

Casting the Safety Net:

Identifying High-Need Populations and Allocating Resources
Under Health Care Reform

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Introduction

Despite programs such as Medicaid, the Child Health Insurance Program (CHIP), and Medicare, which provide coverage for millions of U.S. citizens, there is still a significant proportion of the population that is uninsured, underinsured, and underserved. In addition to these main entitlement and block grant programs, there are other safety net options that have been established to meet the health care needs of this country, including Federally Qualified Health Centers (FQHCs), state-funded Rural Health Centers, local public health departments, free clinics, school-based health centers, hospitals and many others. In the Institute of Medicine's (IOM) 2000 publication, *America's Health Care Safety-Net: Intact But Endangered*, the organization defined the "health care safety net" as "those providers that organize and deliver a significant level of health care and other related services to uninsured, Medicaid, and other vulnerable patients."⁽¹⁾ These services are often provided at a reduced cost to patients, either on a sliding scale or free of charge.

The Affordable Care Act (ACA) has incorporated provisions to expand the role of the health care safety net in order to provide greater access and a higher quality of care to the populations most in need of services, in preparation for increasing general demands on the health care delivery system as more U.S. citizens gain health coverage. This charge to bolster and build upon existing safety net programs has given local governments and health-based organizations the opportunity to examine their current programs and find ways to efficiently and effectively expand them.

Our group was assigned to work with the Safety Net Workgroup throughout the fall 2010 semester. As health reform rolls out, the Safety Net Workgroup's objectives include:

- Identifying areas of the state with greatest unmet need and encouraging collaboration in funding opportunities;
- Exploring new opportunities for community-based collaborative networks of care;
- Examining new requirements for safety net providers; and
- Exploring the new and changing needs of the safety net.⁽²⁾

After attending the workgroup's September and October meetings, our group took on three projects to work on this semester: 1) compiling county information on safety net providers to help identify high-need areas in North Carolina; 2) creating a spreadsheet providing information about behavioral health services and FQHC co-location in North Carolina; and 3) producing North Carolina-specific brochures on the National Health Service Corps (NHSC) loan repayment program and Health Professions Shortage Area (HPSA) designations. As we worked on these projects, the challenges that arose were indicative of the problems that federal and state entities have struggled with for years, especially in regards to identifying areas that are currently underserved. Therefore, we felt it was important to explore the theories behind identifying areas with the greatest need for quality health care services.

Identifying High-Need Areas: Challenges and Innovations

The designation of areas as underserved has been a point of contention for many years. Discussions regarding identifying medically underserved areas began in the 1930s and the issue became especially relevant in 1970, when the NHSC was established through the Emergency Health Personnel Act. The NHSC was formed to address Critical Health Manpower Shortage Areas (HMSAs), which would later be renamed HPSAs. In 1973, three years after the enactment of the HMSAs/HPSAs designation system, the Index of Medical Underservice (IMU) was developed through the Health Service Maintenance Organization Act to identify Medically Underserved Areas (MUAs).⁽³⁾ The HPSA designation focuses on primary care, dental, and mental health provider shortage areas and uses a population-practitioner ratio threshold to determine if an area has an adequate supply of providers to address that population's health service needs. The Primary Care HPSA population-practitioner threshold is 2,000:1, the Dental HPSA threshold is 3,000:1, and the Mental Health HPSA threshold is 10,000:1.⁽⁴⁾ When a ratio exceeds these established thresholds then an area may still qualify as a HPSA if they present additional evidence of need. The MUA designation took the HPSA designation a step

further. Along with the population-practitioner ratio, the MUA looks at the infant mortality rate (which is often used to determine the health status of a nation or area), percentage of the population that is age 65 and older, and percentage of the population with incomes below the federal poverty level. Overall, the main objectives of the HPSA and the MUA designations were to: 1) identify populations within the United States that had the greatest need for health care services, so that limited federal and state resources could be distributed amongst underserved communities (5); and 2) to improve access to care in populations that are recognized as underserved.(3)

