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Impact Analysis of the Proposed Federal Methodology on Primary Care Shortage Designations in New York

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PREFACE

This report, prepared by the Center for Health Workforce Studies (the Center), analyzes the impact of the proposed changes of federal regulations for shortage designations on currently designated shortage areas in New York State. This report was prepared with support from the New York City Health and Hospitals Corporation, the Healthcare Association of New York State, the Community Health Care Association of New York State, and the New York State Department of Health.

The Center is part of the School of Public Health, University at Albany, State University of New York. Its mission is to provide timely, accurate data and conduct policy-relevant research about the health workforce. This report was prepared by Robert Martiniano, Jean Moore, and Maria Kouznetsova. The views expressed in this report are those of the Center and do not necessarily represent positions or policies of the School of Public Health, the University at Albany or the State University of New York.

EXECUTIVE SUMMARY

A. Overview

The Department of Health and Human Services, Health Resources and Services Administration (HRSA) proposed new rules in the February 29, 2008 Federal Register for the designation of primary care Health Professional Shortage Areas (HPSAs) and Medically Underserved Areas and Populations (MUAs/Ps). According to HRSA, the guiding principles for this revision included:

- Simplifying and streamlining designations;
- Providing a scientific basis for designations;
- Assuring face validity of shortage indicators and results; and
- Improving the methodologies that are currently used.

In an effort to better understand the impact of the proposed changes on HPSAs and MUAs/Ps, the Center for Health Workforce Studies, with support from the New York City Health and Hospitals Corporation, the Healthcare Association of New York State, the Community Health Care Association of New York State, and the New York State Department of Health, conducted an impact analysis on currently designated primary care shortage areas in New York. This report summarizes findings and identifies issues related to the impact of the proposed rules on currently designated primary care shortage areas in the state.

B. Proposed HPSA and MUA/P Methodology Changes

A number of basic changes to the current methodologies were proposed, including:

- Combining the current primary care HPSA and MUA/P methodologies into one.
- Proposing new levels of designation, which include:
  - Geographic, Tier 1 (counting all community-based primary care providers in the RSA);
  - Geographic, Tier 2 (counting community-based primary care providers in the RSA except those who are federally obligated or funded);
  - Special populations; and
  - Safety net providers.
- Adjusting the need for primary care services based on the characteristics of the population of the rational service area (RSA).
- Including physician assistants, nurse practitioners, and midwives (non-physician clinicians) in the count of primary care providers.
- Eliminating the need for contiguous area analysis when a state establishes a statewide or regional set of RSAs.

C. Methodology Used for the Impact Analysis

- The Center identified all currently designated primary care HPSAs and MUAs/Ps in the state.
- The data sources used for this analysis included:
  - 2007 Claritas population estimates;
  - 2005-06 New York physician re-licensure data to calculate full-time equivalent primary care physicians in community settings;
  - 2007 New York State Education Department (SED) licensure data to estimate full-time equivalent non-physician primary care providers; and
  - Most recently available county-level health status indicators from the New York State Department of Health
- A federally supplied calculator was applied to the RSAs of all HPSAs and MUAs/Ps in New York to determine:
  - The 'effective barrier-free' population;
  - Provider FTEs;
  - Additional score based on high-need community indicators; and
  - Total score.
- All counties of the state were analyzed to determine their eligibility for designation using Tier 1 geographic criteria;
- All primary care HPSAs and MUAs/Ps were:
  - first analyzed for Tier 1 geographic designation;
  - those that failed to qualify for Tier 1 designation were then analyzed for Tier 2 geographic designation;
  - those that failed to qualify for Tier 1 or Tier 2 geographic designation were analyzed for special population designation.
- The proposed rules require contiguous area analysis in states that do not have a statewide or regional system of RSAs in place. New York does not currently have statewide or regional RSAs in place. However, given time and resource constraints, the Center did not include a contiguous area analysis as part of its impact study.

D. Findings

HPSAs

Eighty-four percent (73 of 87) of currently designated HPSAs in New York State would qualify for designation under at least one of the proposed criteria. All HPSAs in New York City would qualify for designation under the proposed rules, though less than 70% of HPSAs in the Central NY and Western NY regions would qualify for designation under the proposed rules.

MUAs/Ps

Eighty-five percent (114 of 134) of currently designated MUAs/Ps in New York State would qualify for designation under at least one of the proposed criteria. Less than 80% MUAs/Ps in the Central New York, Finger Lakes, and Hudson Valley regions would qualify for designation under the new rules and 94% of MUAs/Ps in New York City would qualify for designation under the new rules.

Ninety-three percent of MUAs/Ps served by FQHCs (primary sites) in New York State qualified for a designation under the proposed rules. All MUAs/Ps of FQHCs in New York City qualified for a designation, while less than 80% of the MUAs/Ps of FQHCs qualified for designation in the Hudson Valley and Northeastern NY regions.

Slightly more than 90% of MUAs/Ps of FQHC satellite sites in New York State qualified for designations under the proposed. Ninety-eight percent of all MUAs/Ps of FQHC satellite sites in New York City qualified for designation while 75% of MUAs/Ps of FQHC satellite sites in the Hudson Valley qualified for designation.

E. Limitations of the Impact Analysis

The data used for estimating the primary care capacity of non-physician clinicians, including physician assistants, nurse practitioners, and midwives lacked precision. Using data obtained from the SED licensure files on physician assistants, nurse practitioners, and midwives, the Center estimated primary care capacity for these practitioners. However, these estimates may have over counted primary care capacity and may not have accurately reflected practice location.

