

What is medicine?

Recruiting high-school students into family medicine

Jared Bly, MD, CCFP

ABSTRACT

PROBLEM ADDRESSED Family medicine is a vital part of health care in Canada. The decline in numbers of new family physicians being trained bodes ill for a sustainable and efficacious health care system. We need to recruit young people more effectively into careers in primary care. Early outreach to high-school students is one approach that holds promise.

OBJECTIVE OF PROGRAM To provide high-school students with exposure to and appreciation for careers in medicine, particularly family medicine.

PROGRAM DESCRIPTION Family medicine residents in the University of Alberta's Rural Alberta North Program initiated an outreach project that was implemented in rural and regional high schools in northern Alberta. The program consisted of visits to high schools by residents who gave interactive presentations introducing medicine as a career. The regional hospital subsequently hosted a career day involving medical and paramedical professionals, such as physicians, pharmacists, nurses, and physical and occupational therapists.

CONCLUSION Physicians' visits to high-school students could be an effective way to increase interest in careers in rural family medicine.

RÉSUMÉ

PROBLÈME À L'ÉTUDE La médecine familiale est un élément essentiel des soins de santé au Canada. La baisse du nombre de nouveaux médecins de famille en formation ne présage rien de bon pour un système de santé efficace et durable. Il faut améliorer le recrutement de jeunes dans les carrières de soins primaires. Une intervention précoce auprès des étudiants du secondaire semble être une approche prometteuse.

OBJECTIF DU PROGRAMME Présenter et promouvoir auprès des étudiants du secondaire les carrières en médecine, notamment en médecine familiale.

DESCRIPTION DU PROGRAMME Les résidents en médecine familiale du Rural Alberta North Program de l'University of Alberta ont amorcé un projet d'information dans des établissements ruraux et régionaux d'enseignement secondaire du nord de l'Alberta. Des résidents sont allés expliquer la carrière médicale aux élèves lors d'une présentation interactive. Par la suite, l'hôpital régional a tenu une journée «carrière» à laquelle participaient des professionnels médicaux et paramédicaux, tels que des médecins, pharmaciens, infirmières, physiothérapeutes et ergothérapeutes.

CONCLUSION Des visites de médecins dans les établissements d'enseignement secondaire pourraient être une façon efficace d'éveiller l'intérêt pour une carrière en médecine familiale rurale.

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Canada's health care system is founded on primary care. The feasibility and affordability of our system relies on a healthy influx of family doctors.¹⁻³ In countries where primary care systems are strong, health care costs are lower and health outcomes better.⁴

Results of recent (2004) residency matches are not encouraging. Like tabloid headlines, the media reported the bad news: "Family medicine *crisis*?" "Field attracts *smallest-ever* share of residency applicants" and "Family medicine in *decline*?" (author's emphasis).^{1,5} The so-called shortage of family physicians is even more apparent in rural Canada, where nearly a third of our population lives but where fewer than 19% of our family doctors dare to practise.⁶ The Professional Association of Internes and Residents of Ontario states that the "development of sustainable health care in Canada [depends on] recruiting, training and retaining rural doctors..."⁷ Not only do we need family doctors; we need rural family doctors.

Those recruiting rural physicians have targeted several groups. Medical students, university undergraduates, and international medical graduates have all at some time been wooed by the medical establishment. The steady decrease in residency applicants choosing family medicine in resident-matching programs during the last 10 years suggests that the current strategy of focusing on medical students is not enough.

Recruiting medical students to family medicine is tough work in the current environment of Canadian medical education. The strongest predictor of specialty choice of graduating medical students is their preference upon admission to medical studies.⁸ In other words, by medical school, many career decisions have already been made. Also, family doctors have not been heavily involved in teaching core clinical subjects but have been relegated to the "soft" sciences of communications and examination skills.⁹ Role models, therefore, are notably lacking. In addition, rural medicine might not be sufficiently acknowledged in medical training,¹⁰ and medical school might not be the best place to sell rural family medicine.

The Society of Rural Physicians of Canada says that "outreach programs aimed at high-school students should be implemented to encourage and identify students interested in rural practice."¹¹ To get people interested in rural medicine, we should get rural people interested in medicine. In fact, having been brought up in a rural community is independently associated with practising in a rural setting^{3,6,8,12-14} and is more important than rural exposure during residency or medical school, sex, or age as a predictor.^{6,8} Giving medical students

rural experiences when most of their training is in large urban hospitals might well be too little too late. Rural exposure before the brief clinical encounters with rural family practice offered by some programs is an important factor in physicians' choosing rural practice.^{3,7,12-16}

