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Nebraska Rural Physician Satisfaction & Retention Survey: Appendix A: Survey (with Results)

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FACTORS INFLUENCING THE SATISFACTION AND RETENTION OF NEBRASKA'S RURAL PHYSICIANS

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ABSTRACT

This paper examines the factors that influence the satisfaction and retention of family and general practice physicians in Nebraska's 87 non-metropolitan counties. Extensive research has previously been done in the area of rural physician recruitment. This research project compares the existing research with current trends in physician recruitment. In addition, it provides further insight into the less-thoroughly studied area of rural physician retention.

Satisfaction with practice-related and lifestyle factors is measured and compared with the level of influence of those same factors in the initial practice selection decision. Demographic characteristics are also considered in the analysis of data and resultant recommendations to medical schools, rural communities, and policymakers.

LITERATURE REVIEW

National Demographics

Twenty percent of all Americans (51 million) live in nonmetropolitan areas (as classified by the U.S. Office of Management and Budget), yet fewer than eleven percent of the nation's physicians are providing health care to these areas. Thus, there is a great contrast between rural and urban areas in the supply of health care personnel. Nearly 22 million Americans live in areas that have been designated Health Professional Shortage Areas (HPSAs) by the Federal government (Federal Office of Rural Health Policy). The Department of Health and Human Services uses a ratio of one primary care physician per population of 3,500 or more (1:3,500) as the standard for a primary care HPSA designation. Persons living in nonmetropolitan areas are nearly four times more likely to live in a HPSA than persons in metropolitan areas (COGME August 2000).

Economic Impact of Rural Physicians

In addition to the obvious need for rural physicians to provide health care to rural Americans, physicians are the backbone of a strong health care system, which in turn is a vital contributor to a rural economy. Not only do health care expenditures make up approximately 15% of the U.S. gross national product each year, health-generated employment is often 10-20% of the total employment in a rural community, second only to schools (Doeksen, Johnson, & Willoughby 1997). A rural doctor is worth \$343,706 per year in economic impact and 17.8 jobs in a rural community, according to Doeksen & Miller (1998). Other studies have indicated similar economic impacts—in separate studies, the University of Minnesota and the Oklahoma Physician Manpower Training Commission estimated that a rural physician has an impact of nearly \$1,000,000 on his or her community. In addition, George Wright (*Textbook of Rural Medicine*, p. 286) has calculated that a town with a population of 2,000 generates \$ 3,000,000 in health care, with \$417,000 being spent on rural primary care office visits.

Medical School Admissions: Rural Background As A Critical Factor in Recruitment and Retention

Numerous studies have shown that the most important step in the recruitment and retention of rural physicians is actually the admission of students into medical school. Students with a rural background and an interest in rural primary care are most likely to return to rural communities to practice (Abercrombie 2000; Pathman 1996; Rabinowitz & Paynter 2000; Rosenthal 2000; Rabinowitz 1995; Rabinowitz, Diamond, Veloski, & Gayle 2000).

A 1999 survey of graduates from the 13 U.S. rural training track programs indicated that 30% had returned to their hometowns to practice (Rosenthal 2000). Although these training tracks seem to have high success rates in placing their graduates in rural areas, the students who choose to participate in such training programs often do so because of an existing interest in rural primary care. Thus, the critical factor for success lies in the selection criteria rather than the curricula of medical schools (Pathman 1996).

Rabinowitz, Diamond, Veloski, and Gayle (2000) identified the following four factors as highly predictive of care for underserved populations: member of an underserved ethnic/minority group, NHSC participant, strong interest in practicing in an underserved area *prior* to medical school, and having grown up in a rural area. Out of these factors, only NHSC participation is an experiential factor; the other three can be easily identified at the time of admission.

In addition to the influence of rural background in a physician's choice of rural practice, it may also be a more important factor than medical school training in the *retention* of these physicians in rural areas. While preparation for rural *life* had a significant influence on retention of rural physicians, their preparation for rural *practice* did not significantly influence the duration of their practice (Pathman, Steiner, Jones, Konrad 1999; Stearns & Stearns 2000).

There is an apparent *economic* advantage of a focus on admissions as well. Rabinowitz (1995) explained that it costs much less to adjust admissions policies to reflect the importance of rural background than it does to coordinate and staff the rural training programs traditionally used to increase the number of students entering and remaining in rural practice.

