



Center *for*  
Rural Health

University of North Dakota  
School of Medicine & Health Sciences

**Medical Student and Resident  
Preliminary Survey Results**

**Health Professions Tracking Program**

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January 2005

*Connecting resources and knowledge to strengthen  
the health of people in rural communities.*

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## EXECUTIVE SUMMARY

### **Background**

This survey was designed to examine demographics, reasons for choosing medical career, career preparation, post-training plans and plans to work in North Dakota or rural areas and was funded by the Center for Rural Health at the School of Medicine and Health Sciences, University of North Dakota. This survey was distributed to all first year medical students at the University of North Dakota. Fourth-year medical students will be surveyed in March as part of their residency match mailing. This survey was also sent to internal medicine, general surgery, family practice and neuroscience residency programs. A total of 67 surveys were returned from first-year medical students and residents out of a total of 168 surveys for a response rate of 40%. Completed surveys included 37 first-year students, 27 fourth year students and 30 residents. Of the residents, 30% were first-year residents, 27% were second-year, 37% were third-year, and 7% were fourth-year.

### **Student and Resident Survey Results**

- Most first-year medical students were female, non-Hispanic White, single with no children and or an average of 24 years old. Most residents were male, non-Hispanic white or other race, married with no children and are an average of 34 years old.
- Over half of residents have chosen family medicine as their specialty as compared to almost one-third of first-year medical students. Almost half of first-year medical students are undecided.
- A personal attraction to medicine, an opportunity to make a difference in people's lives and intellectual challenge were cited as important factors for first-year medical students and residents choice of careers.
- Most residents who plan to practice rural medicine indicated that they have had adequate clinical experience during their education and training program.
- Half of first-year medical students indicated they are planning to work in primary care because it is a challenging and comprehensive specialty, lifestyle, desire to be a role model, desire for patient-physician relationships (longitudinal patient care opportunities), and prestige. Most of these first-year medical students are considering family medicine.
- Reasons residents have chosen to work in primary care included a desire for patient-physician relationships (longitudinal patient care opportunities), lifestyle, financial rewards, desire to serve as a role model, prestige, and that it is a challenging and comprehensive specialty.

- Almost two-thirds of first-year medical students and one-third of residents plan to work in a hospital setting. One-quarter of first-year medical students and almost half of residents plan to work in ambulatory care. None of the first-year medical students and residents plan to work in occupational health and with a geriatric population
- One-third of first-year medical students and almost one-half of residents plan to work in North Dakota upon completion of their training. Few first-year medical students and residents plan to work in a rural city in North Dakota. Reasons for working in North Dakota included that family lives in North Dakota, it is a safe place to live and raise a family, good pay and benefits are available, low cost of living, good education programs are available, good pay and benefits are available, spouse/significant other has a job in North Dakota and more job opportunities.
- One-half of first-year medical students and over two-thirds of residents indicated that they anticipate seeking employment in a rural area in the future. Reasons included getting to know patients, rural areas are a safe environment, more autonomy, better working conditions, low cost of living, lower patient loads, better pay and benefits, more likely to receive student loan reimbursement, and spouse/significant other has a job in a rural area.
- Possible solutions to a shortage in primary care physicians included improving pay and benefits, especially family medicine physicians in rural areas, increasing recruitment and education efforts, and improving the workplace.
- Almost all first-year medical students and residents would recommend the medical profession to a relative. Reasons included good lifestyle, money, an opportunity to serve humanity, it is rewarding, they enjoy working with patients, it is challenging and intellectually stimulating, there are many opportunities, it is a noble profession, and a stable job market.

## **Conclusion**

Programs at the University of North Dakota School of Medicine and Health Sciences' help to expose medical students to rural areas. This includes the Rural Opportunities in Medical Education (ROME) program, the National Health Service Corps (NHSC) Student/resident Experiences and Rotations in Community Health (SEARCH) program and the Quentin N. Burdick Rural Interdisciplinary Training Grant Program. Through integration across the disciplines, participants in these programs develop an appreciation for and understanding of the interdisciplinary team approach to the delivery of primary health care services in rural and reservation areas.

