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

April 27, 2018
New York State Oral Health Coalition
Troy, New York

CHWS
Center *for* Health Workforce Studies

The Center for Health Workforce Studies at SUNY Albany School of Public Health

- 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

CHWS
Center for Health Workforce Studies

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

CHWS
Center *for* Health Workforce Studies

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

CHWS
Center *for* Health Workforce Studies

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

CHWS
Center *for* Health Workforce Studies

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

Study Data

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

CHWS
Center for Health Workforce Studies

Methods

- Created relational matrices of zip codes

- Generated zip code networks

- Created initial RSAs

- Revised RSAs to make them more rational

CHWS
Center *for* Health Workforce Studies

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

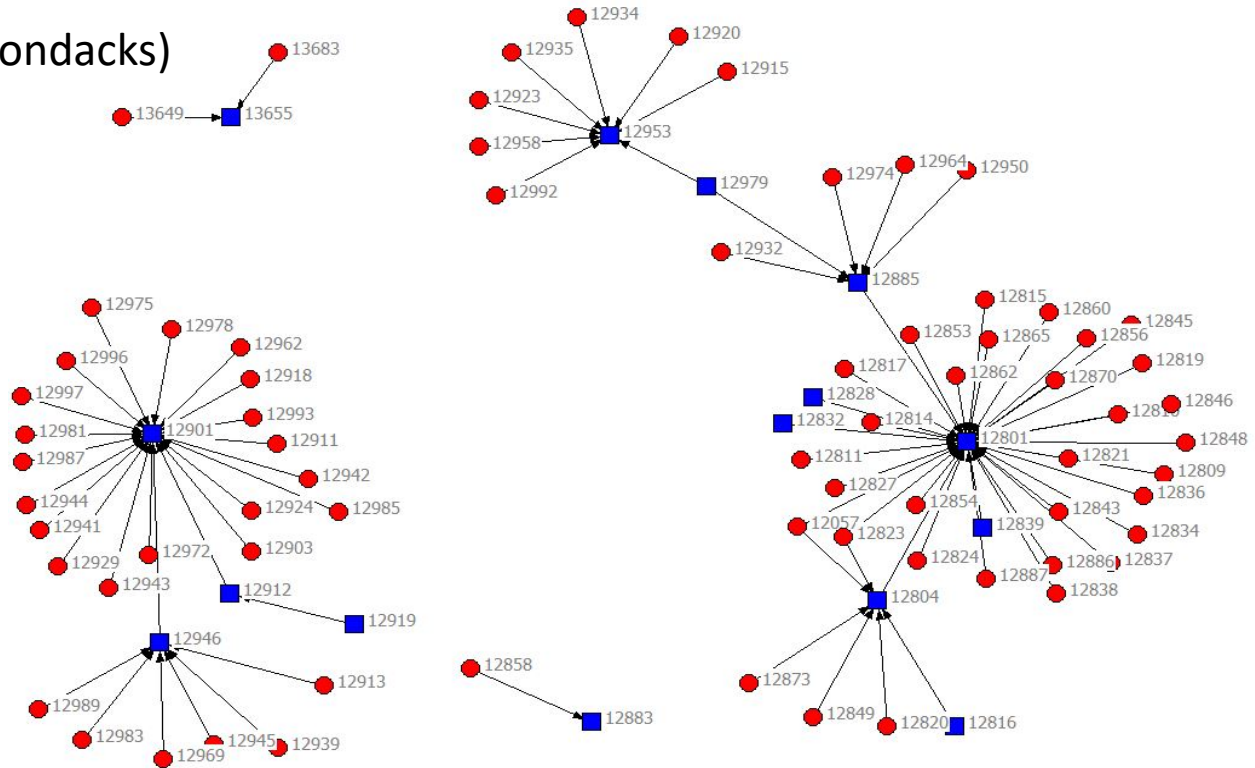**Example of Relational Matrices in New York City**
- Count-based matrix based on claims between zip code pairs
- Relational matrix based on plurality/majority patient flow