However, the validity and reliability of these two designation systems were questioned soon after they were implemented. Some of the criticisms were that the designations lacked a conceptual core, could not adequately identify the areas that were truly needy, did not incorporate indicators that accurately calculated the health services utilization and demand of a population, and they were not able to effectively consider additional factors beyond provider need that made areas medically needy.(3) In recent years, the shortcomings of the HPSA and MUA designations and their inability to comprehensively identify areas in greatest need for health care resources has rallied public health policy makers and researchers to develop new methodologies for designating areas as high-need for the purposes of distributing federal and state funding. Following the U.S. General Accounting Office's (GAO) 1995 report, *Health Care Shortage Area: Designations Not a Useful Tool for Directing Resources to the Underserved* (6), new indexes and methods for identifying medically underserved areas have been proposed over the years. These include: 1) applying a place-based approach that uses aggregated populations (7); 2) using linked health professional licensing and license renewal data, U.S. Census information, and national health survey data to identify mental health shortage areas (8); and 3) overlaying information about physical and societal barriers between patients and providers that factor into access to care through geographic information systems (GIS) technology to visually depict high-

need areas.(9,10) All of these methods have addressed some of the complexities of designating underserved areas, yet we would like to highlight one proposed methodology.

The University of North Carolina at Chapel Hill's Cecil G. Sheps Center for Health Services Research was commissioned to address the issue of identifying medically underserved areas. Under the guidance of Dr. Thomas Ricketts, a group of researchers from across the nation developed a new and improved index. This group of researchers was guided by five key elements that stakeholders suggested should be considered in the development of future methods for designation. These guiding principles were simplicity, science-based, face validity, retention of designations for places with safety net providers, and acceptable performance (3), and each principle was taken into consideration as the new index was developed.

Ricketts and colleagues were able to develop a new index, which they named the *underservice index* that aimed to improve upon and overcome some of the shortcomings of the HPSA and MUA designations. The calculation of the underservice index involves combining two components, an adjusted population-to-practitioner ratio and a total score from demographic, economic, and health status factors. Ricketts and colleagues recognized the use of the population-to-practitioner ratio concept in both of the traditional designations, yet they also noted that this ratio did not account for the variations in utilization and demand amongst different segments of the population. Therefore, the researchers developed a population-to-practitioner ratio that was adjusted by age and gender. This enhanced ratio now accounted for the utilization of services by women and the elderly in a population, since these groups tend to interface with the health care system more often. The ratio was also based on the standard of utilization in health care barrier-free (or minimal-barrier) populations, so that the ratio encompasses what the ideal should be for health service use in a community. The second component involves compositing a score that considers the demographic (e.g., race/ethnicity, age),

economic (e.g., income, employment status), and health status characteristics of a population (Table 1).
(3^{p577})

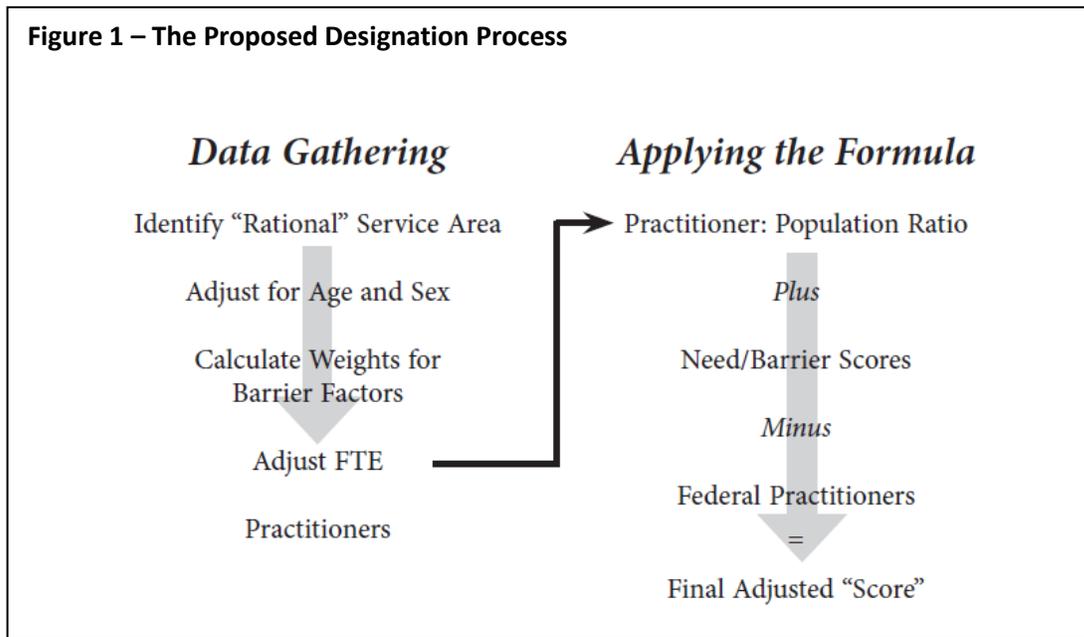
Table 1 – Variables Used in Creating Proposed Method

