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Original Research

The Meaning of Community Characteristics in the Recruitment and Retention of Rural Health Care Professionals

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ABSTRACT

Introduction. Rural communities face shortages of health care professionals, leading to reduced access to care and increased patient mortality. While prior studies have identified factors that positively influence recruitment and retention, limited research has examined how community characteristics shape these experiences. Authors of this study aimed to better understand the role of community characteristics in recruiting and retaining rural health care professionals in Kansas.

Methods. In-depth interviews were conducted with physicians, advanced practice providers (APPs), and nurses working at University of Kansas School of Medicine Summer Training Option in Rural Medicine (STORM) sites. Interviews explored the meaning of community characteristics and their influence on recruitment and retention experiences. Participants were recruited via email. Interviews were digitally recorded, transcribed, and coded inductively. Thematic network analysis was used to develop global themes and inform conclusions.

Results. Seventeen rural health care professionals (6 physicians, 5 APPs, and 6 nurses) participated. The average interview length was 18.6 minutes. Five global themes emerged: (1) predisposing factors, (2) community ability to meet basic needs, (3) workplace satisfaction and sense of purpose, (4) fulfillment through social connections and environment, and (5) challenges in rural health care. Although these themes were consistent across professions, each profession described their impact differently.

Conclusions. Factors influencing recruitment and retention of rural health care professionals in Kansas were similar across professions; however, their meaning and impact varied by profession. Recognizing these differences is important for developing strategies to improve recruitment and retention in rural communities.

INTRODUCTION

Shortages of primary care physicians have been a long-standing challenge in the United States, particularly in rural communities. Approximately one-fifth of the United States population lives in rural areas, yet fewer than 10% of physicians practice there.[1] This shortage limits access to care, contributes to poorer health outcomes, and increases mortality.[2] Historically, difficulties in recruiting and retaining health care professionals have contributed to rural health care workforce shortages.[3]

Previous research has identified key factors and strategies that influence rural recruitment and retention. Early rural exposure during training and economic incentives have been associated with improved recruitment, although these strategies may primarily support short-term retention.[4-6] Non-economic factors, including rural background, sociocultural integration, community appeal, and personal support, are associated with improved recruitment and long-term retention.[3,4,7] Although these factors are known to be important, less is understood about why they matter, whether their influence differs by profession, and how they can be leveraged to strengthen the rural workforce.

In Kansas, 92 of 105 counties (88%) are partially or wholly medically underserved.[8] These counties include approximately 33% of the state's population, who directly experience the consequences of health care workforce shortages.[8] Despite the implementation of multiple workforce development resources and educational initiatives, the urban-rural access gap persists.[9,10] Because long-term retention is associated with community-based factors, such as strong social connectedness,[3] questions remain about how community characteristics and perceptions of community meaning influence successful recruitment. Authors of this qualitative study examined the role of community in recruitment and retention and aimed to address gaps in the literature that may inform more effective strategies for strengthening the rural health care workforce.

METHODS

This cross-sectional, qualitative study used semi-structured interviews to explore the recruitment and retention experiences of rural health care professionals employed at The University of Kansas School of Medicine Summer Training Option in Rural Medicine (STORM) sites across Kansas. Interview sites were selected using the most recent Kansas Hospital Association Statistics (KHA-STAT) annual report to construct a sample with wide variation across geographic location, hospital size, and presence of an intensive care unit (ICU).[11]

We approached the impact of community on health care professional recruitment and retention with a constructivist paradigm, understanding that the meanings of community characteristics are created by those experiencing them. This paradigm influenced our decision not to merely list community characteristics, but instead to purposefully sample and conduct interviews with rural health care professionals to understand the meanings they construct around the community characteristics they experience.[12,13]

Study participants were purposefully recruited from three groups of professionals: physicians (MD/DO), advanced practice providers (PA/APRN/NP), and nursing staff (RN/LPN). This allowed for comparisons between types of health care professionals. Study participation was solicited via email, and the goals of the study were disclosed in writing to all participants in advance of interviews. Medical students then scheduled and conducted interviews in-person and privately at their respective STORM sites (participants' workplaces), using Zoom to digitally record.