Count-Based Matrix					Relational Matrix				
Zip Code	10001	10002	10003	10004	Zip Code	10001	10002	10003	10004
10001	160	55	0	10	10001	1	0	0	0
10002	212	4194	1	106	10002	0	1	0	0
10003	51	70	0	1	10003	0	1	0	0
10004	0	2	0	8	10004	0	0	0	1

CHWS
Center *for* Health Workforce Studies
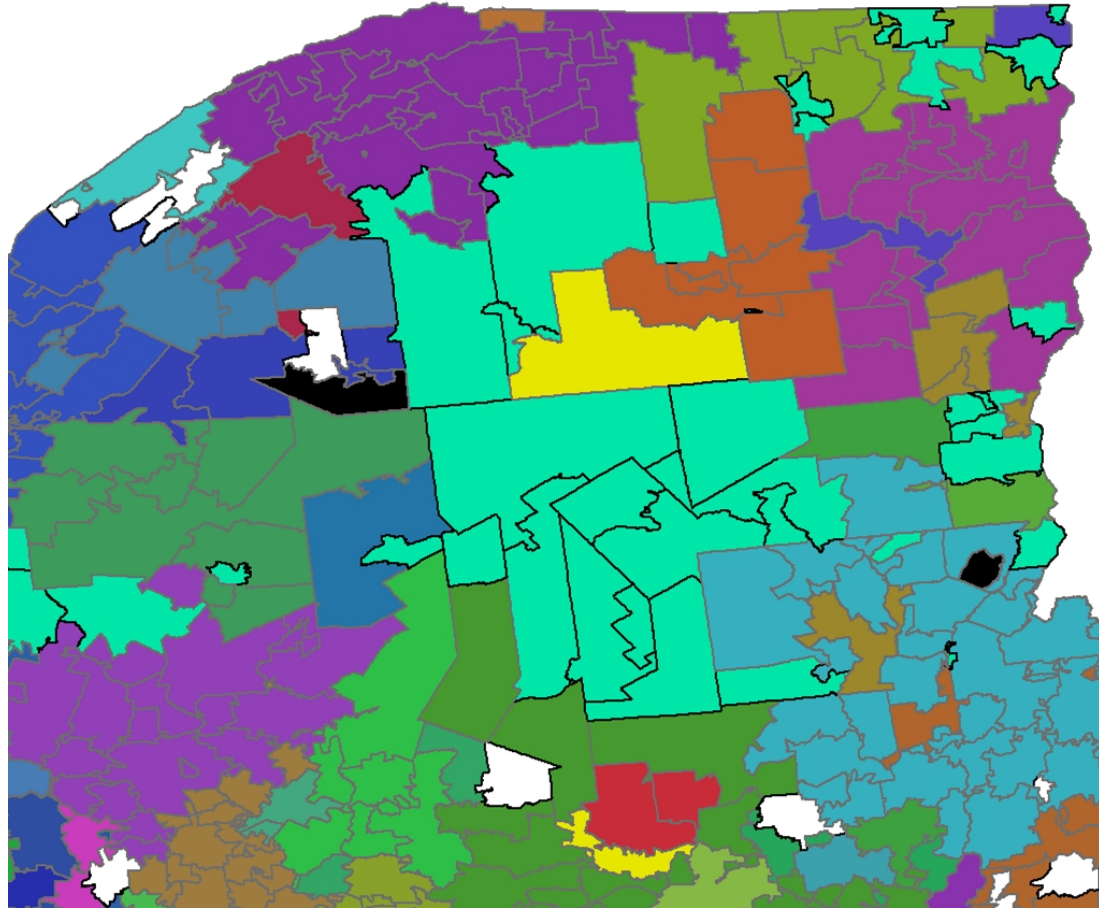
Created Zip Code Network

