

The Overlap Between Rural Hospital Needs and Medical Student Goals in Texas

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Abstract

Introduction: The rural health workforce in the United States is difficult to maintain and harder to increase. This may contribute to worse health outcomes in rural areas and threaten the sustainability of rural hospitals. Previous studies have attempted to identify medical student characteristics and strategies to help grow this workforce. In this study, we aimed to understand the needs of medical students and hospital administrators to identify potential strategies to improve the rural health workforce.

Methods: We conducted medical student and hospital administrator focus groups. We analyzed focus group data separately to identify themes, and reviewed these themes for overlap between groups and potential actionable areas. We calculated Cohen κ statistics.

Results: We identified 26 themes in the medical student focus groups, and 14 themes in the hospital administrator focus group. Of these themes, three were identical between groups (scope of practice, loan repayment and financial concerns, and exposure to rural health in training), and two were similar between the groups (family and leadership).

Conclusion: The identification of two themes that are similar but not identical between medical students and hospital administrators may serve as part of future strategies to improving rural physician recruitment. Future studies should determine if a shift in language or focus in these areas specifically help to improve the rural health workforce.

Introduction

People living in rural areas are more likely to report fair to poor health status.¹ The age-adjusted death rate is higher in nonmetropolitan areas than metropolitan areas for each of the five leading causes of death in the United States.² With worse health status and higher death rates, deliberate strengthening of the rural health workforce could be beneficial.

Unfortunately, the rural health workforce continues to shrink. In urban areas there is approximately one primary care physician for every 1,300 people. In contrast, there are over 22 million people living in rural areas who have less than one primary care physician for every 3,500 people.⁴ Perhaps as a consequence of the decreasing rural workforce, rural hospitals are closing. Between 2013 and 2017, 64 rural hospitals closed, representing a doubling of the previous 5 years.⁶

Acknowledging the dwindling rural workforce, previous studies have assessed factors that may increase the chance a physician chooses to practice in a rural community. Medical students and residents who have some of their

medical training in rural areas are more likely to practice in rural areas.^{9,10} Most studies focus on the motivations of the student or young physician and note that rural communities should meet these needs. In this study, we aimed to identify the overlap between needs of rural hospitals and students. This overlap might inform potential targets for implementation of strategies to strengthen the rural health workforce in Texas with relatively small shifts from rural communities in order to meet needs of students.

Methods

We conducted three focus groups from May 2018 to September 2018. The first two were conducted through email, and included medical students recruited from the University of Texas (UT) Health San Antonio, a school with no rural training track. The third included hospital administrators recruited from a local hospital system with many hospitals set in rural areas throughout Texas.

Twenty-one medical students and hospital administrators participated. There were six female and six male students ranging from first- to fourth-year, and nine administrators. All administrators had experience recruiting physicians to rural hospitals. The UT Health San Antonio Institutional Review Board approved this study (18-140E).

In the student focus groups, a facilitator posed a series of open-ended questions related to their perceptions of rural life and work. The administrator group followed a similar format with questions related to their strategies and experiences recruiting physicians to their rural hospitals. Each lasted 60 to 90 minutes, and was audio recorded and transcribed.

We analyzed transcriptions using an immersion crystallization approach.¹¹ Two reviewers separately examined the transcriptions then met to agree upon identified themes. Each reviewer coded transcriptions independently. We calculated Cohen κ statistic to assess intercoder reliability (ICR). A κ below 0.20 indicated no agreement, 0.21 to 0.60 weak agreement, and over 0.60 indicated moderate to strong agreement.¹² We conducted analysis using NVivo 12 software (QSR International, Doncaster, Australia).

Results

We identified 26 themes and subthemes from the medical student focus groups, and 14 themes from the administrator focus group. Basic descriptions and examples for the five most common thematic areas identified from the medical student focus groups and hospital administrator focus group are shown in Table 1. The overall average κ score was 0.53 for the medical student groups and 0.59 for the hospital administrator focus group.

Three themes emerged in both the student and administrator focus groups: scope of practice, loan repayment and financial concerns, and exposure to rural health in training (Table 2). Scope of practice was seen as a positive attribute for both students and administrators. Each of the three themes that emerged in both the student and administrator focus groups were found between 6 and 31 times per group.

In addition to three themes that emerged in both groups, two themes were similar between the students and administrators (Figure 1). These similar themes were family and leadership.

