Recruitment and Retention of the Rural Health Workforce

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Issue Brief

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Overview of Access to Care in Rural North Carolina

One in five North Carolinians lives in a rural community.[1] Communities in rural North Carolina share risk factors that increase the likelihood of poor health outcomes, fewer health professionals and health care facilities, higher poverty rates, and isolation.[1] Residents in rural communities are older, poorer, sicker, and less likely to be insured than North Carolinians living in and around urban areas.[2,3] Adding to these challenges, rural residents have access to fewer health resources, including health professionals and hospitals. These factors lead to rural residents having higher rates of chronic disease, disability, and death.[2,3]

North Carolinians in rural and urban areas have similar health care needs. Due to a variety of factors, however, rural residents may not be able to find providers to deliver the services they need in their communities. Many rural communities experience shortages of key health professionals. In North Carolina, rural counties have fewer than half the number of physicians per 10,000 residents as urban counties.[4] Rural communities often struggle to recruit and retain health care professionals due to professional, economic, infrastructure, and cultural challenges. This shortage negatively impacts the health of rural residents and rural economies.

Despite these challenges, North Carolina's rural communities are also quite resilient, with a strong sense of place and an understanding of community assets. Rural people know the needs of their communities, and which strategies to improve health will and will not work. While often under-resourced, rural residents also have a commitment to their communities and to each other. And because of this, rural communities are often able to accomplish a great deal with limited resources.

Rural Health Professional Workforce

Ideally, people have access to primary care, dental care, and behavioral health in their communities. However, 80 counties in North Carolina face shortages of primary care providers (see figure 1), with many counties also experiencing shortages of dental and/or behavioral health providers (Health Professional Shortage Areas or HPSAs).[a] Primary care providers[b] typically serve as the entry point into the health care system and provide a wide array of services including preventive, diagnostic, chronic disease management, and urgent care. The primary care workforce is experiencing increases in demand due to aging baby boomers requiring more care, overall growth in the population, and increasing numbers of people living with chronic illnesses. Despite overall growth in the primary care workforce in the last 30 years, North Carolina's most underserved and rural areas face persistent primary care shortfalls (see figure 2).[2,3] In addition to primary care providers, rural communities need nurses, behavioral health specialists, dentists, allied health professionals, pharmacists, and specific types of specialists to fully meet the health care needs of the population.

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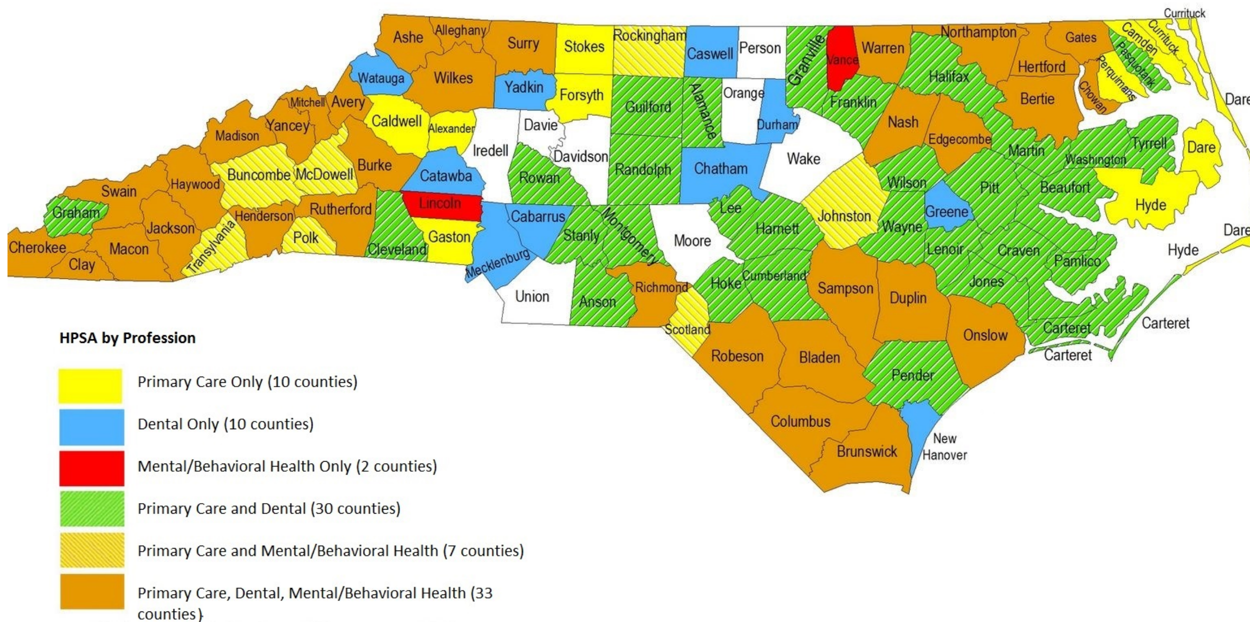
[a] The federal Health Resources and Services Administration (HRSA) identifies areas of the country that have too few providers to meet the health care needs of the population as Health Professional Shortage Areas (HPSAs). A primary care HPSA is a community that has no more than one primary care physician for every 3,500 population (or 1:3,000 if there are unusually high primary care needs, such as having 20% or more of the population living in poverty).

