



# Internal medicine physician job satisfaction in rural Montana and Northern Wyoming- a qualitative analysis

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## ABSTRACT

**Background:** Shortage of physicians in rural areas within the USA is an ongoing issue. There are limited data about why internal medicine physicians ('internists') practice in rural areas throughout the USA. We explored reasons why internists chose rural practice locations in Montana and Northern Wyoming, and reasons for overall job satisfaction in these areas.

**Methods:** We used the phenomenological method of qualitative analysis for the study. The principal investigator (RR) conducted and voice recorded 17 semi-structured interviews, throughout Montana and two counties in Northern Wyoming. The voice recordings were transcribed and analyzed according to thematic analysis.

**Results:** Four main themes emerged, outlining why internists chose to practice in rural areas, and why internists reported overall job satisfaction. The main reason internists reported for choosing rural practices was a rural background or the appeal of rural lifestyle. Reasons reported for overall job satisfaction by internists in rural areas included wide breadth of practice, flexibility of rural practice model and the work environment and administrative support for practice.

**Conclusion:** Despite shortages of health care providers in rural areas, a number of internists show ongoing commitment to practicing in these areas. Hopefully, our study will help rural practices, hospitals and residency programs in Montana and Northern Wyoming with future hiring decisions.

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## KEYWORDS

Rural healthcare; internal medicine physician; qualitative analysis; access to care

## 1. Background

Internal medicine physician shortage is critical throughout the USA, most pronounced in rural areas. Physician shortages impact access to health care in these regions [1]. Efforts to increase physician numbers in rural areas include financial incentives [2], loan repayment [3], increasing investment in infrastructure, rural physician training, and recruitment of physicians whose roots are in rural areas [4–6]. These methods have met with varying degrees of success. Despite such efforts, physician shortages persist.

General internal medicine providers ('internists') provide vital services in rural hospital and ambulatory settings. Despite more than 101,000 practicing internists in the USA [7], many rural areas have none. According to the Montana Medical Association ('MMA'), within Montana, 32 of the 56 (26.7%) counties lack an internist. The number of internists in rural Montana and Wyoming per 100,000 are 15.1 and 13.4, respectively, both well below the national average [8,9]. Where internists are present, very limited information exists as to why internal medicine physicians have chosen to practice in these areas.

The purpose of this paper is to explore the perspectives and experiences of internists who chose rural practices and the reasons reported for overall job satisfaction while practicing in Montana and Northern Wyoming. We used qualitative analysis, specifically emulating phenomenology, to understand the lived experiences of the internists in rural areas.

## 2. Methods

### 2.1. Study population

According to the MMA, 450 internists practice in Montana. For the study, we excluded 256 subspecialty physicians (such as cardiology, endocrinology, sleep medicine, etc.) to focus on general internists. From the remaining 194 internists, only those with practice locations listed in rural areas were eligible for participation. Rural is defined as population less than 50,000 (2013 Rural-Urban Continuum codes) [10]. Internists practicing in rural Sheridan and Park Counties in Northern Wyoming, were also included in the sample population. (Wyoming Medical Society 'WMS,' 2017). These internists (n = 22) offer services to Southern Montana residents, and referrals are

often made from these practices to Montana. This resulted in a combined study population of 120 internists. Of these 120 internists, we contacted 35 internists in Montana and 6 internists in Northern Wyoming (Table 1).

We contacted physician offices in random order for potential recruitment. Two attempts were made to reach each internist. In contacting internists' offices, office staff frequently did not relay information to internists. Most participants had some relationship to the Billings Clinic Internal Medicine Residency program, where the study originated. Participants often provided contact information for colleagues they thought may be interested, which guided subsequent enrollment. Enrollment halted after 17 interviews given data saturation, that is, when we identified repeated responses without new themes emerging [11]. [Figure 1]

### 2.2. Interviews

Participants were interviewed either in-person or via telephone. Initially, the primary investigator (RR) contacted potential participants at their practice location. Eleven participants interviewed in person. The remaining six interviewed by telephone when travel to office, practice location or clinic exceeded 5 hours.