While the Center used up-to-date health status information for this analysis, these data were not available below the county level. Consequently, analysis of health status (included as high-need community indicators) could not be conducted below the county level and raises concerns that county-level analysis of health outcomes (particularly in counties where there are a small number of very poor communities surrounded by very affluent ones) may mask health disparities in sub-county RSAs.

Given time and resource constraints, the Center did not include a contiguous area analysis as part of its impact study. It is likely that a contiguous area analysis requirement could potentially reduce the number of geographic designations or the total number of designations.

F. Issues

- **The benefits of the new designations under the proposed rules are not well understood.**
  Many state and federal programs use HPSAs and MUAs/Ps in the allocation of resources. However, it is not clear how the allocation of resources will change under the designation system outlined in the proposed rules. Consequently, while the impact analysis can estimate the number of HPSAs and MUAs/Ps retained in New York, there is limited information on impacts relating to the allocation of resources.

- **Currently designated primary care underserved areas in a few regions of the state appear to be disadvantaged by the proposed methodology.** While some regions of the state were able to maintain most of their existing designations under the proposed new rules, other regions did not fare as well. For example, the Western and Central regions in upstate New York each lost slightly more than 30% of their currently designated HPSAs. In contrast, all of the currently designated HPSAs in New York City and 94% of currently designated MUAs/Ps were maintained under the proposed rules. In addition, over 90% of MUAs/Ps served by FQHCs and their satellites were retained under the proposed rules.

- **There would be fewer geographic designations in the state under the proposed methodology.** While 66% of current HPSA designations in the state are geographic, this would decline to 47% under the new rules. Similarly, MUAs currently represent 88% of all MUAs/Ps in the state and would to 61% under the new rules.

- **As a result of merging the two methodologies (HPSA and MUA/P), states are required to "choose between" overlapping HPSAs and MUAs/Ps when identifying the boundaries of the RSA that will be considered for designation. Competing interests of different providers could greatly complicate these decisions.** During the three-year transition period, HRSA will ask the state PCO to decide the boundaries of the RSA to consider for designation in instances where currently designated HPSAs and MUAs/Ps overlap. Providers within the RSA of the HPSA may seek to maintain the HPSA boundaries, while providers in the MUA/P may support using the smaller MUA/P boundaries. This is highly likely in the event that the MUA/P RSAs qualify for Tier 1 designations, while larger HPSA RSAs qualify for special population designations.

- **The contiguous area analysis requirement creates an uneven playing field for shortage area designations and could adversely impact either the number or type of designations in New York.** The proposed rules eliminate contiguous area analysis in states with a statewide system of RSAs. Consequently, there are likely to be more areas that qualify for higher-level designations (e.g., geographic compared to special population) in states with a system of RSAs, regardless of whether or not primary care services are actually available in contiguous areas. In contrast, states without a statewide system of RSAs would be required to conduct contiguous area analyses for all proposed designations and, as a result, may see a reduction in the number of geographic designations or in the number of designations overall.

- **Lack of data on the practice patterns of non-physician clinicians in New York is problematic.** This is the second time in ten years that HRSA has proposed shortage designation guidelines that include counting non-physician clinicians toward primary care capacity. New York will need to consider a strategy for collecting data on nurse practitioners, physician assistants and midwives that better estimates their contribution to primary care in the state.

- **Using county-level health status data in sub-county analyses may mask health disparities and lower the 'designation scores' of underserved areas.** Much of the

health status data available for New York is at the county level or, for New York City, at the neighborhood level. This makes it difficult to clearly describe significant problems related to health outcomes in high-need communities. Using county-level health outcome data s could result in lower designation scores or fewer designations for sub-county RSAs.

G. Conclusions

While the impact analysis conducted by the Center found that most currently designated shortage areas would retain a designation under the proposed rules, a requirement for contiguous area analysis would likely change the number and type of designations that would be maintained. Further, without a clear understanding of the allocation of resources by state and federal programs that use these designations, it is not possible to fully understand the implications of changing the methodologies for designation.

The current approach to the designation of shortage areas in New York is fragmented and may fail to account for unmet need for primary care in communities with limited resources to conduct such assessments. This analysis suggests a need for key stakeholders in the state to work together on a more systematic assessment of New York to identify all areas that could benefit from improved access to primary care services.

I. INTRODUCTION

The Federal Department of Health and Human Services, Health Resources and Services Administration (HRSA) proposed rule changes for the designation of Health Professional Shortage Areas (HPSAs) and Medically Underserved Areas and Populations (MUAs/Ps) in the February 29, 2008 Federal Register. These rules propose a new methodology for determining these designations. An initial 60-day public comment period was originally scheduled to end on April 29, 2008 but was extended by HRSA to May 29, 2008.

To better understand the impact of the proposed methodology on currently designated HPSAs and MUAs/Ps in New York, the Center for Health Workforce Studies, with support from the New York City Health and Hospitals Corporation, the Healthcare Association of New York State, the Community Health Care Association of New York State and the New York State Department of Health, conducted an independent impact analysis. For the past seven years, the Center has worked with many health care providers throughout the state to conduct HPSA and MUA/P analyses and, when appropriate, to prepare formal applications for designation. The Center, with its experience in HPSA and MUA/P designation, as well as its access to many of the required data sets is well equipped to conduct the impact analysis.

The purposes of this report are to:

- Describe the proposed rule change for the designation of primary care shortage areas;
- Assess the impact of the proposed rules on current HPSA and MUA/P designations based on the best available data;
- Describe the limitations of the analysis; and
- Outline issues and concerns of importance to stakeholders.