Rural Experiences in Medical Schools

Rural communities and medical schools must work cooperatively to ensure that those students interested in rural primary care are given opportunities via rural training tracks, preceptorships, and residency programs to gain experience in dealing with the challenges of rural practice. Dr. Howard Rabinowitz, professor of family medicine and director of the Physician Shortage Area Program at Jefferson Medical College of Thomas Jefferson University, speaks from experience of the importance of this support. "We know that if you put students in an environment where there's zero support, even if they're strong candidates to enter rural health care, you'll lose huge numbers," he explains (Rabinowitz 2001).

Retention of Physicians in Rural Communities

While there seems to be a strong consensus about the importance of medical school admissions selection in providing an adequate pool of physicians to serve in rural areas, there is less evidence or agreement about those factors that ensure retention of a physician once he or she enters rural practice. The difficulty in addressing retention factors may be due to the fact that both *lifestyle* characteristics—which may include community involvement, leadership, recreational, and cultural opportunities, churches, schools, and employment for spouse--and *practice* characteristics such as call hours, vacation days, business structure of practice, financial incentives, and interaction with other health care professionals seem to influence the overall satisfaction, and often, the consequent retention, of rural physicians. In addition, no rural community, health care system, or physician is exactly alike any other so it is a challenge to develop an effective standard by which to compare any aspect. Finally, much of the research done on the topic has been specific to a single state or region.

“Rural” can obviously mean many different things across the U.S.--between 1993 and 1995, 26 different definitions of rural were used by researchers in scientific papers (*Federal Office of Rural Health Policy* 2002). Therefore, a factor that is significantly related to retention in one area may be insignificant, or even a cause for dissatisfaction, in another community or region. Even differences in climate and geography may create widely varying “rural” areas.

Areas of Greatest Satisfaction

Despite many discrepancies regarding satisfaction and retention factors, some generalizations may be made as a result of previous surveys and studies. The areas of greatest satisfaction included rural living (Pathman, Williams, Konrad 1996; Bowman, Crabtree, Petzel, & Hadley 1997; Cordes 1978; Forti, Martin, Jones, Herman 1995), more personal patient relationships and clinical autonomy (Pathman, Williams, Konrad 1996; Cordes 1978; Forti, Martin, Jones, Herman 1995), and the variety and challenge of medical conditions (Cordes 1978; Pastor, Huset, & Lee 1989; Forti, Martin, Jones, Herman 1995). The ability to fill a need or provide a service was also a source of great satisfaction for many rural physicians, which is not surprising, as twice as many rural

interested students volunteer locally and overseas during medical school than other medical students. Additionally, more than 60% of rural-interested students planned to locate their practices in a socioeconomically deprived area, as compared with only 11.5% of other medical students.

Areas of Least Satisfaction

Areas of greatest frustration were the long hours and lack of time off (Pathman, Williams, Konrad 1996; Bowman, Crabtree, Petzel, & Hadley 1997; Cordes 1978; Pastor, Huset, & Lee 1989; Forti, Martin, Jones, & Herman 1995; Movassaghi & Kindig 1989). Although the more personal patient contact and clinical autonomy were sources of satisfaction, the demands and expectations by the community and patients, as well as the overwhelming responsibility for organizational and administrative decisions were listed among the most dissatisfying aspects of rural practice (Cordes 1978; Pastor, Huset, & Lee 1989). Likewise, those same physicians who valued rural living were frustrated by the lack of urban amenities and the continuing education available, although several studies recognized that improved use of technology would help ease the feelings of isolation (Pastor, Huset, & Lee 1989; Forti, Martin, Jones, & Herman 1996). Salary or income alone was not a significant factor in the physicians' levels of satisfaction (Anderson, Bergeron, & Crouse 1994; Forti, Martin, Jones, & Herman 1995), although the opportunities for promotion were considered limited by physicians in two of the surveys (Pastor, Huset, & Lee 1989; Movassaghi & Kindig 1989).

The individual physician characteristics such as age, gender, preference for rural lifestyle, ownership of practice, and desire for leadership positions likely have some effect on the general level of satisfaction of each physician. Much variance in practice satisfaction and success is also likely due to pre-practice determinants, namely the characteristics and backgrounds of the students admitted to medical schools.