We developed interview questions from a published qualitative study conducted in South Africa [12]. Kotzee's group studied job satisfaction among non-specialist physicians in a rural province suffering from a shortage of healthcare providers

[12]. We modified the interview questions to allow our participants to share, in their own words, their experiences with overall job satisfaction in rural Montana and Northern Wyoming. Interviews were guided by six open-ended questions. [Table 2] Participants' responses to these standardized questions were unrestricted in time and content. Each interview was recorded with Voice Recorder and Audio Editor software on a password protected iTouch. Upon completion of each interview, participants completed 12 demographic questions. Voice recordings were subsequently transcribed verbatim [13,14]. Transcribers removed all identifying information to protect participant identity.

### 2.3. Analysis

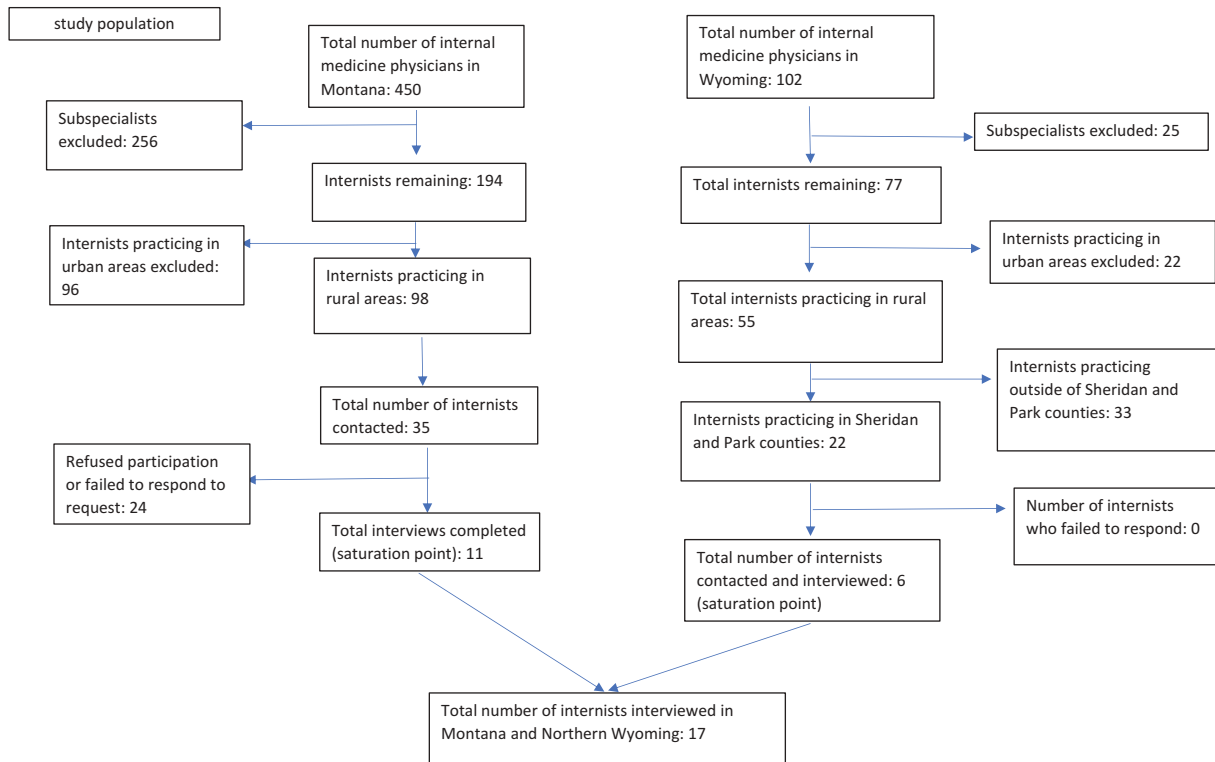
Analysis followed an iterative approach, that is we reviewed transcripts in sequential rounds for recurrent themes. The principal investigator (RR) and two members of the Billings Clinic Center for Translational Research (BM and YM) reviewed transcripts and created preliminary codes. These codes were short phrases identifying key concepts within participant answers. This facilitated formulating relationships between these concepts [15,16]. Codes were then grouped into seven categories see table 3. The first category, recruitment, included codes on why participants chose rural practice. The remaining six categories, rural opportunities, continued attraction, desire to leave, challenges, challenges overcome and suggestions, included codes expressing participants'

Table 1. Baseline characteristics (n = 17).