II. BACKGROUND

The current guidelines governing the designations of HPSAs and MUAs/Ps date back to the 1970s. These designations are used by a number of federal and state programs to allocate resources designed to increase access to primary health care services in underserved areas, including:

- National Health Service Corp loan repayment and scholarship programs;
- J-1 Visa Waiver Program (Conrad 30 program);
- Section 330 funding for the development or expansion of federally qualified health clinics (FQHCs); and
- Enhanced Medicare Part B reimbursement for physician services (regardless of specialty) in geographic primary care HPSAs.[1]

Currently, there are 87 geographic or special population HPSAs and 134 MUAs/Ps in New York State. While HPSAs are periodically re-designated, MUAs/Ps designations are retained indefinitely.

[1] Psychiatrists are also able to receive the enhanced Medicare Part B reimbursement if they work in geographic mental health HPSAs.

III. PROPOSED HPSA AND MUA/P METHODOLOGY CHANGES

A number of changes were proposed to the existing methodologies. They include:

- Combining current primary care HPSA and MUA/P methodologies into one methodology;
- Proposing new levels of designations:
  - Geographic Tier 1 - counts all community-based primary care providers in the RSA.
  - Geographic Tier 2 – counts all community-based primary care providers in the RSA except federally obligated or funded primary care providers.
  - Special populations.
  - Safety net providers.
- Calculating a weighted score for the new designation based on the following:
  - An "effective barrier-free" population that adjusts the residential[2] population of the RSA by age and gender to account for differences in utilization of health care services.
  - A count of full-time equivalent primary care providers (including physicians, residents, physician assistants, nurse practitioners, and midwives) for calculating primary care FTEs.
  - A provider-to-population ratio based on the "effective barrier-free" population divided by the adjusted primary care practitioner FTEs.
  - An additional adjustment based on the need for primary care services in the rational service area (RSA)[3] based on community characteristics; including:
    - Percent of the population non-White;
    - Percent of the population Hispanic/Latino;
    - Percent of the population age 65 and older;
    - Percent of the population below 200% of the federal poverty level;
    - Unemployment rate;
    - Actual/expected death rate;
    - Low birth weight rate or infant mortality rate; and
    - Population density.
- Eliminating the need for contiguous area analysis when a state has a statewide or regional set of RSAs[4]; and
- Phasing in the proposed methodology for existing HPSA or MUA/P designations over a three-year period, beginning with the oldest designations.

There are a number of provisions in the proposed methodology that are similar to the current HPSA and/or MUA/P methodologies. Attachment 1 outlines a more complete review of the similarities and differences between the existing two methodologies and the proposed methodology.

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[2] Excludes institutionalized populations, including nursing homes, prisons, and college dormitories.

[3] A rational service area is a group of contiguous census tracts or minor civil divisions within which the population of that area normally seeks primary care services.

[4] While the proposed regulations indicated that a sub-state system of RSAs would eliminate the need for contiguous area analysis, HRSA is seeking a legal interpretation on whether a regional set of RSAs meet the requirement that would eliminate the need for contiguous area analysis.

IV. FEDERAL PRELIMINARY ANALYSIS

As part of the process for assessing the proposed methodology, HRSA worked with an independent contractor to conduct an impact analysis of the proposed changes on currently designated HPSAs and MUAs/Ps. The analysis found that New York State would be substantially affected by the changes to the methodology, with approximately half of the existing HPSAs and MUAs/Ps no longer qualifying for designation. Additionally, the analysis found that nationally, metropolitan areas would be disproportionately affected by the changes to the methodology. However, the analysis found that rural HPSAs and MUAs/Ps in New York would be at greater risk for losing designation than those in urban areas under the proposed methodology.

The HRSA impact analysis used data that were not current and lacked the detail needed to fully assess the impact of the proposed rules change. As a result, primary care capacity may have been overestimated for the following reasons:

- Physicians in primary care specialties who were not practicing in community settings may have been included in the count of physicians; and
- There was no information on the number of patient care hours worked and as a result, each physician was counted as one FTE.

The overestimation of physician capacity in this analysis led to lower population-to-provider ratios, and likely contributed to the finding that about half of HPSAs and MUAs/Ps in New York were at risk for losing designation under the proposed methodology.

V. TRANSITION PERIOD

The new guidelines propose a three-year transition period, during which time all existing HPSAs and MUAs/Ps will be assessed by HRSA using the approved guidelines, reviewing the oldest ones first.

In instances where the RSA boundaries of currently designated HPSAs and MUAs/Ps are the same, those boundaries would be used for the assessment. Where the boundaries of currently designated HPSAs and MUAs/Ps partially overlap, the proposed guidelines indicate that the state primary care office (PCO) should determine which of the two RSA boundaries s to consider for designation and what to do with the remaining area, i.e., create a new RSA or incorporate it into an existing RSA. Any area that is not incorporated into an existing RSA or developed into a new RSA would be deemed automatically withdrawn. The proposed guidelines also indicate that when the state PCO does not assume this responsibility, then, by default, HRSA would make these decisions.

VI. CENTER IMPACT ANALYSIS

1. Methods

The Center obtained population, provider, and health care data for New York State at the census tract level, aggregated those data into RSAs for analysis of geographic and special population designations, and determined which of the currently designated HPSAs and MUAs/Ps would qualify for designation under the proposed methodology.

