

Recruiting medical students to rural practice

Perspectives of medical students and rural recruiters

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ABSTRACT

OBJECTIVE To explore the strategies used by rural recruitment programs and their perceived influence on medical students.

DESIGN Two original questionnaires delivered electronically, one to medical students and the other to recruiters in rural Ontario communities.

SETTING Ontario, Canada.

PARTICIPANTS All 525 medical students enrolled in the Schulich School of Medicine & Dentistry at the University of Western Ontario in London and physician recruiters in 71 rural communities in Ontario were invited to participate in the study.

MAIN OUTCOME MEASURES The factors that influence medical students to consider rural practice, strategies used by recruiters, and student perceptions of the ethical appropriateness of both.

RESULTS The questionnaire was completed by 42.1% of medical students. Lifestyle considerations were an important influence for 93.1% of students. Themes from the qualitative analysis included the ethical appropriateness of financial considerations, economic forces, perceived disadvantages of rural practice, competition between communities, and lack of altruism. Responses were received from recruiters in 43.7% of communities; of those, 92.9% offered financial incentives to attract prospective physicians.

CONCLUSION Financial and lifestyle considerations are important influences on medical students' choice to practise in rural communities. Most medical students felt incentive programs offered by rural communities were ethically appropriate.

EDITOR'S KEY POINTS

- Although the views of medical students toward rural practice have been previously explored, their attitudes regarding the ethics of strategies used to recruit them to rural communities have not, nor have the attitudes of rural recruiters.
- Most medical students identified lifestyle considerations as an important influence on their decision to consider practising in rural areas.
- Rural recruiters, however, were more likely than medical students were to assign importance to tuition reimbursement, housing, location of students' hometowns, and previous elective experience.
- Despite a few concerns, an overwhelming majority of medical students in this study felt it was ethical for rural communities to offer lifestyle, financial, and professional development incentives to attract physicians, and that altruism was not expected in their choice of future practice location.



Fast Facts from the National Physician Survey on what influences physicians to choose rural medicine is available at www.cfp.ca. Go to the full text of this article on-line, then click on CFPlus in the menu at the top right-hand side of the page.

*Full text is available in English at www.cfp.ca.

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Recrutement d'étudiants en médecine pour la pratique rurale

Points de vue des étudiants et des recruteurs

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RÉSUMÉ

OBJECTIF Examiner les stratégies utilisées par les programmes de recrutement ruraux et de leur influence perçue sur les étudiants en médecine.

TYPE D'ÉTUDE Deux questionnaires originaux distribués par courrier électronique, l'un à des étudiants en médecine et l'autre à des recruteurs de collectivités rurales d'Ontario.

CONTEXTE Ontario, Canada.

PARTICIPANTS Les 525 étudiants en médecine inscrits au Schulich School of Medicine & Dentistry de l'Université de Western Ontario à London et les recruteurs de médecins de 71 collectivités rurales ontariennes ont été invités à participer à l'étude.

PRINCIPAUX PARAMÈTRES À L'ÉTUDE Facteurs qui incitent les étudiants en médecine à envisager la pratique rurale, stratégies utilisées par les recruteurs et perception qu'ont les étudiants quant à la pertinence de ces facteurs et stratégies sur le plan éthique.

RÉSULTATS Le questionnaire a été complété par 42,1% des étudiants en médecine. Les considérations relatives au mode de vie avaient une influence importante pour 93,1% des étudiants. Les thèmes tirés de l'analyse qualitative comprenaient la pertinence sur le plan éthique des considérations financières, les facteurs économiques, les inconvénients perçus de la pratique rurale, la concurrence entre les collectivités et le manque d'altruisme. Des réponses ont été reçues des recruteurs de 43,7% des collectivités; parmi eux, 92,9% offraient des incitatifs financiers pour attirer les médecins potentiels.