[b] PCPs include family physicians, general practitioners, pediatricians, general internists, obstetrician/gynecologists, nurse practitioners, and physician assistants.

Figure 1: Ninety-two North Carolina Counties Have Health Professional Shortage Areas

North Carolina Counties Designated Health Professional Shortage Areas SFY 2017



Data note: Shortage area may be whole county or population group or geographical area within a county. Data as of Jan. 3, 2018. Counties that are white are urban counties or rural counties without an official HPSA designation. The map is not reflective of counties that, if reviewed, would qualify for primary, dental, or mental health HPSAs.
Source: Adapted from Office of Rural Health, North Carolina Department of Health and Human Services. “North Carolina Counties Designated Health Professional Shortage Areas SFY 2017.” Accessed online 4/24/18 at https://files.nc.gov/ncdhhs/2017_11_HPSA_Primary%2C%20Dental%2C%20Mental%20Map.jpg

For most health professions in North Carolina, the issue is not total supply of health professionals, but the distribution of them across the state (see Figure 2). [c,2] North Carolina has 80 counties or parts of counties that are designated as primary care shortage areas, 42 counties (or parts thereof) that are designated as behavioral health shortage areas,[a] and 73 counties (or parts thereof) that are designated as dental shortage areas.[5] In addition, 26 rural counties lack general surgeons, who play an important role in meeting the health needs in a community and are integral to the sustainability of many rural hospitals.[4]

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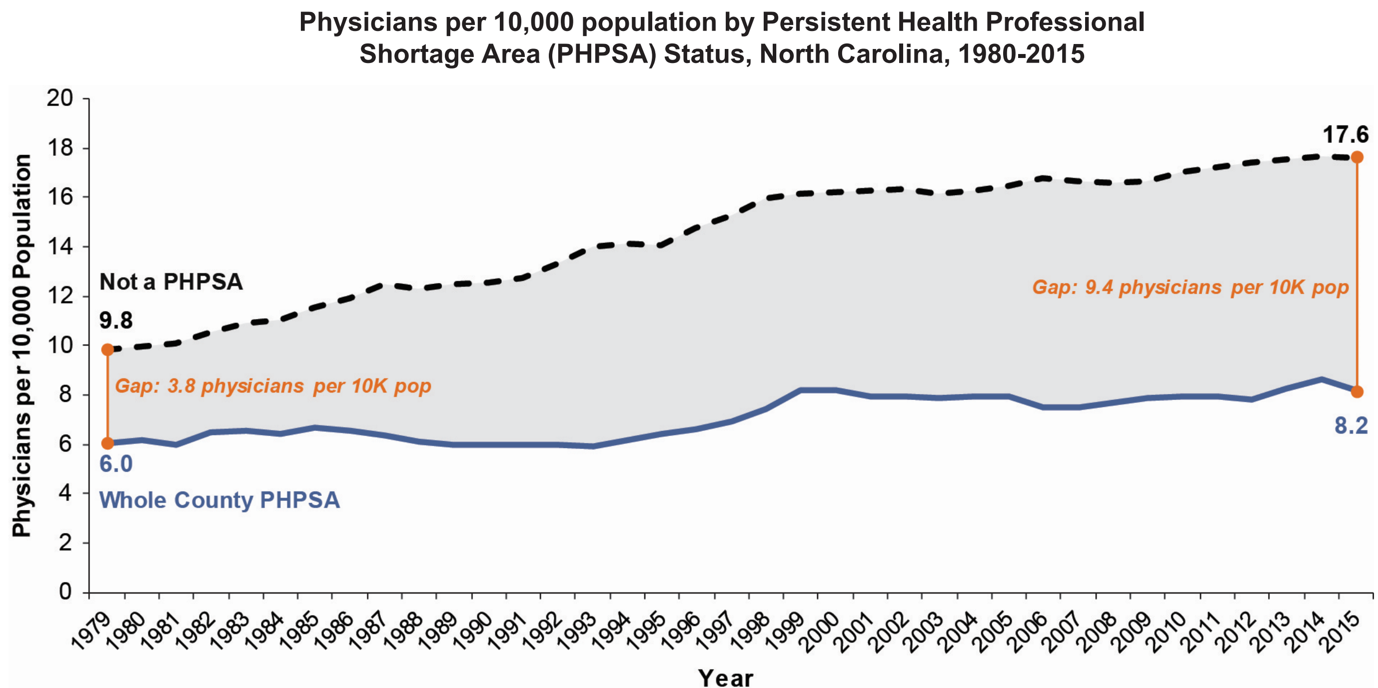
c Statewide shortages do exist for general surgeons and mental health professionals.