To assist in analyzing the impact of the proposed regulations on existing HPSAs and MUAs/Ps, HRSA supplied each state with a federal calculator that determined the "effective barrier-free" population, the provider FTEs, the population-to-provider ratio, and the score of the high-need community indicators, and the total score. Attachment 2 is an example of the worksheet using the population, provider, and community indicator information described in this report.

All currently designated HPSAs and MUAs/Ps in the state were analyzed first for Tier 1 geographic designation under the proposed methodology. Those that did not qualify for Tier 1 geographic designation were then analyzed for Tier 2 geographic designation. Those that did not qualify for either Tier 1 or Tier 2 geographic designation were then analyzed for a special population group (Medicaid-eligible) designation under the proposed methodology.

The data sources used for this analysis included:

- For demographic data on New York State by census tract - 2007 Adjusted Census Data and 2007 Claritas Estimates. Data included:
  - Total population by age and gender;
  - Population aged 65 and older;
  - Hispanic/Latino population;
  - Non-White population;
  - Population below 200% of federal poverty level; and
  - Population below 100% of federal poverty level by age and gender.
- For employment and unemployment data for New York State by census tract - Department of Labor, January 2008.
- For primary care physicians in community settings in New York State by census tract – 2005-06 New York State Physician Re-registration Survey data.
- For Medicaid FTEs for primary care physicians by census tract - New York State Department of Health Medicaid Provider File, 2006.
- For non-physician primary care clinicians (physician assistants, nurse practitioners, midwives) in New York State by census tract - New York State Education Department, 2007 licensure data.
- For health status data for New York State by county - New York State Department of Health. Data include:
  - Death rate for 2006;
  - Infant mortality ratio (IMR) for 2003-2005; and
  - Low birth weight rate for 2003-2005.
- For area in square miles for New York State by census tract - 2000 Gazetteer Files, U.S. Census Bureau.

- For currently designated HPSAs and MUAs/Ps for New York State by census tract – U.S. Department of Health and Human Services, Health Resources and Services Administration, Geospatial Data Warehouse, March 12, 2008.

2. Assessment Process

The process for conducting the assessment consisted of the following six steps:

- Identifying the RSA boundaries of existing HPSAs and MUAs/Ps;
- Calculating an "effective barrier-free population" for each RSA;
- Calculating provider FTEs for each RSA;
- Calculating a population-to-provider ratio based on the "effective barrier-free population" and the provider FTEs for each RSA;
- Calculating a score for high-need community indicators in each RSA; and
- Developing a total score for each RSA based on the population-to-provider ratio and the score for high-need community indicators.

a. Identifying the RSA Boundaries of existing HPSAs and MUAs/Ps

The RSA boundaries of currently designated HPSAs and MUAs/Ps were identified using the HRSA Geospatial Data Warehouse. RSA boundaries in metropolitan areas consisted of an adjoining group of census tracts, while RSAs in non-metropolitan areas consisted of an adjoining group of minor civil divisions. RSAs are used to both define the area considered for designation as well as the contiguous areas, which may be accessible sources of health care service.

b. Creating an effective barrier free population

The proposed methodology requires the identification of an "effective barrier-free" population for each RSA. An "effective barrier-free" population accounts for the primary care service needs of the people who live in the RSA, if primary care health care services were used at the same rate as the general population, without constraints such as poverty. There is a two-step process for determining the "effective barrier-free" population.

Using Census Bureau data, the population was aggregated by age group[5] and gender, first at the census tract level and then summed to the RSA level. There are 12 population groups based on age and gender. The RSA age- and gender-specific data were then adjusted by standardized health service utilization rates provided in the calculator to create an "effective barrier-free" population. Each population group was multiplied by its individual service utilization rate[6]. Once each of the 12 population groups was adjusted by its specific service utilization factor, they were totaled and divided by 3.741, the factor provided by HRSA in the proposed methodology to account for average health service utilization over the entire population. This final number was the "effective barrier-free" population.

[5] Age groups were ages 0-4, 5-17, 18-44, 45-64, 65-74, and 75 and older.
[6] Based on analysis of 1996 Medical Expenditure Panel Survey (MEPS) data.

For example, a population with a higher percentage of older adults and higher percentage of children younger than age 5 would result in an upward adjustment to the population of that RSA to account for higher health service utilization rates by these two groups. Likewise, a population with a higher percentage of men between the ages of 18 and 44 and more children between the ages of 5 and 17 would cause that population to be adjusted downward to account for lower rates of health service utilization. In the chart below, a population of 9,000 with higher percentages of older adults and individuals younger than age 5 would have an "effective barrier- free" population of 11,549.

Table 2
Example: Calculating the "Effective Barrier-Free" Population

Worksheet 2: Population

Females	0-4	5-17	18-44	45-64	65-74	75 and over
(1) Population	1000	1000	500	500	750	750
(2) Multiplier	3.94	2.217	3.678	5.058	7.297	8.026
(3) Visits	3940.0	2217.0	1839.0	2529.0	5472.8	6019.5

Males	0-4	5-17	18-44	45-64	65-74	75 and over
(4) Population	1000	1000	500	500	750	750
(5) Multiplier	4.676	2.284	1.615	3.333	6.201	9.472
(6) Visits	4676.0	2284.0	807.5	1666.5	4650.8	7104.0

(7) Female visits	22017.3
(8) Male visits	21188.8
(9) Total visits	43206.0

	Age-Sex Adjusted
(10) **Population**	**11549.32**

c. Calculating the primary care provider FTEs for each RSA

After determining the "effective barrier-free" population, the next step in the assessment was the calculation of the primary care provider FTEs. As indicated previously, provider FTEs included both physician and non-physician clinicians. Provider FTEs for the RSAs were developed based on the following:

- Primary care physician FTEs were calculated using data from the NYS Physician Re-registration Survey data based on:
  - Practice in the specialties of family practice, general practice, internal medicine (general), pediatrics (general), and obstetrics/gynecology;
  - Practice in community settings, including solo and group community practices, hospital outpatient and satellite units, community health centers, HMOs, and other community settings; and
  - Average hours worked per week in patient care[7], excluding providers who work solely in research, administration, and teaching.
- Non-physician primary care clinician FTEs were calculated using data from New York State Education Department licensure files based on:

[7] Average hours worked per week divided by 40 determines individual FTEs, and based on current and proposed methodology, no provider can be more than 1 FTE.

