Addiction, Advocacy, and Healthcare Services: A Deep Dive into Population Health

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Population of Focus

Population of Focus: Individuals in the Greater Worcester area with Substance Use Disorder*

Geographic Distribution: Greater Worcester (Worcester, Shrewsbury, Grafton, Leicester, Millbury, Holden, West Boylston)

Population Distribution (based on fatal and non-fatal overdoses in Worcester from July 2017- July 2018)¹
- 66% men, 34% women
- 55% white, 14% Hispanic, 4% black, 1% Asian/ Pacific Islander, 26% unknown
- Age: 15-71; average: 37

¹2018 Greater Worcester CHA
Population of Focus: Why It Matters for Our Community

- In 2014, opioid related fatal overdose was the 7th leading cause of death in the city of Worcester
- Average annual opioid-related death rate per 100,000 people (2015)
  - Worcester: 24.9
  - MA: 23.3
  - USA: 9.7

![Average Annual Opioid-related Death Rate per 100,000 People](image)

![Age-Adjusted Opioid-related Death Rate by Year](image)
Of opioid-associated deaths from 2013-2014, an estimated 65-68% had a legal opioid prescription within the past three years.
Population of Focus: Medical Risk Factors

- Compared to the state of MA, higher incidence of:
  - Low birthweight
  - Births to teen mothers
  - Infant mortality
  - General mortality rates
- Specific to SUD and substance use:
  - Higher incidence of opioid overdose deaths
  - Significantly higher HIV/AIDS prevalence
  - Higher admission rates to DPH SUD programs

### Recent Demographic Behavior

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Worcester</th>
<th>Gateway Cities</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Rate (per 1,000 females 15-44)</td>
<td>59.0</td>
<td>62.1</td>
<td>52.8</td>
</tr>
<tr>
<td>Low birthweight (&lt;2.5 kg, % of births)</td>
<td>8.0</td>
<td>8.0</td>
<td>7.7</td>
</tr>
<tr>
<td>Births to teen mothers (15-19 years)</td>
<td>7.2</td>
<td>6.0</td>
<td>3.8</td>
</tr>
<tr>
<td>Birth rate of teen mothers‡</td>
<td>23.3</td>
<td>22.3</td>
<td>12.0</td>
</tr>
<tr>
<td>Infant mortality (per 1,000 live births)</td>
<td>5.7</td>
<td>4.9</td>
<td>4.4</td>
</tr>
<tr>
<td>Mortality rate (per 100,000 residents)‡‡</td>
<td>862</td>
<td>844.9</td>
<td>800.0</td>
</tr>
</tbody>
</table>

† As percent of all births
‡ Per 1,000 females aged 15-19 years

### Mortality and Health

<table>
<thead>
<tr>
<th>Indicator</th>
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<th>Gateway Cities</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung Cancer Deaths (per 100,000 people) †</td>
<td>56.7</td>
<td>61.3</td>
<td>54.1</td>
</tr>
<tr>
<td>Cardiovascular Disease Deaths (per 100,000) †</td>
<td>223.0</td>
<td>254.7</td>
<td>237.4</td>
</tr>
<tr>
<td>Opioid Overdose Deaths (per 100,000)‡</td>
<td>22.9</td>
<td>25.5</td>
<td>13.0</td>
</tr>
<tr>
<td>HIV/AIDS Prevalence Rate (per 100,000 people) 2010‡</td>
<td>501.6</td>
<td>317.0</td>
<td>282.3</td>
</tr>
<tr>
<td>Admissions to DPH Substance Abuse Programs (per 100,000 people) †</td>
<td>2695.0</td>
<td>2189</td>
<td>1568</td>
</tr>
<tr>
<td>Hospital Discharges for Asthma (per 100,000) 2009</td>
<td>240.6</td>
<td>208.8</td>
<td>162.0</td>
</tr>
<tr>
<td>Percent overweight or obese children in grade 10 †</td>
<td>41.7</td>
<td>38.2</td>
<td>32.3</td>
</tr>
<tr>
<td>Percent of population on some form of non-private insurance 2013</td>
<td>36.6</td>
<td>36.1</td>
<td>17.2</td>
</tr>
</tbody>
</table>