VARIABLES USED IN CREATING PROPOSED METHOD

Demographic	Economic	Health status
Population density		
<input type="checkbox"/> Percent non-White	• Percent population <200% FPL	◇ Actual/expected death rate (adjusted)
<input type="checkbox"/> Percent Hispanic	• Unemployment rate	◇ Low birth weight rate
<input type="checkbox"/> Percent population >65 years		◇ Infant mortality rate

Ultimately, the idea is to combine these two components of the underservice index and establish a “total score” that is structured like a population-to-practitioner ratio. A ratio of 3,000:1 is the established threshold and a ratio above the threshold designates a population as high-need. Additionally, two scores were established to further examine a population’s health service need. The first score includes all of the primary care providers that practice in an area and the second score excludes all primary providers that are considered safety net providers (Figure 1).(3^{p581}) The researchers wanted to be able to account for the fact that a designated high-need area may have safety net providers working in that community, but may need to maintain their designation (even under the new index) in order to continue receiving needed resources in those areas.(3)

Figure 1 – The Proposed Designation Process



This new approach truly builds upon existing research and theory to develop the underservice index, which addresses the real world complexities of designating an area as underserved using a comprehensive methodology. Despite all of the strengths of this index, there are some specific issues that the underservice index does not address. In their proposal, Ricketts and colleagues stated that their methods "are not intended to identify fully low-access populations embedded in larger population groups, special access barriers that are masked by aggregated data, or the civil and postal boundary lines used to derive data that divide or arbitrarily delineate communities."³⁵⁸⁶ Therefore, the researchers wanted to emphasize that the sole use of their index was to designate underserved areas that are in need of federal and state health care resources and that additional methods should be proposed to address some of the other inherent issues with high-need populations.

Policy makers and public health researchers should consider Ricketts and colleagues' underservice index, along with other proposed methods, to develop a means for distributing the resources that will be allocated to safety net programs under the ACA. Developing a single mechanism that encompasses the nuances of many indicators that are currently in use is a difficult task. Therefore, health care reform policy makers should continue to encourage and support research that will work towards developing sophisticated measures of underservice and high-need. In the midst of an unstable

economy, the money allocated through the ACA must be done so justly and efficiently to ignite real change in the health care system. Ultimately, we hope that an improved identification method of medically underserved areas will lead to an increased amount and quality of services that are provided to areas already in dire need of health care services.

Group Projects:

Project 1: Expanding the County Data Resource to Identify High-Need Areas

The Safety Net Workgroup, like the safety net itself, is comprised of a wide range of providers. Its members represent free clinics, FQHCs, behavioral health providers, known as Critical Access Behavioral Health Agencies (CABHAs), school-based health centers, and governmental planning agencies, as well as numerous other groups. While these members may view themselves as part of a team, there are few data sources that examine their resources in conjunction.

At the October meeting of the Safety Net Workgroup, Chris Collins of the NC Division of Medical Assistance and Ben Money of the NC Community Health Center Association (NCCHA) presented a county-by-county snapshot of the number of people in need of primary care providers within Community Care of North Carolina (CCNC) and the distribution of FQHCs and lookalikes. Members observed that the data they presented was just a start, that it would be helpful to add school-based health centers, free clinics, and so on. The spreadsheet that we developed was an effort to answer those calls. Like the efforts of Ricketts and others, it is also an attempt to capture new dimensions that play into communities' needs.

