Availability of Post-acute Care and Long-term Care Services in Rural Areas

- All attendees are muted
- Today’s session will be recorded
- Submit questions using the chat function
- Q&A will follow the presentation
About Per Ostmo

Per Ostmo is the Program Director of the Rural Health Research Gateway (Gateway), housed at the Center for Rural Health at the University of North Dakota School of Medicine & Health Sciences. Gateway is funded by the Federal Office of Rural Health Policy (FORHP) to disseminate research conducted by the FORHP funded Rural Health Research Centers. Per also provides outreach and web support for the Mountain Plains Mental Health Technology Transfer Center, funded by the Substance Abuse and Mental Health Services Administration, which provides training, resources, and technical assistance to individuals serving persons with mental health disorders.

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Availability of Post-acute Care and Long-term Care Services in Rural Areas

HARI SHARMA, PHD
SEPTEMBER 14, 2021
Acknowledgment/Disclaimer

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- The information, conclusions and opinions expressed in this presentation are those of the authors and no endorsement by FORHP, HRSA, HHS is intended or should be inferred.

- Some of the results presented today is “work in progress” – we should have a chart book soon!

- Coauthors: Redwan Bin Abdul Baten, Lili Xu, Fred Ullrich, A. Clinton MacKinney, Keith J. Mueller
Overview

- Trends in dually certified or Medicaid certified nursing home closures
  - Counties with nursing home closures
  - Counties with no nursing homes (deserts)
  - Characteristics of closed vs. open nursing homes

- Availability of post-acute care and long-term care services
  - Explore areas with/without swing bed hospitals
  - Availability of alternative providers in areas where nursing homes have closed
Background – nursing homes

- Approximately, 1.3 million residents live in ~15,000 nursing homes
  - ~94% dually certified, 4% Medicare only (Title 18), and 2% Medicaid only (Title 19)
- Nursing homes provide post-acute and long-term care services to residents
- In rural areas, a higher proportion of hospitals provide post-acute care and long-term care services through swing beds
Why care about nursing homes in rural areas?

- Nursing home closures in rural areas are problematic
  - Fewer alternatives to nursing homes such as home health care services
  - Increased distance to closest operating nursing home
  - Fewer job opportunities in the community
Data

- Medicare Provider of services (POS) – 2019
- Nursing Home Compare
- LTCfocus.org
- Hospital cost reports
- Five-year 2014-2018 American Community Survey (for population characteristics)
- Urban Influence codes used to classify counties/nursing homes into rural vs. urban
  - Nonmetropolitan (micropolitan and noncore)
  - Metropolitan
    - Availability analysis separates nonmetropolitan into micropolitan and noncore areas
Results – Part I

- Nursing Home Closures Trends
Results

• 1,225 dually certified or Medicaid only certified nursing homes closed

• Closures as a percentage of facilities open in 2018
  • Nonmetropolitan: 10.4%
  • Metropolitan: 7.2%

Results

• 400 nonmetropolitan counties and 368 metropolitan counties had >1 dually certified or Medicaid only certified nursing homes closed

Results

- 200 nonmetropolitan counties and 43 metropolitan counties had no dually certified or Medicaid only certified nursing homes in 2018.

### Results

- Rural areas with closure tend to have higher distance to alternative options except for hospitals with swing beds.
- Similar story for areas without nursing homes.
- Rural/Urban defined using RUCA codes.

#### Mean Distance (miles) to Alternative Options for PAC and LTC in Rural and Urban Areas

<table>
<thead>
<tr>
<th></th>
<th>ZIP codes with &gt;1 NH closure</th>
<th>ZIP codes with no NHs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td><strong>LTC Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing home</td>
<td>7.15</td>
<td>1.13</td>
</tr>
<tr>
<td>Hospital with NF swing bed</td>
<td>16.74</td>
<td>36.84</td>
</tr>
<tr>
<td>HHA with aides</td>
<td>15.37</td>
<td>3.66</td>
</tr>
<tr>
<td>Nursing home or hospital with NF swing bed or HHA with aides</td>
<td>3.83</td>
<td>0.81</td>
</tr>
<tr>
<td><strong>PAC Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing home</td>
<td>6.37</td>
<td>0.94</td>
</tr>
<tr>
<td>Hospital with SNF swing bed</td>
<td>18.80</td>
<td>36.72</td>
</tr>
<tr>
<td>HHA</td>
<td>12.53</td>
<td>3.03</td>
</tr>
<tr>
<td>Nursing home or hospital with SNF swing bed or HHA</td>
<td>3.18</td>
<td>0.67</td>
</tr>
</tbody>
</table>