- o A count of all physician assistants and nurse midwives;
- o A count of only those nurse practitioners with primary care certifications[8];
- o Considered each individual non-physician clinician as 1 FTE, since practice hours were unavailable; and
- o Adjusted each non-physician clinician by 0.5 as specified in the proposed methodology.

Once providers were identified and FTEs calculated, all addresses were geocoded to the census tract level and the FTEs were aggregated by census tract.

The chart below illustrates how providers were counted, based on hours worked in patient care and by provider type.

Table 3
Example of Calculating Tier 1 Provider FTEs

Provider	Avg. Hrs Worked per Week			Calculated FTEs	Adjustment	Adjusted FTE
	Total	Patient Care	Other			
Internal Medicine	40	28	12	0.7	1.0	0.7
Pediatrician	20	20	0	0.5	1.0	0.5
Internal Medicine	36	24	12	0.6	1.0	0.6
Obstetrician/Gynecologist	30	24	6	0.6	1.0	0.6
Pediatric Nurse Practitioner	40	40	0	1.0	0.5	0.5
Physician Assistant	40	40	0	1.0	0.5	0.5
TOTALS	158	140	18	3.5	N/A	3.4

As outlined earlier, there are different requirements for counting providers, depending on the tier. For Tier 1 designations, all providers are counted. For Tier 2 designations, federally obligated providers are excluded. Federally obligated providers include NHSC loan repayers and scholars, providers fulfilling service obligations under J-1 visa waiver programs, and providers at FQHCs supported by Federal Section 330 funding.

d. Calculating the population-to-provider ratio

Once the "effective barrier-free" population and the provider FTEs were determined, the population was divided by the FTEs to calculate a population-to-provider ratio. To illustrate, using an "effective barrier-free population" of 11,549 as calculated earlier in this report and 3.4 FTEs calculated above, the initial population-to-provider ratio was 3,397:1. Since the cut-off threshold for a Tier 1 designation is 3,000, this RSA would qualify for Tier 1 designation without adding the score for high-need community indicators.

[8] Includes NPs who are certified in adult health, family health, obstetrics and gynecology, pediatrics, acute care, and holistic medicine.

e. Adjusting the population-to-provider ratio for high-need community characteristics

As indicated earlier in this report, the initial population-to-provider ratio was adjusted by specific community characteristics[9], including:

- Demographic indicators
  - Percent non-White
  - Percent Hispanic/Latino
  - Percent population age 65 and older
- Economic indicators
  - Percent population less than 200% of the federal poverty level
  - Unemployment rate
- Health status indicators
  - Death rate
  - Low birthweight rate or infant mortality rate
- Population density

Once a population-to-provider ratio was calculated, an additional score was developed to account for barriers to health services. Based on the federal analysis on a wide range of indicators, the nine factors listed above were identified as being the most directly correlated to barriers to primary care.

For this analysis, the demographic and economic data used were at the census tract level and aggregated to the RSA. Health status indicator data were only available at the county or borough level and were used for each individual RSA within the county or borough. Population density was calculated by dividing the non-adjusted population of the RSA by the square miles of the RSA.

Each of these nine factors was weighted based on their relative rank to the nation as a whole. Additionally, the scores varied by the community indicator itself. The population under 200% of the federal poverty level had the highest potential score followed by population density. The percent non-White had the lowest potential score.

In the example below, 43% of the population of the RSA was below 200% of the federal poverty level, was in the 59th percentile, and received an additional score of 266.58. The percent of the older adult population was in the 99th percentile and received an additional score of 248.86.

In the proposed methodology, the more densely populated RSAs received lower scores (compared to more sparsely populated RSAs) and could receive a negative score. In this example, the population density was in the 90th percentile and resulted in a score of -72.57. In total, high-need community indicators summed to 1,089 points.

[9] Under the existing HPSA methodology, there was no adjustment to the population-to-provider ratio for high-need community indicators. Under the existing MUA/P methodology, the percent older adult, the infant mortality rate, and the percent poverty were the three factors considered in the weighted score.

Table 4
Example of Scores for Community Indicators

Worksheet 1: Scores				
Variable	Value	Percentile	Score	
Poverty	43	59	266.58529	266.58529
Unemployment	8	83	207.98405	207.98405
Elderly	33	99	248.86823	248.86823
Density	348	90	-72.56629	-72.56629
Hispanic	10	87	165.23496	165.23496
NonWhite	37	89	140.46748	140.46748
DeathRate	838.5	36	36.445211	36.445211
LBW	8	74	95.87458	95.87458
IMR	6	23	18.60198	-
			SCORE	**1088.8935**

f. Total score

Under the proposed methodology, the total score is a combination of the population-to-provider ratio and the score from the high-need community indicators. Using the information from the previous example, the total score for this RSA was 4,486.75, higher than the required threshold of 3,000.