†2010
‡2014

http://commons.clarku.edu/mosakowskiinstitute/38
Population of Focus: Social Risk Factors

Worcester Specifics:
- Growing Black, Foreign-born and Hispanic populations
  - All of these populations experience health inequities, placing the population at risk
- Median family income: ~$44,000/year
  - About $16k less than similar cities in MA
- Percent of families below the poverty line: 18.6%
  - About 4.3% higher than similar cities in MA
- Large population of homelessness, yet shrinking

More generally ACEs study showed that early childhood adversity predisposes individuals to addiction

<table>
<thead>
<tr>
<th>Population Distribution by Race and Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subgroups of the population as a percent of the total</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Foreign-born</td>
</tr>
<tr>
<td>Hispanic</td>
</tr>
<tr>
<td>Origin as percent of Hispanic</td>
</tr>
<tr>
<td>Central America</td>
</tr>
<tr>
<td>Dominican Republic</td>
</tr>
<tr>
<td>Mexico</td>
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<tr>
<td>Puerto Rico</td>
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</tbody>
</table>

Population of Focus: Social Risk Factors

In Massachusetts, the opioid death rate is…

- 16-30x higher for individuals experiencing homelessness [1]
- 120x higher for individuals with histories of incarceration [1]
- 3x higher among veterans [2]

Population of Focus: Disparities and Strengths

In Worcester:

- 4 inpatient detox units
  - 1 specifically for adolescents
- 2 large hospital emergency rooms
- 6 sober-living/"halfway houses"
  - Only 1 considers residents who use MAT “sober”
- 1 free naloxone training site
- 1 methadone-administration site
- 1 wet shelter
  - Has availability to accommodate only ~60/night
  - 2,103 referrals through the door and only were able to find permanent housing for 337
- Worcester County jail only offers a Vivitrol shot a couple days before discharge, no MAT as an inmate
Exploring Interprofessional Teams of Care

Who is serving the population of focus?

1) Medical- Physicians and Nurse practitioners
   a) Medication Assisted Treatment
   b) Mental Health
   c) Individual counseling
Exploring Interprofessional Teams of Care (cont)

2) Case Managers
   a) Housing - SMOC, AIDs Project Worcester, YWCA, The Bridge of Central Massachusetts, Hector Reyes House
   b) Boston Healthcare for the Homeless-SPOT, Medical Respite Care, Southeast Asian Coalition

3) Law
   a) Police - Diversion Program
   b) Drug Court - STOP program

4) Legislative
   a) Commissioner of Public Health
   b) CHIP/CHA
Health Advocacy

Local: City of Worcester DPH, City of Worcester Division of Youth Opportunities

County: Hampden County House of Correction, Worcester County Jail

State: MA Department of Health

“How to be an Effective Advocate” Key Points

1. Reside/be involved within the community where you work
2. Have relationships with the resources you suggest
3. We are the gatekeepers of our patients’ health

“A healthy community is one where everyone partakes in the economic and social prosperity with no barriers. It’s one where all children have the same opportunities to be healthy and whole.” — Community Member Input
Health Advocacy: Local

City of Worcester Division of Public Health
→ CHA, CHIP
→ Public Schools Flu Clinic
→ Opioid Use Disorder Public Forum
→ APW Needle Exchange, 7 Safe Needle Disposal Sites

“This isn’t just a place to exchange used needles. It will be a place where people can access counseling and be directed to places for treatment.” - Dr. Castiel

Worcester Division of Youth Opportunities
→ Recreation Worcester, ages 7-13
→ YouthWorks youth employment program
→ “The W” free summer transportation
Health Advocacy: State

Massachusetts Department of Public Health

- Bureau of Substance Abuse Services (BSAS):
  - Prevention Services
  - Residential Treatment Under/Over 30 Days
  - Ambulatory Services
  - Aftercare/ Recovery Support
  - Homeless Services
  - Driving Under the Influence

County: Hampden County House of Correction, Worcester County Jail
Acknowledgements

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Hampden County Jail