Estimating Eligibility for Medicaid Homeless Support Service Benefits and Potential Healthcare Savings in New Jersey

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Project Team

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• Sujoy Chakravarty, PhD
• Derek DeLia, PhD (now at Medstar Health Research Institute)
• Margaret Koller, MS
• Oliver Lontok, MD, MPH
• Jose Nova, MS

• Emmy Tiderington, PhD, MSW

• Taiisa Kelly
• Richard Brown
Background

- Permanent Supportive Housing (PSH) has been shown to improve health and reduce health services use and spending\(^1\)-\(^4\)
- CMS offered guidance for Medicaid Section 1115 demonstration waivers to fund housing support service (HSS) for the homeless\(^5\)
- In 2017-18, Medicaid demonstration waivers for HSS pilot projects for homeless populations were approved in CA, IL, MD, and WA\(^6\)

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Examples of Housing Support Services (HSS) that could be Medicaid Funded

• Pre-tenancy supports
  – Screening and assessment
  – Housing plan development
  – Application assistance
  – Resource identification (e.g., security deposit, moving costs)
  – Move-in arrangements
  – Crisis prevention and preparation planning

• Tenancy supports
  – Education and training on the role, rights and responsibilities of tenant and landlord
  – Coaching on establishing relationships with landlords/property managers
  – Early identification and intervention for behaviors jeopardizing tenancy (e.g., late rent)
  – Landlord and neighbor dispute resolution
  – Advocacy and linkage to community resources
  – Recertification assistance

Research Questions

1. How many 2016 NJ Medicaid beneficiaries could be eligible for Medicaid-funded housing support services (HSS)?

2. What are the demographic and health characteristics of those potentially eligible?

3. How do health care use and spending patterns of groups potentially eligible compare to similar but non-homeless populations?
Project Data, 2011-2016

• **Homeless Management Information System (HMIS)**
  – NJ Housing and Mortgage Finance Agency
  – Encounter-level data for homeless services and client characteristics
  – All NJ counties for some services (e.g., emergency shelter) and 19 of 21 counties for other services (e.g., supportive housing)

• **Medicaid Management Information System (MMIS)**
  – NJ Div. of Medical Assistance and Health Services
  – Enrollment and encounter data for covered services, spending, and characteristics of all NJ Medicaid beneficiaries

• **Linked by trusted third party**
  – Trillium™ matching software (using SSN, DOB, gender, names, etc.)
  – The Rutgers research team received linked, de-identified data only
MMIS & HMIS Data

Medicaid (MMIS)
N=2.2 million beneficiaries at some time during 2016
(about 1.7 million in a given month)

Linked MMIS & HMIS
N=64,717 in 2016
3% of MMIS, 54% of HMIS

HMIS
N=118,948 clients in 2016

Note: Graphic not to scale
Hierarchy of Groups Potentially Eligible for Medicaid HSS in 2016

A. Persons in **permanent supportive housing (PSH)** placements at any time during the year

B. Persons **designated as “chronically homeless”** in the HMIS

C. Persons with a disability *and* homeless history making them **probably eligible for “chronically homeless” designation**

D. Persons **at-risk of chronic homelessness**, i.e., meets disability criterion *but* was homeless less than what is required for designation
Group B: HUD “Chronically Homeless” Designation

• HMIS generated flag as “Chronically Homeless” in 2016

• Homeless History Requirement
  – 12 consecutive months in an emergency shelter, safe haven, or “place not fit for human habitation” over three years (2014-2016)
  – Total of 12 months … in four or more episodes in three years
  – Periods in institutional settings may count toward time homeless

• Disabling Condition Requirement
  – Physical disability, developmental disability, chronic health condition, HIV/AIDS, mental health problem, and/or substance use disorder
  – “…expected to be of long-continued and indefinite duration … [and] substantially impedes … ability to live independently”*

Group C: Probably eligible for Chronically Homeless Designation

- **Meets HUD homeless history criterion (2014-16)**
  - HMIS recorded time in emergency shelter or safe haven
  - Last 2016 HMIS record of “place not fit for human habitation”

- **Meets Disabling Condition Criterion (2014-16)**
  - HMIS generated “disabling condition” flag
  - HMIS recorded disability income (SSI, SSDI, VA)
  - Medicaid diagnosis of developmental disability or serious mental illness
Group D: “At risk” of Chronic Homelessness

