ORIGINAL RESEARCH

Targeting the nurse practitioner workforce: Influences and barriers in choosing rural practice

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ABSTRACT

Background and objective: Recruitment and retention of primary care providers are projected to worsen in rural regions. Nurse practitioners (NPs) are a crucial solution to the shortage of primary care providers in rural America. Little research exists regarding factors influencing new NPs' decisions to practice in rural settings, as well as practice readiness. The purpose of this study is to explore factors influencing new NPs' decision to practice in rural settings.
Methods: A survey of family nurse practitioner (FNP) graduates in a rural state was conducted. The survey measured rural background, current practice environment, the impact of rural clinical experiences on readiness to practice, and perceptions of rural NP practice.
Results: The data collected over five years (N = 42) indicated several factors that influenced an NP's decision to choose a position in a rural or underserved setting. A wide scope of practice, rural roots, a desirable job offer, and strong relationships were influential when choosing rural practice.
Conclusions: Most respondents (69%) were not practicing in rural or underserved areas. Among those who were, the ability to practice to the full scope of education and autonomy were the most important factors. However, respondents were also apprehensive and intimidated with the broad skill set required in rural care. *Implications:* This study provides insight into factors and barriers for new graduate NPs in choosing a rural practice setting as well as possible solutions to the rural workforce shortage.

Key Words: Healthcare Workforce, Clinical Readiness, Nurse Practitioner Education, Rural Practice, Rural Barriers

1. INTRODUCTION

Recruitment and retention of primary care providers in rural areas has been a challenge for many years. Shortages of rural providers negatively impact healthcare quality by reducing access to care for vulnerable populations, increasing stress on existing providers, raising costs in employee turnover and utilization of short-term staff, and inadequately preventing and managing chronic diseases.[1,2] The American Association of Medical Colleges[3] projects that by the year 2033, the total shortage of physicians will fall between 54,100 to 139,000, with primary care physician shortages estimated to be 21,400 to 55,200. Future models suggest a growing aging population with longer life expectancies and higher prevalence of chronic conditions including heart disease, diabetes, hypertension, cancer, and lung disease.[4]

NPs have been identified as a solution for rural primary care shortages.[5] Researchers have found that primary care NPs are more likely to practice in rural settings and care for vulnerable populations than primary care physicians.[1,6,7] A recent study showed that one in four NPs practice in rural

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areas.[6] Indeed, the NP workforce has shown to be flexible workforce with an ability to adapt quickly to emerging healthcare needs.[8] Beyond the willingness to practice in rural settings, recent studies have revealed that care provided by NPs is less costly and with equal or higher quality and outcomes compared to similar care provided by physicians.[9–11] All primary care providers are essential for alleviating the rural primary care workforce shortage. Therefore, understanding factors that influence recruitment and retention of NPs to rural areas is crucial. While many studies highlight reasons that physicians or nurses do not select rural healthcare settings, scarce data exists pertaining to NPs. Of equal importance is an examination of factors that increase likelihood of NPs choosing to practice in a rural setting.

1.1 Influencing factors for NPs to choose a rural position

Common characteristics among NPs and other healthcare providers who ultimately accept a rural healthcare position have been identified. First, new rural NPs have typically lived or worked in a rural area previously.[12] Similarly, rural upbringing has been identified among other practicing rural healthcare professionals including rural physicians, therapists, and registered nurses (RNs).[13,14] Recruitment efforts that focus on attracting applicants from rural backgrounds have been advocated to increase the number of rural NPs.[8] Leaders in rural institutions have begun to target promising RNs with rural backgrounds for graduate education and eventual return to the community as NPs.[8]

Second, NPs in rural settings have reported greater job satisfaction related to the ability to practice autonomously at the top of their scope of practice, using a wide variety of skills.[12,15,16] Practicing with a full scope has correlated with a sense of being valued and respected.[12] Not surprisingly, NPs who practice in states with full scope of practice are more likely to practice in rural and health professional shortage areas (HPSAs).[17] Further, NPs located in isolated rural areas ascribed to greater involvement in organizational policies and decisions.[16]

Third, clinical exposures to rural settings have been found to enhance interest in rural practice for NP students.[12,18] Positive relationships developed with rural preceptors enhances learning opportunities and increases likelihood of rural practice.[19] While there are few studies illustrating the impact of rural primary care experiences for recruiting new NPs, several studies have demonstrated the benefits of rural clinical placements for future recruitment of health professionals.[20]

