

# Developing Medicaid-Based Primary Care Rational Service Areas in New York State

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# The Center for Health Workforce Studies at the University at Albany, SUNY

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- Established in 1996
- Based at the University at Albany 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

# Acknowledgements

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- New York State Department of Health for their funding and support of this project.
- Center for Health Workforce Studies Staff
  - Nafin Harun
  - Rakkoo Chung
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# Purpose of the Project

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- Required as part of HRSA Cooperative Agreement
  - Develop standardized service areas
  - Conduct a primary care needs assessment as part of HRSA shortage area designation requirements
    - Identify areas with the highest need
    - Identify key barriers to health care

# What is a Rational Service Area

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Used HRSA shortage area RSA definition

A RSA as an area that:

- is similar in physical characteristics,
- has a similar population or culture, and/or
- is isolated by cultural barriers or physical barriers such as parks, rivers, major highways, or major industrial areas.

RSAs can be

- Whole counties
- Aggregations of townships within counties (rural areas)
- Entire cities
- Aggregations of census tracts (in urban areas)

# Method for Developing the RSAs

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- 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

# Identifying Initial Need Indicators

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- 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 limited English population (LEP)
- Health care indicators
  - Avoidable hospitalizations rate
  - Avoidable ED visits rate
  - Population-to-primary care physician ratio
  - Overall mortality rate
  - Percent low birthweight births

# Methods of Ranking High Need RSA's

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- Each indicator was divided into quartiles using quantiles and received a score ranging from 0.25 to 1
  - Lower quartiles indicated lower needs and higher quantiles indicated higher needs
- Scores were summed per RSA and divided again into quartiles using quantiles
- RSA's with the highest quartiles were identified as RSA with high needs
- Zip codes composing high need RSA's were identified as high need zip codes
- Zip codes counts were aggregated by DOL regions (???)



# Population Description by Region

Region	Total Population 2013	% Medicaid Enrollees	% Poverty	% Pop65	% Minority Pop
Capital District	1,087,496	23.3%	24.6%	15.0%	15.8%
Central New York	800,624	27.8%	29.7%	14.1%	14.9%
Finger Lakes	1,222,852	27.2%	29.3%	14.7%	20.3%
Hudson Valley	2,314,336	22.2%	23.3%	14.1%	34.7%
Long Island	2,861,482	18.0%	16.6%	14.7%	31.8%
Mohawk Valley	511,476	30.0%	33.5%	16.7%	11.4%
New York City	8,295,402	48.8%	39.2%	12.3%	66.7%
North Country	437,481	25.1%	33.4%	14.0%	10.9%
Southern Tier	645,664	27.4%	33.2%	15.9%	11.0%
Western New York	1,396,917	28.2%	31.5%	16.1%	18.4%
<b>NYS Grand Total</b>	<b>19,573,730</b>	<b>34.3%</b>	<b>31.2%</b>	<b>13.8%</b>	<b>42.0%</b>

Zip codes affiliated with high need RSA's were linked to regions.

# High Need RSA's by Regions

Region	Total Population 2013	% Medicaid Enrollees	% Poverty	% pop65	% Minority Pop
Capital District	35,719	28.3%	28.4%	16.1%	16.4%
Central New York	207,937	46.9%	41.6%	12.5%	37.3%
Finger Lakes	303,186	43.5%	38.9%	14.0%	34.1%
Hudson Valley	369,099	35.3%	31.6%	14.7%	55.9%
Long Island	355,855	34.7%	25.7%	12.3%	69.5%
Mohawk Valley	221,455	33.4%	33.2%	16.8%	16.5%
New York City	4,232,481	58.6%	45.9%	11.4%	83.9%
North Country	113,439	30.3%	38.1%	14.6%	11.9%
Southern Tier	153,714	35.2%	38.8%	17.1%	11.2%
Western New York	441,890	48.4%	44.6%	14.5%	37.5%
<b>NYS Total</b>	<b>6,434,775</b>	<b>52.0%</b>	<b>42.6%</b>	<b>12.4%</b>	<b>68.8%</b>

## All High Need Zip Codes by Regions

<b>NYS Total</b>	<b>19,573,730</b>	<b>34.3%</b>	<b>31.2%</b>	<b>13.8%</b>	<b>42.0%</b>
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# High Need PCSA's by Regions