• HUD homeless history of **3-11 months** (2014-16)
  – *Measured same as Group C*

• **Disabling condition criterion** (2014-16)
  – *Measured same as Group C*
Analysis Population Exclusions

- Living in nursing facilities or facilities for persons with intellectual and developmental disabilities
- Children under 18 years old
- Enrolled in Medicaid for <10 months in 2016
Groups Potentially Eligible for Medicaid HSS Benefit, 2016

<table>
<thead>
<tr>
<th>Group</th>
<th>N Before Exclusions*</th>
<th>N After Exclusions**</th>
<th>Percent Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Permanent Supportive Housing</td>
<td>6,625</td>
<td>4,081</td>
<td>38.4%</td>
</tr>
<tr>
<td>B. HMIS Chronically Homeless</td>
<td>1,117</td>
<td>849</td>
<td>24.0%</td>
</tr>
<tr>
<td>C. Probably Chronically Homeless</td>
<td>1,809</td>
<td>1,355</td>
<td>25.1%</td>
</tr>
<tr>
<td>D. At-Risk of Chronic Homelessness</td>
<td>2,988</td>
<td>2,160</td>
<td>27.7%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>12,539</td>
<td>8,445</td>
<td>37.2%</td>
</tr>
</tbody>
</table>

*All persons in 2016 linked HMIS-MMIS data

**Excludes persons living in nursing facilities or institutions for persons with intellectual or developmental disabilities, children (<18), and those enrolled in Medicaid <10 months (300 days) in 2016.
### N’s and Demographics, 2016 (% Distributions)

<table>
<thead>
<tr>
<th></th>
<th>Not Homeless</th>
<th>Potentially Eligible for Medicaid HSS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ABD</td>
<td>Exp.</td>
<td>PSH</td>
</tr>
<tr>
<td>N</td>
<td>221,320</td>
<td>282,649</td>
<td>4,081</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-29</td>
<td>10.7</td>
<td>30.6</td>
<td>21.5</td>
</tr>
<tr>
<td>30-49</td>
<td>17.4</td>
<td>31.5</td>
<td>36.1</td>
</tr>
<tr>
<td>50-64</td>
<td>25.9</td>
<td>36.9</td>
<td>38.1</td>
</tr>
<tr>
<td>65+</td>
<td>45.9</td>
<td>0.9</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>40.7</td>
<td>51.1</td>
<td>44.8</td>
</tr>
<tr>
<td><strong>Race/Eth.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>37.8</td>
<td>31.4</td>
<td>28.3</td>
</tr>
<tr>
<td>Black/AA</td>
<td>23.3</td>
<td>20.2</td>
<td>59.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>13.8</td>
<td>16.7</td>
<td>7.6</td>
</tr>
<tr>
<td>Other</td>
<td>25.1</td>
<td>31.7</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**Notes:**
- Excludes persons under age 18, with Medicaid enrollment of less than 10 months during 2016, and those living in nursing facilities or institutions for persons with intellectual or developmental disabilities.
- Selected modal values shown in red.
- CH = Chronically Homeless.
- *Data not shown due to small numbers (N<30), cells with next smallest N also redacted.*
# Medicaid Eligibility Category, 2016 (% Distributions)

<table>
<thead>
<tr>
<th></th>
<th>Not Homeless During Year</th>
<th>Potentially Eligible Medicaid for HSS</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>PSH</td>
<td>Chronically Homeless</td>
<td>Prob. Chron. Homeless</td>
<td>At Risk</td>
</tr>
<tr>
<td>Aged, Blind, Disabled</td>
<td>26.2</td>
<td>43.9</td>
<td>37.0</td>
<td>33.9</td>
<td>27.0</td>
</tr>
<tr>
<td>Expansion/GA</td>
<td>33.5</td>
<td>27.2</td>
<td>56.4</td>
<td>52.1</td>
<td>50.6</td>
</tr>
<tr>
<td>NJ FamilyCare/Other</td>
<td>40.2</td>
<td>28.9</td>
<td>6.6</td>
<td>13.9</td>
<td>22.4</td>
</tr>
</tbody>
</table>