Objective of program

Physicians from rural backgrounds are more likely to practise in rural areas.^{3,7,12-16} Thus, encouraging students from small towns to consider the realistic possibility of studying and practising medicine in Canada, and rural family medicine in particular, is the aim of this program. There are several key components: first, the message that postsecondary education is important and fulfilling; second, the idea that medicine in general, and specifically family medicine, is a realistic and rewarding career choice; and last, that it is important that the message be given by people who could conceivably be role models. Young people who have family physician role models are more likely to practise family medicine if they choose medical careers.^{17,18} Programs that have had success in increasing the number of students with rural backgrounds recruited into medical studies attribute that success to the involvement of professionals in recruiting efforts.^{17,19}

Program description

Family medicine residents in the University of Alberta's Rural Alberta North Program took the initiative to create an outreach program for high-school students. For 2 years, high schools in the regional centre of Grande Prairie and a few surrounding communities have welcomed the "What is Medicine" speaker series and interdisciplinary hospital "Career Day." The entire project was greatly facilitated by a career counselor for Career Transitions for Youth, who coordinated our visits to the schools. Career Transitions for Youth is a career-development initiative jointly funded by Alberta Human Resources and Employment, the Northern Alberta Development Council's Northern Links Program, and several school districts in the area. Its mandate is to provide career development opportunities to students in grades 7 to 12, "linking learning and work for a lifetime!" (personal communication from Beth Zazula, Coordinator of Career Transitions for Youth, 2004).

Audience. We visited schools in small towns in the Grande Prairie area and in the regional centre itself (Grande Prairie, population 40000). School sizes ranged from 200 to 1500 students. Audiences consisted mostly of grade 11 and 12 students; several programs were completely optional, held during lunchtime or spare periods. Some schools excused students from classes to attend. A Career and Life Management class hosted one session. At the smallest school, the entire school, grades 7 through 12, minus the basketball team (who were away at provincial playoffs), attended.

Dr Bly attended the University of Alberta's Rural Alberta North Family Medicine Residency Program in Grande Prairie, Alta, and was a second-year postgraduate student when this article was written.

Medium. There was a game-show-style PowerPoint presentation with rewards, courtesy of Alberta's Rural Physician Action Plan, for correct responses. Frankly, any response was rewarded. Questions revolved around undergraduate university education, medical studies, medical specialties, and financial issues in school and career. Questions were grouped into the following categories: organs (basic anatomy), "-ists" (descriptions of various medical specialties), "\$\$\$" (a brief look at the financial side of medical education and family practice), and "school" (a description of postsecondary education and medical education).

Message. Key messages were that medicine is anatomy, physiology, a little bit of Latin, a lot of schoolwork, some extracurricular stuff, lots of working with people, a good living, an interesting job, and a great career. Family medicine is office visits, emergency medicine, minor surgery, diagnosis and treatment, counseling, delivering babies, paperwork, hospital work, sports medicine, and more. School costs money. Also, many roads lead to a career in medicine.

The presentation was intended to be very general in scope. Regardless of their eventual career choices, if young people could be inspired to pursue postsecondary studies in any field, the presentation would be deemed successful. Nonetheless, the emphasis was on family medicine, though other specialties and other paramedical professions were mentioned.

The culminating event was a visit to the hospital, the Queen Elizabeth II Regional Hospital in Grande Prairie, for a Career Day tour. Forty-four students in 2004 and 29 in 2005 attended and heard presentations from nurses, emergency medical services staff, physiotherapists, occupational therapists, pharmacists, and volunteer services staff. This gave students who had attended presentations at their schools because they were interested in something medical, but not necessarily in being doctors, an opportunity to hear more about, for example, nursing or physiotherapy. Students then had tours of the emergency department, diagnostic imaging, the rehabilitation department, the neonatal intensive care unit, and the pediatrics ward. Family medicine residents chaired the event and led some of the tours.

Evaluation. Students were asked to complete a survey on their experience with the speaker series and hospital tour (Figure 1). They were asked about their career aspirations and the influence of the program's events on their plans. The survey also asked them to compare some medical specialties as to lifestyle, earning potential, and intellectual requirements. Within family medicine, they were asked to compare rural and urban practice.

Some interesting ideas emerged. The first was that presenters could have a substantial influence on the students. The vivacious pediatrics nurse who led the

neonatal intensive care unit tour and the enthusiastic pediatric nursing staff must have made a good impression because students frequently mentioned that part of

Figure 1. High school student survey results: *There were 39 completed surveys. Multiple responses are reported in separate categories.*