### Results

- Closed facilities tend to be:
  - Smaller in size
  - Have higher Medicaid %
  - Hospital-affiliated
  - Medicaid only certified

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Nonmetropolitan</th>
<th>Metropolitan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Beds</strong></td>
<td>109.7</td>
<td>86.4</td>
<td>59.6</td>
</tr>
<tr>
<td><strong>Percent Bed Occupied</strong></td>
<td>80.8</td>
<td>77.3</td>
<td>62.8</td>
</tr>
<tr>
<td><strong>Percent Medicaid Resident</strong></td>
<td>62.2</td>
<td>63.8</td>
<td>65.9</td>
</tr>
<tr>
<td><strong>Percent Medicare Resident</strong></td>
<td>12.4</td>
<td>10.4</td>
<td>11.1</td>
</tr>
<tr>
<td><strong>For-Profit Status</strong></td>
<td>71.3%</td>
<td>63.4%</td>
<td>60.0%</td>
</tr>
<tr>
<td><strong>Chain Ownership</strong></td>
<td>58.1%</td>
<td>56.4%</td>
<td>48.1%</td>
</tr>
<tr>
<td><strong>Hospital Affiliation</strong></td>
<td>3.9%</td>
<td>7.6%</td>
<td>2.4%</td>
</tr>
<tr>
<td><strong>Medicaid Only Certification</strong></td>
<td>5.8%</td>
<td>7.9%</td>
<td>12.5%</td>
</tr>
<tr>
<td><strong>Medicare and Medicaid Certification</strong></td>
<td>94.2%</td>
<td>92.1%</td>
<td>87.5%</td>
</tr>
</tbody>
</table>

Results

- Many individuals lived in nonmetropolitan NH deserts
  - 1.1 million individuals with 21.1% that are 65+
- Nonmetropolitan deserts had:
  - Higher % of white, lower income, and higher % below poverty level

### Population Characteristics of Counties by Nursing Home Desert Status

<table>
<thead>
<tr>
<th></th>
<th>Nursing Home Desert 2018</th>
<th>Not a Nursing Home Desert 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nonmetropolitan (n = 200)</td>
<td>Metropolitan (n = 43)</td>
</tr>
<tr>
<td></td>
<td>Nonmetropolitan (n = 1,776)</td>
<td>Metropolitan (n = 1,123)</td>
</tr>
<tr>
<td><strong>Total Population</strong></td>
<td>1,114,572</td>
<td>662,676</td>
</tr>
<tr>
<td><strong>Average Population</strong></td>
<td>5,573</td>
<td>15,411</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>48.5%</td>
<td>49.2%</td>
</tr>
<tr>
<td><strong>Age 65+</strong></td>
<td>21.1%</td>
<td>17.6%</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>White</strong></td>
<td>82.0%</td>
<td>79.2%</td>
</tr>
<tr>
<td><strong>Black</strong></td>
<td>4.8%</td>
<td>9.2%</td>
</tr>
<tr>
<td><strong>Native American</strong></td>
<td>7.4%</td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>Asian</strong></td>
<td>0.9%</td>
<td>2.1%</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>4.9%</td>
<td>6.7%</td>
</tr>
<tr>
<td><strong>Hispanic</strong></td>
<td>13.7%</td>
<td>11.2%</td>
</tr>
<tr>
<td><strong>Median household income</strong></td>
<td>$49,483</td>
<td>$59,247</td>
</tr>
<tr>
<td><strong>Per Capita Income</strong></td>
<td>$26,980</td>
<td>$30,972</td>
</tr>
<tr>
<td><strong>Income below FPL</strong></td>
<td>13.8%</td>
<td>12.1%</td>
</tr>
</tbody>
</table>