Several other factors have positively influenced the decision of healthcare providers to practice in rural settings including financial incentives such as salary guarantees, loan repayment, or debt forgiveness; offering priority or selective professional program admission to students living in rural settings; effective rural administration and leadership; and mechanisms to care for complicated patients such as telehealth and transfer arrangements.[2,5,13,21,22]

A review of the literature also reveals many reasons why primary care providers are not choosing rural settings. Family factors include limited employment opportunities for spouses, lack of school choices for children, and fewer resources related to shopping and services.[22] Trends regarding physician spouses with advanced degrees have increased steadily over the last several decades, thereby reducing the likelihood that a physician will permanently settle in a rural area due to the scarcity of jobs requiring advanced degrees.[1] Other barriers identified were lower salaries, limited opportunities to learn or maintain skills, lack of collegial support, isolation in more remote settings, and insufficient management.[2,14,22]

2. METHODS

2.1 Study design and sample

A web-based survey was conducted utilizing data collected from FNP graduates of a Midwestern land grant university located in a state with a large rural population. The program is a face-to-face Doctor of Nursing Practice/Family Nurse Practitioner (DNP/FNP) program. The purpose of the survey was to assess rural background, current practice environment, the impact of rural clinical experiences on readiness to practice, perceptions of rural NP practice, and influences associated with choosing a position in a rural setting. The thirteen-item survey developed by faculty used a combination of Likert scale, rank-order, and open-ended questions. DNP/FNP graduates who graduated from 2017 to 2021 were invited via email to participate in a linked survey. Responses were anonymous, and participation was limited to graduates who completed a clinical rotation in a rural or underserved setting while a student of the program. The survey was categorized as "exempt" from the academic institution's Institutional Review Board.

2.2 Data analysis

Descriptive statistics were used for the overall sample. Open-ended items were analyzed for themes using content analysis. Systematic review of data was coded by several FNP faculty members into themes. Finally, comparative analysis of open-ended responses was utilized to identify differing individual responses generating knowledge about potential barriers to choosing a position in a rural setting.

3. RESULTS

3.1 Demographics

Of the 69 FNP graduates invited to participate, 42 (61%) responded and met inclusion criteria for analysis. Just under half (47%) of the graduates had lived in a rural setting prior to entering the program (defined as under 5,000 people in a geographic area). While all respondents spent some clinical time in a rural or underserved setting, most graduates (64%) reported spending over 50% of total clinical hours in rural or underserved settings. Of the 42 respondents, 11 (26%) were currently practicing in a rural or underserved area. Nearly all (81%) of the 11 graduates practicing in a rural or underserved setting felt that rural clinical experiences positively influenced their employment decision by answering "definitely yes" or "probably yes." Alternatively, 24 graduates (69%) were not practicing in a rural or underserved area, with four respondents not yet employed seeking a rural practice location. The survey was amended to include the option, "Yes, intend to practice in a rural location" for 2021 graduates. The change was due to the difficult post-Covid NP job market. Many healthcare personnel were laid off during the pandemic, with organizations prioritizing the re-hiring of experienced NPs who were laid off over the initial hiring of new graduate NPs. Of the eight respondents in the 2021 cohort, four (50%) reported an intent to practice in a rural setting.

3.2 Factors in choosing a position in rural or underserved settings

FNP graduates currently working in a rural or underserved setting were asked to rank-order factors impacting their job decision. Factors included in the ranking were desire to remain in/return to a rural location, autonomy, ability to practice to full scope of license, desirable job offer, and developing a good relationship with employer during clinical rotations (see Table 1). The most influential factor ranked first by nearly half (44%) of the FNPs practicing in rural setting was the ability to practice to full scope of license. Utilizing weighted calculations of ranking scores, the second most influential factor was obtaining a desirable job offer.

Table 1. Ranked factors influencing rural practice

Factors influencing rural practice	Weighted Total Points	# of times ranked first
Scope of Practice	22	4
Desirable job offer:	21	3
Autonomy	18	0
Return to rural roots	17	1
Relationship	16	1

Note. Ranked Responses: 1) Scope of Practice 2) Desirable job offer 3) Autonomy 4) Return to rural roots 5) Relationship with employer developed during graduate school

3.3 Readiness to practice

An open-ended item was utilized to glean information about how rural clinical rotations impacted readiness to practice. Of the 42 respondents, 34 (81%) had written responses. Most respondents (over 65%) commented positively on the ability to care for a wide variety of complex and diverse patients. Other comments related to the impact of rural rotations included learning how to function autonomously with limited resources, improved critical thinking skills, more opportunities to learn procedures, enhanced confidence. Respondents commented on the openness of rural providers to seek learning opportunities for the student and feeling welcomed by the rural healthcare team.