Characteristics	Total	Montana	Wyoming (Sheridan and Park Counties)
All participants	17	n = 11. (11.2% of total GIM practicing in rural areas of MT)	n = 6. (27.2% of total GIM practicing in Sheridan and Park counties)
Age range			
30-39	6 (35.29%)		
40-55	6 (35.29%)		
> 55	5 (29.4%)	44.5% of all GIM in MT	42.9% of all GIM in WY
Gender			
Male	12 (70.6%)		
Female	5 (29.4%)	34.5% of all GIM in MT	36.4% of all GIM in WY
Race			
White	17		
Reported Native American ancestry	2 (11.7%)		
Medical school			
University of Washington	5 (29.4%)	12.4%	6.7%
Other	12 (70.6%)		
Origin*			
Rural (non-local)	7 (58.3%)		
Rural (local)	4 (23.5%)		
Urban	6 (35.2%)		
Practice setting			
Inpatient only	1 (5.9%)	1 (9.1% of MT participants)	1 (16.7% of WY participants)
Outpatient only	6 (35.3%)	6 (54.6%)	0
Traditional/hybrid practice	10 (58.8%)	4 (36.3%)	5 (83.3% of WY participants)
Telemedicine available**	12 (70.58%) had telemedicine available at their location	6 (54.5%) had telemedicine available at location or in town	All 6 (100%) had telemedicine available at location or in town

\*Origin is defined as the location where participants were raised.

\*\*Among participant locations, telemedicine available in Sheridan, Cody, Glendive, Glasgow, Sidney, Hardin, Livingston



**Figure 1.** Study population. Figure 1 demonstrates how our original study population started with 552 internists in Montana and Wyoming, and ended with 17 internist participants, in rural Montana and two rural counties in Northern Wyoming, ending with saturation. We started with purposive sampling to maximize geographic variability, then switched to snowballing based on names provided by participants.

**Table 2.** Interview questions.

Recruitment
1. What attracted you to work in rural Montana?
Overall job satisfaction
2. What opportunities does practicing internal medicine in rural Montana (or Northern Wyoming) offer your career?
3. What would make it attractive for you to continue working longer in rural Montana (or Northern Wyoming)?
4. What makes you want to leave your current position?
5. How did you overcome any challenges faced practicing and living in a rural or remote area?
Exit question
6. What suggestions do you have for internal medicine physicians considering a rural practice in Montana (or Northern Wyoming)?
Demographic questions
1. Age
2. Gender
3. Marital status
4. If married, where did your spouse grow up?
5. Number and age of children (if any)
6. Country of origin (if U.S., which state)
7. Where did you grow up? (would you consider the area rural?)
8. Undergraduate school, degree/major
9. Medical school, country (if not U.S.)
10. Allopathic or osteopathic program
11. Native American heritage?
12. Practice size (total number of IM physicians in current practice location)

reasons for overall job satisfaction. We also noted ‘quotable quotes,’ as examples of each broader category. The seven categories, and corresponding codes, were placed into four themes reflecting the lived experiences of the internists who participated. We

reached saturation when the last four interviews contained no new codes, categories or themes [11].

Once completed, we sent our results to two of the study participants for review. They confirmed our codes, categories and themes were consistent with their intended responses.

### 3. Results

Four main themes emerged from the data. First, 10 of the 17 (58.8%) participants reported a rural background/appeal of rural lifestyle, as a reason for choosing a rural practice location. The three remaining themes, breadth of practice, flexibility of practice model and work environment/administrative support, reflect reasons for overall job satisfaction at participants’ current location (Figure 2).

#### 3.1. Theme 1. Rural background/appeal of rural lifestyle

Eleven of the participants reported growing up in a rural area, with 4 of the 11 (36.3%) participants reporting that they grew up within 25 miles of their current practice location. Some participants reported a lack of anonymity in their communities and lack of collegial support as negatives. However, most saw

