Original Research Paper

I'm recruited - why should I stay? A case study of physician retention in an underserved area

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Abstract

Introduction: Recruiting a physician to a rural area is expensive. However, it is even more costly and devastating to the community when a practitioner leaves. Our team aimed to identify factors that may influence physicians' decisions to remain in a rural community, as well as those that may cause them to leave, and to gather real-world perspectives on what is needed to improve their community's health. **Methods:** This case study used a 13-item survey with multiple-choice and narrative response options, which was sent to physicians in rural areas throughout New Mexico, USA. It incorporated both qualitative and quantitative data. The first 10 questions were demographic indicators. The remaining questions assessed what drew respondents to the area, and why, or why not, they would consider leaving this location. Short-answer responses were categorized as intrinsic or extrinsic and then grouped into common themes. **Results:** We achieved a response rate of 33.4%. Physicians were primarily drawn to practice in rural New Mexico for extrinsic reasons, with geographic location being the most common cause, followed by financial incentives. There were no intrinsic reasons for remaining. **Conclusions:** In New Mexico, 32 of the 33 counties are considered medically underserved. Retaining physicians to practice in these areas is vital. This case study demonstrates that the intrinsic motivations that initially draw physicians to practice in these rural areas may be overpowered by the extrinsic factors influencing their decision to leave.

Keywords: physician retention, practice motivation, rural, New Mexico, physician recruitment

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INTRODUCTION

Located in the United States (U.S.), the natural beauty of New Mexico (NM), with its unique status as a majority-minority state, breathtaking topography, sunsets, and diverse cultures, reveals truth to the moniker "The Land of Enchantment." New Mexico is the fifth-largest state by area but ranks 45th in population, with only 17 people per square mile, making it a very rural state overall.[1] Only four cities have a population of over 30,000, and all 33 counties are considered wholly or partially health professional-underserved areas.[2] Further, NM ranks at or near the bottom in education, child well-being, health, and poverty; and our state has the highest crime rate per capita.[3,4] NM has much higher than national death rates for suicide, alcohol-related conditions, and unintentional injuries, including drug overdoses and motor vehicle injuries.[5] New Mexico's health status and rankings are driven by social determinants of health and structural barriers that make obtaining good health challenging. With these staggering adverse social and health outcomes propagating throughout this underserved state, one can assume it is vital to identify why physicians continue to practice in the state, and we could not identify any peer-reviewed publications regarding why physicians remain in New Mexico.

It is well established that access to healthcare improves both individual and community health through economic benefits. Recruiting a physician to a rural area is expensive, but it is even more costly and devastating to a community if a practitioner leaves.[6] The community runs the risk of becoming a "ghost town" as healthcare is usually a significant employer, and the clinic staff purchase services and goods within the community they

serve.[6,7] But it is the physicians who have the most significant economic influence on rural communities compared to other clinic personnel. One study estimated the financial impact of providers leaving a sub-Saharan African country at a staggering $2.17 billion. U.S. studies indicate that a rural doctor can generate approximately $1.5 million in economic activity, nearly $1 million in labor income, and over 20 jobs within the local economy. According to the American Medical Association, in 2012, the physician industry in NM supported almost 40,000 jobs, contributing $3.2 billion in wages and over $191 million in tax revenue.[7]

In addition to economics, rural providers often serve as preceptors to health professional students, thereby cultivating the next generation of providers, imparting technical expertise, and role-modeling professional values such as community care. Global studies have identified six categories of factors influencing physician retention: financial, professional, working conditions, living conditions, cultural, and personal.[8–11] However, these studies are primarily from developed countries. While the broad themes are consistent across underdeveloped countries, the issues become more nuanced, including a lack of equipment and supplies, poor community infrastructure, and lower salaries than in urban settings. While the broad themes are consistent across lower-income countries, the issues become more nuanced, including a lack of equipment and supplies, poor community infrastructure, and lower salaries compared to urban settings.

