Impact of Medicaid expansion on access to medication for opioid use disorder (MOUD) among people experiencing homelessness who use opioids

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- Greg Bruich, PhD
Background: Opioid death rate is 16-30 times higher for people experiencing homelessness

Source: MA DPH (2017)


**FIGURE 2**—Trends in Medicaid enrollment among homeless and housed adults entering substance use disorder treatment programs in Massachusetts before and after implementation of MassHealth program in 1997: Treatment Episode Data Set, 1992-2009.
Research questions

- Did Medicaid expansion increase inclusion of MOUD in treatment plans at substance use treatment centers?

- Was there a differential effect from expansion on MOUD inclusion if clients were experiencing homelessness?
Data source:
Treatment Episodes Data Set - Admissions (TEDS-A)

- Administered by SAMHSA
- Consists of admissions to treatment centers that receive public funding
- Includes key housing status variable

**LIVARAG: Living arrangements at admission**

Identifies whether the client is homeless, a dependent (living with parents or in a supervised setting), or living independently on his or her own at the time of admission.

- **Homeless**: Clients with no fixed address; includes shelters.
- **Dependent living**: Clients living in a supervised setting, such as a residential institution, halfway house, or group home; and children (under age 18) living with parents, relatives, or guardians, or in foster care.
- **Independent living**: Clients living alone or with others without supervision. Includes adult children (age 18 and over) living with parents.

<table>
<thead>
<tr>
<th>Value</th>
<th>Label</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Homeless</td>
<td>4,337,362</td>
<td>12.2%</td>
</tr>
<tr>
<td>2</td>
<td>Dependent living</td>
<td>6,988,247</td>
<td>19.7%</td>
</tr>
<tr>
<td>3</td>
<td>Independent living</td>
<td>20,568,848</td>
<td>57.9%</td>
</tr>
<tr>
<td>-9</td>
<td>Missing/unknown/not collected/invalid</td>
<td>3,606,553</td>
<td>10.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>35,501,010</strong></td>
<td><strong>100%</strong></td>
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</table>

Source: TEDS-A 2000-2017 Codebook
Data source: Inclusion criteria for admissions


1. Take place in 50 states or D.C. from 2006-2017
   - Removes U.S. territories + WV and GA (which don’t report medication treatment plans)

2. Report opioid use as primary substance use

3. Report whether MOUD is in client’s treatment plan
   - Removes 2% of admissions with missing data

4. Report client’s housing status
   - Removes 4% of admissions with missing data

5. 5,818,170 admissions
Study design

Primary outcome variable: MOUD-inclusive treatment plan
- Buprenorphine, methadone, naltrexone

Difference-in-differences design:
- Compared differences in MOUD inclusion by expansion status, housing status, and treatment setting

Controls:
- Clinical need (age, heroin use, frequency of use, IV use, secondary alcohol or benzodiazepine use)
- Criminal justice referrals
- Sociodemographic variables (race, gender, education, employment status)
- Year + state fixed effects
Pre-existing trends don’t explain post-expansion differences

MOUD inclusion over time

Proportion of treatment plans with MOUD

Expansion states

Non-expansion states

Event year (= Years away from expansion)
### Baseline characteristics

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<tr>
<th>Proportion of clients experiencing homelessness</th>
<th>Non-Expansion State (n = 5,022,404) Mean</th>
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<td>16.4%</td>
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MOUD inclusion increased in expansion states...
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including for homeless clients
## Expansion increased access across housing status, without narrowing the pre-existing disparity

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<th>Effect on rate of MOUD inclusion</th>
<th>Homeless housing status (across all years)</th>
<th>Expansion for housed clients</th>
<th>Differential effect of expansion for homeless clients</th>
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<tr>
<td>Effect</td>
<td>- 12.0%**</td>
<td>+ 9.8%**</td>
<td>- 2.0%</td>
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<tr>
<td>[95% CI]</td>
<td>[-17.6%, -6.4%]</td>
<td>[2.5%, 17.0%]</td>
<td>[-7.2%, 3.2%]</td>
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** Significant at a 95% confidence level
MOUD inclusion over time, by treatment setting

![Graph showing MOUD inclusion over time by treatment setting: Inpatient, Detox, Outpatient.](image)
MOUD inclusion over time, by treatment setting

Effect of outpatient admissions (across all time points): 25.9 (95% CI, 15.8 to 35.9) percentage points more likely to include MOUD

Effect of Medicaid expansion in outpatient settings: 12.6 (95% CI, 3.4 to 21.8) percentage point increase in MOUD inclusion

Effect of Medicaid expansion in inpatient settings not statistically significant.
Homeless clients tend not to access care in outpatient settings
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Effect of homeless housing status on outpatient admission: 27.8 (95% CI, 15.8 to 35.9) percentage point lower likelihood of outpatient admission
Medicaid coverage rates climbed in expansion states
(2,257,294 admissions in 14 expansion and 8 non-expansion states)
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Effect of Medicaid expansion on proportion of admissions covered by Medicaid:
20.1 (95% CI, 4.7 to 35.4) percentage points increase

No statistically significant difference for homeless clients
Conclusions and implications

Expansion led to a big jump in MOUD inclusion.

Homeless clients saw this jump too, but pre-existing disparities persist.

Treatment setting shapes MOUD access for homeless clients.

Next steps for increasing MOUD access for PEH

- Expand Medicaid in 12 more states
- Target treatment setting differences