5-star Rating of Nursing Homes in 2019

Table of Contents

◆ Figure 14.1 Survey Rating of Nursing Homes in 2019	11
◆ Figure 14.2 Quality Rating of Nursing Homes in 2019	
◆ Figure 14.3 Staffing Rating of Nursing Homes in 2019	12
• Figure 15 Nursing Home Resident Demographics	13
• Figure 16 Percent of Nursing Home Residents with Activities of Daily Living Dependency	14
• Figure 17 Percent of Nursing Home Residents with Behavioral/Mental Health Needs	15
Conclusions	16
References	17
Appendix	18
Data & Methods	

Prepared by

Hari Sharma

Lili Xu

Fred Ullrich

Clint MacKinney

Keith J. Mueller

of the

RUPRI Center for Rural Health Policy Analysis



**Rural Health Research
& Policy Centers**

Funded by the Federal Office of Rural Health Policy
www.ruralhealthresearch.org

This project was supported by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS) under cooperative agreement/grant #U1CRH20419. The information, conclusions and opinions expressed in this policy brief are those of the authors and no endorsement by FORHP, HRSA, HHS is intended or should be inferred.



RURAL POLICY RESEARCH INSTITUTE

RUPRI Center for Rural Health Policy Analysis
University of Iowa College of Public Health
Department of Health Management and Policy

145 Riverside Dr., Iowa City, IA 52242-2007
(319) 384-3830

<http://www.public-health.uiowa.edu/rupri>

E-mail: cph-rupri-inquiries@uiowa.edu

Introduction

Policymakers are increasingly concerned about the availability of post-acute care and long-term care services in rural areas. A recent study found that a higher proportion of nursing homes in rural areas have closed compared to urban areas between 2008 and 2018 (Sharma et al., 2021). Many rural residents rely on rural hospitals with swing beds for both post-acute care and long-term care services but the closure of many hospitals in rural areas (Holmes et al., 2017) may potentially leave residents with few to no options for care. Despite recent efforts to promote home- and community-based services over institutional care (Kaye & Harrington, 2015), residents living in rural areas have limited access to alternatives to nursing home care such as assisted living facilities and adult day care centers (Siconolfi et al., 2019; Tyler & Fennell, 2017). As a result, nursing homes continue to be the primary providers of post-acute and long-term care services in rural areas (Coburn et al., 2016). Yet, we do not have a good understanding of the availability of nursing homes in rural areas.

In this chartbook, we define nursing homes as Medicare and/or Medicaid certified facilities providing post-acute care (skilled nursing facilities) and/or long-term care (nursing facilities) services. We document nursing home availability at the county level and identify counties without nursing homes. We also evaluate the supply of nursing home beds per 1,000 population aged 65 and older. We examine availability and beds by certification type because the type of services provided depends on certification. Facilities that are dually certified by Medicare and Medicaid tend to provide both post-acute care and long-term care services. On the other hand, facilities certified only by Medicare tend to focus on post-acute care services whereas facilities certified only by Medicaid tend to focus on long-term care services. We assume¹ that counties with a dually certified facility or Medicare only facility have access to post-acute care services and counties with a dually certified facility or Medicaid only facility have access to long-term care services. In addition, we identify county-level nursing home availability for counties with and without hospitals with swing beds. Finally, we describe the resident and nursing home characteristics including occupancy levels, payer mix, demographics, and health care needs. Our analyses incorporate the certification status of nursing homes, and we summarize data for the urban (metropolitan), and rural (micropolitan, and noncore) counties. Additional information on data and methods is available in the appendix to this document.

¹ Actual access to services may depend on resident needs as well as facility policies and beds availability that are beyond the scope of this study.

Executive Summary

Availability of Medicare and/or Medicaid certified nursing homes and hospitals with swing beds

- Overall, 92% of counties in the United States have Medicare and/or Medicaid certified nursing homes but fewer noncore counties have nursing homes.
 - About 96% of metropolitan and 95% of micropolitan counties have dually/Medicare certified or dually/Medicaid certified nursing homes.
 - About 87% of noncore counties have dually/Medicaid certified nursing homes but only 82% of noncore counties have dually/Medicare-certified nursing homes.
- Average number of Medicare and/or Medicaid certified nursing home beds per 1000 individuals who are 65 or older are higher in noncore counties (50.2) than in metropolitan (35.6) or micropolitan (44) counties but there is considerable variation in the number of nursing home beds across rurality, states, and regions.
- A high proportion of noncore counties have hospitals with skilled nursing facility (SNF) swing beds (61%) or nursing facility (NF) swing beds (52%). But among noncore counties without hospitals with SNF or NF swing beds, 25% have no Medicare and/or Medicaid certified nursing homes.

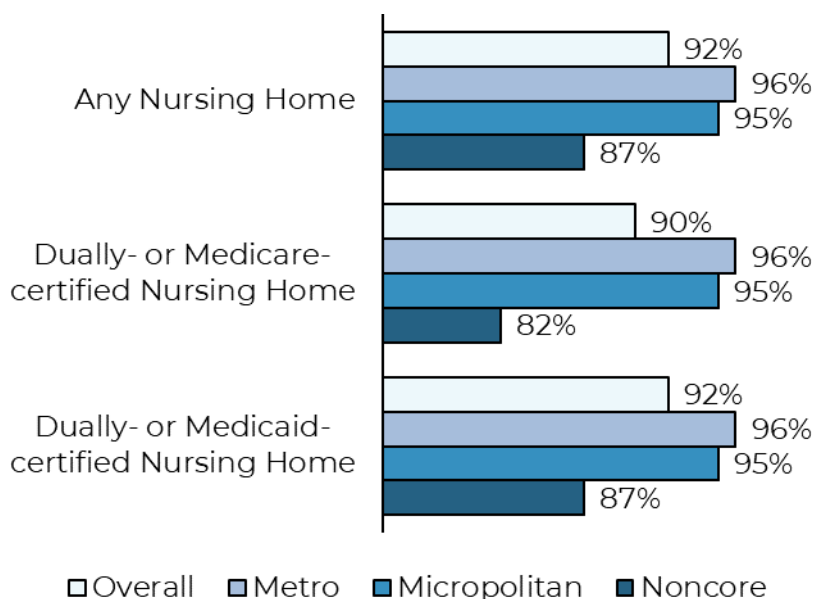
Characteristics of Medicare and/or Medicaid certified nursing homes and residents

- Nursing homes in noncore counties have fewer beds (78.6) and lower occupancy (75.1%) compared to metropolitan (beds: 117.4; occupancy: 80.1%) and micropolitan (beds: 96.7; occupancy: 76.4%) counties.
- A higher proportion of nursing homes in noncore counties are government-owned (13.7%) compared to micropolitan (10.0%) and metropolitan (4.4%) counties.
- Nursing homes in noncore counties had better survey ratings but worse quality ratings in 2019.
 - About 40% of nursing homes in noncore counties have a 4- or 5-star survey rating compared to 32.8% in metropolitan and 33% in micropolitan counties.
 - A higher percentage of nursing homes in noncore counties have a 1- or 2-star quality rating (33.2%) compared to metropolitan (17.7%) and micropolitan (28.5%) counties.
- Residents in nursing homes in noncore counties are more likely to be female, older, and white than those in metropolitan counties.
- Compared to metropolitan counties, a higher proportion of residents in nursing homes in noncore counties have depression (41.1% vs. 34.5%), dementia or Alzheimer's disease (48.2% vs. 42.9%), psychiatric diagnosis (35.6% vs. 32.0%), and other mental/behavioral needs (25.0% vs. 19.8%).

Section 1: Nursing Home Availability

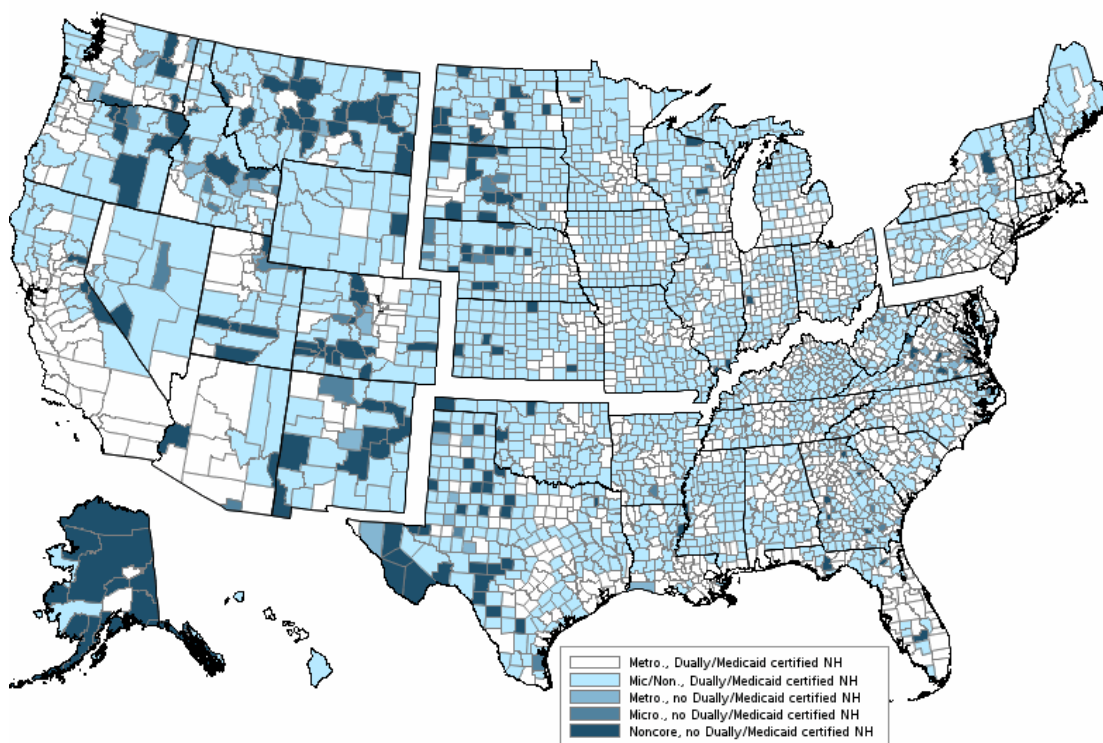
A higher percentage of noncore counties have no nursing homes and only 82% of noncore counties have a dually- or Medicare-certified nursing home.