## MEDICAL STUDENT AND RESIDENT SURVEY

### INTRODUCTION

This survey was designed to examine demographics, reasons for choosing medicine as a career, career preparation, post-training plans and plans to work in North Dakota or rural areas and was funded by the Center for Rural Health at the School of Medicine and Health Sciences, University of North Dakota. This survey was distributed to all first-year medical students at the University of North Dakota. Fourth year medical students will be surveyed in March as part of their residency match mailing. This survey was also sent to internal medicine, general surgery, family practice and neuroscience residency programs. A total of 67 surveys were returned from first-year medical students and residents out of a total of 168 surveys for a response rate of 40%. Completed surveys included 37 first-year students and 30 residents. Of the residents, 30% were first-year residents, 27% were second-year, 37% were third-year, and 7% were fourth-year.

- **DEMOGRAPHICS**

- **Gender**

First-year medical students: 64% female and 36% male. 50% of admitted first-year medical students nation-wide are female (American Association of Medical Colleges, AAMC, 2004). Fourth-year medical students %female and %male

Residents: 42% female and 58% male.

- **Age**

First-year medical student average age: 24.16 years which is similar to the national average of 24 (AAMC, 2004). The fourth-year medical student average age is 29.

Resident average age: 33.63 years.

- **Race**

First-year medical students: 94% White, not of Hispanic origin, 3% American Indian/Alaskan Native, and 3% other. 62% of admitted medical students nation-wide are non-Hispanic, White (AAMC, 2004)

Fourth-year medical students: 92.6% White, not of Hispanic origin, and 7.4% American Indian/Alaskan Native.

Residents: 45% White, not of Hispanic origin, 3% Hispanic, 7% Black, not of Hispanic origin, 14% American Indian/Alaskan Native, and 31% other.

- **Marital Status**

First-year medical students: 35% married, 5% divorced and 60% single.

Fourth-year medical students:

Residents: 73% married, 3% divorced and 23% single.

- **Children**

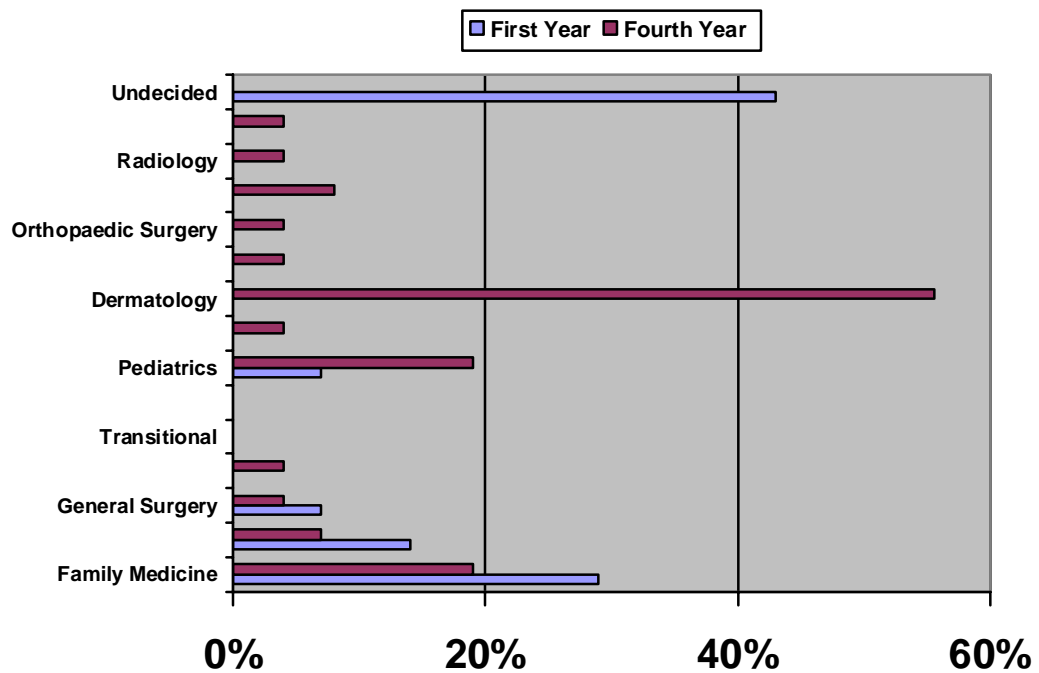
First-year medical students: 92% have no children, 3% are expecting, 3% have one or two children and 3% have three or four children.