Notes:
- Excludes persons under age 18, with Medicaid enrollment of less than 10 months during 2016, and those living in nursing facilities or institutions for persons with intellectual or developmental disabilities.
- Selected modal values shown in red.
- CH = Chronically Homeless.
- GA = General Assistance.
Mental Health and Substance Use Disorders, 2016

<table>
<thead>
<tr>
<th>Category</th>
<th>ABD Expansion</th>
<th>PSH</th>
<th>Chronically Homeless</th>
<th>Prob. Chron. Homeless</th>
<th>At Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subgroup</td>
<td>Not Homeless</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABD</td>
<td>48.1%</td>
<td>11.0%</td>
<td>31.5%</td>
<td>11.5%</td>
<td>17.4%</td>
</tr>
<tr>
<td>Expansion</td>
<td>33.5%</td>
<td></td>
<td>22.8%</td>
<td>13.9%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Mental Health Only</td>
<td>4.9%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substance Use Only</td>
<td>32.2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>10.7%</td>
<td></td>
<td>22.8%</td>
<td>13.9%</td>
<td>15.5%</td>
</tr>
<tr>
<td>ABD</td>
<td>48.1%</td>
<td>11.0%</td>
<td>31.5%</td>
<td>11.5%</td>
<td>17.4%</td>
</tr>
<tr>
<td>Expansion</td>
<td>33.5%</td>
<td></td>
<td>22.8%</td>
<td>13.9%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Subgroup</td>
<td>Not Homeless</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABD</td>
<td>11.0%</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Both</td>
<td>10.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ABD = Aged, Blind, and Disabled Medicaid eligibility category. PSH = Permanent Supportive Housing.
Serious Mental Illness, 2016

ABD Expansion PSH Chronically Homeless Prob. Chron. Homeless At Risk

ABD = Aged, Blind, and Disabled Medicaid eligibility category. PSH = Permanent Supportive Housing.
Number of Chronic Physical Conditions\(^\text{^}\), 2016

\[
\begin{array}{cccc}
\text{ABD} & \text{Expansion} & \text{PSH} & \text{Chronically Homeless} \\
\text{Not Homeless} & & & \\
20.7\% & 13.6\% & 16.2\% & 18.5\% \\
14.7\% & 14.3\% & 18.5\% & 18.5\% \\
21.0\% & 6.4\% & 11.2\% & 10.6\% \\
34.3\% & & 42.6\% & 47.9\% \\
& & 53.6\% & \\
& & & 45.6\% \\
\end{array}
\]

\(^{^}\text{Out of 26 non-behavioral health chronic conditions, based on CMS Chronic Condition Warehouse metric (https://www.ccwdata.org/web/guest/condition-categories).\} ABD = Aged, Blind, and Disabled Medicaid eligibility category. PSH = Permanent Supportive Housing.\)}
Health Care Use and Spending Metrics (from MMIS)

- Emergency department (ED) treat-and-release visits
- Inpatient (IP) admissions
- Ambulatory-care sensitive IP admission rates
- All-cause 30-day inpatient readmissions
- Total Medicaid spending overall and for selected service types
Matched Comparison Group

• Five comparison beneficiaries with no history of homeless services (i.e., did not link to HMIS) matched Groups B-D
• Match based on characteristics in 2015 (77%) when available, otherwise 2014 (11%) or 2016 (12%)
• Exact matching and then **Mahalanobis distance matching**

<table>
<thead>
<tr>
<th>Exact Match</th>
<th>Distance Match</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicaid eligibility group</td>
<td>Mental health diagnosis</td>
</tr>
<tr>
<td>Sex</td>
<td>Substance use disorder diagnosis</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>Serious mental illness (SMI)</td>
</tr>
<tr>
<td>Year of data match</td>
<td>Quartile of Chronic Illness and Disability</td>
</tr>
<tr>
<td></td>
<td>Payment Score (CDPS)</td>
</tr>
<tr>
<td></td>
<td>CDPS (within CDPS group)</td>
</tr>
</tbody>
</table>

• Exclude 5% most distant matches

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At Least One Emergency Department (ED) Visit, 2016