3.4 Perceptions of rural NP practice

Several themes emerged from the open-ended item regarding perception of rural NP practice.

Table 2. Themes of rural practice perceptions

Themes of Rural Practice Perceptions	
Broad practice experiences	Wide scope of practice
Close patient and provider relationships	Practice autonomy
Wide resource utilization	Diverse patient population
Management of complex disease states	Desire for rural practice in the future

Of the 42 respondents, 31 (74%) answered the question, "How did your rural experience influence your perception of rural NP practice?" Perceptions of rural NP practice were overwhelmingly positive (100%) with several respondents having pre-existing positive perception of rural practice that was not changed by the clinical experience. The role of a rural NP was described in terms such as resource savvy, independent, competent, extremely knowledgeable, and fiscally responsible. One respondent wrote, "Rural NP practice was quite different from anything else I had experienced." Further, rural NPs were commended for providing excellent,

high-quality care. The ability to practice autonomously or independently was a write-in response for seven of the 26 respondents (27%). One respondent who grew up in a rural area was "passionate about making sure people residing in rural areas receive high quality health care."

3.5 Potential challenges and barriers

Constant comparative analysis was utilized to analyze and compare individual pieces of data to assess for differences from the main themes. Written comments in the open-ended items were compared to generate knowledge about potential challenges and barriers encountered during rural clinical experiences.

Training in a rural setting for one respondent, "helped me think quickly on my feet and utilize my available resources." Several respondents described challenges in caring for patients in rural settings due to scarce resources, limited access to specialty services, deficient supplies, and older equipment. Barriers in access to healthcare services and recognizing rural health disparities was enlightening for several respondents.

Challenges were identified with the autonomous nature of rural care. One respondent noted a feeling of being "outside comfort zone ... and lacking the backing of other providers... at times could see NP would like to have someone to consult with." Another respondent commented how much rural NPs "need to know and how independent you have to be related to scarce services." Rural NPs were respected for their knowledge base, competence, and ability to manage "more chronic/acute care than may have in urban area." Moreover, rural NPs were perceived as needing to be "extremely knowledgeable to work in a rural setting" and "competent in multiple areas to serve the patients they care for." One respondent commented that rural NPs "often are forced to own their full scope of practice and professional knowledge base." Another wrote, "It was clear there is a definite need for experienced providers in the rural setting."

3.6 Final comments on rural/underserved clinical opportunities

Respondents were given the opportunity to share final comments about the rural learning opportunities offered during the DNP/FNP program. Twenty-five of the 42 respondents (60%) added final comments about their rural experiences. Overwhelmingly, the FNP respondents stated that the rural clinical experiences were indispensable and should be available for future students. While no comments were negative, some respondents commented about other aspects of their clinical experiences. Being able to see a variety of diverse and complex patients in the rural setting was perceived by many as a "perfect clinical experience," "highly beneficial," and an "excellent learning opportunity." One respondent reported the benefits of completing a longitudinal rotation across semesters within the same rural setting with the same preceptor for identifying individual areas for growth. Travel time and costs were identified by three respondents as significant barriers to the rural experience, but notably, all three went on to state that they still found the rural experience to be valuable.

4. DISCUSSION

The primary purpose of this study was to survey recent DNP/FNP graduates regarding their clinical experiences in rural and underserved settings to identify influential factors in future job selection. Several findings were consistent with previous literature. First, new FNPs practicing in rural settings were positively influenced by their rural clinical experiences. Respondents acknowledged supportive relationships with motivated preceptors, diverse clinical encounters, and greater opportunities to learn procedures. Consistent with previous studies of medical students and rural training, exposures to rural clinical settings enhances interest in rural practice for NPs.[12,18,23]

Second, the ability to practice to the full scope of license was ranked as the most influential factor in choosing a rural position. This finding is consistent with recent studies of both new and established NPs that show the importance of fully utilizing skills and feeling challenged.[15,24] Rural practice frequently entails a wide variety of roles and responsibilities beyond primary care including emergency care, hospital medicine, and nursing home rounds. While nearly half of US states allow NPs full practice authority, many states continue to limit scope of practice. In this study, the Midwestern land grant university was located not only in a state with full practice authority, but all neighboring states also have full practice authority.[25] Scope of practice is clearly a principal factor for new NPs in deciding to take a rural position.