The first step was to gather the information: FQHCs from Ben Money and LaTasha Bennett of the North Carolina Community Health Center Association; CABHA listings from Beth Melcher, Markita Keaton, and Rebecca Carina of the North Carolina Division of Mental Health, Developmental Disabilities and Substance Abuse Services (MHDDSAS); registered free clinics from Jason Baisden of the NC Association of Free Clinics; school-based and school-linked health centers from Connie Parker and Daniel

Garson-Angert of the NC School Community Health Alliance; and HPSA designations, county population estimates, and other information from online sources. Each list or map sent came with caveats. For example, the information was updated frequently, it only included registered centers, or that some clinics were only open one day a week where others were full-time. The next task was to put all the information together.

The final product is a county-by-county matrix that indicates the number of each resource in each area (Appendix A). This “data quilt” also lists HPSA designations and soon-to-be-updated uninsurance rates, and CCNC primary caregiver shortfalls as indicators of need. It is sorted by county population size and color-coded by percentile ranking, where red indicates relative scarcity and green indicates relative wealth of a given type of resource.

The primary challenge is that much is lost in the details. This “data quilt” should not be construed as a final ranking of need, nor do its criteria match those for HPSA designations. Visually, with the color-coding, it may cast one mobile school health center as equivalent to two FQHCs, where an FQHC would serve a much larger population. It does not include hospitals or many other safety net resources. It does not inquire which sub-populations a center might serve or how many resources are immediately adjacent in the next county, and it is less sophisticated than Ricketts’ underservice index. In addition, the resource will be difficult to keep up to date, since new sites open and close on a routine basis, especially with the push to accredit CABHAs. Interpreting the “data quilt” should be undertaken with caution; the combined score of a county has little meaning. One of the clear lessons of this work was in the difficulty of designing a resource that captures the nuances of health care delivery.

Where the resource may be most helpful is to reveal surprises: outlier counties with large populations, but few safety net centers, or counties that “show red” across multiple criteria, yet are not designated as HPSAs. In both cases, the data quilt can spark further investigation. Another use is to find conduits for funding. For example, a community with high diabetes rates may be unable to access

certain prevention monies because the closest FQHC is in the next county, but they may be able to accept diabetes funding through their local school-based health center instead. One additional use, mentioned at the October meeting, is to prepare for the influx of newly-insured with health reform. In Massachusetts, primary care was the bottleneck after implementation of health reform, with a spike in the number of people reporting difficulty accessing appointments.(11) The data quilt can help scan for regions that might particularly need to prepare. Therefore, one way of viewing the matrix, is to list current CCNC primary care shortages alongside uninsurance estimates and safety net resources that can provide primary care.

In summary, some of the successes of the resource are that it is sortable, flexible, and updateable, with sources listed on each sheet. Where most current and proposed indices focus on measures of need, the “data quilt” also charts safety net resources that can help answer those needs. Perhaps its most novel contribution is a format to compile such large amounts of information. Other approaches would have been to indicate whether resources were present or not without color gradients, such as in a rural health resource created by Matt Womble of North Carolina’s Office of Rural Health and Community Care (ORHCC), or to calculate a single, combined measure, such as the so-called misery index presented by Mark Holmes at the NCIOM, or Ricketts and colleagues’ underservice index. The “data quilt” template can be an additional way to examine resources, and hopefully one that is useful specifically to North Carolina safety net providers on multiple fronts.

Project 2: FQHC Behavioral Health Services Access Data

Our second task was similar to the first project in that it involved overlaying data on the distribution of multiple types of safety net programs throughout the state. At the request of LaTasha Bennett of the NCCHCA, we were tasked with identifying which FQHCs in the state do not have access to behavioral health services for their patients.

