New Hampshire Statewide Primary Care Needs Assessment to Analyze Unmet Need, Disparities, and Health Workforce Issues

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Rural Health & Primary Care
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The US Department of Health and Human Services (US DHHS), Health Resources and Services Administration (HRSA), Bureau of Health Workforce (BHW) funds the Primary Care Services Resource Coordination and Development Program in each state and US territory. The purpose of this grant program is to improve primary care service delivery and workforce availability in the state or territory to meet the needs of underserved populations. This program is authorized under the Public Health Service Act as amended, Title 3, Sections 330 and 333, which provides for:

- Assistance to Statewide organizations in the development and delivery of comprehensive primary health care service in areas that lack adequate numbers of health professionals or have populations lacking access to primary care; and
- Technical and non-financial assistance to community-based providers of comprehensive primary and preventive care for underserved and vulnerable populations.

Each Primary Care Office (PCO) is expected to conduct an overall statewide primary care needs assessment that identifies the communities with the greatest unmet health care needs, disparities, and health workforce shortages, and also identifies the key barriers to access health care for these communities.

The overall needs assessment would include (but not be limited to) identifying geographic areas and populations at county and sub-county levels that:

- Lack access to preventive and primary care services;
- Experience shortage of primary care, mental health, and dental providers;
- Experience key barriers to access to health care (i.e. waiting time, travel time);
- Demonstrate the highest need for health services, such as levels of poverty, infant mortality, low-birth weights, life expectancy, percent or number unserved and underserved, designation as a MUA/P or HPSA.

Background:

New Hampshire is one of the three northern New England states, which, along with Maine and Vermont, are more rural than the southern tier: Massachusetts, Connecticut and Rhode Island. According to the State definition of rural, approximately 38% of the population and 84% of the landmass in New Hampshire is considered rural (NH Division of Public Health Services, 2014). The majority of New Hampshire towns are considered non-urban or rural, with urban and near urban areas located in the south east and south central regions and primarily rural areas in the

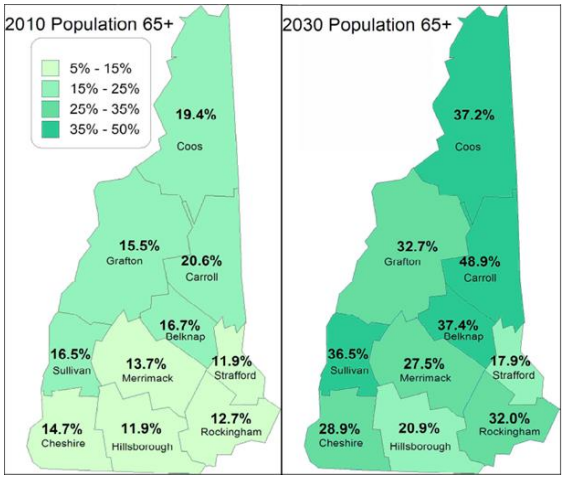
western, central and northern sections. The three most urban areas are Manchester, Nashua and Concord, which are all located in the State's southern tier.

New Hampshire's scenic rivers, mountain ranges, lakes and agricultural lands define the state's culture and geography but also create physical boundaries and barriers to the resources that improve health. Access to primary and specialty medical, oral, behavioral health care can be a significant challenge due to New Hampshire's geographical location and landscape. Rural residents also must cope with reduced access to care arising from less insurance coverage (due to unemployment or employment in small industries) and provider shortages. The White Mountain National Forest separates the northernmost rural section of the state, which consists of Coos County. Coos County, known as the North Country, has the largest landmass of any county but the smallest population.

New Hampshire has a growing population, estimated at 1,326,813 in 2014. Between 2010 and 2014, New Hampshire saw a 0.8% population gain. While only a slight increase, it is still the largest among the northern New England states (US Census Bureau, 2014). Census data reflect that the state's five most southeastern, urban counties are experiencing growth, while the more rural northern counties are experiencing decline or stagnation. While the state's population is 91.3% White (non-Hispanic), minority populations are steadily increasing. Population growth for all minority groups in New Hampshire have steadily increased since the 1970s, following the national trend (US Census, 1970-2010). The State's largest racial minority is Hispanic, representing 3% of the population; followed by Asian (2.5%), and Black/African American (1.5%). Most minority populations live in the southern tier of the state (US Census, 2012).