Residents: 53% have no children, 7% are expecting, 20% have one or two children and 20% have three or four children.

- **Specialty**

29% of first-year medical students are interested in family medicine, 14% in internal medicine and 7% in general surgery or pediatrics. 43% are undecided. (see Figure 1).

**Figure 1: Specialty**



- **FACTORS IN CHOOSING CAREER**

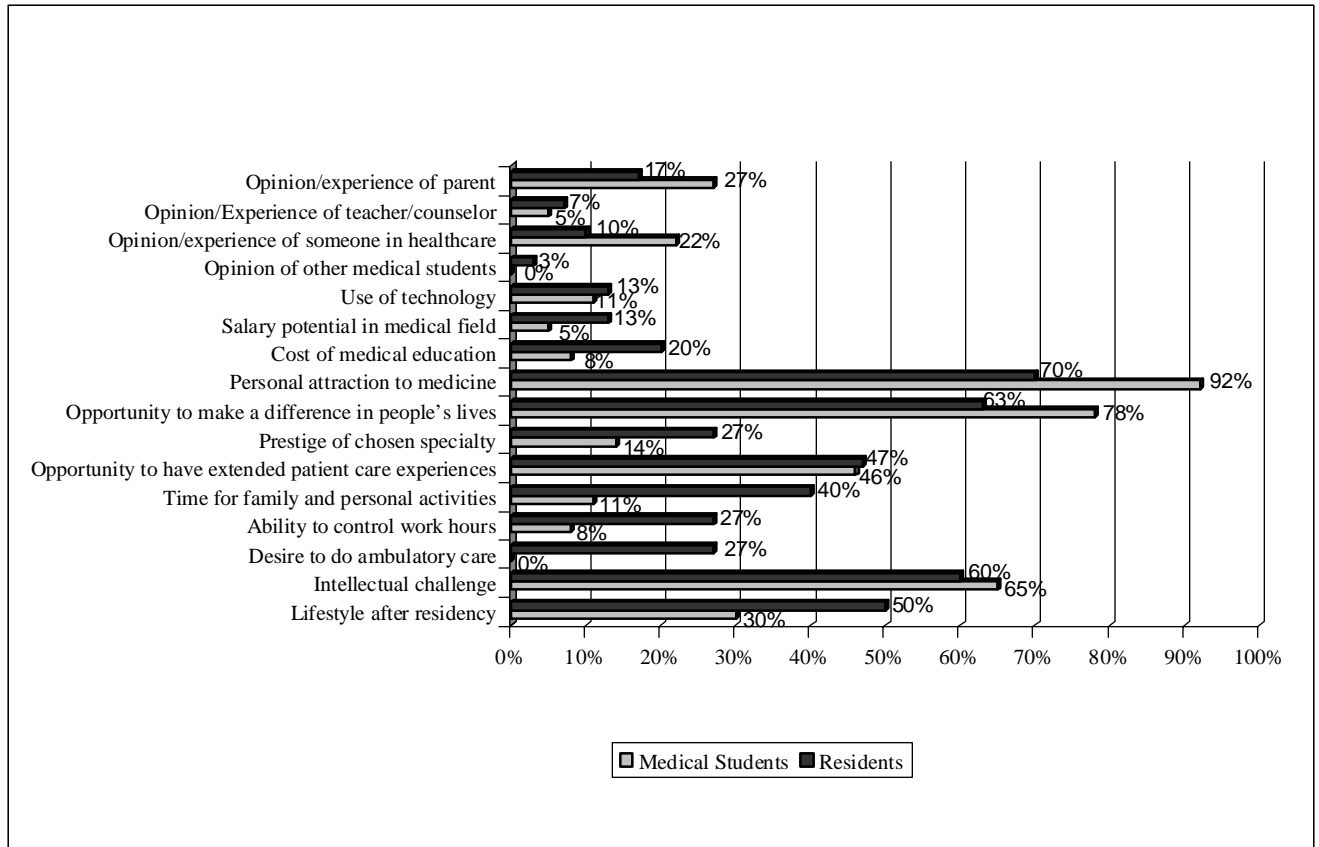
First-year medical students and residents were asked how important several factors were in choosing their career (see Figure 2).