1. What are your career goals?					
<input type="checkbox"/> Physician	6 (radiologist 1, pediatrician 3)				
<input type="checkbox"/> Nurse	10 (labour and delivery 1, pediatrics 2)				
<input type="checkbox"/> Paramedical	10 (paramedic 3, physiotherapist 2 [pediatric 1], dietitian 1, dental assistant 2, pharmacist 2)				
<input type="checkbox"/> Nonmedical	5 (teacher 1, graduate from high school 1, make money 2, computers 1)				
<input type="checkbox"/> Undecided	7				
2. What is attractive about being a doctor?					
<input type="checkbox"/> Money	24				
<input type="checkbox"/> Free time	2				
<input type="checkbox"/> Respect and prestige	15				
<input type="checkbox"/> Interesting work	27				
<input type="checkbox"/> Helping people	35				
<input type="checkbox"/> Easy job	1				
<input type="checkbox"/> Other	1 (fulfilling)				
3. What things would keep you from wanting to be a doctor?					
<input type="checkbox"/> Not paid enough	0				
<input type="checkbox"/> Too much school	25				
<input type="checkbox"/> Costs too much	9				
<input type="checkbox"/> Not smart enough	15				
<input type="checkbox"/> Blood and guts	5				
<input type="checkbox"/> Not enough respect	0				
<input type="checkbox"/> Not enough free time	16				
<input type="checkbox"/> Other	3 (not enough time for family, not able to balance life and work, scared of doing something wrong)				
4. Comparisons					
ASPECT	URBAN FP: RURAL FP	FP	SURGEON	PEDIATRICIAN	CARDIOLOGIST
Makes more money	26:8	2	22	3	11
Gets more respect	10:24	15	6	5	7
Has more free time	7:24	23	4	3	3
Has a better job	7:23	7	1	24	2
Is smarter	25:14	7	18	5	13
<i>FP—family physician.</i>					
5. Did today's presentation (hospital tour) make you want to work in health care?					
<input type="checkbox"/> More	34				
<input type="checkbox"/> Less	0				
<input type="checkbox"/> No change	3				

the tour was their favourite judging by the comments on their surveys. In fact, pediatrics was the most popular specialty students aspired to in medicine, nursing, and physiotherapy.

Of interest was students' impression of family medicine. According to respondents (39/44), family doctors make less money (no surprise), get more respect, and have more free time than surgeons, cardiologists, or pediatricians! Rural family doctors were perceived to make less money, but get more respect, have more free time, and have a better job than their urban counterparts. The students fairly consistently rated small-town doctors as less intelligent than their urban colleagues.

There was no shortage of one-word superlatives in the feedback from this group of teenagers. "Awesome," "great," and "fun" were popular responses in the comments section (which did actually offer room for a small paragraph); obviously these were positive responses, but the wording was no surprise. Somewhat more surprising was the number of times "informative," "helpful," and "interesting" came up. Many students indicated that the presentation was very useful for defining their career goals more clearly and for learning about some of the possibilities open to them.

The real measure of the success of such a program would be, ultimately, its influence on the number of family physicians entering rural practice. Clearly, this cannot be measured for years. It is possible that a retrospective review of the characteristics of students entering and graduating from medical schools when these students would be of the right age would reveal these statistics. Such a review would have to include the numbers of students from rural backgrounds who enter medical school, as well as the proportion of these students who enter family practice and practise in rural environments. Interviews with residents and physicians in rural practice might reveal influences on career choice.

Discussion

Message. The message has to be targeted at the audience. Medical students cite low prestige as a drawback to family medicine.¹¹ High-school students might see things differently. The students we spoke to certainly did. It would be easy to blame medical schools for "corrupting" potential family physicians, but that would not solve the problem. As recruiters, we need to know to whom we are talking and from where they are coming. To this end, an understanding of the target audience's views is essential. Another survey could focus on students' perceptions of medical education and practice. The Alberta College of Family Physicians (ACFP) has had the foresight to undertake such a survey.²⁰

Initial market research in the ACFP's high-school outreach initiative suggests some key "selling points"

of family medicine (Table 1).²⁰ These could be considered preliminary findings, subject to further modification. They are nonetheless worth considering in any medical outreach project aimed at young people.

Table 1. Alberta College of Family Physicians' key messages for family medicine

Family medicine is a flexible profession. You can make it anything you want it to be and do it anywhere you want
You have control. You can create the kind of practice that fits your lifestyle and ensures your work-life balance is what you want it to be
Family physicians do amazing things: surgery, delivering babies, and research, to name a few
Family physicians are influential in their communities and enjoy a status of value and trust
Family medicine is challenging and rewarding. You affect hundreds of people during difficult times in their lives

Role models. We know that family doctor role models have a profound influence on medical students' career choices. One article said, "More in-depth, preclinical exposure of students to family medicine would improve our discipline's chances of recruiting them."¹⁰ Many interactions with role models take place before medical training. So it is not just the material presented but who presents it that is important. Physicians need to be involved in the process, and they need to be involved as early as possible. One author has suggested that recruiting to careers in health sciences needs to occur in elementary school.¹⁸ Whatever the case, contact before medical school is strongly associated with career choice upon graduation.¹⁹

Community involvement has to be a part of any effort to reach young people.^{17,18} The experience in Grande Prairie could not have occurred without the concerted effort of teachers, administrators, and counselors. Also, at our Career Day tour of the hospital,²¹ the local newspaper sent a reporter to cover the event. What followed was a prominent article relaying the positive experience these young people had had in learning about careers in health care. That is good marketing for future events.