When physicians leave a community, the impact is profound not only on the community but also on the education of health professional students. This case study on a rural U.S. state that has often been colloquially compared to lower-resourced countries gives practitioners a voice. A voice on what factors make them remain in a state with its host of aforementioned issues, factors that may cause them to leave; and a voice on what is needed to improve the health of their community from real-world perspectives of those who are both clinicians and members of their community. Our research questions were (1) what drives rural community faculty to leave our state; and (2) what factors support retention?

METHODS

We used a case study design. For data collection we developed a 13-item survey based on our literature review, comprising multiple-choice and narrative response items (See Appendix 1 for the survey questions). We conducted cognitive pretesting with University of New Mexico School of Medicine (UNM SOM) faculty to ensure the questions were understood correctly.[12] After minor revisions, the instrument was pilot-tested by three individuals from UNM SOM who were not associated with the research. No concerns were raised. We used convenience sampling of UNM SOM's community faculty for our participants. Community faculty are those who work outside of the formal UNM system and mentor our health professional students. We did not include any physicians who listed an address in Albuquerque, the state's largest city. We were primarily interested in retention factors outside major urban areas. The list was obtained from the Director of Preceptorship Programs, who can access the community faculty emails. We administered the survey using RedCap, a secure database housed at our institution.[13]

The first 10 questions were demographic indicators. We selected indicators of interest based on our literature review. We conducted a literature review using PubMed MeSH terms: "Physician retention, rural areas, past 10 years," which yielded 57 articles.

Age: We grouped ages by decades from age 20 through 60+.

Race and ethnicity: We used race and ethnicity categories consistent with those found in the United States Census.[14]

Hometown size: The U.S. Census defines an urban area as containing more than 50,000 persons. Our large geographic area in New Mexico and low housing density in most areas led us to define an urban area using the Health Resources and Services Administration's (HRSA) definition.[15] We elected to use the HRSA definition because it is geographic and demographic, and the U.S. Census definition

does not account for healthcare access or workforce availability, as it relies on population density and size.

Languages: We asked respondents to select all the languages in which they are fluent to provide patient care. We selected the languages based on those commonly spoken in our state, with an open-ended option for "other."

Educational Background: We asked respondents whether they attended UNM as undergraduates and whether they graduated from the University of New Mexico School of Medicine (UNM SOM) or a non-UNM SOM. If they selected a non-UNM institution, we asked respondents to identify the state from which they graduated and whether their school was private, public, or located outside the U.S. We also asked the same questions for the state where they obtained their residency education.

Specialty: We asked respondents to identify their specialty, which we defined as primary care (family medicine, general internal medicine, general pediatrics, general OB/GYN) or non-primary care.

Practice location: Respondents selected their primary practice location by county, rather than their residency location, as some practicing physicians may reside in a county other than their primary practice location. We grouped responses into the four designated NM Department of Health public health regions, as each quadrant has unique characteristics.[16]

Practice type: The practice type options included university-based, federally qualified health center (FQHC), community health center (CHC), private practice, health maintenance organization (HMO), hospital-based practice, or "other."

Length of practice in location: We asked respondents how many years they have practiced in their current location. Choices were grouped in five-year intervals, with additional options of less than one year, more than 10 years, or retired.

Practice Selection: We provided respondents with choices based on our literature review of factors that typically draw a physician to a particular area, including financial incentives, family ties, the school system, location, and the option of "other." Respondents could choose as many options as applicable.

The two open-ended questions were: (1) Would you ever consider leaving this location? Why or why not? and (2) What is most important to improve health/healthcare in your area?

Data Analysis: We used a qualitative analytic approach and provided context to our findings. The data were inductively coded by two independent researchers (J.E. and I.S.) with guidance and training provided by A.C.E.[17] We then used a consensus process to identify categories and primary themes in the open-ended responses. Open-ended questions centered on retention factors. The questions again were, "Would you ever consider leaving this location, why or why not?" and "What is most important to improve health/healthcare in your area?" We then approached coding the motivational questions as either intrinsic or extrinsic. We characterized intrinsic factors as personal satisfaction, internal drive, personal values, or dedication to service. We characterized extrinsic factors as job descriptions or opportunities.[18] Responses of individuals who stated they were close to retirement and would/would not leave were grouped into a separate category so as not to skew the data.