Factors that were most important to first-year medical students and residents included personal attraction to medicine (92% of first-year medical students and 70% of residents), opportunity to make a difference in people's lives (78% of first-year medical students and 63% of residents) and intellectual challenge (65% of first-year medical students and 60% of residents).

Factors that were less frequently identified as important included desire to do ambulatory care (0% of first-year medical students and 27% of residents), opinion/experience of teacher/counselor (5% of first-year medical students and 7% of residents) and opinion of other first-year medical students (0% of first-year medical students and 3% of residents).

This question was derived from the North Dakota Healthcare Association (NDHA) Healthcare Career Perceptions study (2002). In this study, high school students ranked personal attraction to the field, opinion or experience of someone in the field, salary potential and availability of jobs as important when considering their career.

**Figure 2: Most Important Factors in Choosing Career**



- **CLINICAL EXPERIENCE**

85% of residents who plan to practice rural medicine indicated that they have had adequate clinical experience during their education and training program.

- **PRIMARY CARE**

- **First-year medical students**

51% of first-year medical students indicated they are planning to work in primary care.

Reasons included that it is a challenging and comprehensive specialty (26%), lifestyle (21%), role model (11%), desire for patient-physician relationships (longitudinal patient care opportunities) (5%), and prestige (5%). Factors that predicted student's choice of primary care or non-primary care in a 1992 study (Fincher, Lewis & Rogers) included desire to keep options open and a desire for longitudinal patient care opportunities.

Those first-year medical students that do not plan to work in primary care indicated that the field did not have enough challenge (33%), they disliked the patient type (20%), insufficient income (20%), inadequate financial rewards



(13%) and lacks prestige (7%). First-year medical students in the Fincher et al. study (1992) that did not choose primary care were influenced by monetary rewards, their perception of lifestyle after residency and the prestige of their chosen specialty.

76% of those first-year medical students planning to choose primary care are considering family medicine.

○ **Residents**

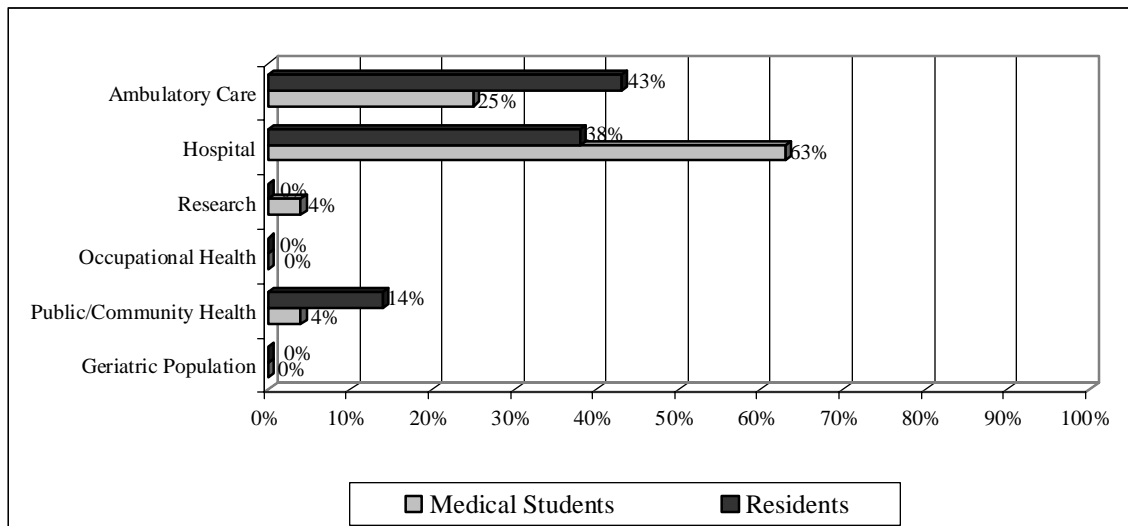
Reasons residents cited for choosing primary care included desire for patient-physician relationships (longitudinal patient care opportunities) (67%), lifestyle (38%), financial rewards (19%), role model (19%), prestige (10%) and that it is a challenging and comprehensive specialty (5%).