No other individuals were present during interviews, and no participants were interviewed more than once. Medical student interviewers received training in interviewing from the senior author, who is an experienced qualitative researcher. They agreed to assist in conducting interviews due to an interest in the study subject matter and a desire to gain experience in data collection. They took minimal field notes, but those taken were shared with the first author. Peer debriefing was offered, but interviewers did not utilize it.

The interview guide was designed with five domains reflecting the Community Apgar Questionnaire (CAQ): 1) demographic, 2) geographic, 3) economic, 4) scope of practice, and 5) community support. The interview guide was designed to reflect the CAQ because it was specifically designed to help rural communities describe community characteristics and address challenges in recruitment and retention.[14,15] We asked questions regarding the participants' background, recruitment experiences, and perspectives on their community, including factors relating to economic circumstances, scope of practice, and general community support. The guide was not pilot-tested due to its basis in an established instrument, the senior author's previous experience in the field, and the short timeframe of the data collection period.

Interview recordings were professionally transcribed verbatim to ensure accuracy. Member-checking was not used due to the short timeframe of the study (the six weeks of the STORM program in summer 2023). Two coders were involved; the first author conducted initial inductive coding and discussed codes with the senior author, who assisted in coding to iterate the codebook. The authors met regularly and constructed a final codebook by consensus. Thematic analysis was conducted using Kiger's approach.[16] The Kiger approach does not offer guidance related to saturation; however, it directs researchers to move from codes to themes. In this process of constructing themes, the authors also applied the principles of thematic network analysis[17] to construct global themes and draw conclusions. Demographics were treated as quantitative data, and basic summary statistics were calculated using Microsoft® Excel® to further characterize the study sample. Participants have not yet received the study findings; we plan to share them after publication. This study was approved by The University of Kansas Medical Center Institutional Review Board (IRB), and we utilized the consolidated criteria for reporting qualitative research (COREQ) standards in the reporting.[18]

Reflexivity statement. These medical students also were working with participants during this time as trainees in their respective clinical settings and as such may have brought their perceptions of the interviewees into the interview. Similarly, the first author was training at a STORM site during the study period, and their perspective was shaped by their observations of the local health care professionals. The senior author has conducted previous research on this topic, and as such brought their knowledge and preconceived notions to the study. The first and senior authors acknowledged their potential biases to each other during debriefs throughout the data analysis stage.

RESULTS

A total of 21 health care professionals received study information and were invited to participate. Seventeen professionals from seven STORM sites completed interviews, including 6 physicians, 5 APPs, and 6 nursing staff. The average interview length was 18.6 minutes. Four invited participants declined participation. The mean participant age was 37.6 years, and 76% identified as female. Additional sample characteristics, including race, marital status, and parental status, are presented in Table 1. Five global themes emerged: (1) predisposing factors, (2) community ability to meet basic needs, (3) workplace satisfaction and sense of purpose, (4) fulfillment through social connections and environment, and (5) challenges in rural health care.

Table 1. Sample characteristics.

Profession	MD/DO	PA/APRN/NP	RN/LPN
Participants	6	5	6
Average Age (years)	39.2	32.9	37.5
Gender*			
Female	3	4	6
Male	3	1	0
Race*			
White	6	4	6
Asian	0	1	0
Marital Status			
Married	6	4	4
Single	0	1	2
Have children			
Yes	5	4	5
No	1	1	1

*Race and gender self-reported by participants.

Predisposing factors and community ability to meet basic needs were most frequently discussed in relation to recruitment to rural communities. Workplace satisfaction, sense of purpose, and fulfillment through social connections and environment were most associated with successful long-term retention. Participants across professions also described challenges in rural health care that negatively influenced retention.

Although global themes were consistent across professional groups, their meaning and impact varied by profession. Table 2 illustrates the relationship between organizing and global themes across professions.

Predisposing Factors. Most participants described two key predisposing factors: rural background and financial incentives. All participants reported early exposure to rural environments, including being raised in rural communities, visiting family in rural areas, or experiencing rural settings during medical training.

Financial incentives played a larger role in recruitment for physicians and APPs than for nursing staff. The Kansas Medical Student Loan (KMSL) Program positively influenced recruitment for several physicians. For one physician, participation in the KMSL program enabled them to pursue a medical career and return to their home community to practice.