Figure 2: The Gap Between the Number of Physicians in Urban and Rural Communities Continues to Grow



Source: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. Notes: Figures include active, in-state, non-federal, non-resident-in-training physicians licensed as of October 31st of the respective year. North Carolina population data are smoothed figures based on 1980, 1990, 2000, and 2010 Censuses. Persistent HPSAs are those designated as HPSAs by HRSA in the Area Health Resource File using most recent 7 HPSA designations (2008-2013, 2015).

Impact of Provider Workforce Shortage in Rural Communities

Shortages of health care professionals in rural areas impede residents' ability to get the care they need. To access services, those services must be available, obtainable in a timely manner, and affordable. Barriers to access, including shortages of health professionals, result in unmet health care needs, delays in receiving care, forgoing preventive care, preventable hospitalizations, and death.[6]

Health care providers also have a strong economic impact on rural communities. For each primary care physician in a rural area, there is an average of four jobs created in the physician's office.[7] In addition, because of the referrals to hospitals that physicians make, there is also a large downstream financial impact on a rural hospital. The revenue that each primary care physician creates from inpatient and outpatient services helps create an estimated 13.5 additional jobs at the local hospital.[7] The increase in jobs and salaries at the physicians' offices and hospitals also has an impact on the greater local economy, with impacts estimated at approximately $2.2 million (per physician) in the local economy.[8]

Recruitment and Retention of Health Professionals in Rural Areas–Challenges and Strategies

Rural areas face many challenges in recruiting and retaining health professionals, including training opportunities, work load, and community characteristics. Although differences in salary are often cited as a challenge, data show that salaries for health professionals in rural areas are 13-16% higher than in urban areas, and 10% higher than in mid-sized communities; in general, overall compensation increases as community size decreases.[9] In 2017, the average national salary offered to family physicians was $231,000; the average in communities with fewer than 25,000 residents was $250,000.[10]

Factors Impacting Recruitment and Retention

North Carolina struggles to produce primary care providers and retain its medical residents, both of which make recruitment to rural areas more challenging.[11] For those who wish to become health professionals, opportunities to train in rural areas are limited. Many rural areas lack both established academic medical training programs, as well as opportunities for graduate medical education training programs.[d] In 2017, 69% of residents received their training at UNC- Chapel Hill/UNC Hospitals, Wake Forest Baptist Medical Center, or Duke University Medical Center.[12] However, several North Carolina programs have made great strides in improving residency opportunities in rural areas. Compared to a state average of 11%, New Hanover Regional Medical Center had the largest percentage (28%) of residency graduates practicing in rural areas, and Vidant Health, one of the state's largest residency programs, ranked near the top with 25%.[12]

Many rural communities face additional challenges in recruiting and retaining health professionals due to community characteristics. Rural areas are less likely to have a broad variety of entertainment and cultural options, such as restaurants, concerts, and theater. Rural areas also may have fewer options for child care and schools and may have less diversity than more urban areas. Another challenge pertains to employment opportunities for partners and spouses of health professionals in rural areas. In 2010, 54.1% of married physicians had spouses with graduate degrees or higher.[13] These spouses may have greater difficulty finding employment in rural areas, leading to fewer families willing to live in these areas or to stay more than a few years, particularly if there is a limited family and social support network nearby.