Those residents that did not choose primary care cited the field is too demanding (38%), too stressful (38%), not enough challenge (38%), inadequate financial rewards (25%), dislike patient type (13%) and negative clerkship (13%).

● **WORK SETTING**

63% of first-year medical students and 28% of residents plan to work in a hospital setting. 25% of first-year medical students and 43% of residents plan to work in ambulatory care. None of the first-year medical students and residents plan to work in occupational health or with a geriatric population (see Figure 2).

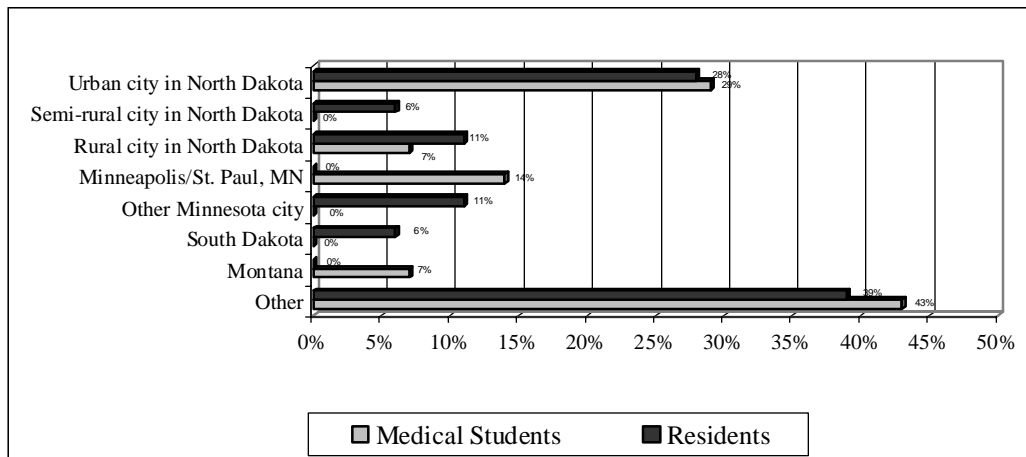
**Figure 2: Work Setting**



- **WORK LOCATION**

- 36% of first-year medical students and 45% of residents plan to work in North Dakota upon completion of their training. 7% of first-year medical students and 11% of residents plan to work in a rural city in North Dakota. 43% of first-year medical students and 39% of residents indicated other as a work location (see Figure 3).

**Figure 3: Work location**



- **First-year medical students**

First-year medical students indicated that their reasons for working in North Dakota include their family lives in North Dakota (71%), safe place to live (62%), safe place to raise a family (57%), low cost of living (48%), good education programs are available (29%), good pay and benefits are available (24%), and spouse/significant other has a job in North Dakota (24%).

Reasons first-year medical students gave for working outside North Dakota included better pay and benefits available (33%), more cultural diversity (33%), better working conditions (28%), more critical/acute cases available in larger cities outside North Dakota (28%) more job opportunities (28%) and family lives outside North Dakota (17%).