Table 5
Example of Total Score

Worksheet 4: Summary		
(1)	Score (from Worksheet 1)	1088.8935
(2)	Age-sex adjusted population (from Worksheet 2)	11549.318
(3)	Total providers (from Worksheet 3)	3.4
(4)	Ratio: Line 2 divided by Line 3 If Line 3 is zero, enter '3000'.	3396.8583
(5)	Line 1 plus Line 4.	**4485.75**
	If line 5 is greater than 3000, then the area is underserved.	**UNDERSERVED**
	If line 5 is less than 3000, then the area is not underserved.	

g. Determining access to contiguous area resources

The proposed rules require contiguous area analysis in states that do not have a statewide or regional system of RSAs in place. New York does not currently have statewide or regional RSAs in place. However, given time and resource constraints, the Center did not include a contiguous area analysis as part of its impact study.

VII. FINDINGS

HPSAs

Eighty-four percent (73 of 87) of currently designated HPSAs in New York State would qualify for designation under at least one of the proposed criteria. All HPSAs in New York City would qualify for designation under the proposed rules, though less than 70% of HPSAs in the Central NY and Western NY regions would qualify for designation under the proposed rules.

Impact of New Rules on Currently Designed HPSAs

HSA Region	Currently Designated HPSAs	Designated under Proposed Criteria			Total Designated	
		Tier 1	Tier 2	Special Population	Number	Percent
Central NY	20	4	0	9	13	65%
Finger Lakes	5	1	1	2	4	80%
Hudson Valley	9	3	5	1	9	100%
New York City	23	12	3	8	23	100%
Northeastern NY	16	8	3	2	13	81%
NY-Penn	2	0	0	2	2	100%
Western NY	12	1	0	8	9	75%
Statewide	87	29	12	32	73	84%

While nearly 85% of designations are retained, there are many fewer geographic designations (41 compared to 57) and slightly more special population designations (32 compared to 30) under the new rules.

Impact of New Rules on Types of HPSA Designations

HPSAs	Total # Currently Designated	# Eligible Under Proposed Designation Criteria			
		Tier 1	Tier 2	Special Population (1)	Total
Geographic	57	25	7	19	51
Special Population	30	4	5	13	22
All HPSAs	87	29	12	32	73

MUAs/Ps

Eighty-five percent (114 of 134) of currently designated MUAs/Ps in New York State would qualify for designation under at least one of the proposed criteria. Less than 80% MUAs/Ps in the Central New York, Finger Lakes, and Hudson Valley regions would qualify for designation under the new rules and 94% of MUAs/Ps in New York City would qualify for designation under the new rules.

Impact of New Rules on Currently Designed MUAs/Ps

HSA Region	Currently Designated MUAs/Ps	Designated under Proposed Criteria			Total Designated	
		Tier 1	Tier 2	Special Population	Number	Percent
Central NY	18	7	2	5	14	78%
Finger Lakes	10	5	1	1	7	70%
Hudson Valley	19	3	4	8	15	79%
Nassau-Suffolk	2	1	0	1	2	100%
New York City	49	29	3	14	46	94%
Northeastern NY	20	7	3	6	16	80%
NY-Penn	1	1	0	0	1	100%
Western NY	15	6	0	7	13	87%
Statewide	134	59	13	42	114	85%

Similar to the HPSA analysis, there are many fewer geographic designations (72 compared to 118) and many more special population designations (42 compared to 16) under the new rules.

Impact of New Rules on Types of MUA/Ps Designations

MUAs/Ps	Total # Currently Designated	# Eligible Under Proposed Designation Criteria			
		Tier 1	Tier 2	Special Population (1)	Total
Geographic	118	57	10	36	103
Special Population	16	1	4	6	11
All MUAs/Ps	134	58	14	42	114

Ninety-three percent of MUAs/Ps served by primary sites of FQHCs in New York State qualified for a designation under the proposed rules. All MUAs/Ps of FQHCs in New York City qualified for a designation, while less than 80% of the MUAs/Ps of FQHCs qualified in the Hudson Valley and Northeastern NY regions.

HSA Region	Primary Sites	Designated under Proposed Criteria			Total Designated	
		Tier 1	Tier 2	Special Population	Number	Percent
Central NY	5	2	2	1	5	100%
Finger Lakes	11	6	3	0	9	82%
Hudson Valley	7	1	1	3	5	71%
Nassau-Suffolk	0	0	0	0	0	0
New York City	37	19	5	13	37	100%
Northeastern NY	4	1	2	0	3	75%
NY-Penn	0	0	0	0	0	0
Western NY	3	2	0	1	3	100%
Statewide	67	31	13	18	62	93%

Slightly more than 90% of MUAs/Ps of FQHC satellite sites in New York State qualified for designations under the proposed. Ninety-eight percent of all MUAs/Ps of FQHC satellite sites in New York City qualified for designation while 75% of MUAs/Ps of FQHC satellite sites in the Hudson Valley qualified for designation. Of the MUAs/Ps that failed to qualify, almost half were in Westchester County and nearly 50% were MUPs that served a special population such as low-income or migrant farm workers.