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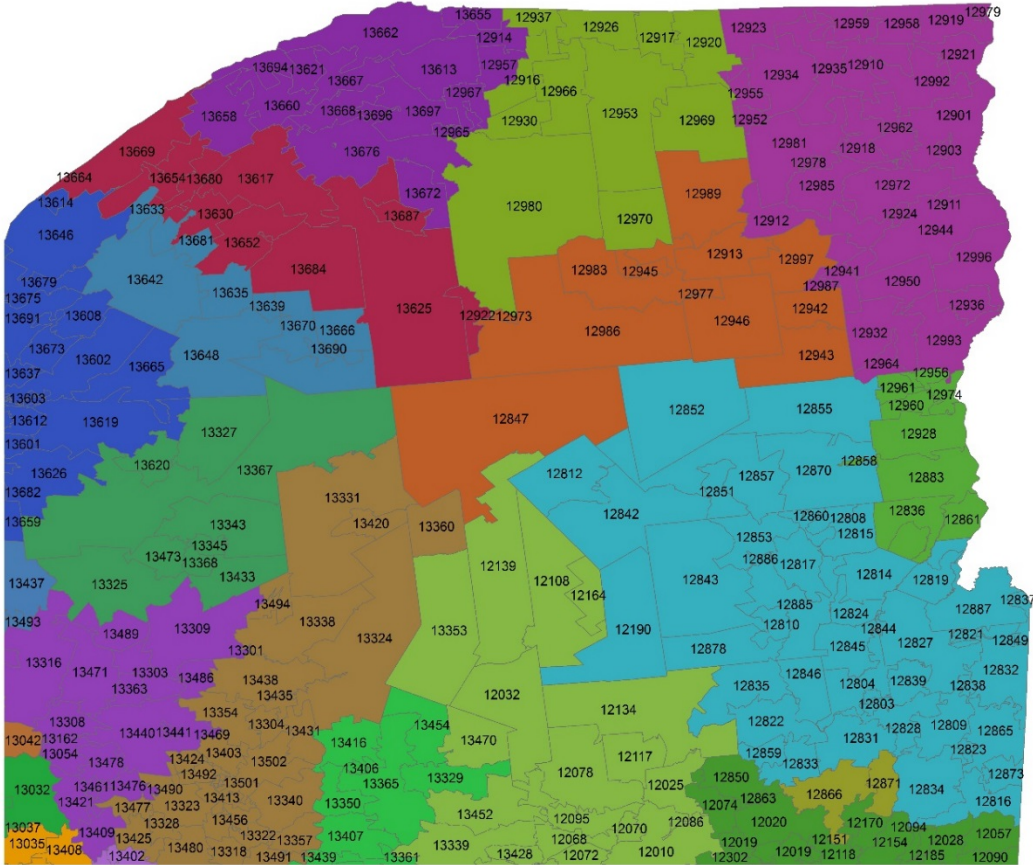 - Identified relationship among zip codes

North Country (Adirondacks)

Created Initial RSAs Based on Linked Zip Codes

Not very Rational Service Areas in the North Country of New York

CHWS
Center for Health Workforce Studies

Revised RSAs Based on HRSA 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

CHWS
Center *for* Health Workforce Studies

Most of the High Need Oral Health RSAs are in New York City

PHIP Region	# of Oral Health RSAs	# of High Need RSAs	% of High Need RSAs
Capital Region	14	4	29%
Central New York	15	1	7%
Finger Lakes	17	1	6%
Long Island	27	3	11%
Mid Hudson	22	3	14%
Mohawk Valley	4	0	0%
New York City	43	30	70%
North Country	5	0	0%
Southern Tier	8	0	0%
Tug Hill Seaway	5	0	0%
Western New York	18	2	11%
New York State	178	44	25%

CHWS
Center for Health Workforce Studies

Questions?

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

Visit us at: www.chwsny.org and on:

CHWS
Center for Health Workforce Studies