Nebraska-Specific Demographics

Nebraska is not unfamiliar with this problem of a lack of physicians willing to practice in the rural areas of the state. More than two-thirds of the counties (62/93) qualify as state primary care shortage areas (Nebraska Office of Rural Health).

Roughly half of the state's population is rural, with the other half concentrated mainly in the eastern metro counties. This creates a challenge to define what constitutes "rural", as geographical location has an important impact on the demographics of a non-urban county.

The physician distribution is even more uneven than that of the general population; 70% (2125/3020) of the state's practicing physicians currently practice in one of Nebraska's six metro counties (Nebraska Center for Rural Health Research 2002). In fact, Nebraska has 534 incorporated communities, but only 13 of those non-metro communities have a population base (greater than 10,000) that can support non-primary care providers (Nebraska Office of Rural Health). Therefore, most non-metro Nebraska communities rely solely on family practice physicians to provide them with primary health care services. It is also important to note the substantial economic and employment impact of the health services industry in Nebraska. In 1993, Nebraska's 77 rural hospitals employed 13,000 workers with a \$250,000 payroll. Even the *smallest* rural hospital created 77 jobs and had a \$1 million payroll (RUPRI & Nebraska Association of Hospitals and Health Systems). This impact has only grown over the past decade. The Nebraska Rural Health Care Project estimates that \$7.7 billion dollars were spent in Nebraska in 2000.

Nearly 80,000 Nebraskans made a living *directly* from the health care industry in 2000, while an additional 120,000 Nebraskans were employed as a result of the industry's economic impacts (Macke 2002). Health services represent about 21% of jobs in remote rural counties [Remote Rural: 48/93 counties: non-recreational, not adjacent to a metro county, fewer than 2,500 *urban* residents] compared with 10% of the jobs in other counties. From 1988-1996, health services were responsible 61% of all new jobs in Nebraska's most rural counties. Over the same period, health services created only 13% of new jobs in the more populated Nebraska counties (Bureau of Business Research 2000).

PROBLEM STATEMENT

Although the influential factors in physician recruitment have been extensively studied and identified, the factors that most determine physician *retention* have not

been so thoroughly examined. Furthermore, any retention studies that have been done have been focused on other states or on a national level. Nebraska-specific data will benefit the state's current rural physician education, recruitment, and retention efforts.

This project will measure the initial importance of several demographic, practice-related, and community/lifestyle factors in rural physicians' choice of location. In addition, the physicians' current satisfaction with each of those factors will serve as indicators of retention. Finally, these factors will be compared to independent variables such as age, income level, educational background, and motivation for a career in rural medicine.

The following factors have been identified in previous studies as potentially indicative of the recruitment and retention of rural physicians:

Demographic/Background

- Rural Background
 - Birthplace
 - High School, Undergraduate, Medical School
 - Influence in Rural Medicine Decision
- Life Stage
 - Age of 1st Interest in Rural Medicine
 - Year of Graduation from Medical School
 - Children Still at Home
- Gender
- Marital Status

Practice

- Patient attitudes
- Clinical Autonomy
- Variety of Medical Conditions
- Professional Contacts
- Technology
- Continuing Medical Education
- Administrative Responsibilities
- Call Hours
- Opportunities for Promotion
- Income Level

Community/Lifestyle

- Rural/Small Town Lifestyle
- Personal Time Away from Work

- Community Involvement/Leadership Opportunities
- Employment for Spouse
- Schools and Religious Organizations
- Access to Cultural and Recreational Activities
- Proximity to Family and Friends
- Climate and Topography
- Cost of Living
- Professional, Social, and Personal Relationships

METHODOLOGY

The data used in this analysis was collected from a self-administered survey sent to all family and general practice physicians practicing in the 87 non-metropolitan counties in Nebraska. Respondents were asked questions about their expectations and level of satisfaction with both practice and community/lifestyle factors. Questions about demographics and educational background were also included.

The following steps were taken in the survey process:

1. Obtain approval from the Institutional Review Board for the Protection of Human Subjects. **See Appendix B: IRB Approval Correspondence**
2. Send a pre-survey letter requesting participation in the study. **See Appendix C: Sample Survey Letters**
3. Mail the survey booklet, along with a cover letter and business reply envelope, one week after the pre-survey letter.
4. Follow-up with a reminder postcard to non-respondents two weeks after mailing survey.
5. Record responses as surveys are returned.