HSA Region	All Sites	Designated under Proposed Criteria			Total Designated	
		Tier 1	Tier 2	Special Population	Number	Percent
Central NY	37	0	18	13	31	84%
Finger Lakes	63	43	8	0	51	81%
Hudson Valley	63	11	21	15	47	75%
Nassau-Suffolk	1	1	0	0	1	100%
New York City	280	144	35	96	275	98%
Northeastern NY	42	10	19	8	37	88%
NY-Penn	0	0	0	0	0	0%
Western NY	9	2	0	7	9	100%
Statewide	495	211	101	139	451	91%

VIII. LIMITATIONS OF IMPACT ANALYSIS CONDUCTED BY THE CENTER

The data used for estimating the primary care capacity of non-physician clinicians, including physician assistants, nurse practitioners, and midwives lacked precision. Using data obtained from the SED licensure files, the Center estimated primary care capacity for physician assistants, nurse practitioners, and midwives. However, these estimates may have over counted primary care capacity and may not have accurately reflected practice location.

While the Center used up-to-date health status information for this analysis, these data were not available below the county level. Consequently, analysis of health status (included as high-need community indicators) could not be conducted below the county level and raises concerns that county-level analysis of health outcomes (particularly in counties where there are a small number of very poor communities surrounded by very affluent ones) may mask health disparities in sub-county RSAs.

Given time and resource constraints, the Center did not include a contiguous area analysis as part of its impact study. It is likely that a contiguous area analysis requirement could potentially reduce the number of geographic designations or the total number of designations.

IX. ISSUES AND CONCERNS

- **The benefits of the new designations under the proposed rules are not well understood.** There are many state and federal programs that use HPSAs and MUAs/Ps in the allocation of resources. However, it is not clear how the allocation of resources will change under the designation system outlined in the proposed rules. Consequently, while the impact analysis can estimate the number of HPSAs and MUAs/Ps retained in New York, there is limited information on impacts relating to the allocation of resources.

- **Currently designated primary care underserved areas in some parts of the state appear to be disadvantaged by the proposed methodology.** While some regions of the state were able to continue most of their existing designations under the proposed new rules, other regions did not fare as well. Upstate regions, particularly Western and Central for HPSAs and Finger Lakes and Hudson Valley for MUAs/Ps, saw fewer current designations continued under the proposed new rules. In addition, some regions retained fewer geographic designations, whiling adding more Medicaid eligible special population designations.

- **There would be fewer geographic designations in the state under the proposed methodology.** While 66% of current HPSA designations in the state are geographic, this would decline to 47% under the new rules. Similarly, MUAs currently represent 88% of all MUAs/Ps in the state and would to 61% under the new rules.

- **As a result of merging the two methodologies (HPSA and MUA/P), states are required to "choose between" overlapping HPSAs and MUAs/Ps when identifying the boundaries of the RSA that will be considered for designation. Competing interests of different providers could greatly complicate these decisions**. During the three-year transition period, HRSA will ask the state PCO to decide the boundaries of the

RSA to consider for designation in instances where currently designated HPSAs and MUAs/Ps overlap. Providers within the RSA of the HPSA may seek to maintain the HPSA boundaries, while providers in the MUA/P may support using the smaller MUA/P boundaries. This is highly likely in the event that the MUA/P RSAs qualify for Tier 1 designations, while larger HPSA RSAs only qualify for special population designations.

- **The contiguous area analysis requirement creates an uneven playing field for shortage area designations and could adversely impact either the number or type of designations in New York.** The proposed rules eliminate contiguous area analysis in states with a statewide system of RSAs. Consequently, there are likely to be more areas that qualify for higher-level designations (e.g., geographic compared to special population) in states with a system of RSAs, regardless of whether or not primary care services are actually available in contiguous areas. In contrast, states without a statewide system of RSAs would be required to conduct contiguous area analyses for all proposed designations and, as a result, may see a reduction in the number of geographic designations or in the number of designations overall.

- **Lack of data on the practice patterns of non-physician clinicians in New York is problematic.** This is the second time in ten years that HRSA has proposed shortage designation guidelines that include counting non-physician clinicians toward primary care capacity. New York will need to consider a strategy for collecting data on nurse practitioners, physician assistants and midwives that better estimates their contribution to primary care in the state.

- **Using county-level health status data in sub-county analyses may mask health disparities and lower the 'designation scores' of underserved areas.** Much of the health status data available for New York is at the county level or, for New York City, at the neighborhood level. This makes it difficult to clearly describe significant problems related to health outcomes in high-need communities. Using county-level health outcome data s could result in lower designation scores or fewer designations for sub-county RSAs.

X. Conclusions

While the impact analysis conducted by the Center found that most currently designated shortage areas would retain a designation under the proposed rules, a requirement for contiguous area analysis would likely change the number and type of designations that would be maintained. Further, without a clear understanding of the allocation of resources by state and federal programs that use these designations, it is not possible to fully understand the implications of changing the methodologies for designation.

The current approach to the designation of shortage areas in New York is fragmented and may fail to account for unmet need for primary care in communities with limited resources to conduct such assessments. This analysis suggests a need for key stakeholders in the state to work together on a more systematic assessment of New York to identify all areas that could benefit from improved access to primary care services.