The finances of maintaining a rural practice can be challenging. In North Carolina, 54% of children in rural areas receive health insurance through Medicaid or NC Health Choice, compared to 39% of children in metro counties.[14] Fifteen percent of adults in small towns and rural areas had Medicaid in 2014-15, compared with 10% in metro areas; 20% of adults in rural areas were uninsured, compared to 16% in metro areas.[14] Higher numbers of patients with Medicaid or who are uninsured may lead to higher caseloads and/or financial strains on health professionals in rural areas, compared to their counterparts in areas with more patients with private health insurance coverage. Some of these challenges are also affected by the greater likelihood of rural physician practices to be independent practices and/or solo practitioner practices.

Strategies in North Carolina

Many North Carolina medical schools offer targeted rural training opportunities in order to address the challenge of preparing the health workforce for rural communities. For example, the Brody School of Medicine at East Carolina University gives admission preference to North Carolina residents of rural areas, and first and second year students work with community primary care physicians, often in rural areas, and spend an additional two to four weeks with community physicians in their third and fourth years of medical training. Brody graduates are consistently above the national 90th percentile for medical school graduates practicing in rural areas.[e] ECU's family medicine department also provides rural medicine training and conducts rural recruitment activities, leading to increased placement in residencies in rural areas.[15]

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[d] Graduate medical education (GME), also referred to as "residency," occurs after medical school, and lasts between three and seven years, depending on specialty [12]

[e] American Medical Association Physician Masterfile 2014

Other North Carolina medical training programs, including those at UNC- Chapel Hill and Campbell University, also provide targeted training for students interested in practicing in rural communities. UNC's Office of Rural Initiatives, in partnership with the state Office of Rural Health, provides opportunities for rural practice training through its Kenan Rural Scholars Program, the Rural Inter-professional Health Initiative (RIPHI), and the Fully Integrated Readiness for Service Training (FIRST) program.[16] Campbell University's recently established medical school (2018 is the second graduating class) is also establishing rural workforce initiatives; Campbell has received a grant from the Robert Wood Johnson Foundation for an 18-month Rural Philanthropic Analysis, aimed at analyzing funding practices for health improvement in rural communities.[17]

In addition, the North Carolina Area Health Education Centers program (AHEC) also operates primary care residencies located in community health settings serving rural and underserved populations, including Hendersonville (family medicine), Wilmington (family medicine), Prospect Hill (family medicine), and Greensboro (pediatrics). These residents train in community health centers, private clinics, hospital patient clinics, and other rural practice settings, and are more likely to continue practicing in rural and underserved areas than peers in other residency programs. [18] 15% of physicians who completed their residencies through NC AHEC practice in rural areas, compared to 12% of physicians who completed a non-AHEC residency. AHEC-trained surgeons are also more likely to practice in rural areas than surgeons who completed a non-AHEC residency (30% vs. 19%).[18]

Many programs also seek to encourage recruitment of health professionals to rural areas through financial incentives such as scholarships, loans, loan repayment programs, and direct incentives. The National Health Services Corps program provides scholarships or loan repayment to some types of health professionals[f] in return for their practicing in HPSAs for a set number of years. As of March 2018, 205 health professionals were participating in this program in North Carolina.[19] Only about 35% of primary care practitioners completing National Health Service Corps programs remain at the same HPSA location six years later; about 72% continue to practice in any HPSA.[20]

North Carolina, through the Office of Rural Health, provides additional funding for loan repayment or incentives for health professionals in HPSAs. The North Carolina Medical Society Foundation also operates the Community Practitioner Program, which uses private funds to recruit physicians, nurse practitioners, and physician assistants (who are not eligible for either National Health Services Corps or Office of Rural Health incentives) to rural and underserved communities.[15] The majority of students in these programs complete commitment (usually four years), but long-term retention remains a problem. Retaining a higher percentage of providers beyond loan repayment commitment could be an important step in closing the rural access gap.

Promising Practices for Recruitment and Retention of Rural Health Workforce

While recruitment and retention of the rural health workforce remains a challenge for North Carolina, several strategies hold promise.

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[f] Includes primary care providers (physicians, nurse practitioners, physician assistants, certified nurse midwives), behavioral health providers (psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists, family therapists, licensed professional counselors), and dental professionals (dentists and dental hygienists)

Pipeline Strategies

Research shows that programs and practices that target individuals in rural communities throughout the education pipeline may be effective in recruiting and retaining health professionals in rural communities. These strategies often begin early in students' academic careers; many states support workforce initiatives aimed at exposing students in middle and high school to careers in health care.[21] In addition, rural birth is related more to retention in these areas, as providers from rural areas are more likely to want to continue to live and practice in rural areas.[21]