**Table 3.** Thematic analysis.

Themes	Positive aspects	Negative aspects/ challenges of rural practice	How challenges overcome
Breadth of practice	<ul style="list-style-type: none"> <li>Complexity of patients (94%)</li> <li>Scope and variety of practice (37.5%)</li> </ul>	<ul style="list-style-type: none"> <li>Limited resources, such as subspecialists, lab, echo, doing more with less (52.9%)</li> <li>Residency did not prepare for outpatient care, focus was inpatient and ICU (5.8%)</li> </ul>	<ul style="list-style-type: none"> <li>Obtain broad experience and education, exposure to areas outside IM such as trauma and other subspecialties (41.1%)</li> <li>Develop maintain contacts with specialists at urban center to familiarize with rural practice; learn new skills (47%)</li> <li>Flexibility is necessary because will be called to work outside IM; embrace lifelong learning (29.4%)</li> </ul>
Appeal of rural lifestyle	<ul style="list-style-type: none"> <li>Friends/family already established in area, job opportunity for spouse (29.4%)</li> <li>Small community, grew up here, short commute, outdoor activities (35.2%)</li> <li>Grew up in specific rural location as practice (17.6%)</li> <li>Previous urban dissatisfaction (5.8%)</li> <li>Rural upbringing (17.6%)</li> <li>Know your patients and colleagues (41.7%)</li> <li>Quality of life- outdoor lifestyle, small town support, minimal commute (35.2%)</li> <li>Established in community (41.7%)</li> </ul>	<ul style="list-style-type: none"> <li>Lack of anonymity (5.8%)</li> <li>Lack of collegial support in rural locale (23.53%)</li> </ul>	<ul style="list-style-type: none"> <li>Relationships with patient and family, through both personal and medical history. Relationship with colleagues. Know people better (41.7%)</li> </ul>
Flexibility of practice model	<ul style="list-style-type: none"> <li>Rural medical practices allow ability to design practice to suit individual practitioner (5.8%)</li> <li>Change from hospital employee to private practice, come up with creative solutions (17.6%)</li> <li>Hybrid practice model (35.2%)</li> </ul>		<ul style="list-style-type: none"> <li>Create appealing model for recruitment purposes, shared workload, good partners, good administration (35.2%)</li> </ul>
Work environment/ administration	<ul style="list-style-type: none"> <li>Support of administration to develop practice model, colleagues share responsibility, get along with people in group. No HMOs to deal with (52.9%)</li> <li>Supportive staff, support for paperwork (5.8%)</li> </ul>	<ul style="list-style-type: none"> <li>Bureaucratic issues, poor CEO, unsupportive administration (29.4%)</li> </ul>	<ul style="list-style-type: none"> <li>No non-compete clause, seek practice with direct access to CEO to facilitate changes (35.2%)</li> </ul>

Green: themes; Blue: categories; yellow: codes

support from colleagues and friends and family in the town as reasons for ongoing personal and professional satisfaction when practicing in rural areas. Small town atmospheres, jobs for a spouse and outdoors activities were listed as important reasons for choosing a rural practice and continuing in the practice. We have no studies to compare our results for internists practicing in rural Montana or Northern Wyoming, but these findings are consistent with previous studies on rural health care workers recruitment and retention [5,17].

“Anonymity is probably the biggest challenge. You are not going to tie one on or something, you know. There is that ... you know anytime I go to the grocery store, I usually do some type of curbside consult on a patient. You can't go to Albertson's on Thursday afternoon because it is senior discount day, and that is just a nightmare. But at the same time, Chevy will come up, get my truck, take it down, change the oil, wash it, bring it back and come in and give me the keys.”

“Yeah, you know, just knowing the patients well and you really get to love your patients and they love you. I don't know how much story telling you want, but like 10 years ago I had [...] cancer, well more than that, because I was 46 when I got [...] cancer and I had patients making appointments to just check on me. I mean, that ability to

keep seeing a huge breadth of things and doing acute care and outpatient care.” [7544]

“I guess I like the smaller population because it is more similar to what I kind of grew up with. I am more comfortable in smaller towns, and then just during my training I fell in love with the mountains, which Montana has to offer. The other thing was actually a big enough area so that my wife was actually able to get a job as well.” [7547]

“Just growing up, so I guess it started when I wanted to be a physician at the age of 8. I worked with a family doc in my hometown and he took care of me. That was kind of the doc that did everything, so that is how I saw medicine and I always wanted to come back to [this state] so both of those pieces, practicing general internal medicine as it were after I went through medical school and decided that is what I wanted to do and practicing full spectrum comprehensive in a rural community kind of being that doc that people saw you as, you know taking care of them, their family members, that sort of situation and then coming back to Wyoming. One of my partners [...], I went to Med School with, roommates in Med School, and then went to the same Residency together too, so he kind of let me know about [this town] and what was happening here and kind of the ideal hybrid model that I really wanted.” [7548]