Although New Hampshire's population is slowly growing, it is also aging. 39.3% of the population is over age 50 (an increase of about 4% since 2010); about 22.7% are over 60 (an increase of approximately 3% since 2010); and over 10% are over 70 (~one percent increase since 2010). The Carsey Institute estimated that the population of those 65 and over will double in the next from 2010-2020. New Hampshire will move from ranking 37 to 17 in terms of elderly population by 2030 (US Census Bureau, NH State Health Profile, 2011). These age structure shifts are not occurring evenly. 2010 Census data reflects that Northern and Central New Hampshire already contain a substantially larger proportion of residents age 65 and over than do other parts of the state. Much of this is a function of aging in place among current residents of these regions, coupled with a continuing loss of young adults. The senior population is much more likely to live in poverty and have significant medical and social services needs than those under 55 (NH Center for Public Policy Studies, 2011). What's more, the majority of NH seniors live in the northern, rural areas of the state where – as previously stated - there are significant access barriers to health care (Figure 1).

Figure 1



Methodology:

The "New Hampshire State Health Improvement Plan (NH SHIP) 2013-2020, Charting a Course to Improve the Health of New Hampshire" (pdf) was developed with input from partners from the diverse sectors, agencies and organizations that address population health in New Hampshire. It identifies priority areas for improvement with measurable objectives and targets for health outcomes; areas for needed attention in public health capacity; and, recommendations for evidence-based interventions and actions. It includes measurable objectives, recommended strategies for improvement, and performance measures with time-framed targets for each priority. The NH SHIP priorities and objectives are intended to provide support, guidance, and focus for public health activities throughout the state. The NH SHIP is the state's public health roadmap, providing evidence-based strategies to guide the direction of many of our actions. Reaching our objectives will mean that we have significantly improved the health of our people.

This needs assessment was designed to include identifying geographic areas and populations at Public Health Region levels that:

• Lack access to preventive and primary care services;

• Experience shortage of primary care and dental providers;

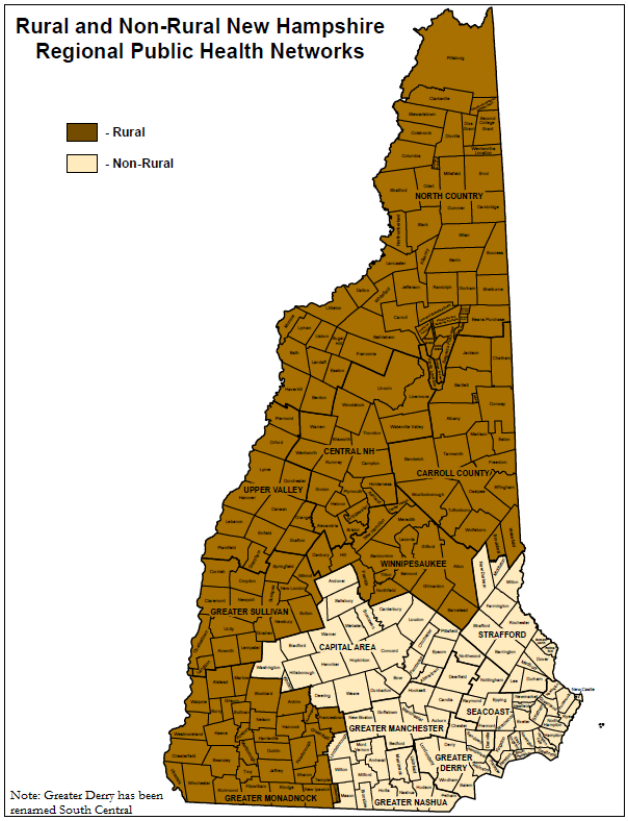
• Experience key barriers to access to health care

• Demonstrate the highest need for health services, such as levels of poverty, the elderly, percent or number unserved and underserved, designation as a MUA/P or HPSA.

The New Hampshire (NH) Primary Care Office (PCO) coordinates with the NH Primary Care Association (PCA) and other Sections in the Division of Public Health Services (DPHS) to collect primary care data for the statewide Needs Assessment. The NH PCO has a scheduled, annual meeting with the NH PCA to review and update the statewide Needs Assessment report. Our shortage designation contractors at Community Health Institute/John Snow, Inc. (CHI/JSI) collect and analyze data as a part of the Needs Assessment using national databases (i.e. All Payor Claims Database (APCD), Behavioral Risk Factor Surveillance System (BRFSS), Hospital Discharge data, WISDoM (DPHS Information Technology system to store and analyze public health data). To ensure the RHPC fully benefits from the statewide Needs Assessment, the PCO intends to demonstrate both rural and non-rural regional needs. Because a number of federal rural definitions of rural exist, NH DPHS determines rurality using our own, pre-defined public health regions. This ensures both consistency and use of NH-appropriate definitions.

