Optimal Care for All:
The Critical Need for Clinician Retention in Rural North Carolina

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Despite its increasing urbanization, North Carolina still has a large rural population that lacks optimal health care. While multiple programs have been successful in recruiting clinicians to rural communities, improving the retention of those clinicians will require the development and implementation of novel strategies along with the evaluation of their effectiveness.

The challenges facing North Carolinians seeking optimal health care are most acute in rural areas of the state where health equity, access to services, and quality of care are all under threat. Recruiting and retaining clinicians—especially primary care, general surgery, and mental health clinicians—is a never-ending search for heroes willing to get by with less, live in professional isolation, and care for people who are, in general, older, sicker, and poorer. Without these clinician-heroes, rural North Carolinians will be more likely to get urgent care rather than primary care and face traveling even longer distances for specialty care.

Proposed solutions for recruiting and retaining rural clinicians require commitments from the state and federal governments, the engagement of communities, the dedication of schools of health professions to their social mandates, and simply more funding. The hospital-based megasystems and insurers have a major role to play as well—much more than just goodwill. The shortfall of health professionals in rural areas is significant [1] and it will take a concentrated and coordinated effort to retain the critical clinicians who dedicate their careers to looking after rural North Carolinians—the people of our state who are the most at risk and the most in need of optimal care.

For rural residents, there are widening disparities in life expectancy and all-cause mortality compared to urban dwellers [2, 3]. These disparities are due in part to higher rates of hypertension, diabetes, obesity, and physical inactivity among rural residents [4]. However, limited access to quality health services, particularly primary care, likely plays a role in the increased rates of mortality, morbidity, and other health problems for people living in rural areas [5].

North Carolinians who live in rural parts of our state, often by choice but sometimes by birth and vocation, deserve the same optimal health care that's easier to find in urban areas. Clinicians who provide health care services—physicians, advanced nurses and physician assistants, nurses, and allied health care professionals—who are recruited to rural areas via loan repayment or other short-lived incentives often leave after only a few years [6]. Doing what needs to be done to retain health care professionals for a career of service to rural North Carolinians must be a priority for our state, its communities, and the health care systems and other health care organizations that serve its people.

North Carolina is Still Very Rural

It was only 30 years ago that the majority of North Carolinians were living in a rural part of the state [7]. Despite the rapid urbanization of North Carolina's population centers, one-third of North Carolinians still live in rural areas, which makes North Carolina's rural population one of the largest in the country [8]. While much of North Carolina's population lives in the corridor that stretches from Charlotte to the Triad to the Triangle and in the municipalities of Asheville, Hickory, Fayetteville, Greenville, and Wilmington, 14 of our 100 counties belong to neither a metropolitan or micropolitan region [7, 8].

The rural areas of North Carolina are suffering from net out-migration causing a reduction in population, concentration of an aged population, and a reduced tax base [8, 9]. This negative trend in rural areas is compounded by the closure of hospitals [10] and, for some rural counties, a lack of federally designated outpatient clinics (which is often *the* safety net for rural residents) [11]. In sum, North Carolina is still very rural but the rural areas are less prosperous, even less populous, and have limited access to optimal care.

Recruiting to Rural Communities is Different from Retention

Several factors influence a clinician's decision to practice in a rural setting. These factors include experience in a rural community (growing up, attending high school or a clinical rotation during training), the specialty of Family Medicine,

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the scope of practice allowed in the community, spousal satisfaction, family fit with the community, and salary and other financial incentives such as loan repayment [12]. While several studies have assessed both recruitment and retention, no studies have evaluated an intervention designed specifically to improve retention [12].

In the studies where retention (along with recruitment) is addressed, community preparation to support providers (schools, salary and loan support, assisting spouse to find employment) and a healthy practice environment (favorable call schedules and provider ownership of the practice) seem to be helpful in retaining clinicians over time [12]. For some clinicians, extra and focused training in emergency care, community involvement, and adaptation to the local culture improved retention rates [12].

Pathman and colleagues found that retention rates in rural Health Professional Shortage Areas (HPSAs) versus rural non-HPSAs did not seem to differ for physicians and determined that physician shortages in rural areas was more related to poor recruitment than retention per se; they concluded that "retention is related to modifiable characteristics of work, whereas recruitment is related to the relatively immutable characteristics of physicians' backgrounds and professional and lifestyle preferences, as well as the socioeconomic features of communities [13]." An alternative conclusion could be drawn from the long-standing Physician Shortage Program at Thomas Jefferson University, which preferentially admits applicants who have grown up in a rural area, plan to practice in a rural area, and plan to practice Family Medicine [14]; students with all three attributes were still practicing in a rural area three decades after graduation [15].

The Impact of the Evolution of Health Care and the Clinicians Who Provide It

The continued evolution of our communities, the health care system writ large, constituent institutions, and those who enter the health professions add to the challenge of retaining rural clinicians. As noted, rural communities are struggling to meet the needs of their populations, which continue to lose members. In addition, interest in entering primary care has decreased, the ratio of men and women entering health professions is changing (which may impact selection of rural practice [16]), there are fewer independent providers (a predictor of physician retention in rural settings), and numerous rural hospitals have limited the scope of practice they support (eg, no more OB or pediatrics). Significant school debt combined with increasingly unfavorable reimbursements has changed specialty selection and practice patterns. Since those who choose to enter and stay in rural practice do so because of practice ownership, scope of practice, and favorable practice conditions, the impact of large health systems moving into rural areas has been consequential. The urban-based health systems, in order to stabilize financial pressures on rural hospitals, have made decisions that have inadvertently disrupted the tenuous factors that make rural practice desirable. For example, a system may reduce costs at a rural hospital by eliminating an expensive service (newborn deliveries, procedural units) and consolidate the care at the urban center [17-19], while the rural physician prefers to continue to deliver babies or perform procedures.