Region	Total Population 2013	% Medicaid Enrollees	% Poverty	%pop65	%Minority Pop
Capital District	327,832	30.7%	29.2%	14.4%	20.9%
Central New York	171,158	43.9%	39.4%	13.3%	36.6%
Finger Lakes	367,014	42.1%	37.6%	14.2%	35.1%
Hudson Valley	349,516	37.9%	35.2%	14.1%	60.1%
Long Island	699,927	33.6%	26.0%	12.7%	59.8%
Mohawk Valley	309,917	32.6%	33.2%	16.6%	14.7%
New York City	4,703,306	57.8%	45.6%	11.6%	81.4%
North Country	79,127	31.3%	39.1%	16.0%	11.1%
Southern Tier	243,599	35.6%	37.3%	16.7%	12.8%
Western New York	708,166	39.4%	38.8%	15.3%	28.1%
<b>NYS Total</b>	<b>7,959,562</b>	<b>49.1%</b>	<b>40.8%</b>	<b>12.8%</b>	<b>62.9%</b>

## All High Need Zip Codes by Regions

<b>NYS Total</b>	<b>19,573,730</b>	<b>34.3%</b>	<b>31.2%</b>	<b>13.8%</b>	<b>42.0%</b>
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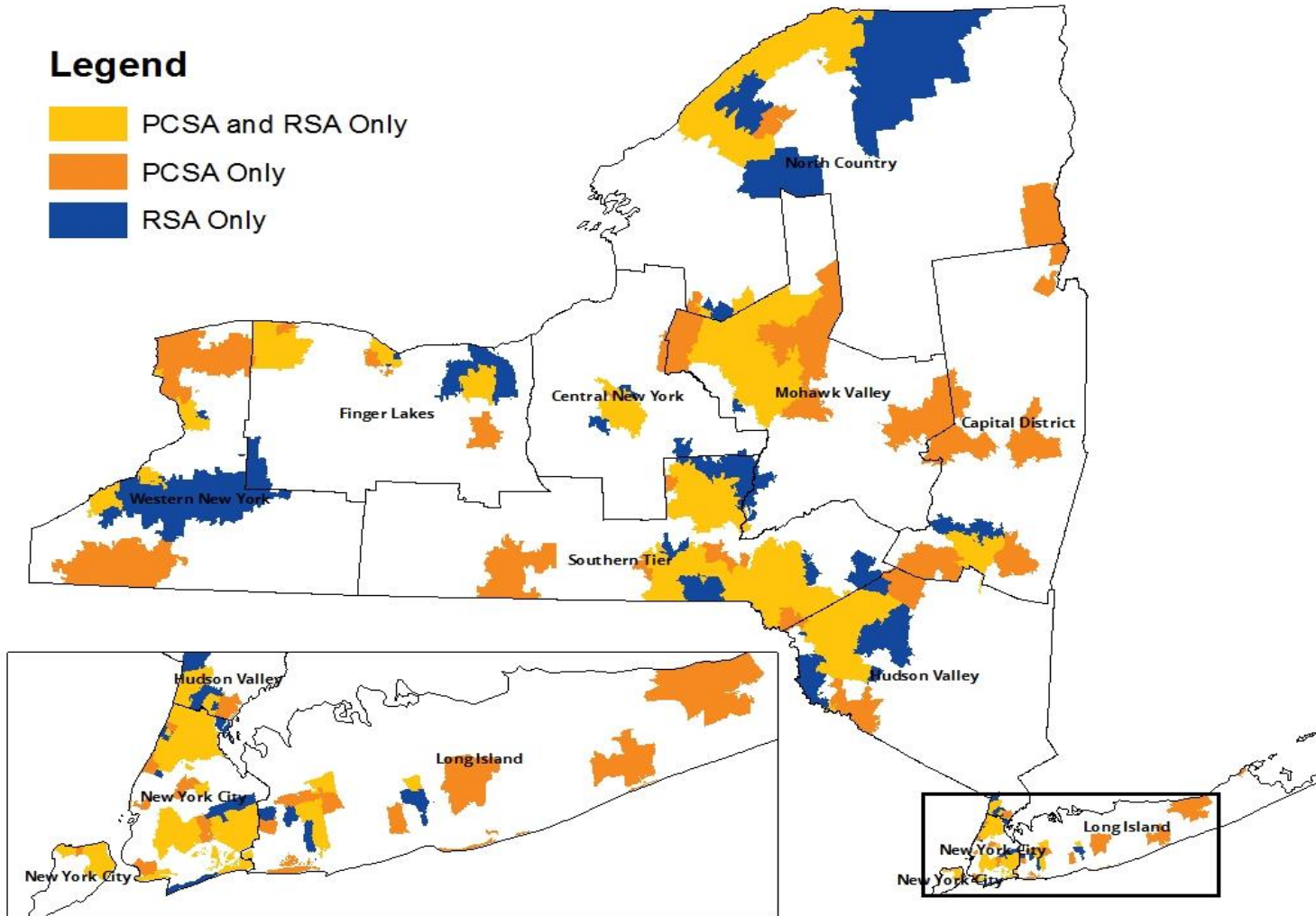
# High Need RSA's and PCSA's Differences