Several states and health systems are investing in their rural health workforces through programs aimed at introducing young rural community members to health care professions. "Camp Med" in Gillette, Wyoming, introduces 11- and 12- year-olds to medical occupations including nursing, radiology, and surgery. Trinity Health in North Dakota donates medical equipment to middle schools as part of several strategies to engage students in learning about health professions. These and other programs are generally funded through a combination of state, local, and private investments.[22] AHEC has programs in all regions working with students in middle schools and high schools to expose them to health career opportunities. These programs emphasize opportunities for underrepresented minority students, those from rural communities, and those from disadvantaged backgrounds.[23]

One of the largest pipeline programs in the US is the Summer Health Professions Education Program (SHPEP), funded by the Robert Wood Johnson Foundation. This program offers college students from disadvantaged backgrounds (rural, minority, or low resource communities/families) summer programs to prepare them for successful application to, and the academic rigors ofhealth professional education. The program has recently included a focus on students from rural communities and expanded to include health professions more broadly. The program operates at 13 university campuses. In almost 30 years, the program has worked with nearly 30,000 students and has shown a high degree of success at maintaining interest in health professions, preparing students for successful application, and successful completion of professional training programs. The focus on rural and socio-economically disadvantaged students is a recent adaptation of the program.[24] SHPEP is similar in design to the UNC Medical Education Program, which has helped to prepare over 3,000 students for application to health professions schools since 1974, with 92% matriculating in medical, dental, or other health professional schools. This program has also recently considered rural background one potential qualifier for application.[25]

At the post-secondary level, the Physician Shortage Area Program at Thomas Jefferson University in Philadelphia provides an example of success in recruiting medical students interested in practicing primary care in rural settings. This program preferentially admits applicants who match 3 predictive factors for rural practice: growing up in a rural area; plans to practice in a rural area; and plans to practice family medicine. In addition to selective recruitment, this program includes mentoring and rural exposure during medical school, along with financial incentives for rural family medicine practice. An early evaluation of this program demonstrated that 68% of the graduates of this program were still practicing in the same rural area 11-16 years after residency completion.[26] In a 2012 study of Jefferson medical graduates from 1978 to 1982, 45% of graduates who met 3 of the predictive factors were still practicing in rural areas, compared with 23% of overall graduates.[27]

Community Investment

Recruiting health care providers to rural communities for a long-term successful placement should include a match between the provider, his or her family, and the community. Community leaders often participate in recruiting new providers and identifying professional opportunities for partners. In many cases, local hospitals will participate, sometimes financially, in recruitment efforts. Occasionally, local corporations or Chambers of Commerce also contribute financially to recruitment packages.

Place-based Philanthropy

Many North Carolina philanthropic organizations have developed place-based strategies to enhance community wellness in a more comprehensive way. These strategies may include health care workforce recruitment, retention, or enhancement strategies. Kate B. Reynolds Charitable Trust works with six communities to target half of allocated resources to improving access to primary care, behavioral health, community-centered prevention, and diabetes care. The Duke Endowment developed the Healthy People Carolinas Initiative in 2015, beginning with five regions and developing plans to expand to 20 regions. This initiative seeks to increase the number of highly effective community coalitions and the number of community residents engaged in health-promoting activities. These types of initiatives, as well as those supported by community and hospital conversion foundations, may bring together multiple stakeholders and target rural communities' resources to enhance recruitment and retention of health care providers. These efforts may have the additional impact of enhancing public education, the early care and education system, and economic opportunities in a community while improving access to crucial health care services.

Conclusion

Rural communities in North Carolina continue to have low rates of physicians and other types of health professionals compared to urban and suburban communities. Some of the hardest-hit communities have made little progress in the last 40 years. While loan repayment programs have been a mainstay for health professional recruitment, and effective at getting health professionals to rural communities, ~~the~~ long-term retention beyond the initial contract period remains poor. As a standalone approach, loan repayment often serves as a "first aid" approach for rural communities. Strategies that combine earlier recruitment, mentoring, and non-economic support (such as practice coaching, teaching opportunities, and networking) for rural health care providers can substantially increase the long-term placement of these professionals. Evaluation of college programs has demonstrated success at matriculation into health professional training programs for underrepresented minority students, but less is known about earlier programs and the ability to adapt these programs for students from rural communities and attract them into rural practice. Programs focusing on middle school and high school students have also historically focused on underrepresented minority students but may be a promising strategy for students from rural communities as well. Overall, multifaceted strategies hold the most promise for rural communities to engage community resources and strengths to meet the health needs of rural North Carolinians.

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