CONCLUSION Les considérations d'ordre financier et celles relatives au mode de vie ont une influence considérable sur la décision d'opter pour la pratique rurale. La plupart des étudiants estimaient que les programmes incitatifs offerts par les collectivités rurales étaient acceptables sur le plan éthique.

POINTS DE REPÈRE DU RÉDACTEUR

- L'opinion des étudiants en médecine sur la pratique rurale a déjà fait l'objet d'études, mais pas leur opinion sur l'aspect éthique des stratégies utilisées pour les recruter dans les régions rurales ni l'opinion des recruteurs ruraux.
- La plupart des étudiants ont déclaré que les considérations relatives au mode de vie exerçaient une influence considérable sur leur décision d'envisager de pratiquer en région rurale.
- Par rapport aux étudiants, toutefois, les recruteurs ruraux étaient plus susceptibles d'attribuer de l'importance au remboursement des frais de scolarité, au logement, à la ville d'origine des étudiants et aux expériences électives antérieures.
- Malgré certaines réticences, la très grande majorité des étudiants en médecine de cette étude estimaient que le fait pour les collectivités rurales d'offrir des incitatifs d'ordre financier ou relatifs au mode de vie et au développement professionnel était conforme à l'éthique et que l'altruisme ne jouait aucun rôle dans le choix du lieu de pratique.

*Le texte intégral est accessible en anglais à www.cfp.ca.

Cet article a fait l'objet d'une révision par des pairs.

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Although 20% of Canadians live in rural communities, only 10% of the country's family physicians practise in these areas.^{1,2} The shortage of physicians in many rural Canadian communities has been attributed to issues such as lack of access to teaching hospitals,³⁻⁵ less vacation time,³⁻⁵ demanding call schedules,³ and financial considerations.⁴ Medical students have cited difficulties finding employment for their partners,⁶ distance from family members,⁶ geographic isolation,⁷ and lack of professional support⁸ as disadvantages of rural practices.

The rural physician shortage has attracted the attention of the government,⁴ medical schools,⁹ and members of the medical profession.¹⁰ Government strategies to address this shortage include the creation of the Northern Ontario Medical School¹¹ and the Prince George Campus of the University of British Columbia¹² as well as scholarships and loan remission programs.^{4,13} Medical schools have altered admission policies to select more students from rural areas, increased generalist education, and developed rotations in rural settings.^{1,4,14,15} A task force of the Society of Rural Physicians of Canada recommended establishing high school outreach programs and using rural physicians as resources for students applying to medical school.¹⁰

Representatives from rural communities have also developed recruitment strategies, including frequent participation at conferences and recruitment fairs that are held for medical students and physicians. Many offer financial incentives, namely subsidized overhead costs, debt repayment, and financial grants,¹⁶ and promote other benefits of their communities, such as recreational opportunities.¹⁷

Although the views of medical students toward rural practice have previously been explored,⁶⁻⁸ their attitudes regarding the ethics of strategies to recruit them to rural communities have not (to our knowledge), nor have the attitudes of rural recruiters. Our interest in exploring the ethics of recruitment programs stemmed from our (L.J., K.V., E.D.) own experiences with the recruitment process as medical students.

The purpose of this study was to explore the following: 1) the factors that influence medical students to consider rural practice, 2) the strategies used in rural communities to recruit medical students, and 3) the ethical issues that arise from these influences.

METHODS

Medical student questionnaire

Invitations to participate in the study, along with a link to the questionnaire itself, were distributed by e-mail to all 525 undergraduate medical students enrolled in the Schulich School of Medicine & Dentistry at the University of Western Ontario in London. A reminder invitation was e-mailed to all students 1 week after initial contact.

The questionnaire used Likert scales to gather information on the perceived importance of incentive programs, feelings of pressure to practise rural or family medicine, and feelings surrounding the ethics of incentive programs. Categorical responses were included to gather demographic information. Open-ended questions were designed to elicit feelings relating to the ethics of incentive programs.