Conclusions

We aimed to identify the overlap between medical student goals and rural administrator needs in an effort to define strategies to enhance the rural physician workforce in Texas. Both groups understood scope, financial considerations, and exposure to rural health as important, consistent with previously published literature citing these factors (especially exposure to rural health) as critical in recruiting.^{13,14}

The value of exposure to rural health has long been understood. An estimated 76% of rural training track graduates practice in rural areas.^{15,16} These may be most effective for students already considering rural medicine. Previous studies have recommended admitting more rural students to medical schools because students born in rural areas

are 2.4 times more likely to practice in rural areas, and there is a correlation between the decline of acceptance of rural-born students and a decline in interest in rural health.^{17,18}

While intervention at the level of admittance may be best, we found two areas with opportunity to shift the recruiting language to be more attractive to current students. The first is family. Students were concerned about their spouse finding work in their chosen career. Administrators were focused on the need to entertain and sell the social life to the spouse. Strategies to identify creative work solutions for spouses may lead to more successful recruiting.

The second opportunity for shifting language is leadership. Students emphasized the ability to be a leader in public health as a motivator to practice in a rural area. Administrators discussed opportunities for physicians to become leaders through becoming hospital administrators. In rural communities, hospital administrators are likely serving as leaders in public health and other areas, considering hospitals are often the largest employers in rural communities.¹⁹ When recruiting, it may be beneficial to clearly associate the opportunity to be involved in hospital administration with the opportunity to be a leader in the community.

Our study has several limitations. First, this is a small study that only begins to understand the overlap between recruiting and medical student goals. Additionally, this includes students at one school without a rural track. These students may be predisposed to certain opinions about rural health. Finally, the study included medical students, not residents. In residency, priorities and perspectives may be different.

Despite these limitations, identifying areas of importance to rural administrators and medical students may inform novel approaches to rural physician recruitment. These approaches should consider focusing on needs of medical students. Persons involved in rural recruitment may consider focusing on leadership opportunities and identifying creative solutions to meeting career needs of physician spouses.

Tables and Figures

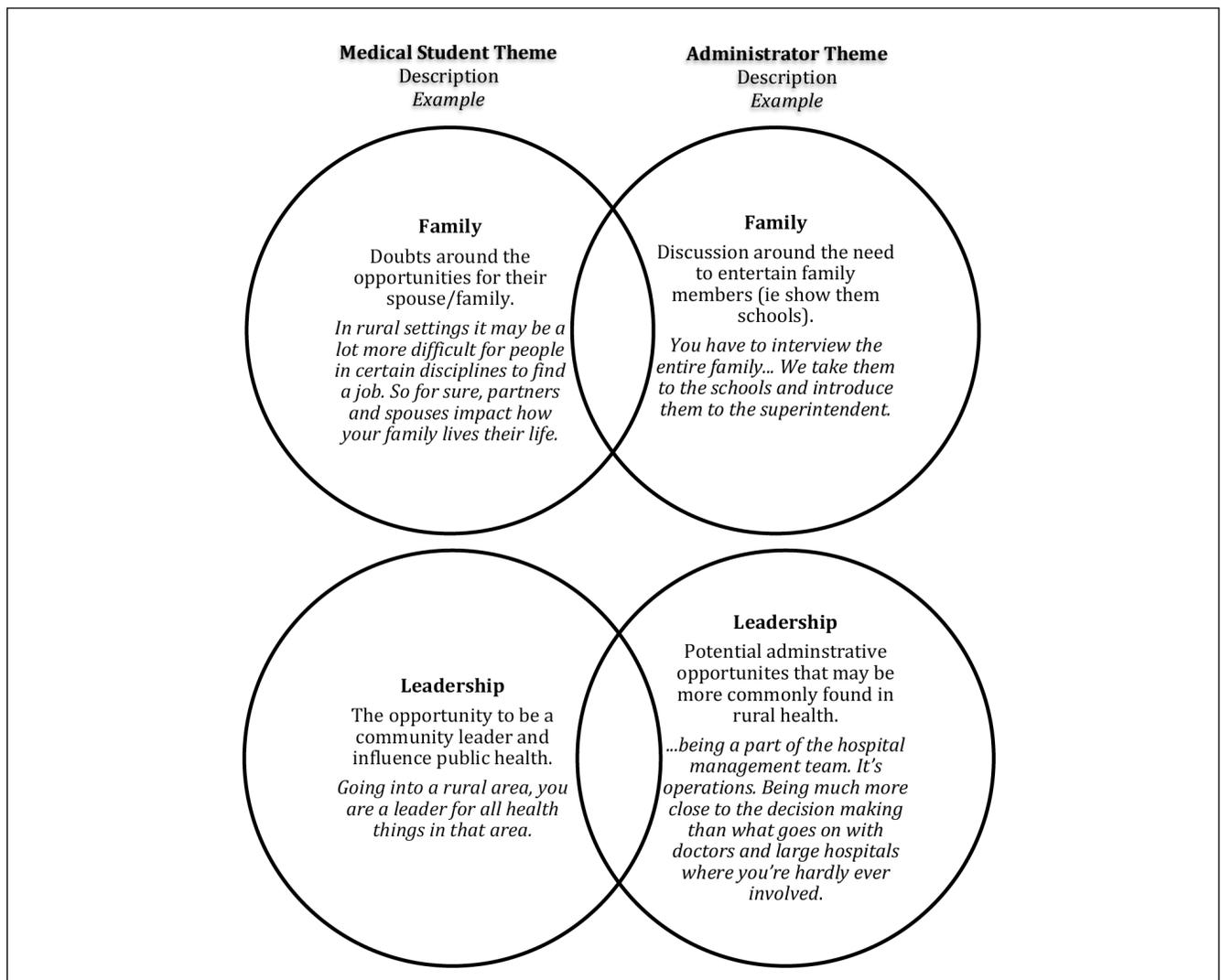
Table 1: Top Five Most Frequently Occurring Codes in the Medical Student Focus Groups and Administrator Focus Groups