Themes	Positive aspects	Negative aspects/challenges of rural practice	How challenges overcome
Breadth of practice	<ul style="list-style-type: none"> <li>Complexity of patients (94%)</li> <li>Scope and variety of practice (37.5%)</li> </ul>	<ul style="list-style-type: none"> <li>Limited resources, such as subspecialists, lab, echo, doing more with less (52.9%)</li> <li>Residency did not prepare for outpatient care, focus was inpatient and ICU (5.8%)</li> </ul>	<ul style="list-style-type: none"> <li>Obtain broad experience and education, exposure to areas outside IM such as trauma and other subspecialties (41.1%)</li> <li>Develop maintain contacts with specialists at urban center to familiarize with rural practice; learn new skills (47%)</li> <li>Flexibility is necessary because will be called to work outside IM; embrace lifelong learning (29.4%)</li> </ul>
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	<ul style="list-style-type: none"> <li>Know your patients and colleagues (41.7%)</li> <li>Quality of life- outdoor lifestyle, small town support, minimal commute (35.2%)</li> <li>Established in community (41.7%)</li> </ul>		
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**Figure 2.** Thematic analysis of data. We performed thematic analysis of data, identifying codes, categories and finally four themes, as identified above. Two prior participants reviewed the chart and agreed that our themes were overall consistent with their responses.

### 3.2. Theme 2. Breadth of practice

The wide scope of practice in rural areas was one of the most common themes among participants as a reason for job satisfaction, with 16 of 17 (94.1%) participants citing it as a reason for job satisfaction in

rural practice. However, several physicians negatively commented on the lack of subspecialists, limited technological resources and limited lab availability.

Most participants reported that the limited resources added complexity to their practice that



they found rewarding. Participants reported overcoming the lack of subspecialists in rural areas by developing or maintaining contacts with specialists elsewhere and learning new skills. Finally, participants recommended that those considering entering rural practice obtain as much additional education and training in a broad range of areas in order to be comfortable treating patients with complex medical issues.

“So, what challenges do I face? There are limited subspecialists, limited lab. We can get echocardiograms like 3 days out of the week. I can’t even get a troponin level because it is a send out lab, so it would be useless to me. We just don’t have the resources for certain newer modalities for things that other places do. We just got nuclear medicine like 1 day a week and that is a big improvement from having to send everybody out of town.”

“I think the biggest challenge for me was that our residency program was really geared heavily towards inpatient and ICU, kind of really acute, sick people, and not very heavy on the outpatient side, so honestly the outpatient side seemed really overwhelming to me at first. That was kind of a lot harder to know how to cope with that stuff and managing everything yourself is kind of a double-edged sword. I like to do everything myself, but especially at the beginning feeling kind of overwhelmed by everything, it was a little hard not having a specialist right around the corner you could lean on and refer to.” [7539]

### 3.3. Theme 3. Flexibility of practice model

More than one-third of the participants reported that rural practices allowed flexibility to design a practice to suit the individual practitioner. For example, many believed that practicing as a traditional internist, working in both a clinic and a hospital, was more available in rural areas than urban areas. Participants saw this as both positive aspect when recruiting additional physicians as well as reasons for staying in their current practice.

“we have a very good relationship with administration, and so they have really allowed us to mold and manipulate our careers into a model that we feel works for our group. I get along with my group. We are all heading in the same direction and we have a hospitalist hybrid model that is very appealing to us, and so we like our model that we practice in and you can’t find that in a lot of places.” [7537]

### 3.4. Theme 4. Work environment/administrative support

The relationship with the administration controlling participants’ medical groups was a significant factor in rural internists job satisfaction. When asked why participants might leave their current practice, common complaints included a poor CEO or unsupportive administration. One provider explained that

reasons for wanting to leave his current practice as ‘a feeling that it is not a provider centered practice; administrative issues.’

Many reported overcoming this challenge by insuring support of administration to develop the desired practice model, hire additional colleagues to help relieve work burden and maintain staff to help with paperwork. Finally, participants reported the need for administrative support to ensure adequate numbers of internists to help with workload and ensure sufficient coverage to allow for schedule flexibility.