- **Residents**

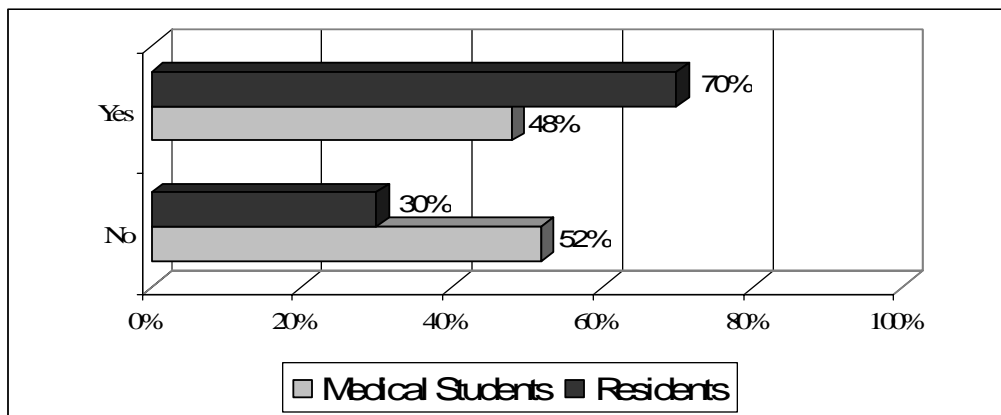
Reasons residents indicated for working in North Dakota included safe place to live (73%), low cost of living (60%), safe place to raise a family (53%), good pay and benefits are available (33%), that family lives in North Dakota (27%), good education programs are available (27%), spouse/significant other has a job in North Dakota (27%) and more job

opportunities (13%). Other reasons included a J1 waiver and experience in a rural area during the third-year of medical school.

Reasons residents gave for working outside North Dakota included family lives outside North Dakota (68%), spouse/significant other unable to find employment in North Dakota (32%), more cultural diversity (16%), better pay and benefits available (16%), better working conditions (11%), more job opportunities (11%) and more critical/acute cases available in larger cities outside North Dakota (5%). Other reasons for working outside of North Dakota included a J1 waiver, lifestyle considerations including more cultural and community opportunities, social discrimination in ND community (not at work), looking for more scenery, and quality of life.

- 48% of first-year medical students and 70% of residents indicated that they anticipate seeking employment in a rural area in the future (see Figure 4).

**Figure 4: Future Work Location in a Rural Area**



- **First-year medical students**

Of those first-year medical students that plan to work in a rural area reasons included getting to know patients (86%), rural areas are a safe environment (57%), more autonomy (50%), better working conditions (36%), low cost of living (36%), lower patient loads (21%), better pay and

benefits (14%), more likely to receive student loan reimbursement (14%), and spouse/significant other has a job in a rural area (14%).

Those first-year medical students that indicated they do not plan to work in a rural area cited few social activities (80%), only want to work in a large city, no desire to work in a rural area (47%), little cultural diversity in rural areas (40%), lack of new technology in rural areas (33%), want to live close to family who are in an urban area (33%), do not feel adequately prepared to practice in a rural area (27%), pay and benefits are not comparable to urban areas (20%), there aren't any jobs for my spouse/significant other in a rural area (20%), and unfamiliar with the rural environment (13%).

- **Residents**

Reasons residents indicated for working in a rural area included getting to know patients (60%), low cost of living (60%), more autonomy (55%), rural areas are a safe environment (40%), more likely to receive student loan reimbursement (35%), better working conditions (25%), better pay and benefits (20%), lower patient loads (15%) and spouse/significant other has a job in a rural area (15%). Other reasons for working in a rural area included a J1 waiver and a need for physicians in IHS facilities.

Those residents who indicated that they do not plan to work in a rural area cited few social activities (50%), lack of new technology in rural areas (50%), little cultural diversity in rural areas (25%), there aren't any jobs for my spouse/significant other in a rural area (25%), want to live close to family who are in an urban area (13%) and only want to work in a large city, no desire to work in a rural area (13%). Other reasons given for not working in a rural area included that psychiatry is not suited to a primarily rural area and the desire to do research.