Region	Total Population 2013	% Medicaid Enrollees	% Poverty	%pop65	%Minority Pop
Capital District	-292,113	-2.4%	-0.7%	<b>1.7%</b>	-4.4%
Central New York	<b>36,779</b>	<b>2.9%</b>	<b>2.2%</b>	-0.7%	<b>0.6%</b>
Finger Lakes	-63,828	<b>1.4%</b>	<b>1.2%</b>	-0.2%	-0.9%
Hudson Valley	<b>19,583</b>	-2.6%	-3.6%	<b>0.6%</b>	-4.2%
Long Island	-344,072	<b>1.1%</b>	-0.3%	-0.3%	<b>9.7%</b>
Mohawk Valley	-88,462	<b>0.9%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>1.7%</b>
New York City	-470,825	<b>0.7%</b>	<b>0.3%</b>	-0.2%	<b>2.5%</b>
North Country	<b>34,312</b>	-1.0%	-1.0%	-1.4%	<b>0.9%</b>
Southern Tier	-89,885	-0.4%	<b>1.5%</b>	<b>0.3%</b>	-1.6%
Western New York	-266,276	<b>9.0%</b>	<b>5.8%</b>	-0.8%	<b>9.5%</b>
<b>NYS Grand Total</b>	-1,524,787	<b>2.9%</b>	<b>1.7%</b>	-0.4%	<b>5.9%</b>

# High Need RSA's and PCSA

## Legend

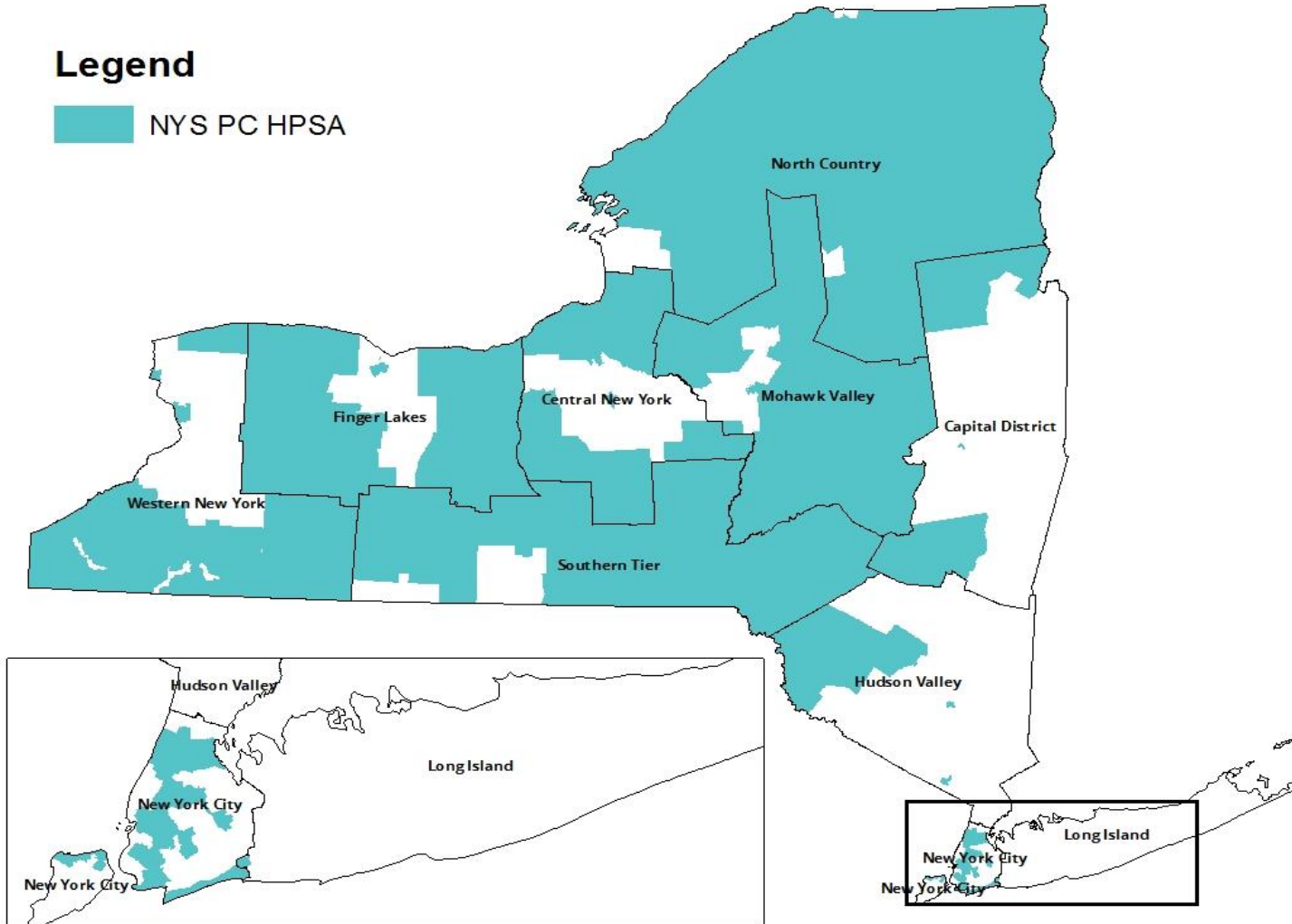
- PCSA and RSA Only
- PCSA Only
- RSA Only