What to Do Now to Improve Rural Clinician Retention

While we don't fully understand the reasons health care clinicians stay in rural communities over time, there are many things that can be done now to improve recruitment of providers to those communities with the goal that they will stay. Strategies include recruiting rural students into the pipeline, assisting rural communities in becoming more attractive to health professionals and better places to work, and improving the practice environment. These retention strategies merit consideration and, more importantly, thorough evaluation of their effectiveness.

Recruiting. Targeting students from rural communities and encouraging them to enter health professions training should be a priority. Ways to implement this strategy in North Carolina include: 1) dedicate positions for students from rural areas in expanding programs, as the Jerry M. Wallace School of Osteopathic Medicine of Campbell University is doing by creating rural residency positions for its graduates [20]; 2) train admissions staff and residency directors to recruit rural applicants; 3) continue and expand programs, like the Kenan Primary Care Medical Scholars Program [21] and the MAHEC Rural-Track Residency Program [22], that have proven to increase the number of rural students entering health professions and that provide robust clinical experiences in rural settings; 4) develop rural educational experiences with interprofessional learners and intentional connections with community resources; and 5) assure that students in rural settings are not merely "stationed" in a rural community but have an opportunity to engage with the community while there. Drs. Chad and Jon Kornegay, who went from rural Duplin County to East Carolina University's Brody School of Medicine because of its mission of improving the health status of the people of Eastern North Carolina and then returned to Duplin County to practice and be a part of the community, are examples of the positive effect of recruiting students from rural communities [23].

Assist Rural Communities in Becoming More Attractive to Health Care Clinicians. Small and under-resourced communities can be challenged in recruiting the health care workforce they need. Leaders of rural areas may be unfamiliar with the best methods for identifying and engaging the right clinicians or how best to promote their community's positive attributes. They may, for example, focus recruitment on physicians or dentists when other clinicians, such as behavioral health or other clinical professionals, are needed to create an attractive practice environment. They may be

unaware of all the available financial incentives to draw providers into their community like the North Carolina Medical Society Foundation's Community Practitioner Program, which offers partial help with education loan repayment and practice management assistance [24]. In addition to school loan repayment plans, mortgage loan reduction can help with community attractiveness, as can investment in local infrastructure such as high-speed Internet, opportunities for active living, and good local schools [25]. Rural leaders need to know about the numerous resources in North Carolina available to assist communities. These include the North Carolina Office of Rural Health [26], which assists with recruiting and accessing available loan repayment opportunities, the strong recruiting units of the health systems, and the North Carolina Chamber of Commerce and other development organizations that can provide support to communities to prepare them to recruit health professionals.

Improve the Practice Environment. Clinicians are less likely to stay in rural areas if the practice environment they encounter is distinctly different from what they expect, prefer, or enjoy. Advances in medical education that emphasize teamwork, inter-professionalism, and other aspects of health systems science, like those being instituted at ECU's Brody School of Medicine [27], will cause rural recruits to expect that type of practice, which is different from what they are likely to encounter. Likewise, the inability to unplug from work, professional isolation, lack of resources to support patient health in the community, and challenges of an evolving health care system (implementation of electronic health records, changing models of payment, system consolidation, and practice acquisition) can push providers to leave tenuous rural settings. North Carolina's Area Health Education Centers (AHEC) and Community Care of North Carolina can assist practices in transforming to meet current and upcoming payment models. As we seek to meet the goals of the Triple Aim, systems of care will need to adapt to accommodate addressing health rather than just health care. Practices will need to work with their communities and local health systems to address social determinants of health. Accountable Care Organizations and Accountable Care Community structures should engage with rural providers to identify optimal models of care and the workforce and resources needed to meet the Triple Aim goals. The consolidating health systems in the state should use their resources to improve the practice environment and meet the special needs of rural communities as they struggle to retain clinicians. Experience with new payment models, advancing technology, and resources to address social determinants should be shared with rural communities, and those communities need to be a priority for the major health care systems. In addition, the large systems need to understand the needs of the rural provider and how they may differ from urban providers and then institute strategies that help the rural clinician thrive [28].

North Carolina has several organizations that work together to support rural clinicians including strong federally qualified health centers, North Carolina AHEC and its branches, Community Care of North Carolina, the Office of Rural Health, and health professions programs at community colleges and universities. Representatives from many of these groups participated in the North Carolina Institute of Medicine Task Force on Rural Health [29]—its updated action plan [30], particularly recommendation 6 regarding incentives to cultivate, recruit, and retain health professionals for underserved areas, should be pursued with vigor.

We Need to Understand Clinician Retention in Rural Settings

Finally, there are few studies that focus specifically on what interventions successfully support retention of clinicians in rural settings. A broad assessment of this issue in North Carolina should be undertaken and strategies developed and implemented based on the findings. In particular, the role of state funding for health training and the return on the investment for the state should be studied thoroughly, including longitudinal studies of trainees whom the state has supported. As Dr. Erin Fraher and her colleagues at the Cecil G. Sheps Center for Health Services Research stated correctly to the Joint Oversight Subcommittee on Medical Education Programs and Medical Residency Programs earlier this year: "We need to fundamentally change the way we invest in medical training [31]." To aid in developing that change, we need to understand where the funding for training, loan repayment, and rural tracks goes, the effects on clinician retention, and the long-term improvements it achieves. In essence, we have learned how to recruit clinicians to rural North Carolina—now, to help achieve optimal care for all North Carolinians, we need to learn everything we can about how we can retain those rural clinicians for the long term. NCM

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