Ethics: The University of New Mexico Human Research and Review Committee approved this study (HRRC # 24-142)

RESULTS

From the initial sample of 377 email addresses, 69 were returned as undeliverable, leaving 308 valid addresses. We received 103 complete responses for an overall response rate of 33% (103/308). We received responses from 64% of New Mexico's counties. Respondent demographics are in Table

Table 1: Respondent Demographics

Variable	**Total**	
	N	**%**
Age		
20-29	0	0
30-39	26	25
40-49	18	18
50-59	30	29
60+	29	28
Total	**103**	**100**
Race		
American Indian or Alaska Native	2	2
Asian	7	7
Black	5	5
Hispanic or Latino	16	15
Native Hawaiian or Pacific Islander	0	0
White	66	64
Other	2	2
Prefer not to answer	5	5
Total	**103**	**100**
Ethnicity		
Hispanic	21	20
Not-Hispanic	82	80
Total	**103**	**100**

Background

Respondents described their hometowns as being almost one-third rural (N = 23, 22%), slightly more than one-third suburban (N = 44, 43%), or urban (N = 36, 35%). All respondents were fluent in English, and 40% (N = 41) have Spanish language proficiency to provide patient care. No respondents were proficient in Navajo, Vietnamese, or Tagalog. Only three or fewer spoke another language, such as French, German, Chinese, or Arabic.

Table 2: Education Regions

Regions* where education was obtained outside of New Mexico	Medical School (N, 103)		Residency (N, 103)	
	N	%	N	%
International	9	9	0	0
Northeast	24	23	20	20
Midwest	15	15	16	16
South	16	15	12	12
West	9	9	23	23
Total	**73**	**71%**	**71**	**71%**

*Regional Classification: ***Northeast:*** Includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont. ***Midwest:*** Includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. ***South:*** Includes Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. ***West:*** Includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming

Education

Less than one-fourth of respondents (N = 20, 19%) completed their undergraduate degree at UNM. Almost three-fourths (N = 73, 71%) of the participants completed medical school outside of UNM, with 38% attending a public institution, 54% attending a private institution, and 8% attending an institution outside the U.S. The results for residency training were similar, with 69% completing their training outside of UNM. No non-UNM residency training occurred outside the U.S., and 75% of trainees received training at a public institution, with the remaining 25% at a private medical school.

Table 3: Practice Setting

Practice Setting	N	%
Hospital	28	27
Other Setting[1]	26	25
Private Practice	25	24
Community-Based Health Centers	10	10
Federally Qualified Health Centers[2]	10	10
University	4	4

[1]Other settings included: (1) Indian Health Services provide healthcare to eligible American Indians and Alaska Native populations (2) Veteran Hospitals provide healthcare to active and retired military members and their families (3) Hospice care provides comfort and support to terminally ill persons (4) Locum Tenens providers give interim physician coverage and (5) NM Department of Health which focuses on the provision of public health services

[2]FQHCs are community-based clinics that receive federal funding to provide primary care services regardless of a patient's ability to pay.

Primary care physicians comprised two-thirds of the responses (N = 67, 66%), with the majority practicing in a hospital-based setting, followed by other settings. Other settings included the Indian Health Service, veterans' hospitals, the New Mexico Department of Health, hospice, and locum tenens.

Practice Characterization

We received responses from 21 of New Mexico's 33 counties. In New Mexico, the Northwest comprises seven counties. We received responses from six of them (86%). We had a 75% response rate from six of the eight counties in Southwest New Mexico, followed by five out of eight counties in the Southeast section (62%). The Northeast portion of New Mexico comprises 10 counties. We received responses from four of the 10 (40%).

One-half of the respondents (N = 52, 51%) have practiced in their current location(s) for over 10 years. The next highest group was those in practice for 1–5 years (N = 25, 24%), followed by those in practice for 6–10 years (N = 17, 17%), with only four people (4%) in their current practice for less than five years. Five respondents were retired. Respondents could select multiple reasons for choosing their practice location.