"I did the KMSL Program, so I knew from the get-go I was going to practice in Kansas […] But again, it was easy to sign up for because I was already planning on coming back to a town that fit the criteria." – MD5

For another physician, KMSL was a financial benefit that led them to choose rural practice.

"I signed up for KMSL my first year of medical school, and so I needed to go into a primary care specialty and practice in an underserved area." - MD1

One PA felt although their job had a lower salary compared to those offered to them in urban settings, receiving loan repayment was a beneficial tradeoff and led them to choose rural practice.

"…to me the most important thing is probably loan repayment. I mean, that is a huge pull. […] So, if I'm not getting a loan repayment to work in a rural community then maybe I need to look elsewhere because my loans are just so much." - PA1

This perspective highlights the impact of educational debt as a powerful motivator in workforce distribution.

Nursing participants noted proximity to family as an important factor in their decision to practice in a rural community. Some nursing participants felt being close to family enabled them to have a support system.

"…For me just in general, because this is where my family and support is […] Those types of things are important." – RN4

Other nursing participants noted that they chose a career in a rural community based off readily available jobs and the need to be in a rural location for their spouse's career.

These findings underscore the interplay between structural, financial, and personal factors that shape rural workforce recruitment and retention.

Ability of Community to Meet Basic Needs. When discussing recruitment, rural health care professionals emphasized the importance of communities being able to meet both their personal needs and those of their families. For some, this included financial stability. A lower cost of living in rural communities, compared to urban areas, also was viewed as appealing.

"The cost of living here isn't as expensive as, say, if you were to go to a larger city where houses are much more expensive, so that was kind of the appeal to here." - NP2

These findings suggest that economic sustainability contributes to recruitment, as perceptions of financial security may enhance the appeal of rural practice. Recruitment strategies may benefit from highlighting cost-of-living advantages alongside loan repayment opportunities.

For some participants, meeting basic needs also included access to local amenities such as restaurants and grocery stores. For those with children, the availability of schools, daycare, and extracurricular activities was an important factor in recruitment decisions.

"...it's activities for the kids, a good school, things to do, like our parks and the swimming pool, church. Those types of things are important. As far as nursing, especially when I was at the hospital and my kids were younger, daycare was a big deal." – RN3

Many people expressed a sense of safety that led them to a rural community. This was especially pertinent to those raising a family.

"I have kids. I like the small-town community to raise them, as it's safer. […] To me I feel like it's a safer place to be." – LPN1

The ability of a community to meet personal and family needs influenced many health care professionals' decisions to both relocate to and remain in rural communities, although specific needs varied by individual. These findings highlight the importance of strong physical and social infrastructure to support the well-being of health care professionals and their families.

Satisfaction and Sense of Purpose in Workplace. Many study participants felt satisfaction in the workplace and a sense of purpose in their work. For some, this meant caring for patients they knew and providing quality care to those in underserved, rural communities.

"I feel like we can provide care in this small environment and still bring quality care to the rural community. And you're taking care of people that are from all stretches of life." – APRN1

One physician mentioned they felt returning to their hometown and giving back to their community created a positive work experience.

"I really wanted to come back home and serve the community that had given so much to me to get me to where I was, and so to come back here was a pretty amazing experience." – MD2

These statements suggest that fulfillment is closely tied to community identity and a sense of social contribution. The opportunity to serve others reflects a commitment to service and indicates that emotional and moral connections may support long-term retention.

Physician participants also valued full-scope practice opportunities, which provided flexibility in work hours and scheduling. Many APP and nursing participants reported receiving mentorship from supervising physicians or department managers, which fostered reassurance and support. They also perceived their workplaces as offering opportunities for professional growth and development.

"I feel like our new nurse manager is very proactive with us and she listens to our concerns. I feel like our providers take care of their staff. They make us feel that we're doing a good job." – LPN1

One NP mentioned this support created a sense of autonomy in their work and contributed to a collaborative work environment.

"Our providers allow me to follow protocol and give me the freedom to practice within my means. And I also enjoy the fact that I can

collaborate with the providers at any point if I have any questions or concerns about anything." – NP2

Autonomy and collaboration often coexist within rural health settings. This balance creates a trust-based practice environment that empowers clinicians and staff to work independently while maintaining collegial support.