The data elements selected for this Needs Assessment Report focused on those elements that can help describe barriers to care, either directly or indirectly. A range of data sources were examined and the most recent data from those was utilized. For most data elements, the data was aggregated first to the level of the NH Public Health Regions (PHRs), which are then sub-classified into either Rural or Non-Rural categories, allowing the differences in this important distinction within the state to be examined (Figure 2). Finally, data was aggregated to the state level.

Figure 2



The PCO sought out hospital discharge data to report on primary care indicators, including ambulatory care sensitive condition rate, alcohol/drug related rate, self-inflicted injury rate, and these indicators specific to the emergency department. Unfortunately, we were unable to obtain these data components and therefore, could not report on the primary care hospital indicators. 2011 data was unavailable due to modified system reporting requirements, which the hospitals could not meet; and system challenges for years 2012-2014 have persisted, and are currently being investigated for future state use.

Several data elements were only available at the state level due to small numbers. Where comparisons are shown, the PHR-level data was compared to the statewide results. For the rural to non-rural comparisons, the two classifications were compared to each other as the dominance of the non-rural counts in the statewide data would mask and diminish differences if compared at that level. Where available, confidence intervals were calculated at the 95% level to test the significance of differences noted. See attached tables of findings.

Data Report:

Based on the rural PHR definition, approximately 70% of the state's ~1.3 million residents live in Non-Rural areas; with the largest PHR regions being Greater Nashua and Greater Manchester, which together account for 30% of the state's population (16% and 14% respectively). Just under 15% of the state's population is elderly, however the rural areas have a higher concentration of elderly residents; comprising 18% of the population compared to ~13% in non-rural areas. The percentage of elderly residents has risen since 2010 when the rates were 16% and 11.5 percent, respectively. Carrol County is the PHR with the highest proportion of elderly residents at nearly 23% - more than 50% proportionally above the state rate - and is followed closely by Greater Sullivan and North Country. These areas are also characterized by higher rates of disability among the population (15.5 percent, 15.5 percent and 17.6 percent, respectively; compared to a state average of just under 12%).

In terms of financial resources, the state's overall portion of low-income residents is 22.6 percent, but the rate is nearly one third higher, at over 27 percent, in rural areas, compared to just under 21% in non-rural areas. The highest portion of low income is found in the North Country PHR, at over 34 percent, while the lowest is in the South Central area, at just under 15 percent. While the Affordable Care Act and NH adoption of the Health Protection Plan to expand Medicaid has helped address financial barriers to care, the issue of uninsurance remains. While the American Community Survey (ACS) places the overall uninsurance rate at 9.3% for 2014, the 2014 Behavioral Risk Factor Surveillance System (BRFSS) found that just under 14% of the 18-64 population remained uninsured. Uninsurance rates are higher among younger adults, ages 18-44, at 16.4% state wide, compared to 10.9% of uninsured adults between 45 and 64 years old.

The rural rate of uninsurance is statistically higher at 18.8% compared to 11.7% in non-rural areas, with North Country standing out at over 24% uninsured, three quarters above the state rate. The rural/non-rural differences also persist across age groups. Uninsurance rates for older adults in several of the non-rural PHRs are in the low, single digits.

Language was another barrier examined. While Limited English Proficiency (LEP) is found to represent only one percent of the state's overall population, this issue is predominantly concentrated in the non-rural parts of the state, with rural areas accounting for just 0.4 percent of the LEP population. The highest rate is in Greater Manchester, at 2.4 percent, followed by Greater Nashua at just under two percent.

Lastly, access to care by Veterans has been a notable area of concern in recent years. The distribution of Veterans ranges from a low of 8.7% of the population in Greater Manchester to a high of 14.5% in Carroll County, with rural areas showing a statistically higher proportion of Veterans, overall. The low proportion located in Manchester is interesting as this is the location of the state's only Veterans Affairs hospital.