RESPONDENT PROFILE

The survey was mailed to 390 physicians; 172 surveys were returned for a 44% response rate. The average respondent age was 46, with the youngest respondent being 28 years old and the oldest being 87. Only 13 of the respondents identified themselves with an ethnic background other than Caucasian, and 31 (18%) are female.

Ninety-four percent (160/171) of the respondents are married and 62% have children still at home. Nearly 70% of the respondents reported an approximate 2001 income (before taxes) of \$120,000 or more.

RESULTS

The following sections provide an overview of the responses to key areas within the survey that are important in the analysis of the data. For more detailed results, see the actual survey (with results) in Appendix A.

Background

Most of the respondents had a Nebraska background, either by birth or education. The following table shows the numbers and percentages of respondents with a Nebraska background at each level:

Born in Nebraska	117 (68%)
Graduate of a Nebraska High School	131 (76%)
Non-Metro Nebraska High School	115 (67%)
Graduate of Creighton or UNMC	134 (78%)
Completed Residency in Nebraska	90 (52%)

Loan Repayment Program Participation

A surprising aspect of the respondents' educational backgrounds was the small number of physicians who were (or are currently) participating in a loan repayment program. A previous study (Rabinowitz, Diamond, Veloski, & Gayle, 2000) identified National Health Service Corps participation as one of four factors that are highly predictive of care for underserved populations. In Nebraska, however, 65 physicians (38%) reported being participants, with six serving through both the National Health Service Corps (NHSC) and a Nebraska loan repayment program.

A correlation of year of graduation from medical school and participation in a loan repayment program revealed that more recent graduates were more likely to have been

participants (or be currently participating) in a loan repayment program (.3517, <.0001). This may be due to the increase in loan repayment programs, as well as the rising costs of medical education.

Rural Background and Interest

More consistent with the Rabinowitz et al study was the high percentage of respondents who had a rural background and an interest in rural medicine prior to medical school. In addition to being an NHSC participant, a strong interest in practicing in an underserved area and having grown up in a rural area were also predictive of rural service in the previous study. For the Nebraska survey, respondents were asked to identify the experience or factor that most influenced their decisions to enter rural practice. Although the written responses varied, the two most common influences were: (1) a desire to return to a rural lifestyle (48%) and (2) childhood contact with a rural family physician (21%). There was a significant correlation between these two influences and those physicians who listed their first interest in rural medicine as being during their childhood years (.3079, <.0001). Similarly, the likelihood of rural lifestyle being the main influence in practice choice increased as the physicians reported being younger when first becoming interested in rural medicine (.2982, <.0001).

Sixty-seven percent of respondents graduated from a rural Nebraska high school, and 63% reported being first interested in rural medicine prior to medical school. The age of first interest in rural medicine was lower for those physicians who attended a rural Nebraska high school (0.2676, 0.0005).

Preparation for Rural Practice

This survey asked respondents to rate the effectiveness of five areas of their medical education in their preparation for rural practice. The areas of training most often found to be effective were patient relations and the use of medical technology. Practice management training was found to be most lacking, and the largest range of responses came in the area of communications technology. This is not surprising, considering the respondents' varied ages and dates of training.

Practice Information

On average, respondents have been in their current practices for an average of 14 years and have been in rural practice for an average of 16 years. Consequently, most (60%) had not practiced in another location prior to their current location. Reasons for leaving varied widely among those physicians who left a previous practice. Often, a very personal, specific reason was written on the line for “other” responses, and the listed factors were marked as “not influential” in the physicians’ decision to leave. When current satisfaction factors were correlated with influential reasons for leaving a previous practice, all were negatively related. This indicates that although physicians may have left a practice due to a certain factor, they are currently quite satisfied in that area.