<table>
<thead>
<tr>
<th>Category</th>
<th>Comparison</th>
<th>HSS Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chron. Homeless</td>
<td>53.9%</td>
<td>78.8%</td>
</tr>
<tr>
<td>Prob. Chron. Homeless</td>
<td>49.7%</td>
<td>64.5%</td>
</tr>
<tr>
<td>At Risk of Chron. Homelessness</td>
<td>51.6%</td>
<td>66.5%</td>
</tr>
</tbody>
</table>

Note: Group differences are statistically significant at p<0.0001
Six or More ED Visits, 2016

Note: Group differences are statistically significant at p<0.0001
At Least One Inpatient (IP) Stay, 2016

<table>
<thead>
<tr>
<th>Category</th>
<th>Comparison</th>
<th>HSS Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chron. Homeless</td>
<td>24.0%</td>
<td>38.5%</td>
</tr>
<tr>
<td>Prob. Chron. Homeless</td>
<td>19.7%</td>
<td>25.8%</td>
</tr>
<tr>
<td>At Risk of Chron. Homelessness</td>
<td>18.4%</td>
<td>24.6%</td>
</tr>
</tbody>
</table>

Note: Group differences are statistically significant at p<0.0001
Three or More IP Stays, 2016

Note: Group differences are statistically significant at p<0.0001
Ambulatory Care Sensitive IP Admissions per 1,000, 2016

Note: Group differences are statistically significant at p<0.05.
30-Day Hospital Readmission Rate per 100 Index Admissions, 2016

<table>
<thead>
<tr>
<th>Category</th>
<th>Comparison</th>
<th>HSS Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chron. Homeless</td>
<td>17.2</td>
<td>17.4</td>
</tr>
<tr>
<td>Prob. Chron. Homeless</td>
<td>15.3</td>
<td>20.1</td>
</tr>
<tr>
<td>At Risk of Chron. Homelessness</td>
<td>11.1</td>
<td>16.2</td>
</tr>
</tbody>
</table>

Note: Group differences are statistically significant at p<0.05 except where noted.
Average Total Medicaid Spending*, 2016

*Adjusted for number of months enrolled.
Note: Group differences are statistically significant at p<0.01.
Average IP Hospital Spending*, 2016

- **Chron. Homeless**: $3,500 (Comparison), $6,575 (HSS Group)
- **Prob. Chron. Homeless**: $2,667 (Comparison), $4,040 (HSS Group)
- **At Risk of Chron. Homelessness**: $2,419 (Comparison), $3,344 (HSS Group)

*Adjusted for number of months enrolled.

Note: Group differences are statistically significant at p<0.001.
Average Ambulatory Care Spending*, 2016

*Adjusted for number of months enrolled.
Note: Group differences are statistically significant at p<0.0001, except where noted.
Average Prescription Drug Spending*, 2016

Comparison  HSS Group

<table>
<thead>
<tr>
<th>Category</th>
<th>Comparison</th>
<th>HSS Group</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chron. Homeless</td>
<td>$3,388</td>
<td>$2,986</td>
<td>(n.s.)</td>
</tr>
<tr>
<td>Prob. Chron. Homeless</td>
<td>$3,001</td>
<td>$3,812</td>
<td></td>
</tr>
<tr>
<td>At Risk of Chron. Homelessness</td>
<td>$2,653</td>
<td>$2,441</td>
<td>(n.s.)</td>
</tr>
</tbody>
</table>

Exp. Pop $1,364

$5,000

$4,000

$3,000

$2,000

$1,000

$0

*Adjusted for number of months enrolled.

Note: Group differences are statistically significant at p<0.05 except where noted.
Conclusions

• Up to about 12,500 individuals were potentially eligible for Medicaid HSS benefits in 2016
  – Analysis based on about 4,400 non-institutionalized adults enrolled at least 10 months and not placed in PHS in 2016

• Compared to non-homeless Medicaid enrollees and PSH residents, the homeless groups examined (groups B, C & D) …
  – Very high behavioral health morbidity & high chronic condition rates

• Potential savings evident among HSS eligible groups compared to clinically and demographically matched beneficiaries
  – Higher potentially avoidable utilization
  – Higher Medicaid spending, especially hospital inpatient spending
Limitations

• One state
• Medicaid data do not include comprehensive measures of disability
• Our estimates of potential savings ≠ projected likely savings
  – Broadly consistent with published evaluations of PSH
  – But, our population has much higher rates behavioral health conditions, so may be harder to engage in effective PSH

Thank You!