Third, a desirable job offer was ranked highly by some NPs as influential in choosing a rural practice. Salary has correlated with NP recruitment, retention, and overall job satisfaction across settings.[24,26] Unfortunately, desirable job offer is a complex construct dependent on the individual and may encompass perks beyond salary. For instance, loan repayment has been an influencing factor for recruiting NPs as well as other healthcare professionals to rural areas.[14,23] NPs practicing in rural settings have lower salaries compared to urban counterparts despite working more hours on average, seeing more patients weekly, and having larger patient panels.[15,16] Importantly, once providers commit to a rural position, efforts must be continued to retain them due to high turnover rates in rural settings.[2]

Finally, consistent with previous studies of rural upbringing, some of the new NPs practicing in rural settings wanted to either return to/remain in a rural location. Over half of the graduates had lived in a small rural community under 5,000 people prior to entering the program. Faraz and Salsberg[26] found that new NPs were not willing to move out of their local community even if there were limited employment opportunities.

Regrettably, despite the majority of new FNP respondents previously living in a rural community, spending over half of their total clinical hours in a rural setting, expressing positive perceptions about their rural clinical experiences, and attending a university in a state with a large rural population, only 31% of NP graduates were practicing in a rural or underserved setting. The majority (69%) were not practicing in rural or underserved areas. Findings are somewhat consistent with other studies about NP migration away from rural settings. Kippenbrock et al.[27] found that, despite a stable rural population rate from 2000 to 2010, there was a significant decrease in the percentage of NPs practicing in 12 Southern states; 59% to 47% respectively. The decrease of NPs practicing in rural areas occurred even though the number of NPs doubled.[27] A large convenience sample of 300 primary care NP students from across the United States revealed that only 26% planned to practice in rural areas.[21] While rural upbringing and rural clinical exposures are important factors for NPs in deciding to work in a rural setting, there must be other reasons why NPs are not going to rural settings.

Individual written comments from our survey may shed light on why some NPs do not choose a rural healthcare position. There was a general perception that rural NPs needed to be extremely knowledgeable, competent, autonomous, and able to care for a diverse and complex patient population. For some, taking a first job in a rural setting may be intimidating. A recent large study of 698 new NPs found that only 3.3% felt "very well prepared" and 38.9% felt "generally well prepared" to practice as a NP after completing their educational program.[28] Further, 26% of new NPs did not feel that they were provided adequate clinical support during their first year. Nearly half (49%) felt they were practicing outside of competence level during the first year of practice.[28]

The perception of the rural NP role in this survey was one of being independent and competent even in the setting of scarce resources. Budd et al.[21] have speculated that one reason NP students are not choosing primary care or rural settings is because of apprehension about the need to have a broad skill set. Primary care rotations may diminish the desire for a future primary care position.[21] Even new physicians may not choose rural primary care for reasons of social isolation, busy workloads, long work hours, and increased responsibility.[14] While autonomy and ability to practice to full scope of education are important to new NPs, there must be a critical balance of support and autonomy.[29] Postgraduate clinical training opportunities, such as fellowships or residency programs with mentorship, additional education, and interprofessional collaboration components can provide support needed to smooth the transition to rural practice.[30] An important question remains, "If NPs are supposed to be the solution to the rural healthcare crisis, how do we get NPs to go to rural settings?"

4.1 Limitations

Several study limitations should be considered. Participants were graduates from one Midwestern land grant university with a face-to-face DNP/FNP program located in a state with a large rural population. Findings may be vastly different in other geographical areas, states with larger urban populations, Masters-level programs, other types of NP graduates such as adult-gerontology primary care nurse practitioners, or online-only environments. Additionally, there was a small sample size. Because the DNP/FNP program has a significant rural healthcare focus, survey findings were meant to identify influencing factors and barriers to rural practice as well as to inform future curriculum and program needs. While there was a high response rate from the five years of graduates (51%), it would be interesting to know the practice patterns and perceptions of clinical experiences from non-responders. Reliability of the survey tool was not established. Barriers to choosing a rural NP position were identified from comments in open-ended items.

4.2 Educational and practice implications

A multitude of solutions are proposed in the literature to not only support novice NPs in rural settings but also to benefit recruitment and retention practices. Because providers living in a rural community are more likely to stay in the community, healthcare organizations and NP programs should consider a "grow your own" strategy to recruit RNs in rural areas to become NPs.[8,21,26] Kippenbrock et al.[23] suggested delivering the entire educational process to NPs students' in their rural home. By targeting RNs with strong rural ties to communities, healthcare organizations not only create a self-sustaining workforce pipeline but also long-term employees who are already attuned to existing rural health disparities and challenges.

