Using Medicaid Claims Data to Assess Oral Health Access for Low-Income New Yorkers

Presented by: Robert Martiniano, DrPH, MPA
Center for Health Workforce Studies
University at Albany School of Public Health

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New York State Oral Health Coalition
Troy, New York
Established in 1996
Based at the UAlbany School of Public Health
Committed to collecting and analyzing data to understand workforce dynamics and trends
Goal to inform public policies, the health and education sectors and the public
Broad array of funders supporting our research

www.chwsny.org
What’s the Problem?

- Developing strategies to improve access to oral health services requires an understanding of access barriers faced by underserved populations.

- While NY has an abundant supply of dentists, they are not well distributed geographically.
What’s the Problem?

• Access to dental services may be limited for publicly-insured (Medicaid) patients since many NY dentists do not accept Medicaid
  o May result in Medicaid patients traveling further to obtain needed oral health services

• Assessing oral health commuting patterns can assist in the identification of areas where patients commute further, reflecting more limited access
Rational Service Areas (RSAs) Are a Key Component of Federal Shortage Area Designations

- RSAs are geographic areas that represent how and where the population residing within that area “reasonably” seeks oral health services.
- RSAs must account for:
  - Physical barriers that can limit access to available providers
    - highways
    - mountains
    - bodies of water
  - Individual characteristics that can limit access to available providers
    - culture
    - transportation, and
    - insurance status
Why Develop Oral Health RSAs Using Medicaid Claims Data?

• While geo-political boundaries (county, state) are preferred RSA borders, patients often disregard them when seeking care

• Analyzing claims data provides an accurate assessment of patient commuting patterns for care

• Facilitates the targeting of resources to neediest areas
  - Recruitment and retention incentives
  - Program development/expansion
2015 NYS Medicaid claims data

- Claims from general dentists only
- Claims using CPT codes for general oral health services
- Excluded emergency department visits
- Linked unduplicated patients with provider zip codes
Methods

• Created relational matrices of zip codes
• Generated zip code networks
• Created initial RSAs
• Revised RSAs to make them more rational
Created Relational Matrix Based on Commuting Patterns for Basic Oral Health Services

- Created matrices based on zip codes
- Zip code relationships based on where plurality of patients go

Example of Relational Matrices in New York City
- Count-based matrix based on claims between zip code pairs
- Relational matrix based on plurality/majority patient flow

<table>
<thead>
<tr>
<th>Zip Code</th>
<th>10001</th>
<th>10002</th>
<th>10003</th>
<th>10004</th>
<th>Zip Code</th>
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<td>106</td>
<td>10002</td>
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<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10003</td>
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<td>1</td>
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<td>1</td>
<td>0</td>
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</tr>
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<td>0</td>
<td>8</td>
<td>10004</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Created Zip Code Network

- Using UCINET
  - Zip codes = nodes or actors
  - Identified relationship among zip codes

North Country (Adirondacks)
Created Initial RSAs Based on Linked Zip Codes

Not very Rational Service Areas in the North Country of New York
Revised RSAs Based on HRSAA Guidelines

1. North Country Revised RSAs
Identifying High Need RSAs

Used demographic & health indicators to determine relative need

**Demographic Indicators**
- Percent of people Under 200% Poverty Level
- Percent of racial/ethnic minorities
- Percent of people who speak a language other than English at home
- Percent of people enrolled in Medicaid

**Health Indicators**
- Dental ER visits Per 10,000 Medicaid enrollees
- Dental caries for Medicaid enrollees under age 18 per capita
- Number of oral health providers per 10,000 Medicaid enrollees
- Percent low birth weight
- Percent preterm birth
- Dental visits to primary care providers per 10,000 Medicaid enrollees
Identifying High Need RSAs

• Ranked each indicator 1 to 178

• Apply a score to each indicator based on the ranking

• Created an aggregate score for each RSA
Most of the High Need Oral Health RSAs are in New York City

<table>
<thead>
<tr>
<th>PHIP Region</th>
<th># of Oral Health RSAs</th>
<th># of High Need RSAs</th>
<th>% of High Need RSAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Region</td>
<td>14</td>
<td>4</td>
<td>29%</td>
</tr>
<tr>
<td>Central New York</td>
<td>15</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>Finger Lakes</td>
<td>17</td>
<td>1</td>
<td>6%</td>
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<tr>
<td>Long Island</td>
<td>27</td>
<td>3</td>
<td>11%</td>
</tr>
<tr>
<td>Mid Hudson</td>
<td>22</td>
<td>3</td>
<td>14%</td>
</tr>
<tr>
<td>Mohawk Valley</td>
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<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>New York City</td>
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<td>30</td>
<td>70%</td>
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<tr>
<td>North Country</td>
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</tr>
<tr>
<td>Southern Tier</td>
<td>8</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Tug Hill Seaway</td>
<td>5</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Western New York</td>
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<td>2</td>
<td>11%</td>
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<tr>
<td>New York State</td>
<td>178</td>
<td>44</td>
<td>25%</td>
</tr>
</tbody>
</table>
Questions?

For more information, please email me at: jmoore@albany.edu

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www.chwsny.org