Correlations: Current Satisfaction with Reasons for Leaving Previous Practice

		Pearson's Correlation Coefficient	
Satisfaction with Variety of Medical Conditions	Left due to lack of cultural opportunities	-0.4615	0.0001
Satisfaction with Medical Technology	Left due to lack of employment for spouse	-0.4421	0.0002
Satisfaction with Variety of Medical Conditions	Left due to limited opportunities to hold elected positions	-0.3825	0.0015
Satisfaction with Medical Technology	Left due to lack of quality schools	-0.3535	0.0036
Satisfaction with Variety of Medical Conditions	Left due to limited volunteer opportunities	-0.3508	0.0039
Satisfaction with Variety of Medical Conditions	Left due to limited specialist contact	-0.3499	0.0040
Satisfaction with Medical Technology	Left due to lack of cultural opportunities	-0.3456	0.0048
Satisfaction with Recreational Opportunities	Left due to lack of quality schools	-0.3287	0.0080
Satisfaction with Rural Lifestyle	Left due to lack of employment for spouse	-0.3191	0.0096

An alarming finding was that 51 physicians (30% of respondents) plan to leave their *current* practice within 10 years, and 32 of those leaving plan to retire from medical practice. This has serious implications for the rural physician shortage in Nebraska, as the recruitment of new physicians and the retention of existing rural physicians will become even more crucial.

Independent	Dependent	T Value	Pr>[t]	R-Square
Satisfaction with Recreational Opportunities	Retiring within 10 years	-4.26	<.0001	0.2655
Satisfaction with Rural Lifestyle	Retiring within 10 years	-3.63	0.0007	0.2391
Satisfaction with Schools	Retiring within 10 years	-3.62	0.0007	0.2088
Satisfaction with Medical Technology	Retiring within 10 years	-3.41	0.0013	0.1853
Satisfaction with Personal Relationships	Retiring within 10 years	-3.18	0.0025	0.1704
Satisfaction with Personal Time	Retiring within 10 years	-3.12	0.0030	0.1573

Satisfaction with Call Hours	Retiring within 10 years	-3.19	0.0025	0.1563
Satisfaction with Cultural Opportunities	Retiring within 10 years	-3.05	0.0038	0.1507
Satisfaction with Professional Relationships	Retiring within 10 years	-2.87	0.0061	0.1414
Satisfaction with Specialist Contact	Retiring within 10 years	-2.76	0.0080	0.1382
Satisfaction with Professional Contact	Retiring within 10 years	-2.74	0.0087	0.1372
Satisfaction with Proximity to Family	Retiring within 10 years	-2.36	0.0226	0.1274
Satisfaction with Patient Expectations	Retiring within 10 years	-2.83	0.0066	0.1244

Workload

The respondents reported an average work week of 56 hours, with an average of fewer than 10 hours per week being spent on tasks other than patient care. In addition to the regular working hours, 67% (118) of the respondents are on call two or fewer days per week. Eighteen physicians reported being on call “all the time”, or 168 hours per week.

In addition to primary practice responsibilities, 56 responding physicians have an additional, secondary practice location at which they spend several hours each week. However, only 14 reported having to be on call at the secondary location.

Practice Structure

The organizational structure of most practices is a private clinic with a self-employed partnership or physician group.

Practice-Related Satisfaction Factors

As listed in the problem statement, several practice-related factors have been identified by previous studies as having an impact on the recruitment and/or retention of physicians in rural Nebraska. When given these factors and asked to rate the importance of each in their choice of practice location, the three most influential factors were clinical autonomy, variety of medical conditions, and patient relationships. Opportunities for promotion were the least influential.

After considering the influence of these factors on initial practice choice, the respondents were asked to consider their *current satisfaction* with these same factors. Overall, the satisfaction level was quite high, with more than 60% of respondents

reporting that they are currently very satisfied with 9 of the 13 factors, including the three factors that were most important to them in selecting their current practice.

Practice-Related Factors: Correlation between Influence in Practice Choice and Current Satisfaction

Patient Relationships	0.1770	0.0205
Clinical Autonomy	0.3944	<.0001
Variety of Medical Conditions	0.2174	0.0044

Areas of least satisfaction included reasonable call hours, opportunities for promotion, and a desirable income level. Satisfaction with income level was slightly related to gender, with male physicians generally more satisfied with their income than females (.2563, .0008).

Lifestyle and Community Satisfaction Factors

The same questions were asked about the lifestyle and community factors that were initially asked of respondents about practice-related factors. A rural/small town lifestyle, sufficient personal time away from work, and a quality school system clearly were most influential in the practice location decisions of the most physicians. Rural lifestyle and quality schools were also two of the areas of greatest satisfaction, in addition to religious opportunities. Climate, topography, and community involvement opportunities were least important to many of the respondents.