From an academic perspective, several strategies have been offered to stimulate interest in rural primary care practice. Faculty nurturing, preceptor guidance, and clinical experiences have been predictive of NP students' decisions to seek

primary care positions.[21,31] Longitudinal clinical placements in rural communities have been a successful method for medical students to acquire skills, gain confidence, discover the nuances of rural culture, improve perceptions of preparedness to practice, and increase the odds of joining a rural practice.[32] Finding and keeping exceptional rural preceptors is an essential component to student engagement and creating positive perceptions of rural practice. Unfortunately, recent literature describes growing challenges for rural NP clinical experiences with competition for clinical sites, time, and cost burdens for students to go to remote locations, and provider productivity expectations.[19,33] Creative solutions have been proposed, including student grant opportunities, preceptor incentives, rural clinic reimbursement, and academic-practice partnerships.[33,34] Successful transition for NPs to rural settings begins during their NP education; however, it is unclear which rural healthcare content and clinical experiences are most meaningful to NP students.[12,35]

Mentorship for NPs in rural settings has been strongly recommended for facilitating a sense of connectedness and transition to practice in rural settings.[12,18] New NPs have remarked upon the importance of having a mentor in the first year of practice.[28,35] For healthcare providers in rural settings, isolation can be a major problem contributing to feeling disconnected and intentions to leave.[2] In some rural and remote settings, there are times when the NP is the sole provider in an emergency room or hospital (e.g., weekends, overnight hours, most days of the week). A few common elements have been found in successful NP mentorships including mutually agreed upon realistic goals, negotiated timeline, open communication, two-way learning, and reciprocal respect.[36] Important questions to consider in creating a formal NP mentorship applicable to a rural setting include: who is most appropriate to serve as mentor, how long should the relationship last, and what happens if the relationship is not working?

Having a transition to practice plan incorporating items such as a formal orientation program, a rural primary care NP residency or fellowship, or a NP-physician team-based care model has been suggested for improving NP recruitment and retention in rural and underserved settings.[7,12,18,30,37] One organization initiated a fellowship program to support advanced practice registered nurses (APRNs) newly hired to all areas of the organization regardless of experience.[38] The fellowship included interprofessional faculty, didactic content days covering themes related to APRN practice, networking opportunities, and simulation skills sessions.[38] The authors noted benefits of decreased turnover and recruitment. NP residency programs have demonstrated cost savings for organizations related to filling empty positions, decreasing orientation time, and preventing turnover.[30] Unfortunately, there are few NP residencies and fellowship programs in the most rural states with underserved populations.[39]

Finally, rural healthcare organizations and policy makers need to be creative and utilize a variety of approaches to attract NPs beyond monetary strategies of loan repayment and salary. Expanding NP scope of practice alone has been suggested for reducing the number of individuals in HPSAs.[5] Other strategies might include pilot programs that look at new ways to deliver care, strategic partnerships between universities and healthcare organizations to educate NPs in their home environments, the use of technology and telehealth to monitor and treat patients, developing interprofessional teams of experts to aid rural providers in managing complex patients, and capitalizing on human and material resources already present in small communities. Importantly, many rural nurses have built lives with their spouses and families with the intent to remain in the rural community indefinitely. This scenario points to a winning strategy of identifying passionate individuals who can first begin as a student, progress to a nurse, and ultimately become an FNP role model for the community. What is clear from the lack of literature is that more information is needed regarding successful methods to attract NPs to rural settings and promote successful transition once there.

5. Conclusion

The challenges of meeting the healthcare needs for rural America are numerous and varied. While a growing aging population, rising healthcare costs, and shortages in primary care providers plague all healthcare systems, rural healthcare settings have felt the pain. NPs have proven to be a competent, flexible, and cost-effective workforce uniquely positioned to meet the healthcare needs of the rural and underserved populations in the United States. Several recommendations to attract NPs to rural and underserved settings include recruitment of NP students from rural areas, diverse rural clinical exposures, financial incentives, promoting full practice authority in all states, and creating a formal transition to practice plan to entice new NPs who are not yet confident with their autonomy and skill set. Findings of this study provide insight into factors and barriers for new graduate NPs in choosing a rural practice setting.

Conflicts of Interest Disclosure

The authors declare that there is no conflict of interest.

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