“You know, I think probably the biggest thing, right now I think we have a good CEO. He buys into primary care/ internal medicine as a base, so I think you have that, and our contract I think is a good contract. So, if that were to change, I think that probably would be the big factor. You know, I don’t want to leave [this state], but as a physician realistically you can practice where you want to and whatever your convictions are, you know, you can still practice any way you want to anywhere you want to, you just have to have that drive to be able to do it and develop it. So, I think it is really the contract piece of it and the backing from the hospital.” [7548]

“One of the strongest things we have, is we have created a model that was appealing and then we were able to recruit, and so being able to share that workload. If you are in a smaller town and you are the only guy around, it is undoable. So, you need to be able to form a group somehow, so it is all about who you work with, just like anywhere.” [7537]

“All of those things, having that variety. I mean, I like the community a lot. I really like who I work with. I got lucky and have a group of doctors that I really enjoy to work with, so we have good support for each other and it gives us a lot of flexibility, at the same time that we work a lot, I feel like I can go on vacation and take a vacation and I have people that are covering me. So, it helps that we are not so small that I am by myself, because I don’t think I would do that if there were only 2 of us, like only [my husband] and I being in a place where there is enough that you can support 7, still allows you to do the rural part, but have some flexibility and a life, so if it were much smaller, I don’t know that I would.” [7540]

## 4. Discussion

Shortage of internists in rural areas continues. In McDowell et al., 53.1% of hospital CEOs report shortages of internists in rural areas [1]. A 2009 study reported that 34% of the primary care workforce in Wyoming is made up of non-physicians [18]. These CEOs report that recruitment of any physicians to rural areas remains challenging. Reasons for poor recruitment include perceptions about lack of job satisfaction, poor salary and poor infrastructure [12,18].

Our study reports on reasons for job satisfaction of and reasons for dissatisfaction of internists practicing in rural areas of Montana and Northern Wyoming.

Most internists reported that a rural background/origin or appeal of a rural lifestyle as a reason for choosing a rural practice. Interestingly, only one participant mentioned a financial incentive as the sole reason for choosing to practice in rural Montana. The same participant indicated that when the financial incentive ended, the participant would leave to practice in an urban area. This is consistent with prior studies [2,3,17].

All other participants appeared committed to rural practice despite certain challenges. For example, many participants reported on a lack of subspecialists and limited resources as challenges faced when practicing in a rural area. However, the same participants overwhelmingly reported that such challenges provided job satisfaction by creating a complex patient panel that they believed would be unavailable in an urban area. Challenges were overcome by obtaining additional education and experience prior to entering rural practice, working with receptive CEOs to hire needed additional staff as well as maintaining contacts with specialists at larger hospitals.

While we did not identify any similar studies on internists in the rural U.S., our results are consistent with prior studies on various types of physicians practicing in rural areas. For example, in 2006, Kotzee et al. reported on challenges faced by post-graduate training physicians practicing in the rural province of Limpopo in South Africa [12]. While poor salary was consistently mentioned as one reason this study's post-graduate training physicians would not remain the rural practice, other factors such as lack of job satisfaction and poor infrastructure were listed as more important reasons. McDowell et al. studied hospital CEOs' perspectives on rural workforce shortages. They reported that keys to recruitment and retention of any physician in rural areas included a supportive community, support of providers' families and respect of physicians by community [1]. While our study was limited to Montana and Northern Wyoming, the themes we identified are concerns shared among rural practices.

The main limitation of our study is our small sample size that may not be representative of all rural populations. Applying qualitative method, we ceased data collection after 17 interviews because we reached saturation. However, Table 1 demonstrates our demographics are fairly consistent with those of the MMA and WMS.

## 5. Conclusion

Our study highlights the importance of rural background/origin and rural lifestyle as reasons for internists choosing rural practices. Negatives, such as lack of specialists and infrastructure might be overcome if

internists feel there is adequate administrative and community support. Location of residency directly correlates to future practice location [19]. Therefore, our study may help rural practices, hospitals and residency programs in Montana and Northern Wyoming with future hiring decisions.

## List of abbreviations

MMA	Montana Medical Association
WMS	Wyoming Medical Society
RR	Robert A. Renjel JD MBBS, principal investigator
CEO	Chief Executive Officer

## Acknowledgments

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## Authors' contributions

RR designed the study, conducted interviews, participated in data analysis and wrote the manuscript. RF and GC contributed to editing and structure of the paper. All authors read and approved the final manuscript.

## Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Ethics approval

The study was performed after receiving approval from the Institutional Review Board of Billings (I.R.B. number 17-06).

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