Figure 1 Percent of Counties with Nursing Homes



Most of the counties without dually or Medicare certified nursing homes are in the West (123), the South (109), and the Midwest (82). Only 4 counties in the Northeast have no dually certified or Medicare certified nursing homes.

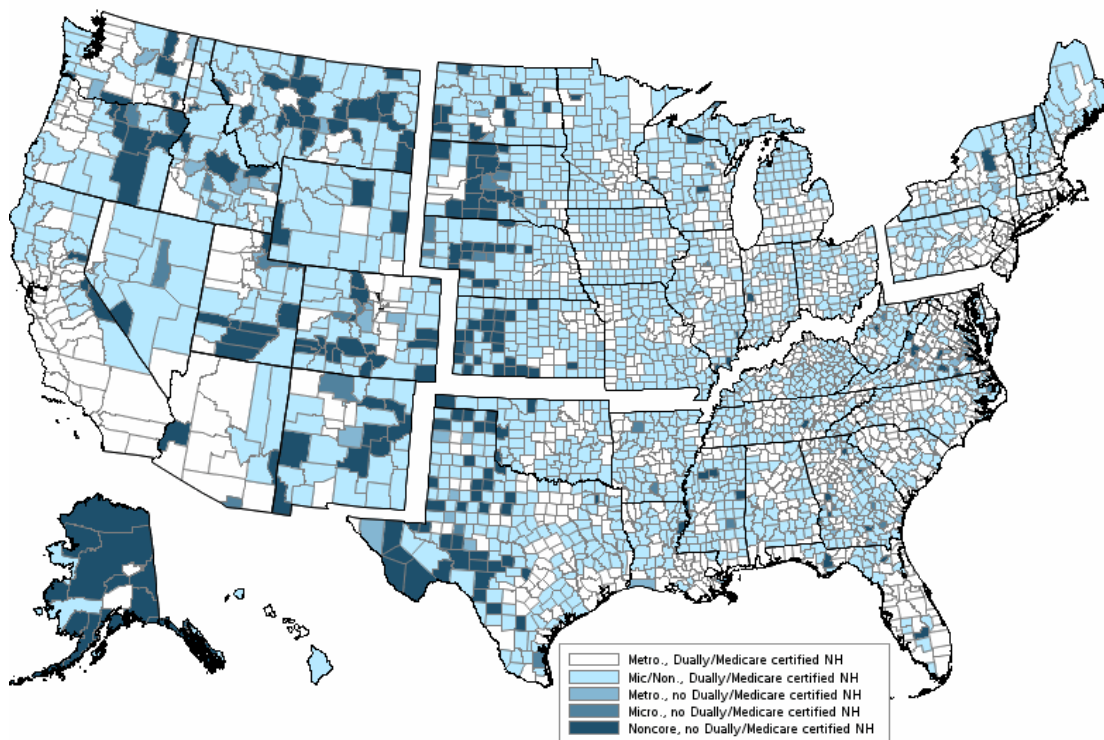
Figure 1.1 Counties without Dually or Medicare Certified Nursing Homes



Section 1: Nursing Home Availability

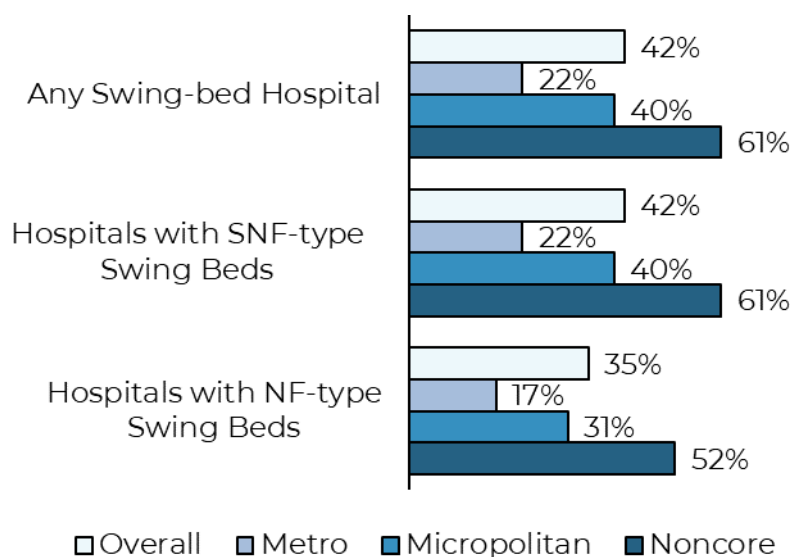
Most of the counties without dually or Medicaid certified nursing homes are in the West (113), the South (89), and the Midwest (53). Only 4 counties in the Northeast have no dually certified or Medicaid certified nursing homes.

Figure 1.2 Counties without Dually or Medicaid Certified Nursing Homes



A higher percentage of noncore counties have access to hospitals with SNF-type swing beds (61% vs. 22%) and NF-type swing beds (52% vs. 17%) when compared to metropolitan counties.

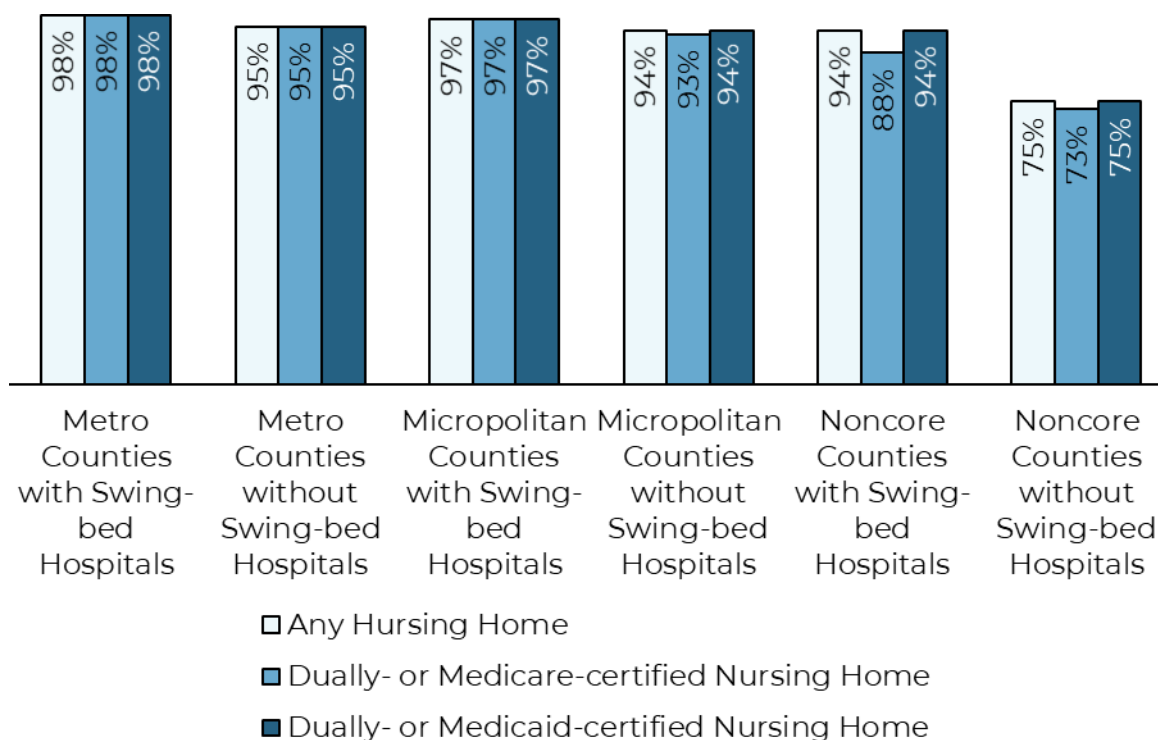
Figure 2 Percent of Counties with Swing-bed Hospitals



Section 1: Nursing Home Availability

Noncore counties without swing-bed hospitals are also less likely to have nursing homes. Approximately, 27% of noncore counties without swing-bed hospitals do not have dually certified or Medicare certified nursing homes.