Lifestyle Factors: Correlation between Influence in Practice Choice and Current Satisfaction

Rural/Small Town Lifestyle	0.2704	0.0205
Quality School System	0.4338	<.0001
Variety of Religious Organizations	0.3976	<.0001

In consideration of their current satisfaction with these factors, respondents most often said they were very satisfied with their rural/small town lifestyle, the quality of the school systems, religious and volunteer opportunities, cost of living, and opportunities for social and personal relationships. Areas of most frequent dissatisfaction included personal time away from work, employment for spouse, access to cultural activities, and distance from family members.

The lack of personal time away from work has been identified as an area of frustration in at least five previous studies, as well as the lack of urban amenities. This

study also recognizes the lack of cultural activities, but it is interesting to consider that the rural/small town lifestyle that seems to be so influential in rural practice decisions is also likely the reason for a lack of urban amenities and cultural activities. It is impossible to specifically define a rural or small town lifestyle, and this may pose a new challenge in the near future. Economic, demographic, and social changes have drastically altered the “rural lifestyle” that draws physicians back to rural areas. If these physicians return and find that this lifestyle is not what they grew up with (or simply find it to be unsatisfactory), this area of great influence will cease to continue as an area of satisfaction as well.

Previous research has also suggested that income or opportunities for promotion do not, by themselves, affect physicians’ levels of satisfaction. The Nebraska survey reinforced this, as income and promotions were not significant in the recruitment or retention of rural Nebraskan physicians.

Correlations: Current Satisfaction with Reasons for Choosing Current Practice (For All Variables with Correlation Coefficient $>.25$, $P \leq .01$)

		Pearson's Correlation Coefficient	
Satisfaction with Professional Contact	Influence of Professional Contact in Practice Choice	0.4643	<.0001
Satisfaction with Professional Relationships	Influence of Professional Relationships in Practice Choice	0.4497	<.0001
Satisfaction with Quality of Schools	Influence of Quality of Schools in Practice Choice	0.4338	<.0001
Satisfaction with Religious Opportunities	Influence of Religious Opportunities in Practice Choice	0.3976	<.0001
Satisfaction with Level of Clinical Autonomy	Influence of Clinical Autonomy in Practice Choice	0.3944	<.0001
Satisfaction with Medical Technology	Influence of Medical Technology in Practice Choice	0.3877	<.0001
Satisfaction with Specialist Contact	Influence of Specialist Contact in Practice Choice	0.3800	<.0001
Satisfaction with Specialist Contact	Influence of Professional Contact in Practice Choice	0.3613	<.0001
Satisfaction with Professional Contact	Influence of Specialist Contact in Practice Choice	0.3499	<.0001
Satisfaction with Personal Time	Influence of Personal Time in Practice Choice	0.3395	<.0001
Satisfaction with Proximity to Family	Influence of Proximity to Family in Practice Choice	0.3378	<.0001
Satisfaction with Specialist Contact	Influence of Medical Technology in Practice Choice	0.3276	<.0001
Satisfaction with Call Hours	Influence of Professional Contact in Practice Choice	0.3196	<.0001
Satisfaction with Personal Relationships	Influence of Professional Relationships in Practice Choice	0.3187	<.0001
Satisfaction with Professional Contact	Influence of Medical Technology in Practice Choice	0.3140	<.0001
Satisfaction with Professional Contact	Influence of Call Hours in Practice Choice	0.3087	<.0001
Satisfaction with Personal Relationships	Influence of Religious Opportunities in Practice Choice	0.3084	<.0001
Satisfaction with Professional Relationships	Influence of Personal Time in Practice Choice	0.2936	0.0001
Satisfaction with Quality of Schools	Influence of Personal Relationships in Practice Choice	0.2873	0.0002
Satisfaction with Cost of Living	Influence of Cost of Living in Practice Choice	0.2827	0.0002
Satisfaction with Professional Relationships	Influence of Personal Relationships in Practice Choice	0.2819	0.0002
Satisfaction with Specialist Contact	Influence of Income in Practice Choice	0.2746	0.0003
Satisfaction with Rural Lifestyle	Influence of Rural Lifestyle in Practice Choice	0.2704	0.0004
Satisfaction with Medical Technology	Influence of Professional Contact in Practice Choice	0.2703	0.0003
Satisfaction with Specialist Contact	Influence of Administrative Responsibilities in Practice Choice	0.2688	0.0004
Satisfaction with Recreational Opportunities	Influence of Professional Relationships in Practice Choice	0.2577	0.0007
Satisfaction with Medical Technology	Influence of Specialist Contact in Practice Choice	0.2574	0.0007
Satisfaction with Personal Time	Influence of Professional Relationships in Practice Choice	0.2539	0.0008
Satisfaction with Specialist Contact	Influence of Call Hours in Practice Choice	0.2518	0.0009
Satisfaction with Recreational Opportunities	Influence of Religious Opportunities in Practice Choice	0.2508	0.0010
Satisfaction with Cost of Living	Influence of Professional Relationships in Practice Choice	0.2503	0.0010

