Developing Medicaid-Based Rational Service Areas in New York State

Presented by: Robert Martiniano. M.P.A., M.P.H., Senior Program Manager
Center for Health Workforce Studies
School of Public Health | University at Albany, SUNY

April 30, 2015
11th Annual Health Workforce Research Conference
Alexandria, Virginia
Acknowledgements

• New York State Department of Health for their funding and support of this project.

• Center for Health Workforce Studies Staff
  o Rakkoo Chung
  o Stuart Daman

http://chws.albany.edu
Purpose of the Project

- Conduct a primary care needs assessment as part of HRSA shortage area designation requirements
- Use commuting patterns of Medicaid patients to build RSAs
  - Medicaid patients often travel further than those on Medicare or commercially insured
- Link need indicators to the RSAs to identify the RSAs with the most pressing needs
Method for Developing the RSAs

- Created matrix of patient and provider zip codes using New York State Medicaid data
  - Included
    - Outpatient settings
    - Evaluation and management codes
      - 99201 – 99205
      - 99211 – 99215
      - 99381 – 99387
      - 99391 – 99397
    - Professional claims for providers
    - Institutional claims for FQHCs and hospital outpatient
- Analyzed commuting patterns using UCINET
New York State Regions

http://chws.albany.edu
Understanding Patient Commuting Patterns

Singles, without any incoming or outgoing flow

Structural hole, may connect separate RSAs

This RSA is way too big!

Thickness = % of plurality to the total patients
- Plurality goes to the other zip code
- Plurality goes to itself
Initial RSAs Don’t Follow HPSA Rules
Revised RSAs (Generally) Compliant with HPSA Rules
## RSA Results

<table>
<thead>
<tr>
<th>Region (1)</th>
<th>Total Medicaid Patients</th>
<th>Localization (2)</th>
<th># zip codes</th>
<th># RSAs</th>
<th>Mean zip/RSA</th>
<th>Total Population</th>
<th>Mean pop/RSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital District</td>
<td>236,357</td>
<td>64.34%</td>
<td>262</td>
<td>16</td>
<td>16.4</td>
<td>1,085,965</td>
<td>67,873</td>
</tr>
<tr>
<td>Central NY</td>
<td>217,954</td>
<td>66.31%</td>
<td>145</td>
<td>13</td>
<td>11.2</td>
<td>814,919</td>
<td>62,686</td>
</tr>
<tr>
<td>Finger Lakes</td>
<td>346,671</td>
<td>53.85%</td>
<td>193</td>
<td>21</td>
<td>9.2</td>
<td>1,219,131</td>
<td>58,054</td>
</tr>
<tr>
<td>Hudson Valley</td>
<td>516,318</td>
<td>61.38%</td>
<td>326</td>
<td>39</td>
<td>8.4</td>
<td>2,301,120</td>
<td>59,003</td>
</tr>
<tr>
<td>Long Island</td>
<td>453,580</td>
<td>41.03%</td>
<td>207</td>
<td>48</td>
<td>4.3</td>
<td>2,871,770</td>
<td>59,829</td>
</tr>
<tr>
<td>Mohawk Valley</td>
<td>134,275</td>
<td>68.16%</td>
<td>165</td>
<td>13</td>
<td>12.7</td>
<td>506,780</td>
<td>38,983</td>
</tr>
<tr>
<td>New York City</td>
<td>3,703,310</td>
<td>32.26%</td>
<td>311</td>
<td>67</td>
<td>4.6</td>
<td>8,270,869</td>
<td>123,446</td>
</tr>
<tr>
<td>North Country</td>
<td>98,083</td>
<td>82.29%</td>
<td>182</td>
<td>15</td>
<td>12.1</td>
<td>428,539</td>
<td>28,569</td>
</tr>
<tr>
<td>Southern Tier</td>
<td>184,796</td>
<td>68.08%</td>
<td>158</td>
<td>18</td>
<td>8.8</td>
<td>640,599</td>
<td>35,589</td>
</tr>
<tr>
<td>Western NY</td>
<td>440,247</td>
<td>42.67%</td>
<td>209</td>
<td>27</td>
<td>7.7</td>
<td>1,396,367</td>
<td>51,717</td>
</tr>
<tr>
<td>Statewide</td>
<td>6,331,591</td>
<td>42.12%</td>
<td>2,158</td>
<td>277</td>
<td>7.8</td>
<td>19,536,059</td>
<td>70,527</td>
</tr>
</tbody>
</table>