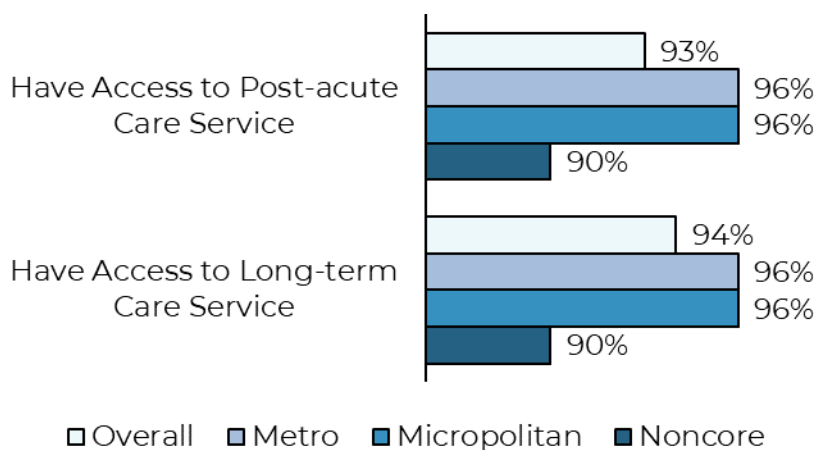
Figure 3 Percent of Counties with Nursing Homes by Swing-bed Hospital Availability



Even after we account for the presence of nursing homes and/or swing-bed hospitals at the county level to assess the availability of post-acute care services or long-term care services¹, a higher percentage of noncore counties have no access to post-acute care or long-term care services compared to metropolitan and micropolitan counties. About 10% of noncore counties do not have access to post-acute services and/or long-term care services.

Figure 4 Percent of Counties with Access to Post-acute Care and Long-term Care Services

¹ Our assumption is that counties have access to post-acute care service if they have any dually- or Medicare-certified nursing homes or hospitals with SNF-type swing beds. Similarly, we assume that counties have access to long-term care service if they have any dually- or Medicaid-certified nursing homes or hospitals with NF-type swing beds.

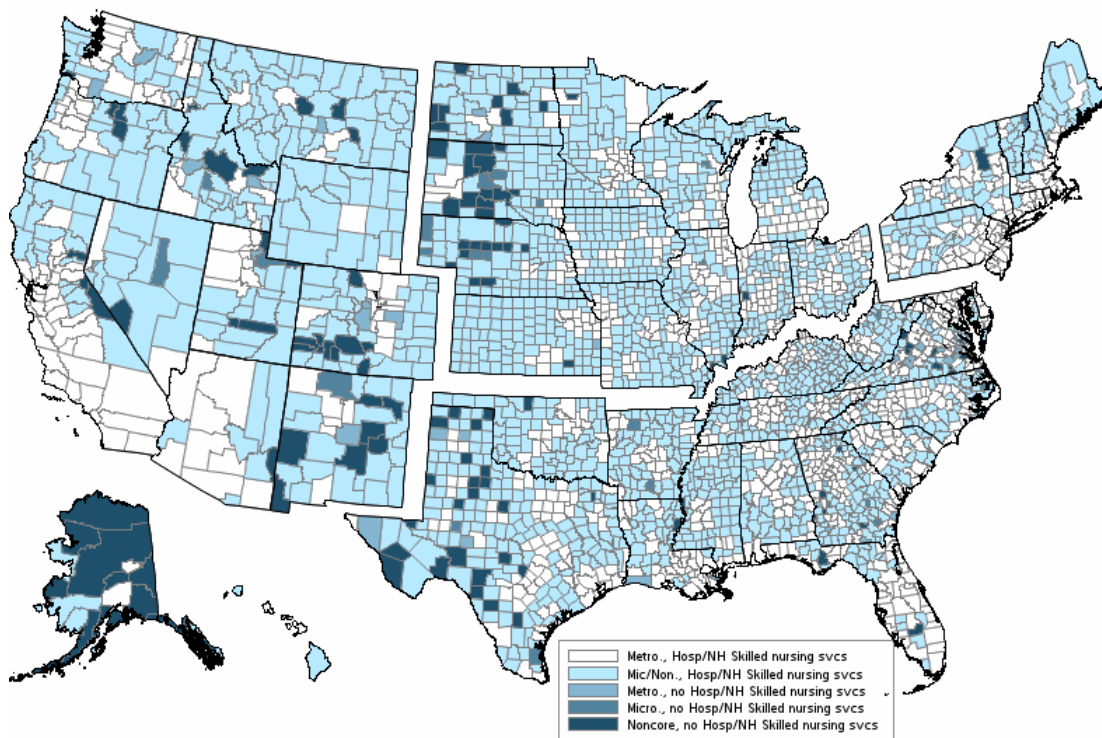


Section 1: Nursing Home Availability

Many counties in the South (82), the West (74), and the Midwest (50) do not have dually certified or Medicare certified nursing homes and do not have hospitals with SNF-type swing beds either. There are only 3 counties in the Northeast without dually or Medicare certified nursing homes and without hospitals with SNF-type swing beds.

Of the 1.52 million individuals who live in counties without SNF services, 660,888 individuals live in noncore counties with 131,483 of them being 65 and older.

Figure 4.1 Counties without Dually or Medicare Certified Nursing Homes and without Hospitals with SNF-type Swing Beds

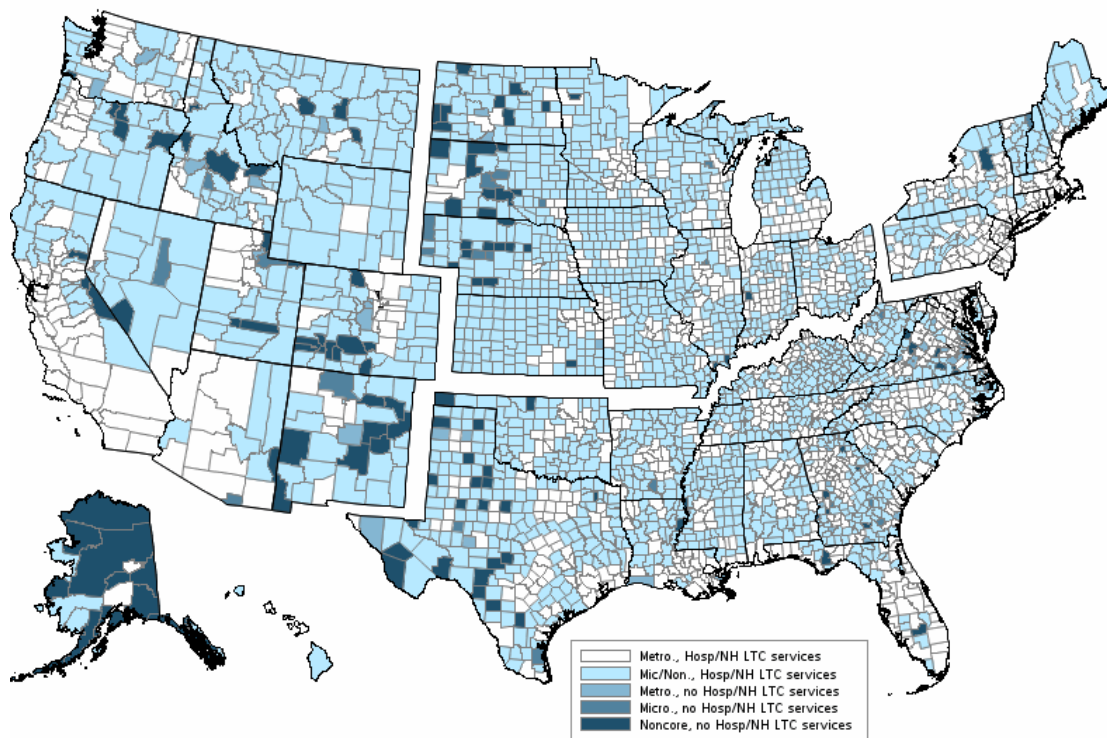


Section 1: Nursing Home Availability

Many counties in the South (79), the West (76), and the Midwest (45) do not have dually certified or Medicaid certified nursing homes and do not have hospitals with NF-type swing beds either. There are only 3 counties in the Northeast without dually or Medicaid certified nursing homes and without hospitals with NF-type swing beds.

Of the 1.52 million individuals who live in counties without NF services, 655,247 individuals live in noncore counties with 132,849 aged 65 and older.

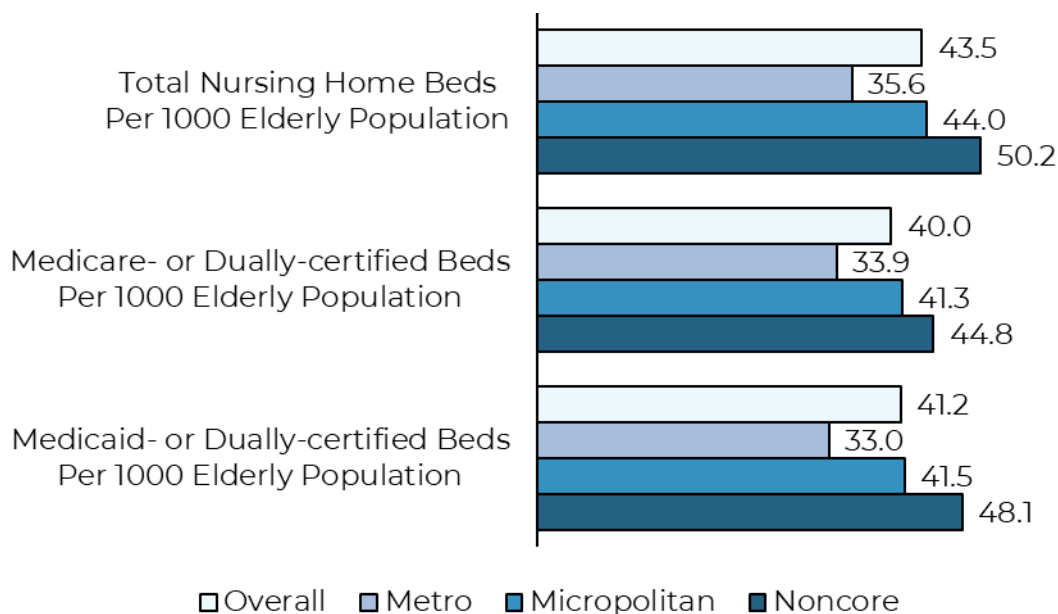
Figure 4.2 Counties without Dually or Medicaid Certified Nursing Homes and without Hospitals with NF-type Swing Beds