RECOMMENDATIONS

Medical Schools

As multiple previous studies have shown, rural background and an established interest in rural health are important in selection and recruitment. However, medical

school and residency training and support are essential to the long-term retention of rural physicians. Specific areas in which training and support are especially needed are outlined in the following paragraphs.

In response to their medical school preparation for rural practice, physicians felt (on average) that their preparation for practice management was ineffective. Comprehensive training and support in this area will help to maximize patient care time and contribute to more favorable practice conditions.

Although mental health and communications technology training were considered to be more effective, there is an obvious concern in each of these areas. Within the next several years, these two areas will likely be of increased importance to rural Nebraska physicians, and their preparation in dealing with related issues will allow their patients to receive the most integrated, effective care available.

Rural Communities

After considering the results of this survey, it becomes quite obvious that there is not a “model” community or practice setup that will ensure the satisfaction and retention of a rural physician. Physicians, as human beings, come from a wide variety of backgrounds, training, and experiences. In addition, physicians are serving during different stages of their lives, which may influence their practice and lifestyle preferences and priorities. However, the results of the survey also indicate a few areas that were important to a majority of the physician respondents. These areas include quality schools, community involvement, need for adequate personal time, and a strong integrated care system. Personal time is especially important; analysis of the survey results show that merely increasing a physician’s income will not necessarily ensure satisfaction with the number of hours being worked each week. Alternate practice arrangements might be an effective way to give full-time physicians some much-deserved time away from their practices.

Policymakers

A successful rural health care system must be supported by effective legislation. While there are many aspects of health care that must be addressed by local, state, and

national governments, the following suggestions highlight some of the most important general areas:

- Support rural health awareness at the local level to support rural physicians and encourage youth to consider rural health careers.
- Ensure that reimbursement levels for rural clinics are competitive with metropolitan areas.
- Encourage a health care infrastructure that connects physicians across the state with necessary specialists and consultants; avoid professional isolation.
- Focus on integrated care arrangements to help communities most effectively deliver health care (as measured in cost and time).

FUTURE RESEARCH

As a new generation of physicians enters into service in rural Nebraska, additional research will answer some important questions about how to shape the rural practice environment to ensure the satisfaction of current and future physicians in the state. Among the issues that must be addressed are the increase in the number of female physicians and the increasing influence of sufficient personal time to a physician's satisfaction. In addition, medical technology that was once considered a luxury is quickly becoming an expected fixture in many rural clinics and hospitals. This poses challenges in accessibility and economics. Along with medical technology, personnel and staffing arrangements will need to be addressed to avoid feelings of isolation despite declining rural populations across the state.

LIMITATIONS

A potential limitation of this survey is that it was sent only to those physicians listed as family or general practitioners to ensure that responses came only from primary care providers. However, there are some specialists (internal medicine, pediatrics, OB/GYN) who are currently practicing in the capacity of a primary care provider but were not included because of their specialty classification.

Another challenge of this study lies in the fact that it is nearly impossible to derive a consistent definition of "rural". For the purposes of this survey, physicians in the six

counties of Nebraska classified as “metropolitan” were excluded from this survey. However, there are areas within those six counties that are likely more “rural” than some of the communities that were included in the study.

CONCLUSIONS

Medical schools, health care policy makers and administrators or communities seeking to ensure the future viability of their health care systems may use results from this study. The state-specific data provides a more precise description of Nebraska’s current rural health providers to help guide health care decision-making and planning processes across the state.

In the near future, portions of this data may be used to guide the development of medical systems and models for integrated care, mental health, and telehealth programs across the state.