Improving patient access to such services is currently a priority for FQHCs, as part of a larger movement, on the state level and beyond, to integrate mental health and primary care. Given that currently 70% of primary care visits are behavioral health related, it is recommended that behavioral health providers be incorporated into the new team-based model of care toward which many primary care practices are currently moving.(12^{p249}) CCNC recently provided funding to 50 primary care practices, including FQHCs, to locate a behavioral health professional on-site to collaborate with primary care providers in providing comprehensive treatment for patients with mental health and substance abuse needs.(12^{p248}) However, for FQHCs that do not have co-location of behavioral health services, and for patients at centers that do have behavioral health co-location but need more intensive services, it is important that centers have a relationship with local providers of mental health and substance abuse services for referrals.(12)

Many of these specialized behavioral health agencies have now been designated as Critical Access Behavioral Health Agencies (CABHAs), a new category under NC MH/DD/SAS, approved by the state Department of Health and Human Services (DHHS) in 2009. CABHAs are for-profit, non-profit, public, or private agencies that provide mental health and substance abuse services, but do not include agencies that provide services for intellectual or developmental disabilities. The new certification was created to set new standards for quality and appropriateness of services and to facilitate a transition toward more integrated models of care by reducing fragmentation. The description provided by NC MH/DD/SAS states that implementation of the CABHA certification process “begins to prepare the provider community for the changes that will be required in a waiver environment” (13^{p1}), implying that the current Medicaid capitation system for mental health services will be expanded as health reform is implemented.(14) In order to be certified, agencies must meet specific requirements for staffing and offered services, and serve clients who are Medicaid-eligible or are indigent and receiving State funds.

CABHAs are managed on the regional level by local management entities (LMEs), and the official description explicitly mentions an expectation that they collaborate with area FQHCs.(13)

In order to assess access to behavioral health services for patients at FQHCs throughout the state, we were asked to identify which sites do not have a CABHA located within their same city or county to which they could refer patients. We also indicated which sites did have co-location of behavioral health services, and compiled contact information for the CABHAs located in the same county for each FQHC that did have access within-county CABHAs.

The NCCHCA already had data on which FQHC sites, look-alikes, and affiliate members have co-located behavioral health services within their center. We acquired from DHHS the most up-to-date lists of CABHAs in the state. It was important to distinguish between the counties where these CABHAs were physically located and the counties they served, as in some cases a CABHA may serve residents from another county, either for in-home or on-site services. So far, most representations of CABHA coverage throughout the state have indicated the number of CABHAs providing services to residents of a particular county, regardless of their physical location, but for this tool we were concerned specifically with physical location and whether there were behavioral health services that FQHC patients could easily access locally. For each FQHC, contact information for the CABHA agencies within the same county was compiled, drawn primarily from LME online provider databases.

The final product is an Excel spreadsheet listing all FQHC sites, look-alikes, and affiliate members of the NCCHCA, organized by county (Appendix B). It lists the names and contact information for all CABHA agencies physically located within the county (many CABHAs have multiple sites throughout the state, but every effort was made to include the contact information for the site(s) specifically located within that county). It also indicates which FQHCs have behavioral health co-location, and which do not have co-location or a CABHA within their county. Out of 120 sites, including FQHCs, look-alikes, and associate members, 19 have co-location of behavioral health services. All of these sites also have at

least one CABHA within their county, 15 have no CABHA within the same county, representing 8 across the state. The remaining 85 centers have at least one CABHA within their county, though there is a wide range in the number of CABHAs located within the same county. Buncombe and Guilford counties both have 11 CABHAs, though Guilford has no official FQHC or look-alike and only has health centers that are affiliate members of the NCCHCA. On the other hand, 12 counties have only one CABHA.

The resulting spreadsheet gives a more complete picture than previous representations of the extent to which behavioral health services are available to patients of each FQHC site in the state and indicates areas that are particularly lacking. It also creates a centralized list of this information, as well as contact information for CABHAs. If maintained, this can potentially facilitate the provision of coordinated care, which will be increasingly important in coming years. A main challenge at this point is determining how to get behavioral health services into the areas indicated on the spreadsheet as having no CABHAs or co-located services at local FQHCs. Funding opportunities for co-location of behavioral health providers at more FQHCs may be available through CCNC or through the newly created NC Center of Excellence in Integrated Care, and National Health Service Corps (NHSC) loan repayment programs may help with recruitment of behavioral health workers to those areas.