The question underlying the measurement of the various barriers to care is whether they appear to be limiting individuals from getting the care they need. The BRFSS data provides several metrics designed to answer this question. While the statistical power of the BRFSS sample was not large enough to satisfy the test of significance for the differences observed in the individual measures when comparing rural to non-rural, a consistent pattern across many measures lends credibility to the overall observation that rural residents of the state exhibit somewhat worse access to routine care. Looking first at general access to care, rural residents were slightly less likely to have had a checkup in the past year (67.5% vs 70%), more likely to avoid seeing a doctor due to cost (12.9% vs 10%) and for reasons other than cost (18.1% vs 14.4%), and more likely to report not having a personal health care provider (16.7% vs 13.9%). Similarly, the Primary Care Service Area (PCSA) data showed that rural Medicare enrollees were statistically less likely to have had a primary care visit during the past year (74.2% vs 80.7%).

A similar pattern is observed when examining the timely access to preventive services. Rural women were less likely to have received a mammogram within the past two years compared to non-rural women (79.5% vs. 85.1%), and less likely to have had a Papanicolaou (PAP) test within the past three years (81.5% vs. 87.4%). The actual incidence of late-stage breast cancer diagnosis was slightly higher, but again, not statistically different. Rural residents were also less likely to be up-to-date on colorectal cancer screening (71.2% vs 74.8). Here, rural residents do show a statistically higher incidence of late stage colorectal cancer diagnosis (56.2% vs 49.5% of cancers). Pneumonia vaccination of the elderly was lower in rural areas (73.5% vs 77.3%),

though getting a seasonal flu shot was slightly higher (43.0% vs 41.0%). Rural residents were also more likely to be told that they have high cholesterol (39.1% vs 36.1%).

While insurance rates and other potential barriers may underlie some of the differences observed, a similar pattern was found in several metrics related to the Medicare population, suggesting that there may be other issues with access and provider availability. The data on the primary care workforce used in this study comes from the PCSA/American Medical Association (AMA) data, which is somewhat older than other data in this analysis and lacks the full level of specificity needed to make definitive statements. The NH PCO continues to work towards full implementation of the statewide provider survey, and analysis of the state's All-Payer Claims Database to assess capacity; however, neither of these sources is available to utilize to its full capacity at this time. The NH PCO hopes to secure the Bureau of Workforce's administrative supplement of $40,585 to obtain and analyze provider-level data from the New Hampshire Comprehensive Health Care Information System's (CHIS) All-Payer Claims Database (APCD). The NH ACPD contains claims data from commercial health insurers, public/government insurance programs, and self-insured employer plans. Our shortage designation contractors at Community Health Institute/John Snow Inc. will develop queries and data extract protocols to obtain the needed information from the APCD and merge this information with other resources available within the state, including licensure and survey data, to assess primary care workforce data for future statewide needs assessments.

Looking at the PCSA population to provider ratio for primary care, one sees that rural areas exhibit an apparent 17% greater provider availability. Looking closer, however, the data shows that this is largely driven by results from the Upper Valley PHR, where the Dartmouth Hitchcock Medical Center is located. This PHR has a population to provider ratio of more than triple that of most other rural PHRs. This one PHR also has the highest availability of primary care residents, by a large margin (151.6%); about 150 times that of other almost all the other PHRs with recorded data, with the exception of Capital Area (13.2%). As an earlier version of the statewide provider survey showed, much of this apparent capacity may be related to teaching or specialized care, even though the AMA data does not reflect this. Accepting that other attributes of the data are less prone to the impact of this issue, one sees that rural primary care providers are slightly more likely to be over age 50, though this difference is not statistically significant.

Looking at Dental access, one sees a similar pattern to the findings for primary medical care. The rural rate of going without a dental visit in the past year is somewhat higher (33.5% vs 28.9%), though again, not statistically different. Rural dental provider availability is proportionally 22% lower (50.1/100,000 population vs 64.6 in non-rural areas), and pediatric dentist availability is much lower (3.2/100,000 population under 18, vs 8.5 in non-rural areas. Rural dentists are more likely to practice general dentistry (82.8% vs 76.6% in non-rural areas).

Furthermore, rural dentists are statistically more likely to be over age 55 (50% of rural dentists vs 36.4% for non-rural areas). These statistics, combined, indicate that dental services in rural areas may be more difficult to access than in non-rural areas and availability may become even more scarce with the aging dentist population.