(1) RSAs rather than zip codes were linked to regions. Consequently, zip codes and their corresponding information in some cases are identified in a neighboring region.

(2) Localization refers to the percent of patients who find primary care services within the same RSA

http://chws.albany.edu
Identifying Need Indicators

- **Demographic**
  - Percent population enrolled in Medicaid
  - Percent population below 200% of the federal poverty level
  - Percent ages 65 and older
  - Percent racial or ethnic minorities
  - Percent single female parent households

- **Health care indicators**
  - Avoidable hospitalizations rate
  - Avoidable ED visits rate
  - Population-to-primary care physician ratio
  - Overall mortality rate
  - Percent low birthweight births

http://chws.albany.edu
Needs Assessment Results

- Fourth quartile indicates the highest need
- RSAs in both rural and urban areas show need

<table>
<thead>
<tr>
<th>Region</th>
<th># RSAs</th>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth Number</th>
<th>Fourth Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital District</td>
<td>16</td>
<td>6</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>6.3%</td>
</tr>
<tr>
<td>Central NY</td>
<td>13</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>7.7%</td>
</tr>
<tr>
<td>Finger Lakes</td>
<td>21</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>19.1%</td>
</tr>
<tr>
<td>Hudson Valley</td>
<td>39</td>
<td>20</td>
<td>13</td>
<td>3</td>
<td>3</td>
<td>7.7%</td>
</tr>
<tr>
<td>Long Island</td>
<td>48</td>
<td>22</td>
<td>14</td>
<td>8</td>
<td>4</td>
<td>8.3%</td>
</tr>
<tr>
<td>Mohawk Valley</td>
<td>13</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>23.1%</td>
</tr>
<tr>
<td>New York City</td>
<td>67</td>
<td>10</td>
<td>12</td>
<td>11</td>
<td>34</td>
<td>50.8%</td>
</tr>
<tr>
<td>North Country</td>
<td>15</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>40.0%</td>
</tr>
<tr>
<td>Southern Tier</td>
<td>18</td>
<td>1</td>
<td>4</td>
<td>7</td>
<td>6</td>
<td>33.3%</td>
</tr>
<tr>
<td>Western NY</td>
<td>27</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>14</td>
<td>51.9%</td>
</tr>
</tbody>
</table>

http://chws.albany.edu
RSA Development Problems and Pitfalls

- Non-contiguous zip codes creating RSAs
- RSA donut holes
- Multiple county RSAs
- Identifying billing location instead of service location
- Medicaid patients go on and come off of Medicaid rolls
- Assessed patients not visits
Data and Ranking Problems and Pitfalls

DATA
- How are data collected?
  - Level of geography
    - ZCTAs/zip codes versus county
  - Population versus survey data
  - Matching to RSAs
    - ZCTAs versus zip codes
- Were the correct data elements identified?

RANKING
- Sensitivity of ranking mechanism
  - How big of difference between categories
  - Weighted versus non-weighted
- Does it identify real need?

http://chws.albany.edu
Conclusions

- Fewer Medicaid RSAs than PCSAs
  - Medicaid patients do travel further for care
- Rural RSAs tend to include more zip codes and have more of their patients staying in their “home” RSA for services
- Community characteristics as important as health care outcomes and provider availability in identifying need
- Worst of the worst spread around the state, but many in New York City
  - Need identified in both rural and urban areas
- Need to be concerned how to make the data and the RSAs useful to policy makers and researchers

http://chws.albany.edu