Attachment 1

Comparison of Current Primary Care HPSA and MUA/P Methodologies to Proposed Combined Methodology for Primary Care Shortage Areas

	Current HPSA Methodology	Current MUA/P Methodology	Proposed Combined Methodology
Rational Service Area	Needed	Needed	Needed
Periodic Review	Yes – every three years	Not needed	Yes – every three years

Types of Designations	• Geographic
	  o Geographic
	  o Geographic, high need
	• Special Population Groups
	• Not-for-profit ambulatory care facilities serving HPSAs
	• Prisons
	• Automatic Designations for FQHCs, FQHC look-alikes, and RHCs
		• Geographic
		• Special Population Groups
			• Geographic
			  o Tier 1 (counting all providers)
			  o Tier 2 (exclude federally obligated or supported providers)
			• Special Population Groups
			• Prisons
			• Safety Net Providers

Eligibility Requirement	Ratio of at least:
	• 3,500:1 for geographic
	• 3,000:1 for high need geographic and special population groups
		Combined weighted scoring of less than 62 based on
		• Population-to-provider ratio
		• Infant Mortality Rate
		• % Elderly
		• % Under 100% of federal poverty level
			• Combined score of population-to-provider ratio and weighted community indicators of 3,000 or greater
			• % Uninsured and combined % uninsured and Medicaid-eligible for safety net facilities
			  o 10% and 40% for metropolitan areas
			  o 10% and 30% for non-metro, non-frontier areas
			  o 10% and 20% for frontier areas

Population Considered	• Entire residential population in RSA for geographic or geographic, high need • Specific special population (low-income, migrant farm worker, homeless, Medicaid-eligible) in RSA	• Entire residential population in RSA for MUA • Specific special population (low-income, migrant farm worker, homeless, Medicaid-eligible) in RSA for MUP	• Entire residential population in RSA adjusted by age and gender for standardized health care utilization rates • Specific special population (low-income, migrant farm worker, homeless, Medicaid-eligible) in RSA

Attachment 1 (Con't)

	Current HPSA Methodology	Current MUA/P Methodology	Proposed Combined Methodology
Providers Included	Full-time equivalents in primary care specialties in community settings for • Primary care physicians • Residents (adjusted by 0.1)	Full-time equivalents in primary care specialties in community settings for • Primary care physicians	Full time equivalents in primary care specialties in community settings for • Primary care physicians • Residents (adjusted by 0.1) • Non-physician clinicians (adjusted by 0.5) o Physician assistants o Nurse Practitioners o Nurse Midwives
Scoring Methodology	Population-to-provider ratio only	Combined weighted scoring of less than 62 based on • Population-to-provider ratio • Infant Mortality Rate • % Elderly • % Under 100% of federal poverty level	"Effective barrier-free" population-to-provider ratio Plus Weighted score of • % Under 200% of federal poverty level • % Elderly • % Hispanic/Latino • % non-White • Unemployment rate • Death rate • Infant mortality rate • Low birth weight rate • Population density
Contiguous Area Analysis	Required for both geographic or special population group HPSAs. Contiguous areas are defined as any area within 30 minutes of travel time[10] to the most populous census tract of the RSA. Primary care resources in contiguous areas can be deemed inaccessible due to (1) excessive distant; (2) overutilization of resources (having a population-to-provider ratio of 2:000:1 or greater); or (3) Inaccessibility due to racial/ ethnic or socio-economic differences.	Not needed	Needed if state does not have statewide or regional system of RSAs developed using similar method to existing HPSA requirements.

[10] Travel time in New York City is measured by using public transportation. The 30-minute limit is for primary care HPSAs while 40 minutes is used for mental health and dental health HPSAs.

Attachment 2

EXAMPLE OF WORKSHEET

Worksheet Results

Black: Parameters and labels
Green: Data obtained directly from user input
Blue: Calculated Results

Do not enter data in this shee
Go to -enterdatahere- to enter your data.

Worksheet 1: Scores

Variable	Value	Percentile	Score	
Poverty	43	59	266.58529	266.58529
Unemployment	8	83	207.98405	207.98405
Elderly	33	99	248.86823	248.86823
Density	348	90	-72.56629	-72.56629
Hispanic	10	87	165.23496	165.23496
NonWhite	37	89	140.46748	140.46748
DeathRate	838.5	36	36.445211	36.445211
LBW	8	74	95.87458	95.87458
IMR	6	23	18.60198	-
			SCORE	**1088.8935**

Worksheet 2: Population

	Females	0-4	5-17	18-44	45-64	65-74	75 and over
(1)	Population	1000	1000	500	500	750	750
(2)	Multiplier	3.94	2.217	3.678	5.058	7.297	8.026
(3)	Visits	3940.0	2217.0	1839.0	2529.0	5472.8	6019.5

(2002 RATES)

	Males	0-4	5-17	18-44	45-64	65-74	75 and over
(4)	Population	1000	1000	500	500	750	750
(5)	Multiplier	4.676	2.284	1.615	3.333	6.201	9.472
(6)	Visits	4676.0	2284.0	807.5	1666.5	4650.8	7104.0

(7)	Female visits	22017.3
(8)	Male visits	21188.8
(9)	Total visits	43206.0

(10)	**Age-Sex Adjusted Population**	**11549.318**

Worksheet 3: Providers

	(1) Total	(2) Gov't	(3) Net	(4) Weights	(5) Weighted
Physicians	2.5	0	2.5	1	2.5
Cert Nurse Midw.	0	0	0	0.5	0
Nurse Prac	0.9	0	0.9	0.5	0.45
Phys Asst	0.7	0	0.7	0.5	0.35
Residents	1	0	1	0.1	0.1
			TOTAL PROVIDERS:		**3.4**

Worksheet 4: Summary

(1)	Score (from Worksheet 1)	1088.8935
(2)	Age-sex adjusted population (from Worksheet 2)	11549.318
(3)	Total providers (from Worksheet 3)	3.4
(4)	Ratio: Line 2 divided by Line 3	3396.8583
	If Line 3 is zero, enter '3000'.	
(5)	Line 1 plus Line 4.	**4485.75**

If line 5 is greater than 3000, then the area is underserved. UNDERSERVED
If line 5 is less than 3000, then the area is not underserved.