Section 2: Supply of Nursing Home Beds

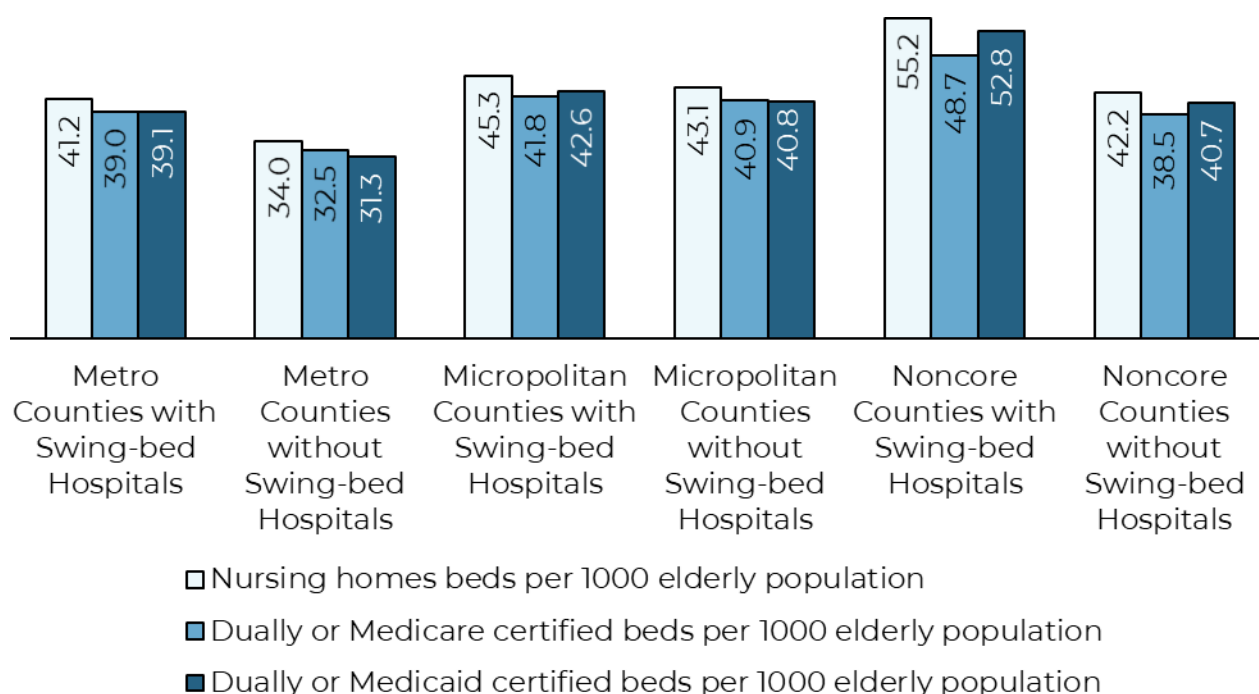
Micropolitan and noncore counties have more nursing home beds per 1,000 population aged 65 and older, overall and by certification status, than metropolitan counties.

Figure 5 Number of Nursing Homes Beds per 1000 Population Aged 65 and older



Micropolitan and noncore counties have more nursing home beds per 1000 population aged 65 and older, overall and by certification status, than metropolitan counties even after stratifying by the presence of swing-bed hospitals at the county level.

Figure 6 Number of Nursing Homes Beds per 1000 Population Aged 65 and Older by Swing-bed Hospital Availability



Section 2: Supply of Nursing Home Beds

Although many noncore counties have nursing homes with 30+ beds, there is considerable variation across states and regions. In noncore counties with at least one nursing home, the number of nursing home beds per 1000 individuals who are 65 or older ranges from 3.3 to 329.7.

Figure 7 Dually or Medicare Certified Nursing Home Beds per 1000 Population Aged 65 and Older at the County Level

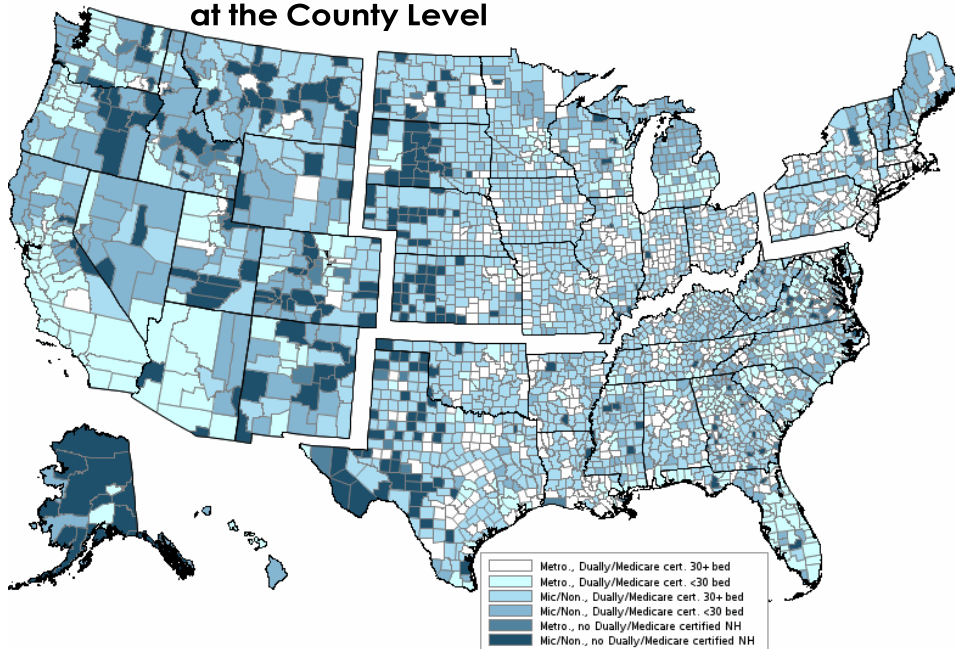
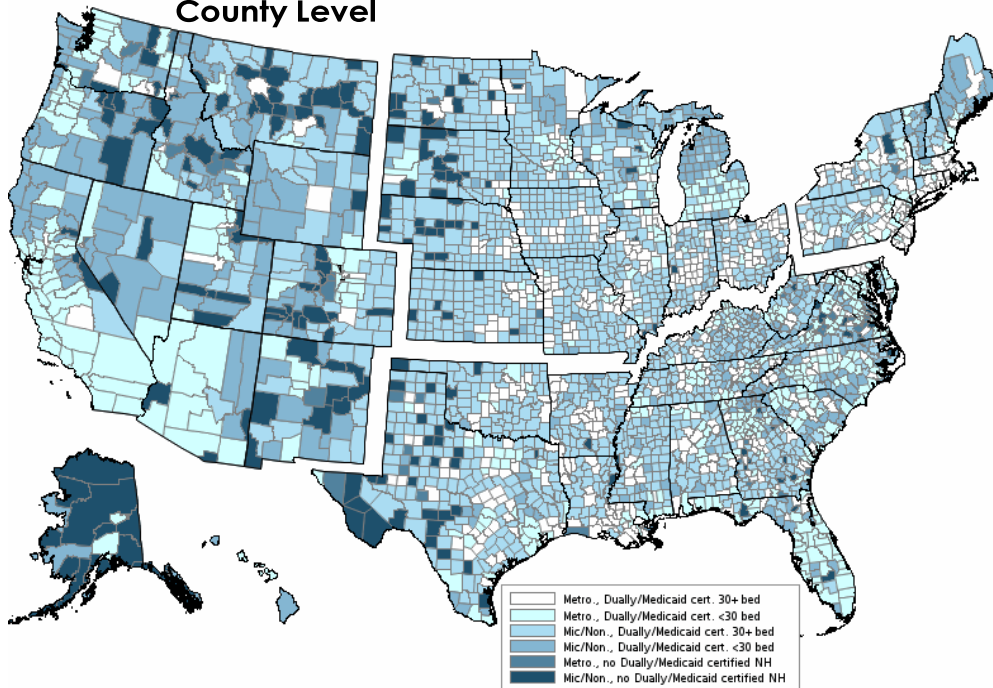