Supportive work environments, strong mentorship, and a sense of community connection are all important contributors to job satisfaction among rural health care professionals, directly promoting long-term retention.

Fulfillment through Social Connections and Environment. Participants found their social network and connections to their environment led them to stay in rural communities. For some, this meant living in a community where people were familiar with one another and creating a friendly environment. This sense of familiarity was mentioned by physicians, APPs, and nurses alike. One nurse stated:

"…I like that I know a lot of people […] it's friendly, people know each other […] But I like that I do know a lot of people, and it's home." – RN4

Participants noted involvement in local churches and non-profit organizations allowed them to be involved in their community, bringing a feeling of fulfillment. Involvement in local organizations also gave participants a way to socialize and form meaningful relationships. Social familiarity helps shape identity and meaning in work, while reinforcing a sense of purpose. The overlap of professional and social roles can create emotional investment in the community's well-being.

Other study participants enjoyed the physical landscape of their surroundings, leading them to stay in a rural community. They enjoyed the peace and quiet the rural landscape could offer.

"It's a beautiful part of Kansas. Truly wouldn't even know you're in Kansas…it's hilly, and it's green, and it's just lush and beautiful […] and honestly, all of those things do contribute to my decision to stay." – PA1

The physical landscape supported retention for some participants by enabling them to enjoy their personal hobbies. The physical landscape allowed one participant to create a farm, and they have been able to provide food for themselves.

"*I always wanted cows and a farm, and so we've kind of created our own little trial by error farm, and we've got animals and butcher our own meat, grow a lot of our own fruits and vegetables."* – MD3

The appreciation for the landscape demonstrates a relationship between place attachment and retention. For these providers, the environment offers an enjoyable outlet that may counteract the demands of rural practice.

Having strong social connections, community involvement, and a friendly environment were reasons for staying in a rural community. Many valued their community's natural landscape, which supported their hobbies and lifestyle. Each of these factors contributed to a sense of belonging.

Challenges in Rural Healthcare. Lack of adequate access to specialists was a common challenge encountered by rural health care professionals, mostly by physicians working in a primary care setting. One rural physician said:

"I think the availability of specialties is one of the biggest hurdles we face because patients have to travel to get specialty care for a lot of things. […] It's just a big hurdle that we have to jump with every patient." – DO1

Physicians felt the strain of coordinating care with limited specialists available, often causing them to feel isolated or overwhelmed in critical or very complex cases. Systemic gaps in specialty care intensifies clinical workload for rural providers. This highlights the structural inequities between rural and urban healthcare systems.

Other challenges mentioned among participants were burnout in the workplace and staffing shortages. Nursing participants felt this strain in their day-to-day work, with staffing shortages directly contributing to burnout in the workplace.

"[H]ere within the last few years, I have considered just changing or doing something different. […] you get burnt out a little bit. And then when coworkers aren't coming in as scheduled or calling in sick more, it kind of puts more work on those that are there." – RN3

Inadequate staffing not only affects daily workflow, but undermines retention and stability of the rural health care workforce.

Many participants also noted the strain associated with role overlap. This was described as a negative aspect of living in a community with a tight social network. Physicians reported frequently being asked medical-related questions while running daily errands. Other professionals described being approached by family members of patients and asked to share sensitive information about a patient's care or prognosis. This blurring of personal and professional boundaries reflects the deep integration of rural health care providers within their communities. While this integration can promote trust between patients and their care teams, it may also increase emotional strain.

Rural health care professionals face multiple challenges that contribute to burnout and decreased retention. Participants recognized that these challenges are often difficult to overcome and create additional barriers to strengthening the rural health care workforce.

DISCUSSION

To effectively address the shortage of rural health care workers, it is important to understand how community influences recruitment and retention. We aimed to further examine community characteristics that contribute to recruiting and retaining rural health care professionals. Five global themes emerged: however, the impact of each theme varied by profession.

Our findings align with previous research that show that early rural upbringing, and financial incentives are key drivers of

Table 2. Differences in organizing themes by profession.