- **PRIMARY CARE PHYSICIAN SHORTAGE SOLUTIONS**

First-year medical students and residents were asked to think of one possible solution for a shortage of primary care physicians, especially family medicine physicians in rural areas.

53% thought that improving pay and benefits for physicians, especially family medicine who work in rural areas would be a possible solution. Solutions included:

- Increasing salary
- Providing insurance
- Repayment of student loans
- Increasing reimbursement

- Providing upfront the cost of a medical education for those working in rural underserved areas
- Educational opportunities for physician's children
- J1 waivers
- Assistance with visa issues
- Assistance with setting up practices

26% thought that increasing recruitment and education efforts would alleviate a shortage of primary care physicians. Solutions included:

- Advertising the benefits of family practice and working in rural areas
- Recruiting students from rural areas including RNs
- Focusing residency training towards practicing rural medicine
- Make first-year medical students aware of the need for physicians in rural areas
- Expose healthcare and medical students to life in rural areas
- Admit students that are interested in primary care in rural areas
- Describe personality traits that are associated with being a good primary care physician including pros and cons
- Compulsory rural area rotation
- Open family medicine specialty to foreign medical graduates

22% thought that improving the work place would be a solution to a primary care shortage. Solutions included:

- Better hours
- Certifying primary care physicians in ECHO and colonoscopy
- Allowing a wider scope of practice
- Increasing access to mid-levels (NPs and PAs)
- Increasing access to innovative technology to allow procedures and diagnoses to occur in rural areas
- Shorter workweeks
- Larger support staff
- Setting up a rotating system so physicians could live in a suburban area and rotate in a rural area.

- **RECOMMENDATION OF MEDICAL PROFESSION TO RELATIVE**

93% of first-year medical students and residents were asked if they would recommend the medical profession to a relative.

Reasons included good lifestyle, money, an opportunity to serve humanity, it is rewarding, they enjoy working with patients, it is challenging and intellectually stimulating, there are many opportunities, it is a noble profession, and a stable job market.

Those who indicated that they wouldn't recommend the medical profession thought that it was too emotional, interferes with family commitments and that it is highly stressful with medical malpractice hinging on your next patient. They would recommend a mid-level position such as NP or PA or a related profession such as dentistry.

- **OTHER COMMENTS**

Students and residents were asked if they had any other comments about medical education/training or the medical profession. Comments included that family life and a life outside of medicine was a major concern for many physicians. Rural settings did not seem conducive to research and the financial rewards are not comparable to an urban setting. Reducing malpractice insurance costs and enacting a ceiling on malpractice compensation would be beneficial. The family practice residency should be four years with more procedural training. There should be a nationally centralized patient records system. There should be more of an emphasis on basic science.

- **CONCLUSIONS**

One-third of first-year medical students and almost one-half of residents plan to work in North Dakota upon completion of their training. Few first-year students or residents plan to work in rural areas. Programs designed to expose medical students to rural areas could help to increase awareness of opportunities available in rural areas. To ensure that the University of North Dakota School of Medicine and Health Sciences' first-year medical students receive training in rural areas, the Rural Opportunities in Medical Education (ROME) program was developed as a seven-month interdisciplinary experience in rural primary care settings and is open to third-year students. Students live and train in non-metropolitan communities under the supervision of physician preceptors. ROME students experience health care delivery in rural areas throughout the state of North Dakota, where providing access to health care is sometimes challenging.

One-month rotations are also available for students in their first-year of medical school through two federally funded programs, the National Health Service Corps (NHSC) Student/resident Experiences and Rotations in Community Health (SEARCH) program and the Quentin N. Burdick Rural Interdisciplinary Training Grant Program. Through integration across the disciplines, participants in these programs develop an appreciation for and understanding of the interdisciplinary team approach to the delivery of primary health care services in rural and reservation areas. This unique "service-learning" approach to health professional education combines community service and clinical experiences.

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