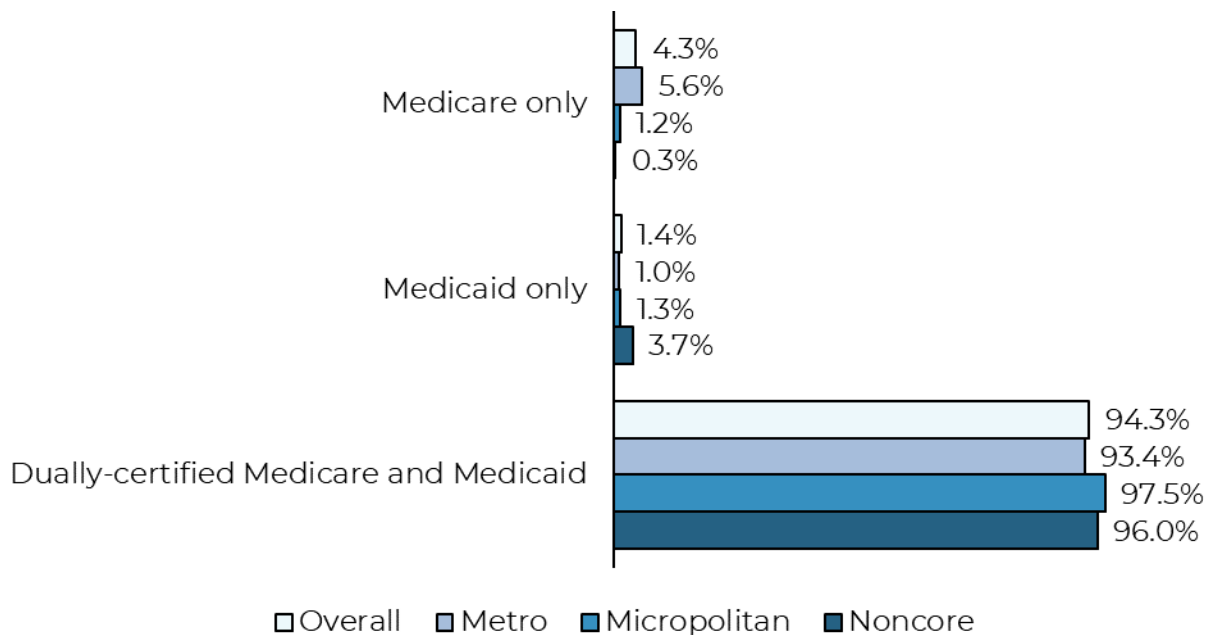
Figure 8 Dually or Medicaid Certified Nursing Home Beds per 1000 Population Aged 65 and Older at the County Level



Section 3: Nursing Home and Resident Characteristics

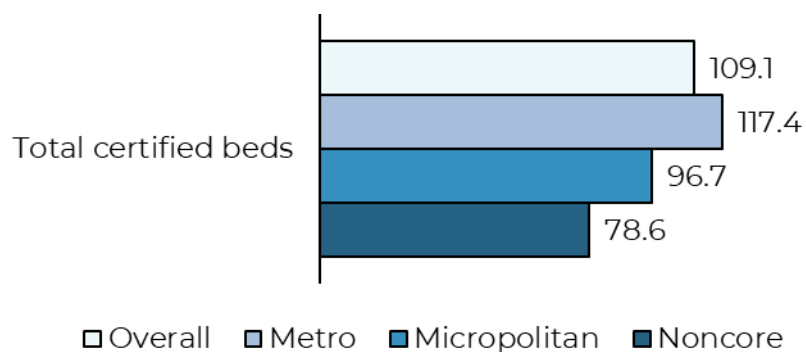
Overall, 94% of nursing homes are dually certified by Medicare and Medicaid. A lower percentage (0.3%) of nursing homes in noncore counties are certified for only Medicare and a higher percentage (3.7%) of nursing homes in noncore counties are certified for only Medicaid.

Figure 9 Nursing Home Certification Status



On average, nursing homes have 109 beds certified by Medicare and/or Medicaid. Nursing homes in noncore counties are smaller than those in metropolitan counties.

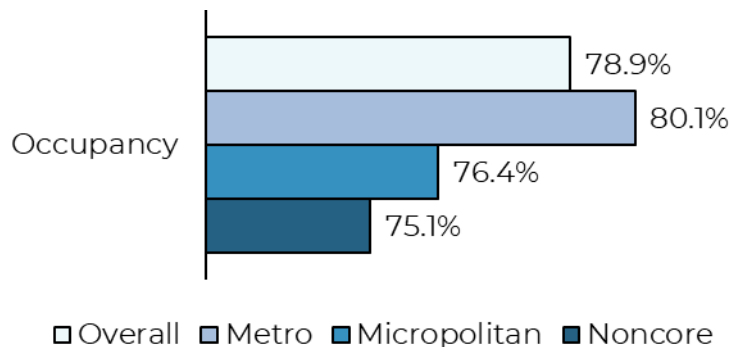
Figure 10 Number of Nursing Home Beds



Section 3: Nursing Home and Resident Characteristics

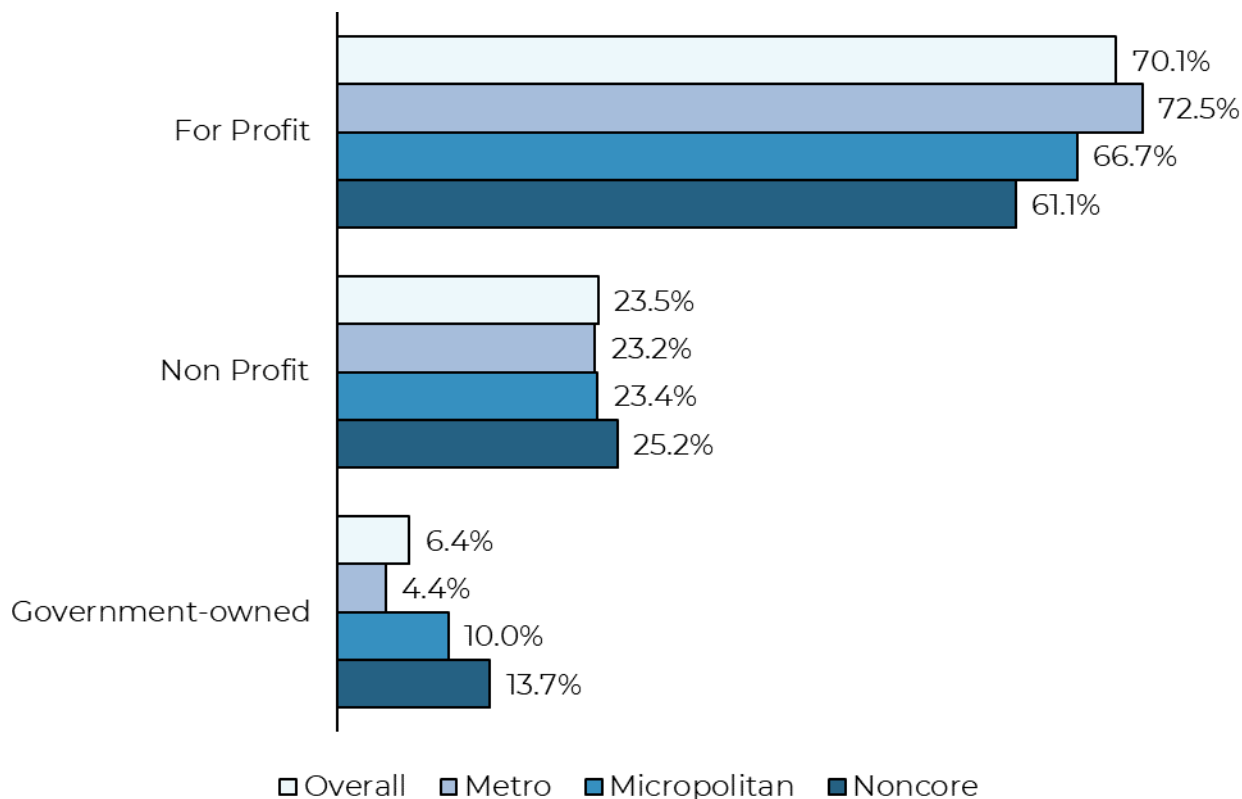
The average occupancy rate in nursing homes is 79%. Nursing homes in noncore counties have lower occupancy rates than those in metropolitan counties.

Figure 11 Nursing Home Occupancy Rates



Overall, 70% of nursing homes are for-profit. A higher percentage of nursing homes in noncore counties are non-profit or government-owned.

Figure 12 Nursing Home Ownership Status



Section 3: Nursing Home and Resident Characteristics

Figure 13 Nursing Home Payer Mix

On average, Medicaid pays for about 59% of nursing home residents, 13% are paid for by Medicare, and 27% are private pay. A higher percentage of nursing home residents in noncore counties are on Medicaid.