	Predisposing Factors	Ability of Community to Meet Basic Needs	Satisfaction and Sense of Purpose in Workplace	Fulfillment through Social Connections and Environment	Challenges in Rural Healthcare
MD/DO	Rural upbringing. Early exposure to rural environments. Financial Incentives.	Local amenities. Proximity to larger communities. Low cost of living. High quality schools and education systems. Safety.	Full scope practice. Flexibility. Giving back to hometown. Keeping patient care local.	Accessibility to nature and hobbies. Ability to provide for self. Community support. Respect from patients.	Lack of access to resources and specialists. Role overlap. Staffing shortages.
PA/APRN/NP			Trust from physicians. Opportunities for growth. Autonomy. Caring for underserved populations.	Work near home. Peace and quiet. Family oriented environment. Community involvement.	
RN/LPN			Supportive work environment. Job viability. Familiarity of patients. Ability to impact others.	Open spaces. Peace and quiet. Proximity to family. Interconnected community.	

successful recruitment.[3,4,6] Physicians and APPs were more strongly influenced by financial incentives. Programs such as the KMSL Program played a significant role in physicians' decisions to practice in rural settings, reinforcing the importance of financial support programs. Financial incentives were less influential among nursing participants, which may reflect that many had spouses whose careers required living in rural areas. For these participants, proximity to family and familiarity with rural communities played a larger role in recruitment.

Findings of this study also provide insight into non-economic factors associated with retention. Participants described social connections, community ability to meet personal and family needs, and workplace satisfaction as contributors to long-term retention. Community needs included access to affordable housing, grocery stores, childcare, schools, and safe environments, particularly for participants with families. These findings support prior research demonstrating the importance of community infrastructure and support in retaining rural health care professionals.[7,19]

Workplace culture and job satisfaction were central to retention, although contributing factors varied by profession. Physicians highlighted patient diversity and practice flexibility. APPs and nursing staff valued familiarity with patients and support from supervising staff. APPs emphasized that supportive workplace environments helped reduce burnout. A positive work environment and the opportunity to care for underserved populations fostered a strong sense of purpose among rural health care professionals. These findings are consistent with prior literature.[5,19,20]

Participants also emphasized the importance of social and environmental connections in retention. Many valued close-knit communities, and participation in local organizations strengthened social connections and sense of fulfillment. Others described the rural environment as peaceful, with enjoyable landscapes and opportunities to pursue personal hobbies. These findings highlight the importance of community connection and quality of life outside the workplace in supporting retention.[3,4]

Despite these positive experiences, participants described persistent challenges in rural health care. Limited access to specialists and staffing shortages were frequently reported, particularly by physicians managing complex care coordination. Nursing staff frequently described burnout, often linked to staffing shortages. These findings highlight ongoing challenges in rural health care that must be addressed to improve retention.[3,21-24]

Addressing these challenges may require incorporating best practices from nursing literature on recruitment and retention. Rural health care professionals and their affiliated organizations may benefit from collaborating with hospital associations and advocacy groups to support policies such as apprenticeship programs and public funding for rural workforce training. Greater coordination across health systems also may improve access to specialty care and support delivery of the right care in the right setting. Future research should examine recruitment and retention outcomes and explore rural health care professionals' experiences with initiatives such as clinically integrated networks, the Rural Health Transformation Fund, publicly funded loan forgiveness programs, and other workforce support programs. Evaluating these programs using meaningful measures for rural health care professionals will be important.

Limitations. The sample size and characteristics limit generalizability. Participants were rural health care professionals currently practicing in Kansas; future studies should include individuals who have left rural practice to better understand factors that negatively influence retention. Participant diversity was limited, particularly in race and marital status. There also is potential for recall bias, as participants reflected on past recruitment experiences. Despite these limitations, this study provides valuable insight into how community characteristics influence the rural health care workforce.

Conclusions

This study provides insight into how rural health care professionals interpret the meaning of community characteristics. Recruitment and retention are influenced by a complex interplay of personal background, workplace satisfaction, and community integration. Although common themes exist across professions, the impact of these factors varies by profession. These findings highlight the importance of a multifactorial approach to strengthening and expanding the rural health care workforce.

ARTICLE INFORMATION

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