# Primary Care HPSA's in NYS

## Legend

 NYS PC HPSA



# Methodology for HPSA and RSA/PCSA Comparison

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- Each zip codes' centroid was calculated and affiliated with HPSA or non-HPSA area
- Centroids that were located within HPSA polygons were affiliated with HPSA area
- Centroids that were located outside HPSA polygons were affiliated with non-HPSA area (???)
- Zip code counts were aggregated by DOL regions per RSA and PCSA (in HPSA's and outside HPSA's)

# High Need RSA's Located in HPSA

Region	Population 2013	% Medicaid	% 200% FPL	% Elderly (65+)	% Minority
Capital District	11,945	19.8%	22.5%	14.6%	24.3%
Central New York	1,011	24.2%	36.2%	12.1%	11.7%
Finger Lakes	48,346	44.4%	44.7%	13.4%	30.5%
Hudson Valley	26,150	37.1%	36.3%	13.5%	34.0%
Mohawk Valley	4,982	31.1%	40.3%	22.8%	3.8%
New York City	194,407	55.0%	41.1%	13.3%	77.5%
North Country	48,065	29.0%	35.3%	13.2%	12.3%
Southern Tier	18,419	24.8%	31.7%	16.7%	3.7%
Western New York	27,999	23.7%	32.3%	14.4%	10.7%
<b>Grand Total</b>	<b>381,324</b>	<b>43.9%</b>	<b>38.8%</b>	<b>13.7%</b>	<b>49.1%</b>

## Total of High Need RSA's Outside HPSA

<b>Grand Total</b>	<b>580,359</b>	<b>25.2%</b>	<b>22.4%</b>	<b>14.9%</b>	<b>45.1%</b>
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# High Need PCSA's Located in HPSA

Region	Population 2013	% Medicaid	% 200% FPL	% Elderly (65+)	% Minority
Capital District	13,811	65.4%	53.2%	13.5%	45.3%
Finger Lakes	38,772	45.9%	39.5%	12.7%	45.5%
Mohawk Valley	87,384	31.2%	33.7%	16.7%	10.5%
New York City	513,583	52.2%	42.2%	13.0%	69.9%
North Country	13,753	31.8%	34.0%	17.6%	8.3%
Southern Tier	23,253	35.8%	43.0%	18.2%	14.5%
Western New York	79,589	31.7%	38.3%	17.0%	9.3%
<b>Grand Total</b>	<b>770,145</b>	<b>46.8%</b>	<b>40.8%</b>	<b>14.1%</b>	<b>52.5%</b>

## Total of High Need PCSA's Outside HPSA

<b>Grand Total</b>	<b>1,715,152</b>	<b>30.0%</b>	<b>27.7%</b>	<b>14.7%</b>	<b>36.3%</b>
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# Limitations

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- RSAs'/PCSA's' zip code boundaries are different than HPSA boundaries
- Zip codes located on HPSAs' periphery (???) partially cover HPSA and non-HPSA areas
- Centroid represent the center of a polygon based on the area and not the population
- Usage of points limits the accuracy of counts when comparing HPSA and RSA/PCSA (???)

# Conclusion

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