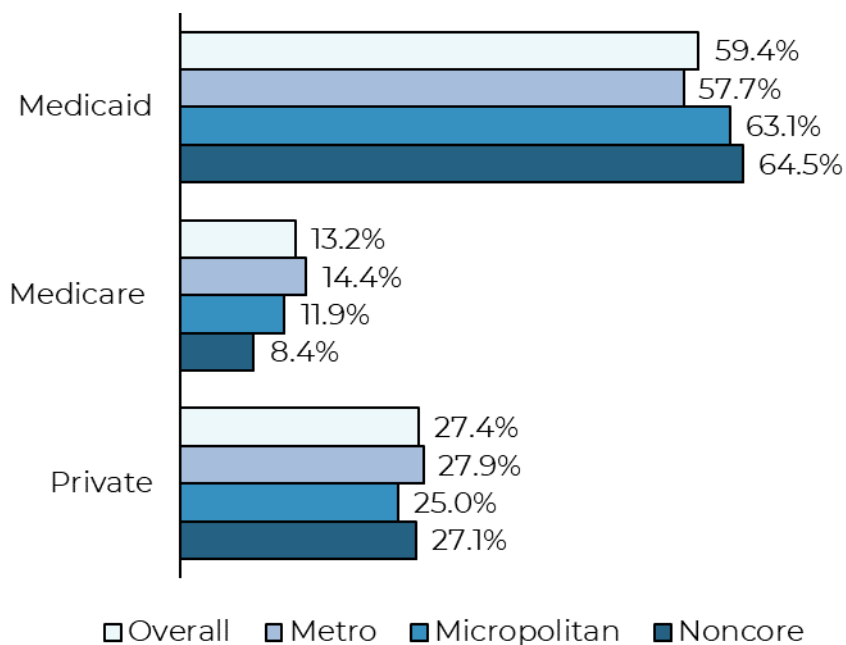
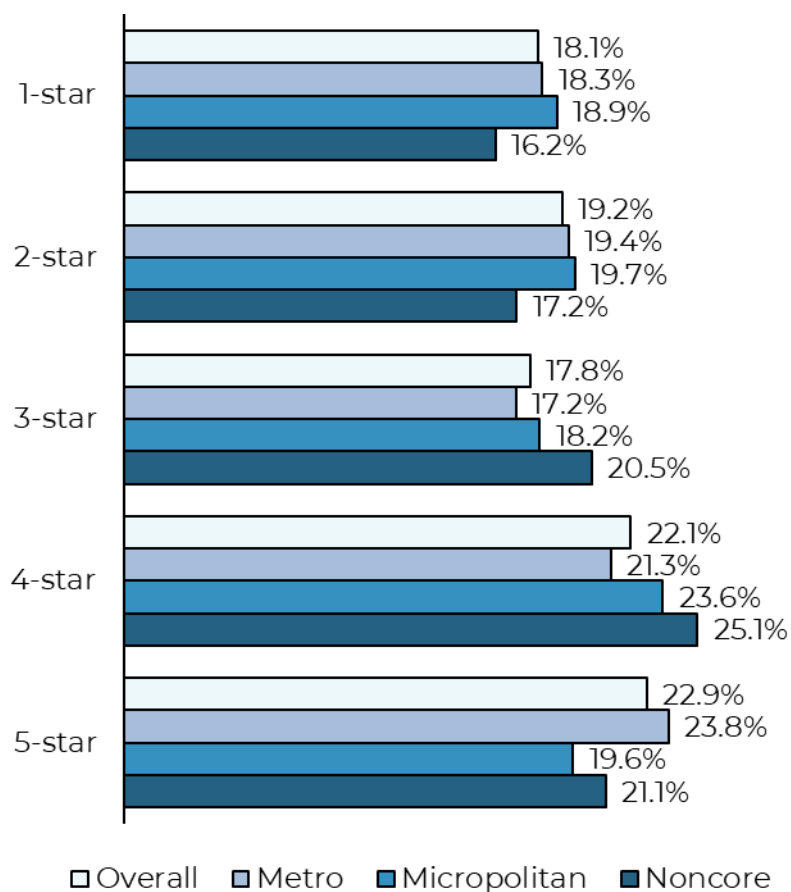


Figure 14 Overall 5-star Ratings of Nursing Homes in 2019¹

A lower percentage (33.4%) of nursing homes in noncore counties have 1-2 stars (1 being the lowest quality and 5 being the highest quality) than nursing homes in micropolitan (38.6%) and metropolitan (37.7%) counties.



¹ Nursing Home 5-Star Quality Rating System gives each nursing home a rating of between 1 and 5 stars. 4-5 star rated nursing homes are considered to have much better quality than those rated 1-2 stars. Each nursing home receives a separate rating on three categories (i.e., health inspection surveys, staffing, and quality) and an overall 5-star rating (<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/FSQRS>).

Section 3: Nursing Home and Resident Characteristics

Figure 14.1 Survey Ratings of Nursing Homes in 2019¹

A higher percentage (40%) of nursing homes in noncore counties have 4-5 stars in Survey Rating than nursing homes in Micropolitan (33.0%) and Metropolitan (32.7%) counties.

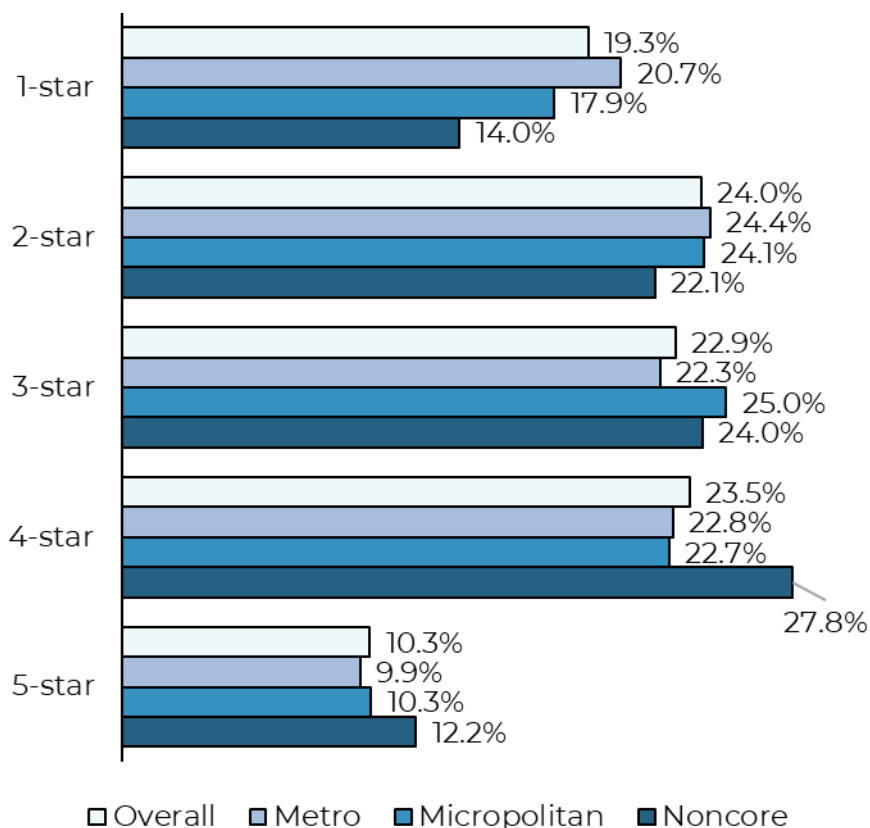
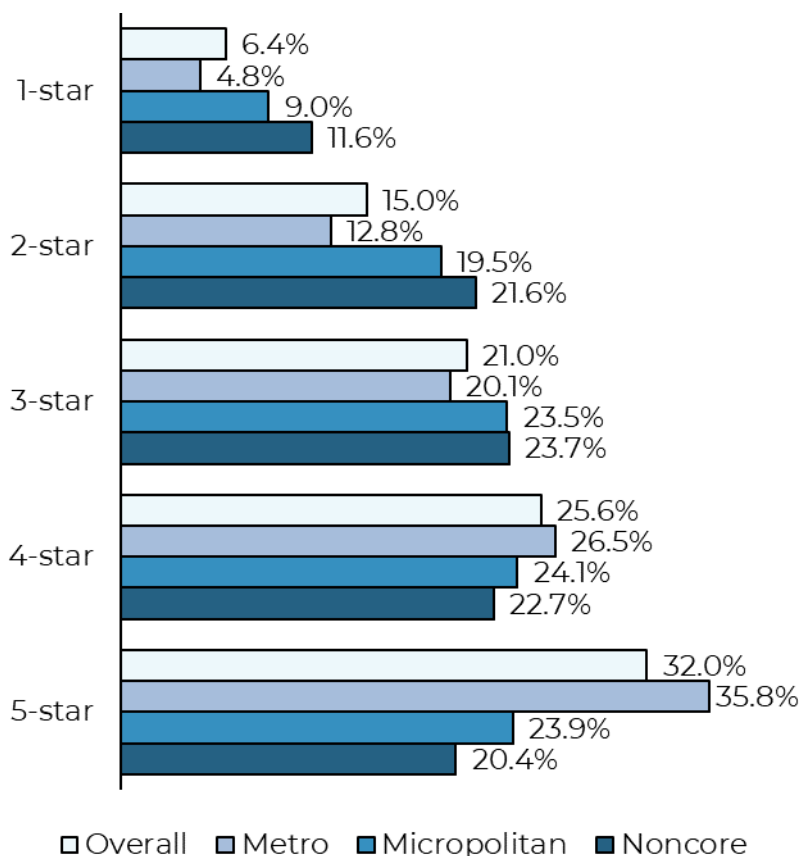


Figure 14.2 Quality Ratings of Nursing Homes in 2019²

A higher percentage (33%) of nursing homes in noncore counties have 1-2 stars in quality rating than nursing homes in micropolitan (28.5%) and metropolitan (17.7%) counties.