Summary – Part I

- Dually certified or Medicaid only certified nursing home closures in nonmetropolitan areas
  - 472 nursing homes in 400 nonmetropolitan counties closed between 2008 and 2018
  - 200 nonmetropolitan counties have no nursing homes, 40 new nursing home deserts at the county level created due to closures

- Even with inclusion of hospitals with swing beds/home health agencies, rural residents are faced with providers that are far away
  - Questions on the quality of care provided in these alternative settings

- Need to examine financial viability of rural nursing homes
  - Can nursing homes sustain their business with lower occupancies? Alternative payment methods?
Results – Part II

- Availability of post-acute care and long-term care services
  - Dually certified or Medicare certified nursing homes (post-acute care services)
  - Dually certified or Medicaid certified nursing homes (long-term care services)
- Hospitals with swing beds (using Hospital cost report data)
  - SNF swing beds
  - NF swing beds
Results

• 96% of metro, 95% of micro, and 82% of noncore counties have nursing homes.

• Similar trends when looking at certification types.

Percent of Counties with Nursing Homes

- Any Nursing Home
  - Overall: 92%
  - Metro: 96%
  - Micropolitan: 95%
  - Noncore: 96%
- Dually or Medicare certified Nursing Home
  - Overall: 87%
  - Metro: 90%
  - Micropolitan: 96%
  - Noncore: 95%
- Dually or Medicaid certified Nursing Home
  - Overall: 87%
  - Metro: 92%
  - Micropolitan: 96%
  - Noncore: 95%

Results

- A higher proportion of noncore counties have CAH and hospitals with swing beds.
- 61% of noncore, 40% of micropolitan, and 22% of metropolitan counties have hospitals with swing beds.

Results

- Adding swing bed hospitals in the mix increases availability of post-acute care and/or long-term care services in noncore counties
- Still, availability lags micro and metropolitan counties

Results

• Only 75% of noncore counties without swing bed hospitals have dually or Medicaid certified nursing home

Results

- Most of the counties without dually certified or Medicaid certified nursing homes are in the south or west.

Results

- Most of the counties without dually certified or Medicare certified nursing homes are in the south or west
- 82 Midwest counties without dually certified or Medicare certified nursing homes

Results

- South and west have a large number of counties without dually certified or Medicaid certified nursing homes and no hospitals with NF-swing beds.

Results

- South and west have a large number of counties without dually certified or Medicare certified nursing homes and no hospitals with SNF-swing beds.
So what?

- 1.52 million individuals live in counties without SNF services
  - 660,888 individuals live in noncore counties (131,483 are over the age of 65)

- 1.52 million individuals live in counties without NF services
  - 655,247 individuals live in noncore counties (132,849 are over the age of 65)
Results

- Noncore counties have more beds per 1000 elderly than micro or metropolitan counties.
- But...there is variation in this story by region/states.

Variation in nursing home beds per 1000 elderly

- States in the Midwest such as IA, IL, IN, KS have higher SNF and NF beds per 1000 elderly in noncore counties compared to metropolitan counties

- In northeast, some states have lower beds per 1000 elderly in noncore counties (e.g., NY, MA, ME, NH) compared to metro counties

- Lower beds per 1000 elderly in the west compared to other regions
  - In some states such as CA, there are fewer beds per 1000 elderly in noncore counties than in metropolitan counties
Results

• Although many noncore areas have nursing homes with 30+ beds, there is considerable variation across states and regions.

Variation in dually or Medicare certified nursing home beds per 1000 elderly at the county level

Results

• Similar story when looking at dually certified or Medicaid certified nursing home beds

Variation in dually or Medicaid certified nursing home beds per 1000 elderly at the county level

A smaller proportion of noncore counties have access to post-acute care and long-term care services from nursing homes.

- 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.

Many noncore counties have higher number of beds per 1000 elderly, particularly in the Midwest.

- However, differences in the beds per 1000 elderly between noncore counties vs. metropolitan counties vary by states/regions.
Questions?

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  Published Journal Articles

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  New Research Product

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  Pharmacy Vaccination Service Availability in Nonmetropolitan Counties
  New Research Product

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  Webinar Recording

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