The Effect of Grant Recipient Density on Homeless Services and Outcomes

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Summary

• Public Service Provider Density
  • Does having an increased number of service providers in a geographic area improve outputs and outcomes?
  • Intra-jurisdictional competition and collaboration

• Homeless Services
  • Uses homeless service jurisdictions and number of homeless service providers

• Results
  • Greater density increases outputs, particularly following newer trends in homeless services
  • No effect on outcomes, number of homeless
Contributions

- Panel data study on public service provider density’s effect on outputs and outcomes

- Variety of providers (Aron and Sharkey 2002; Corinth 2014)
  - An estimated 83% of homeless services are NPOs
  - 11% Governmental

- Additional determinant of service level in an area
What is Density?

- Activity within a geographic area
- Concentration of services or service providers
- Interaction
- Possible agglomeration economies (Marshall 1920)
Benefits of Density

• Increased competition
  • Innovation
  • Cost minimization
  • Increase in human capital
  • (Freeman and Audia 2006; Tullock et al. 2002; Thompson 1967)

• Complementing organizations
  • Spillovers across organizations (Porter 2000)
  • Build from each other (Paarlberg & Varda 2009)
  • Increased power (Hannan and Freeman 1984)
Public Service Provider Density

• Public sector differs from private sector
  • Goal congruence
  • Sharing of information
  • Incentives for collaboration
Costs of Density

• Lack of collaboration

• Excessive administrative costs

• Unnecessary duplication of services

• Resources spent on competition
Homeless Services

• Since 1994, the U.S. Department of Housing and Urban Development (HUD) has created about 400 Continuums of Care

• Continuums of Care:
  • Coordination
  • Annual Funding
  • Annual Counts
  • Variation in geographic size and scope
Denver, CO Continuums
Model

- Take logs to show percentage changes
- Take first differences as main variables have time trend
- Lag independent variables one year

1) $\Delta \log(\text{Homeless Services}_{it}) = \Delta \log(\text{Density}_{it-1}) \beta + \Delta X_{it-1} \theta + \lambda_t + \epsilon_{it}$

2) $\Delta \log(\text{Homelessness}_{it}) = \Delta \log(\text{Density}_{it-1}) \beta + \Delta X_{it-1} \theta + \lambda_t + \epsilon_{it}$
Data

• Unit of observation: Continuum of Care
• Years: 2007-2015
• Frequency of panel data: Annual
• Sources:
  • Department of Housing and Urban Development
  • Bureau of Economic Analysis
  • Bureau of Labor Statistics
  • Census Bureau
Variables

• Dependent Variables
  • Permanent Supportive Housing beds (#)
  • Non-Permanent Supportive Housing beds (#)
  • Number of Homeless Persons (#)

• Explanatory Variable
  • Number of grant recipients within each CoC (#)

• Control Variables
  • Federal Funding for homeless services ($); Population (#); Population Density (population per sq. mi); Race (%); Unemployment rate (%); Median 2-bedroom rent ($); Per capita personal income ($); Poverty rate (%)

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Results

• A 1% increase in density:
  • Increases Permanent Support Housing (PSH) beds by ~10%
  • Increases Non-PSH beds by ~5.2%
  • No effect on homelessness

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Provider Density</td>
<td>0.0996**</td>
<td>0.0518**</td>
<td>0.00973</td>
</tr>
<tr>
<td>within CoC (log; #)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Standard Errors</td>
<td>(0.0434)</td>
<td>(0.0259)</td>
<td>(0.0418)</td>
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<tr>
<td>Observations</td>
<td>2,900</td>
<td>2,954</td>
<td>2,951</td>
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<tr>
<td>CoCs</td>
<td>374</td>
<td>378</td>
<td>378</td>
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</tbody>
</table>

Note: Data are for 2007-2015. All variables except population have been differenced. Control variables shown in previous slides included in model. Year fixed effects included in all models. Robust standard errors clustered at CoC level in parentheses. ** p-value<0.05
Discussion

• Greater density in a Continuum of Care leads to more outputs
  • Possible mechanisms:
    • Finding funding from other sources
    • Making more use of space

• Density has no significant effect on the outcome of homelessness
  • May be too many environmental factors
  • Homelessness may be too diverse
Thank You!

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Density in Homeless Services

HUD

CoC Y

Service Provider A
Service Provider B

CoC Z

Service Provider C
Service Provider D
Recent Trends

Grant Recipients
Federal Funding

(In hundred thousands)
# Variables and Summary Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs.</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min.</th>
<th>Max.</th>
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</thead>
<tbody>
<tr>
<td><strong>HUD Variables</strong></td>
<td></td>
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<tr>
<td>Service Provider Density (♯)γ</td>
<td>2,996</td>
<td>19.55</td>
<td>26.83</td>
<td>1</td>
<td>295</td>
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<tr>
<td>Total Homeless Persons (♯)</td>
<td>3,036</td>
<td>1,591</td>
<td>4,013</td>
<td>7</td>
<td>75,323</td>
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<tr>
<td>PSH Beds (♯)</td>
<td>3,040</td>
<td>684</td>
<td>1,720</td>
<td>0</td>
<td>27,449</td>
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<tr>
<td>Non-PSH Beds (♯)</td>
<td>3,040</td>
<td>1,116</td>
<td>3,263</td>
<td>6</td>
<td>75,068</td>
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<tr>
<td>CoC Program Federal Award (dollars in millions)γ</td>
<td>3,038</td>
<td>4.013</td>
<td>8.672</td>
<td>0.013</td>
<td>114.0</td>
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<td><strong>Demographics</strong></td>
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<tr>
<td>% Black**</td>
<td>3,040</td>
<td>12.79</td>
<td>12.23</td>
<td>0.384</td>
<td>66.1</td>
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<td>% Asian**</td>
<td>3,040</td>
<td>4.34</td>
<td>5.13</td>
<td>0.1</td>
<td>46.65</td>
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<td>% Hispanic**</td>
<td>3,040</td>
<td>11.57</td>
<td>12.58</td>
<td>0.6</td>
<td>81.9</td>
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<td>Population (thousands)</td>
<td>3,032</td>
<td>821.5</td>
<td>1,192</td>
<td>29.446</td>
<td>10,903</td>
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<td>Population Density (people per mile²)**</td>
<td>3,040</td>
<td>1,151</td>
<td>3,214</td>
<td>5.38</td>
<td>58,907</td>
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<td><strong>Economic Variables</strong></td>
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<td>Unemployment Rate**</td>
<td>3,038</td>
<td>7.51</td>
<td>2.72</td>
<td>1.9</td>
<td>28.9</td>
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<td>Per Capita Personal Income (dollars)**</td>
<td>3,038</td>
<td>41,495</td>
<td>11,073</td>
<td>23,023</td>
<td>105,745</td>
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<tr>
<td>Poverty Rate (%)**</td>
<td>3,038</td>
<td>14.54</td>
<td>4.778</td>
<td>2.72</td>
<td>39.2</td>
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<tr>
<td>Median Rent for 2 Bedroom Apartment ($)**</td>
<td>3,038</td>
<td>917.5</td>
<td>272.6</td>
<td>497</td>
<td>2,146</td>
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Note: Summary statistics are for years 2008-2015 unless noted otherwise. Unit of observation is continuum of care. Units are in parentheses. γ indicates statistics for 2007-2014. ** indicates data for population weighted variables.