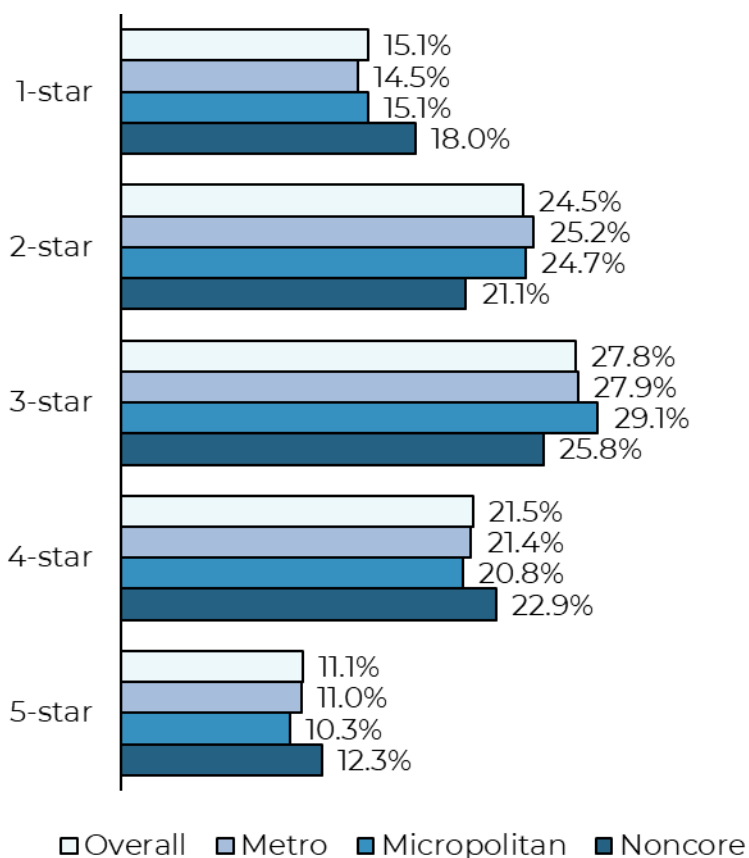
¹Survey ratings are based on information obtained by trained health inspectors. All Medicare/Medicaid certified nursing homes are inspected approximately once a year for compliance with federal and state regulations and facilities that fail to adhere to regulations are cited.

²Quality ratings are based on different physical and clinical measures of quality and are meant to capture the extent to which nursing homes are caring for resident's clinical and physical needs.

Section 3: Nursing Home and Resident Characteristics

Figure 14.3 Staffing Ratings of Nursing Homes in 2019¹

A higher percentage (35.2%) of nursing homes in noncore counties have a 4- or 5-star Staffing rating than nursing homes in Micropolitan (31.1%) and Metropolitan (32.4%) counties. A higher percentage (18.0%) of nursing homes in noncore counties have a 1-star Staffing rating.

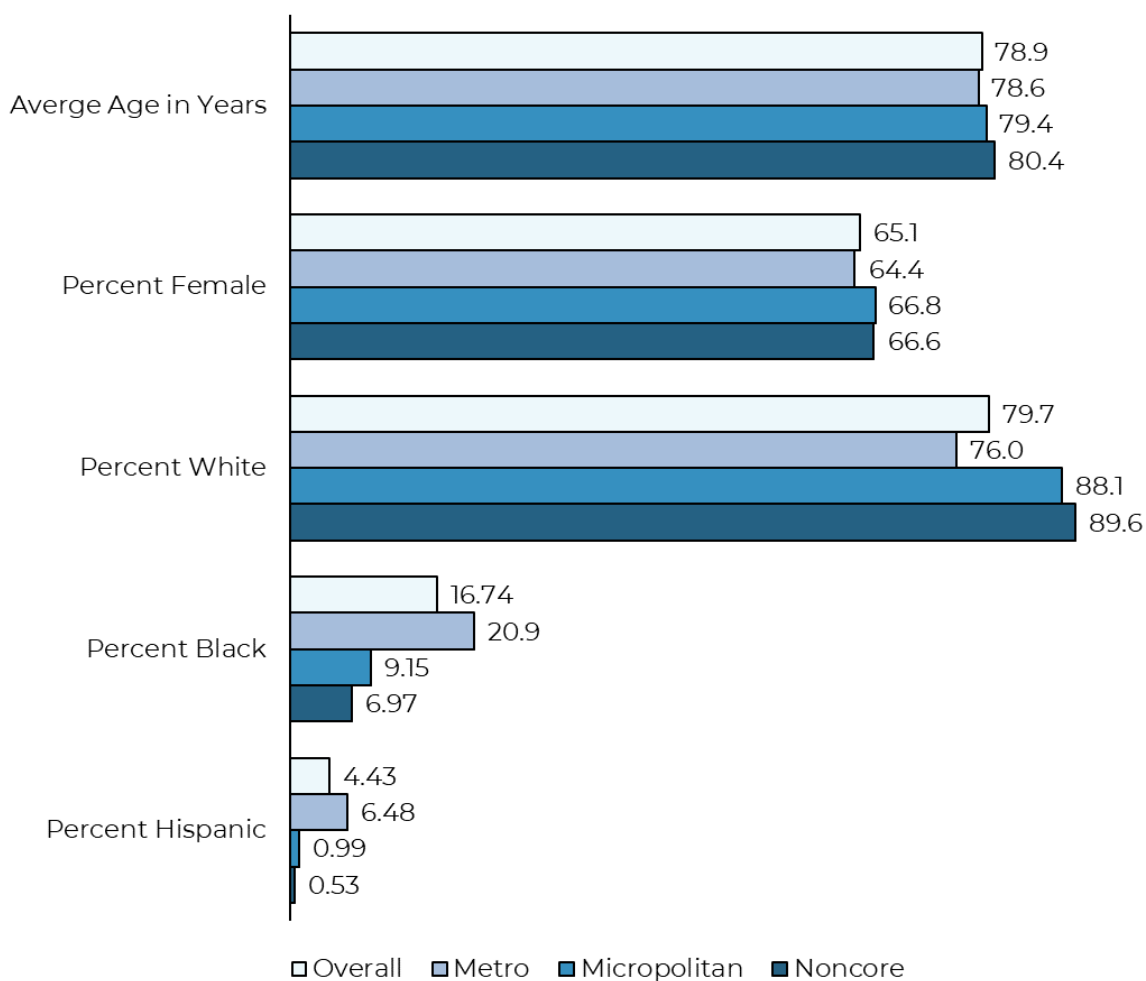


¹ Staffing ratings capture the average number of hours of care provided to each resident each day by nursing staff. Ratings are adjusted for the differences in the needs of residents.

Section 3: Nursing Home and Resident Characteristics

Residents of nursing homes in Noncore counties are older, and more likely to be White compared to residents of nursing homes in metropolitan or micropolitan counties.

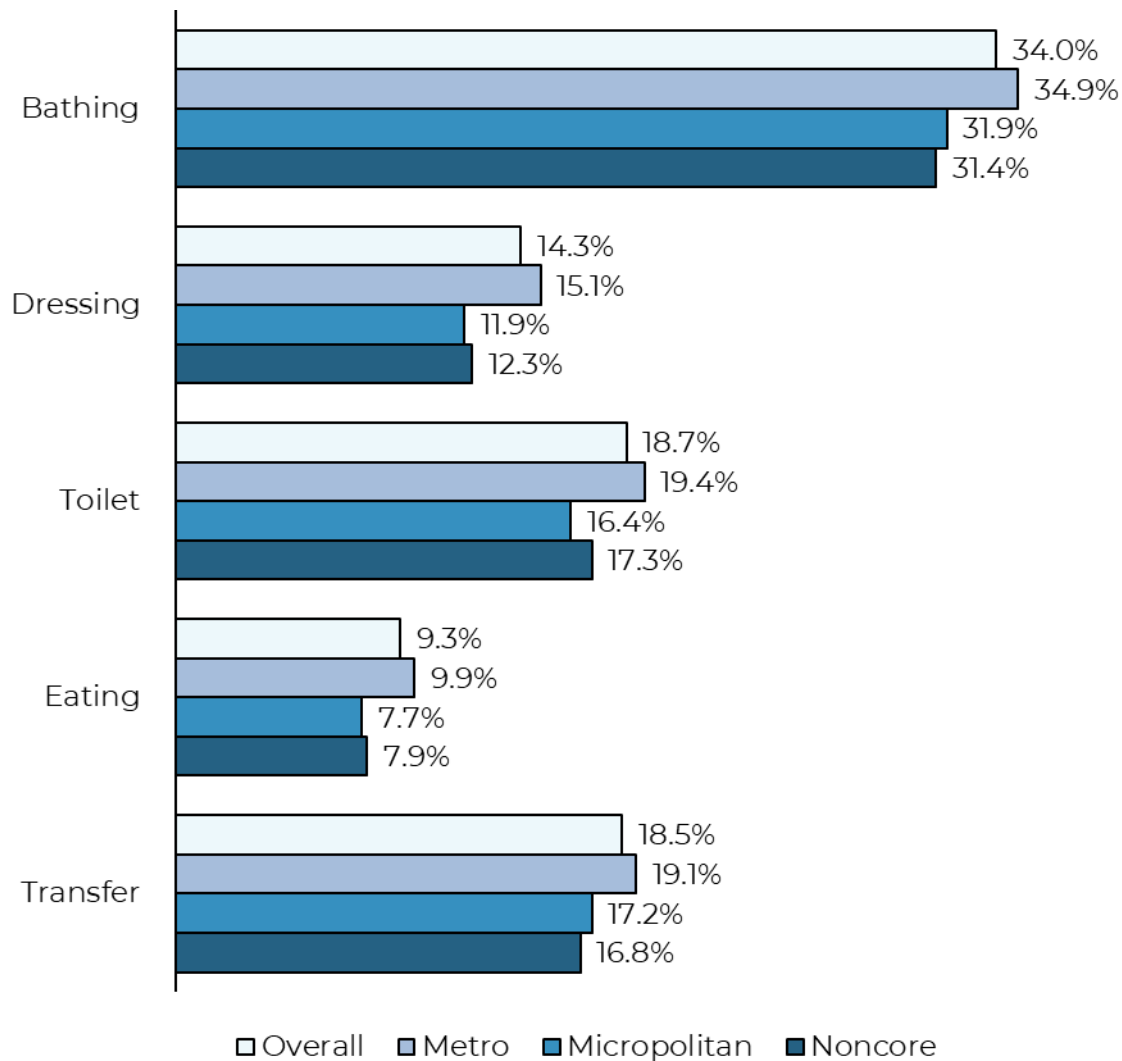
Figure 15 Nursing Home Resident Demographics



Section 3: Nursing Home and Resident Characteristics

A lower percentage of nursing home residents in noncore counties have Activities of Daily Living (ADL) dependencies. About 31% of residents of nursing homes in noncore counties need help with bathing, 17% need help with toilet, and 17% need help with transfer.