Other programs. Recruitment to health care professions is not a new concept, of course. Several university and government initiatives have made efforts to attract and retain rural and primary care physicians.²²⁻²⁷ Most focus on graduate or postgraduate medical trainees. Even in Alberta, the Rural Physician Action Plan has generally directed its resources to medical students and residents as well as practising physicians.²⁸ Some institutions, however, have emphasized outreach to high-school students.²⁸

Several initiatives aimed at younger audiences have been developed to bring underrepresented groups, usually racial groups or financially disadvantaged young people, into health care professions.^{17,18} For our

EDITOR'S KEY POINTS

- There is a need to attract people to careers in family medicine in order to sustain high-quality health care in Canada. The need is greatest in rural Canada.
- Recruiting efforts in medical school will do little to overcome the bias in favour of specialties created by current admission policies and medical training.
- Rural background is the strongest predictor of a career in rural medical practice. The influence of role models is powerful, and the involvement of physicians is vital to recruiting projects.
- Community involvement is an important part of any program to assist young people in academic and vocational pursuits.

POINTS DE REPÈRE DU RÉDACTEUR

- Il faut attirer plus de gens dans des carrières de médecine familiale si l'on veut maintenir des soins de haute qualité au Canada. Ce besoin se fait surtout sentir dans les régions rurales.
- Les efforts de recrutement des facultés de médecine n'aideront pas beaucoup à renverser le préjugé favorable aux spécialités qui résulte des règles d'admission et de la formation médicale actuelles.
- L'origine rurale constitue le facteur le plus important pour prédire une carrière en médecine familiale rurale. L'influence des modèles est prépondérante et les médecins jouent un rôle essentiel dans les activités de recrutement.
- La participation de la communauté est un élément important de tout programme d'assistance aux jeunes dans leurs projets d'ordre académique ou professionnel.

program, the underrepresented group was young people from rural backgrounds. One of the largest and most established rural recruitment projects is a medical training partnership among the states of Washington, Wyoming, Alaska, Montana, and Idaho, the WWAMI program. Founded at the University of Washington, the WWAMI program provides educational experiences at several levels of education. In addition to medical school and undergraduate university initiatives, there is a program entitled U-DOC targeting high-school students. It offers a 6-week intensive summer enrichment program for qualified students. The program's goal is "to foster, affirm and encourage high-school students' interest in the medical profession by allowing them to further explore medical careers and to get a valuable introduction to college life."²⁹ The University of Washington shows its success by the high proportion of its graduates in primary care and rural practice.³⁰ The respective influence of each aspect of the program's recruiting efforts is difficult to estimate.

An intensive summer commitment, such as U-DOC, requires dedicated staff. Our project, on the other hand, is less formal and is designed to reach students who might be unaware of their opportunities. One likely obstacle to young people from rural locations entering medical studies is that they are unaware of the possibilities for postgraduate and medical education. Selecting only "qualified" or interested students eliminates a large number of potential physicians.

The importance of community involvement should be considered.¹⁹ The WWAMI program in Wyoming is directed toward recruiting and retaining rural physicians in the states involved. Other areas, such as Alberta, need similar projects, as do other provinces, territories, and regions in Canada.

Limitations

The information gleaned from this experience is limited by the small number of participants and the relatively specific geographic area involved. There are likely trends in this region of the country that would not be seen in high schools in different areas where major industries, prevailing cultural beliefs, and economic situations are different.

The various groups we visited were very different. One question that came up in preparing the presentations was who should be invited to participate. What happened was that we gave a different type of presentation at every school. Interested students sacrificing their lunch hours were very different from those who volunteered to miss Biology 20 to hear a talk. We did not attempt to find out which presentations were most effective in attracting young people to the hospital tour. It was useful to get an idea of the different ways to approach the issue. Determining which types of presentations were most effective would be important to consider in planning future events.

Conclusion

Early outreach offers hope for renewed vitality in family medicine, rural practice, and health care in Canada. Family practice residents in northern Alberta took the opportunity to speak to high-school students about medicine as a career. Through this project and others, we see that rural young people have great potential as future family physicians, that the way family medicine is portrayed influences their choice of careers, and that physicians must be involved if recruiting efforts are to be successful. 

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Competing interests

None declared

Correspondence to: Dr Jared Bly, 201-2490 Stephens St, Vancouver, BC, V6K 3W9; e-mail jdbly@hotmail.com

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