A dearth of data exists for mental health indicators. The suicide rate in rural areas of the state was higher, but not statistically different from the non-rural rate (18.4/100,000 population vs 15.2).

Number and Type of Shortage Designations within the NH Public Health Regions (PHRs)

	# of HPSAs	*# of MUPs*	*# of MUAs*	*# of Governor's Exceptions*
Capital Area	0	7	1	0
Carroll County	0	0	1	0
Central NH	17	15	0	6
Greater Derry	0	0	0	0
Greater Manchester	0	0	7	4
Greater Monadnock	3	0	0	4
Greater Nashua	0	2	0	0
Greater Sullivan	1	11	0	2
North Country	1	0	0	15
Seacoast	1	0	4	0
Strafford County	0	0	1	0
Upper Valley	2	2	0	3
Winnipesaukee	1	18	0	9

Note: # denotes the count of designations in/designated towns that fall within each PHR

Implementation Plan:

As previously noted, the NH PCO continues to work towards full implementation of the statewide provider survey – formally, the Health Professions Data Center (HPDC) project - and has partnered with the Board of Medicine (BOM) to implement surveying of physicians, psychiatrists, and physician assistants during the license renewal cycle. However, because the BOM - as well as every other NH health professions licensing board with primary care provider types - do not have the legislative authority to mandate survey completion, the RHPC has implemented the voluntary survey for the past two years (renewal cycles). The HPDC is housed under the NH PCO but workforce data collection is also a goal of the NH Legislative Commission on Primary Care Workforce Issues (LCPCWI), on which Alisa Druzba co-chairs. House Bill 1692 charges the Commission to:

> "*Assemble and include in its annual report, required under RSA 126-T:4, data on the availability, accessibility, and effectiveness of primary care in New Hampshire, with special attention to such data in rural and underserved areas of the state."*

Through coordination and collaboration with the LCPCWI, we have presented the HPDC project to the Legislative Rural Affairs Commission and the Governor's Commission on Health Care Workforce to inform our stakeholders on the dearth of data available and to garner support for a legislative requirement to survey providers during the licensing process. The HPDC has also gained support for medical licensing boards to mandate the survey from the Board of Nursing, the Board of Psychologists, the Board of Mental Health Practice and the Board of Dental Examiners. We hope to pass legislation in State Fiscal Year 2017 to authorize health professions licensing boards to require survey completion. The PCO will use the timely data collected on supply and capacity to accurately evaluate shortage designation applications and identify and assess areas of the state eligible for shortage designation assist with designation determinations. Because NH does not have a means to validate physicians or remove physicians that will now be fed into SMDS from the NPI database, it is imperative that we have a survey requirement to perform validation. The data collected will also be a key resource in statewide healthcare workforce assessment and access planning and will inform and strengthen educational and training programs, emergency preparedness, and recruitment and retention initiatives including the National Health Service Corps and the NH State Loan Repayment Program.

If granted supplemental funds from the Bureau of Workforce, the NH PCO will obtain and analyze provider-level data from the NH Comprehensive Health Care Information System's (CHIS) All-Payer Claims Database (APCD). The APCD offers a wealth of payer information – and includes Medicaid claims data - that will increase the capacity of the office and our ability to validate all primary care providers in the state. Further, the APCD includes provider NPI numbers and will allow NH to cross-check and validate providers in SDMS using provider NPIs, while we pursue legislation for provider survey requirement.

The NH Recruitment Center contract with the NH PCO will be renewed on July 1, 2016 and will be effective through June 30, 2018. The NH Recruitment Center maintains a vast knowledge base of retention and recruitment in underserved communities and facilitates site identification and referrals. The output is current information on vacancies in underserved areas. The PCO and the NH PCA (which contains the Recruitment Center) have standing meetings every month. The PCA helps disseminate information about RHPC workforce development programs while doing the recruitment work through the Recruitment Center. Any inquiries from providers looking for positions that are received by the RHPC are referred to the NH Recruitment Center. The NH PCO has committed additional funding to the Recruitment Center contract by

reallocating State funds and expanding the scope to include managing a subcontract with NH AHEC. With increased funding and an expanded scope of services, the Recruitment Center can put greater efforts towards recruitment initiatives and managing NH pipeline work.

NH PCO will continue to work with the State Primary Care Association, Area Health Education Centers, and other entities to seek ways through which partnerships can be maintained and strengthened to assist with the growth and support of health centers and to encourage the provision of quality care.

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