	Theme (x)	Description	Example
Medical Student	Financial (0.8)	Mention of money/salary/loan repayment	<i>And then the loan repayment is also a big plus.</i>
	Scope (0.59)	Consideration of scope of practice in decision	<i>I realized that if I went to a rural area, you can have that opportunity to practice broad spectrum.</i>
	Exposure (0.55)	Mention of desire to live/work in a rural area before committing to doing so.	<i>I didn't grow up in a small town. I have no firsthand exposure to spending a lot of time in one of those areas. So all of my appealing things are hypothetical because I have never lived in those areas. But if I had experienced that could confirm those hypotheticals before I graduate and while I'm looking for a job, then I'd be a lot more likely [to practice in a rural area].</i>
	Responsibility (0.63)	Responsibility for patients and community.	<i>The health needs of the community are more dependent on each individual physician that's there.</i>
	Lifestyle (0.70)	Expectation of what rural life would be like (NOT related to career)	<i>If you're one of those people who like space, you can have actual space. You could have land. You can have a ranch if you're into that.</i>
Administrator	Recruiting (0.63)	Discussion of recruitment strategies	<i>We use our physicians to be the recruiters, so if they came from [X hospital] we keep up a great relationship between them [the physician and X hospital]</i>
	Family (0.41)	Impact of family on recruitment or decisions or family involvement in decisions	<i>You have to interview the entire family. We hook them up with physician's wives and they go to lunch and we do dinners. We take them to the school system. They meet with the superintendent.</i>
	Young physician (0.38)	Perceived goals of newly graduating physicians	<i>A lot of physicians, young physicians coming up, particularly in the west part of the US are looking at sharing time rather than working full time.</i>
	Loans/salary (0.79)	Any discussion of loans, loan repayment, salary, finances of the physician/student/resident	<i>The opportunity or the offer for loan repayment has come up in 3 of 4 of last recruiting.</i>
	Experience efforts (0.39)	Any efforts to increase experience and training of future physician workforce	<i>We work with [X medical school]. We have agreements with [X residency program] especially for the family practice.</i>

Table 2: Areas of Thematic Overlap Between Medical Students and Hospital Administrators

Theme	Example Quotes
Scope	<i>In primary care, I realized if I went to a rural area, I have that opportunity to practice broad spectrum. You can practice whatever you're comfortable with and sometimes you might actually be forced into having to do something because you'll be the only doctor there. —Med Student</i>
	<i>I look at my own facility and my family practice OB has the ability to do scopes, procedures, and other things, which has really helped well. —Administrator</i>
Financial and loans/salary	<i>[Loan repayment] is a secondary, financial driver. Can [the rural hospital] also pay off my debt? —Med Student</i>
	<i>Every one of the guys that I recruited or even tried to recruit, [loan repayment] is one of the first questions they ask about. —Administrator</i>
Exposure and experience efforts	<i>I didn't grow up in a small town. I have no firsthand exposure to spending a lot of time in one of those areas. So all of my appealing things are hypothetical because I have never lived in those areas. But if I had experienced that could confirm those hypotheticals before I graduate and while I'm looking for a job, then I'd be a lot more likely [to practice in a rural area]. —Med Student</i>
	<i>They just have to be in the community. They have to see it. Due to a saturation in the education market, I had to send [residents] to a rural area for surgery and family medicine [rotations]. At first, people were saying 'oh, I have to go so far away' but then very quickly it became the rotation that everyone asked for. —Administrator</i>

Figure 1: Themes Similar Between Medical Students and Administrators



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