Table 4: Practice Selection

Reasons for "What initially drew you to your practicing location?"		**Responses**	
		N	
Geographical location		42	
Loan repayment program		23	
Familial ties		19	
Financial incentives		14	
Educational program		5	
School system		4	
Visa waiver		2	
Scholar program		1	
Scholarship		1	
Other	Dedication to service	49	17
	Job description		17
	Professional opportunity		11
	Personal value		4

Practice Selection

Every respondent, except one (N = 103, 99%), selected at least one reason for choosing to practice in their current location. The employment opportunity encompasses not only the work itself, but also the opportunity to work in a location that is part of a loan-for-service program. Geographical location is also a key consideration, followed by individual motivations. A relatively small number (N = 14) identified financial incentives as a factor. Responses are recorded in Table 4: Initial reasons for practicing in your location.

Consideration of Leaving

Of the 103 participants, 101 answered, "Would you ever consider leaving this practice location? Why or why not?" (98% response rate). Of the 56 physicians who stated they would leave their current practice, 55 (98%) provided various extrinsic reasons for doing so. There were no intrinsic reasons for why a physician would relocate.

Extrinsic reasons for leaving their current practice: Almost 100% of respondents (N=56, 99%) would leave for an extrinsic reason. Better opportunities included higher pay, more incentives, and different locations (N = 16, 29%). Many familial responses indicated a desire for more opportunities and better schools for their children, as well as a wish to be closer to other family members (N = 15, 27%). Responses to malpractice laws in New Mexico indicated that physicians were dissatisfied with the current laws (N = 9, 16%). Current Administration/NM Healthcare System responses indicated a theme of disagreement with their current hospital administration or the New Mexico healthcare system (N = 8, 14%). Professional development responses revealed a desire to pursue an advanced degree or fellowship (N = 2, 4%). Lack of resources and miscellaneous responses did not fit into a category and included such responses as "only for health reasons," "because standard of care is not always practiced," "possibly if circumstances in my life significantly changed," and responses of individuals who stated they had already left a rural practice once.

Extrinsic and Intrinsic Reasons for staying in their current practice:

Respondents who are content with their current practice indicated that they enjoyed their current staff, patients, and administration (N = 15, 63%). Five respondents (21%) cited an extrinsic reason for familial considerations, such as family connections or deep roots in their current practice. Those who selected the location (N = 3, 13%) enjoyed the physical location of their current practice. The age of physician responses (N = 2, 8%) indicated a reluctance to change practice due to their current age. Those who stated they would not leave their current practice shared a similar intrinsic reason for continuing to serve an underserved population (N = 8, 23.23%).

DISCUSSION

The aspirations capabilities theory of migration suggests that individuals or groups migrate to locations to achieve their aspirations and fully utilize their capabilities. Within this framework, migration aspirations are defined as "a function of people's general life aspirations and perceived geographical opportunity structures," and migration capabilities are "contingent on positive (freedom to) and negative (freedom from) liberties.[19] Underlying this theory is the assumption that migration partly results from perceived geographical opportunity structures. This theory moves beyond a simplistic "push-pull" dynamic. So, how can we support rural physicians in achieving their aspirations, and thus retain them? Many approaches have been attempted, most with limited success. The World Health Organization, in its 2030 Global Strategy for Human Resources for Health, advocated for more providers to be trained.[20] Yet, more providers will not solve the retention issues. On a global basis, strategies for retaining physicians in lower- and middle-income countries were thematically collated into educational, financial incentives, regulatory, and professional and personal support.[21] Results were generally favorable, but each context is unique, and there is no one solution.

For example, in South Africa, economic incentives and a policy approach via compulsory service obligation have been implemented. In NM, loan-for-service and salary incentives, including moving expenses and hiring bonuses, are often offered in exchange for years of service. Professional support and development are needed to

retain physicians beyond their service obligation, which may not be the case in other countries.[22,23]

Our study examined the factors influencing physicians' decisions to practice in New Mexico, as well as the motivations for remaining or leaving. Our results indicate that physicians are drawn to New Mexico for intrinsic reasons such as practice opportunities and attractive geographic area. Monetary reasons were not a significant recruitment tool, although financial benefits, such as loan repayment and professional opportunities, may have been considered.