The access issues being addressed are also more complex than is conveyed in the spreadsheet. Each CABHA focuses on providing specialized services for a specific population's needs, so even if there is a CABHA within their county, if a patient is in need of a different type of specialized service, they may still have difficulties accessing appropriate services. Also, the sheet does not address behavioral health services for counties that have no FQHC or other community health center. Finally, there are other agencies throughout the state that provide behavioral health services, but have not met requirements for CABHA certification, which may be especially difficult for smaller agencies, especially in rural areas.(14) Additional challenges will include assessing whether CABHAs are meeting county behavioral health needs and determining how to hold agencies that do not qualify for certification accountable to

certain standards and how to provide them with resources so that they are able to meet CABHA certification requirements.

Project 3: Brochures for the Office of Rural Health & Community Care

For HPSA designations and the NHSC to accomplish their purpose of recruiting needed providers to underserved areas, people must use them. More precisely, counties and facilities must be designated as HPSAs and entice providers to come with NHSC loan repayment or scholarships. In the interest of spreading the word about these two programs, the Safety Net Workgroup Steering Committee suggested we partner with the Office of Rural Health and Community Care (ORHCC) to develop a set of brochures.

At the end of October, the ORHCC invited us to a meeting, where they explained their desire to tell communities and providers about HPSAs and NHSC, the background on the programs, and the roles of the seven staff members at the meeting. With new funding ahead, they are taking a proactive approach to identifying communities that could qualify as HPSAs and assisting them with applying. For years, they have also led efforts to recruit providers for NHSC and match them appropriately with communities. The brochures would be a new tool for their outreach efforts, and would note that the American Recovery and Reinvestment Act broadened eligibility to become a HPSA and that the Affordable Care Act increases funding for the National Health Service Corps. The OHRCC asked that we make the materials North Carolina-specific and allowed us the autonomy to utilize our own creativity.

The final product was a set of two brochures: one geared towards communities and one geared towards providers (Appendices C & D). They are print materials, designed for staff to hand out at events to pique interest, but they can be easily adapted to an online format for the OHRSCC website.

Some of the challenges in this project were keeping the text to the essentials and designing products that we hoped would match the desires of the many people seated around the table at the meeting at the OHRCC. The successes, hopefully, are materials that will lead to new HPSA and NHSC

applications. New applications, in turn, will position North Carolina to take advantage of incoming ACA funding and improve medical care in currently-underserved areas. Even if current HPSA designations are not the ideal federal method for identifying need, they are the current one, and it is to North Carolina's benefit to take advantage of them.

Conclusion

The development of a comprehensive medically underserved population designation system is one of many steps that need to be taken in order to distribute limited funding to those areas that have the greatest identified health care needs. There is a significant amount of work to be done as safety net organizations prepare for changing demands and opportunities under health care reform. Our projects contribute in small, but hopefully helpful ways to meeting these challenges of identifying high-need areas and determining the specific safety net services that are needed in each community. With the full enactment of the ACA, there will undoubtedly be an influx of newly insured health care consumers and safety net providers need to be at the forefront of serving this population.(11) Therefore, incoming resources need to be directed towards filling in the gaps and bringing the right services to those areas to ensure a smooth transition and that at-risk populations' needs are met.

From our projects, interactions, and research, we formed a number of conclusions. First, safety net programs will still be needed even under health care reform. The services they provide are and will continue to be vital to the communities they serve. Second, policy makers and researchers must continue to think creatively about ways to designate medically underserved areas, especially as the health care system undergoes dramatic changes in the coming years. Lastly, as policies are developed and new programs are implemented, the importance of improving the overall health status of North Carolina residents should drive all efforts to serve the underserved. Ideally, we hope that our projects are useful to the organizations that we worked with and that they will assist these groups in moving forward with their missions to expand the safety net within North Carolina.

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