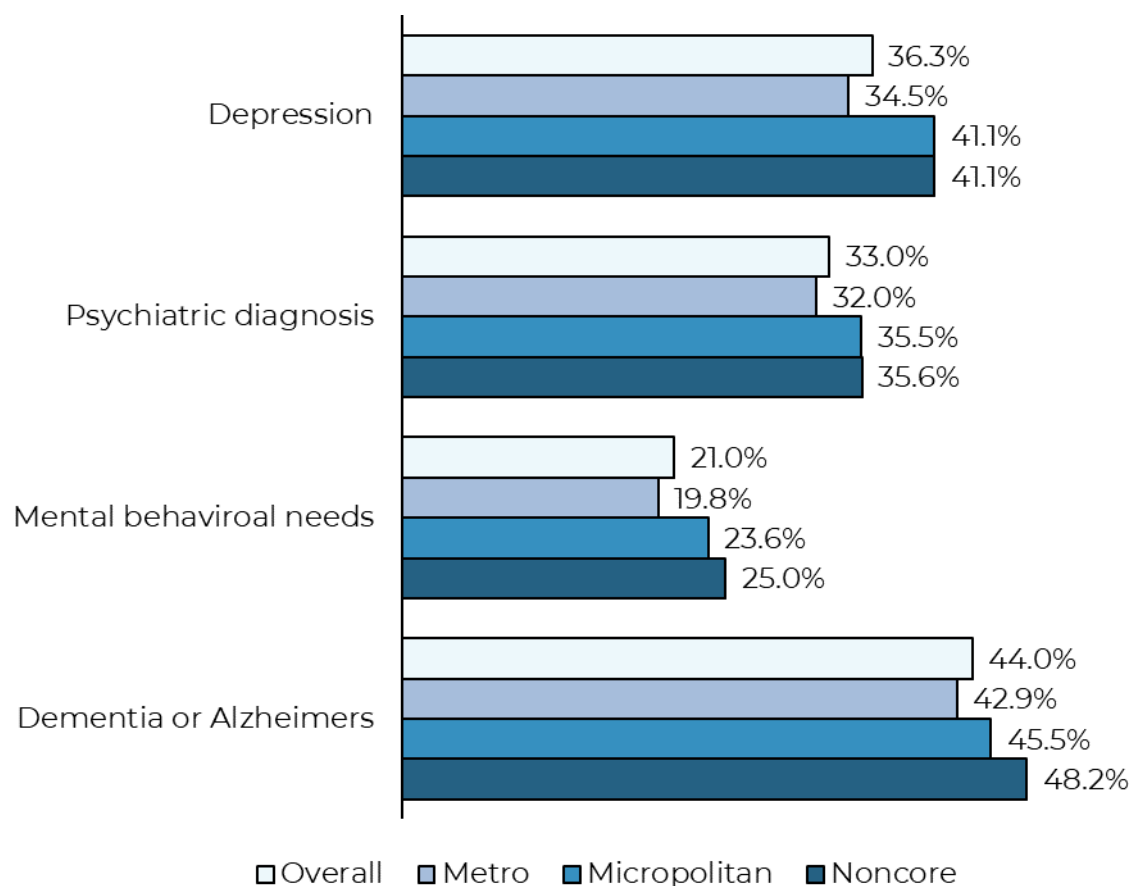
Figure 16 Percent of Nursing Home Residents with Activities of Daily Living Dependency



Section 3: Nursing Home and Resident Characteristics

A higher percentage of nursing home residents in noncore counties have mental health needs. About 41% of nursing home residents in noncore counties have depression, 36% have a psychiatric diagnosis, 25% have mental/behavioral needs, and 48% have dementia or Alzheimer's disease.

Figure 17 Percent of Nursing Home Residents with Behavioral/Mental Health Needs



Conclusions

- A lower proportion of noncore counties have nursing home post-acute care and long-term care services. Even the inclusion of hospitals with swing beds does not eliminate the differences in access to post-acute care and long-term care services between noncore counties and metro/micropolitan counties. A little over 131,000 individuals aged 65 and older live in noncore counties without nursing homes or hospitals that provide post-acute care or long-term care services.
- Many noncore counties have a higher number of nursing home beds per 1000 population aged 65 and older, particularly in the Midwest. However, differences in the beds per 1000 population aged 65 and older between noncore counties and metropolitan counties vary by states/regions.
- Residents of nursing homes in noncore counties are less likely to have functional limitations but are more likely to have behavioral/mental health needs.
- Our findings are based on data from 2019. We need further research to understand the impact of COVID-19 on two key issues in rural areas: a) availability of post-acute care and long-term care services and, b) functional limitations as well as behavioral/mental health needs of residents.

References

- Coburn, A., Griffin, E., Thayer, D. A., Croll, Z., & Ziller, E. C. (2016). Are rural older adults benefiting from increased state spending on Medicaid home and community-based services? (PB-65). Portland, ME: University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center.
- Holmes, G. M., Kaufman, B. G., & Pink, G. H. (2017). Predicting Financial Distress and Closure in Rural Hospitals: Predicting Financial Distress and Closure. *The Journal of Rural Health*, 33(3), 239–249. <https://doi.org/10.1111/jrh.12187>
- Kaye, H. S., & Harrington, C. (2015). Long-term services and supports in the community: Toward a research agenda. *Disability and Health Journal*, 8(1), 3–8. <https://doi.org/10.1016/j.dhjo.2014.09.003>
- Sharma, H., Baten, R. B. A., Ullrich, F., MacKinney, A. C., & Mueller, K. J. (2021). Trends in Nursing Home Closures in Nonmetropolitan and Metropolitan Counties in the United States, 2008–2018. Brief No. 2021-1. RUPRI Center for Rural Health Policy Analysis Rural Policy Brief.
- Siconolfi, D., Shih, R. A., Friedman, E. M., Kotzias, V. I., Ahluwalia, S. C., Phillips, J. L., & Saliba, D. (2019). Rural-Urban Disparities in Access to Home- and Community-Based Services and Supports: Stakeholder Perspectives From 14 States. *Journal of the American Medical Directors Association*, 20(4), 503–508.e1. <https://doi.org/10.1016/j.jamda.2019.01.120>
- Tyler, D. A., & Fennell, M. L. (2017). Rebalance Without the Balance: A Research Note on the Availability of Community-Based Services in Areas Where Nursing Homes Have Closed. *Research on Aging*, 39(5), 597–611. <https://doi.org/10.1177/0164027515622244>

Appendix

Data and Methods

We use the 2019 Medicare Provider of Services (POS) file to obtain all Medicare and/or Medicaid certified nursing homes that were open in 2019. We use 2019 Medicare Cost Report data to identify swing-bed hospitals and the type of swing beds available. We include both CAH and non-CAH hospitals with swing beds. Depending on the swing-bed agreement with CMS, hospitals may use swing beds for acute care, skilled nursing services (SNF) or nursing facility services (NF). Medicare pays for SNF services while the state Medicaid agency may pay for NF services. Medicare uses the SNF Prospective Payment System (PPS) to pay for SNF swing-bed services in non-CAH hospitals but CAHs are paid using cost-basis. We use the 2019 Certification and Survey Provider Enhanced Reporting (CASPER) data to obtain nursing home level information on provider certification for Medicaid/Medicare, number of Medicare residents, number of Medicaid residents, and percent of residents with functional limitations and mental health needs. We use Nursing Home Compare to obtain other nursing home characteristics in 2019 including ownership status and Five-star ratings. We use Long-Term Care: Facts on Care in the US (LTCFocus.org) to obtain resident characteristics in 2019 including gender, age, and race/ethnicity. We use the Urban Influence Codes (UIC) to classify nursing homes into urban (metropolitan), and rural (micropolitan, and noncore) counties. UICs divide US counties into 12 groups but we create three distinct groups for our analytical purposes: metropolitan (UIC codes 1 & 2), micropolitan (UIC codes 3, 5, & 8), and noncore counties (UIC codes 4, 6, 7, 9, 10, 11, 12). Further information on UICs can be found in the USDA website (<https://www.ers.usda.gov/data-products/urban-influence-codes/documentation.aspx>).

First, we document the availability of nursing homes in the metropolitan, micropolitan, and noncore counties. Second, we examine the availability of nursing homes by presence of hospitals with swing beds in counties by rurality. Third, we assess the supply of nursing home beds per 1000 population aged 65 and older in metropolitan, micropolitan, and noncore counties. Finally, we examine the resident and nursing home characteristics in metropolitan, micropolitan, and noncore counties. We present the findings using charts and/or maps.

Terms and abbreviations

SNF—Skilled Nursing Facility
NF—Nursing Facility
LTC—Long-term care services
ADL—Activities of Daily Living
Metro—Metropolitan
Micro—Micropolitan