It is striking that most of our community faculty graduated from medical school and/or residency in the Northeastern United States, rather than the West, where New Mexico is located. Family ties were not a significant reason for coming to New Mexico. These findings differ from other studies, which suggest that physicians tend to practice where they attended school or where family ties exist.[24–26] However, family ties are stronger when the ethnicity is non-White Hispanic, whereas our respondents were primarily White.[8] Overall, while this represents a small sample of all practicing physicians in rural New Mexico (N = 798), opportunities to expand physician recruitment to our state should extend beyond nearby states.[27]

In addition, our respondents were primarily graduates of public schools. Public medical schools tend to graduate more physicians who practice in underserved areas because of their social mission, but our study showed that more than half of non-UNM medical school graduates (54%) now practicing in underserved areas attended private medical schools.[28] With this in mind, it may be advantageous for New Mexico to consider recruiting from private medical schools across the country, in addition to the current emphasis on retaining its graduates.

Our findings add to the literature by categorizing retention reasons as extrinsic or intrinsic, which may help identify retention strategies beyond the standard financial compensation. This is supported by the literature, which recognizes the inherent motivation of public servants and the need to implement policies that support them.[29] For example, the primary retention factor centered on the practitioners' "bonding" to the community and practice, as well as an intrinsic motivation to work with underserved populations. In one study, intrinsic motivators were associated with physician well-being, whereas extrinsic factors were not.[30] Physicians might experience less burnout if intrinsic factors were maintained. We were unable to identify any other state-level physician retention case studies; however, there are international case studies that our states could access for guidance.[31]

New Mexico community faculty would consider leaving their current practice for extrinsic reasons that encompass the individual level (more money), the community level (better schools for their children), and the state level (laws). At the individual level, financial compensation was a more important reason for leaving than recruitment, suggesting a shift in priorities as physicians begin practicing.

Based on our findings, we suggest identifying clear pathways to increase income, or offering other incentives to remain competitive with other states. At the community level, the school system requires improvement in rural areas, which is beyond the scope of this paper; however, we recommend prioritizing significant investment in its improvement. Finally, the state has a responsibility to retain physicians. For example, although relatively few community faculty members selected malpractice laws as a reason for leaving, this is a critically important topic in our state, given the recent policy change.[32] In 2021, New Mexico Medical Malpractice Act amendments, HB75, increased malpractice liability caps from $600,000 to $6 million over a five-year period, sending shockwaves through the medical community.[33] All policies are health policies, so physicians need to be aware of and engaged with their legislative decision-makers to ensure their views are represented before laws are passed that affect the viability of their practice. We intend to present our findings to state lawmakers to educate them about the issues faced by our physicians, which may impact their policy decisions.

Limitations: Our study's limitations include the inability to verify answers to prevalent community issues, which may introduce respondent bias. However, most of our respondents have been in their current practice location for over 10 years, so we can assume they are familiar with their communities. In addition, intention to remain or stay is not the same as actual behavior. Another limitation is the limited MeSH term search, and the restriction to Medline-indexed papers.

CONCLUSION

In New Mexico, 32 of the 33 counties are considered medically underserved, and "*fifty percent of New Mexico's population lives in three counties, which together comprise only 6% of the state's land area*". Thus, retaining physicians to practice in these areas is vital.[2,34] Thirteen percent of physician responses to the question of, "What initially drew you to your practicing location?" were based on intrinsic motivational factors. The physicians who responded "Yes" to "Would you ever consider leaving this practice location?" did not note any intrinsic factors for their reasoning, 99% of responses noted extrinsic factors, while the remaining 1% of responses were determined to be unspecific.

This case study thus demonstrates that the intrinsic motivations that initially draw physicians to practice in these rural New Mexican areas are overpowered by extrinsic factors influencing their decision to leave. One potential direction to take, knowing this information, could be annual questionnaires for these physicians, asking them: "What are your goals?" and "What brings you joy and how can we retain you?" These questions can allow for better assessment of how much intrinsic factors play a role throughout a physician's career in their respective practice location.

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