Rural recruiter questionnaire

From a booklet listing the rural communities in Ontario currently recruiting physicians,¹⁸ 71 communities with catchment areas of fewer than 100 000 people and their "community recruitment contact" were identified. Invitations to participate, along with a link to the questionnaire itself, were distributed by e-mail to these recruiters. A reminder invitation was e-mailed to all recruiters 1 week after initial contact.

The questionnaire used Likert scales to gather information on the perceived importance of incentive programs to medical students. Categorical responses were included to gather demographic information, specifically to identify which types of incentive programs were currently in place in these communities and the perceived effectiveness of these programs. Open-ended questions were designed to further explore the incentive programs in each community.

Both questionnaires were developed by the authors following a review and discussion of the literature to address the objectives of the study. The study was approved by the Research Ethics Board for the Review of Health Sciences Research at the University of Western Ontario. Consent to participate was implied by the return of the survey.

Data analysis

Surveys were anonymously returned to the research team through an on-line survey collection program (SurveyMonkey, 2004). All data were analyzed in aggregate. Data obtained from Likert scales and categorical responses were analyzed using frequency counts, means with standard deviations, and χ^2 analyses using SAS version 9.1. Data obtained from open-ended questions were sorted with the support of a qualitative research software program, NUD*IST version N6, and were analyzed using text searches for themes identified by authors, followed by a search by categories. A second text search was completed using additional themes extracted by the categorical analysis.

RESULTS

Medical students

Surveys were returned by 221 of the 525 medical students contacted, for a response rate of 42.1%. In total,

46.6% of first-year students, 59.1% of second-year students, 24.1% of third-year students, and 29.3% of fourth-year students responded to the survey. The mean (SD) age of respondents was 24 (1.7) years; 57.4% were female and 80.8% described themselves as "single." The mean (SD) age of medical students in the school at the time of the survey was 24.5 (1.3) years; 51.2% were female. These figures did not significantly differ from those of the study population ($P=.14$ and $P=.09$, respectively). Overall, 75.1% of respondents reported being sure of the size of community in which they intended to practise. Further demographic data are presented in **Table 1**.

Table 1. Demographics of medical students who responded to the study questionnaire

| CHARACTERISTIC | RESPONDENTS N (%) ^a |
|--|-----------------------------------|
| Population of hometown | |
| • < 10 000 | 29 (13.9) |
| • 10 000-49 999 | 35 (16.8) |
| • 50 000-100 000 | 30 (14.4) |
| • > 100 000 | 115 (55.0) |
| Net annual income of family | |
| • < \$50 000 | 24 (11.5) |
| • \$50 000-\$74 999 | 48 (23.1) |
| • \$75 000-\$100 000 | 31 (14.9) |
| • > \$100 000 | 55 (26.4) |
| Expected debt upon graduation | |
| • None | 25 (12.0) |
| • < \$50 000 | 32 (15.4) |
| • \$50 000-\$99 999 | 79 (38.0) |
| • \$100 000-\$150 000 | 59 (28.4) |
| • > \$150 000 | 13 (6.3) |
| ^a Total number of respondents varies because not all respondents provided answers to all questions. | |

When asked to identify the 3 most important influences on their overall career choice, 69.1% of students said family, 58.2% said professional development opportunities, 53.6% said their partners, and 34.1% said long-term earning potential. Less important influences included perceived need in a community (19.5%), repayment of debt (13.2%), and the current shortage of family physicians (8.2%). More male students (46.1%) than female students (23.3%) rated long-term earning potential as important ($P<.005$), while more female than male students rated perceived need in a community (25.8% vs 12.8%, $P<.02$) and the current shortage of family physicians (12.5% vs 3.4%, $P<.02$) as important.

The relative importance of factors influencing medical students to consider practice in rural areas is illustrated in **Figure 1**. Most medical students (93.1%) identified

lifestyle considerations as important. Tuition reimbursement was more likely to be considered important if the student's family had a lower net income ($P<.02$), or if the student reported higher expected debt upon graduation ($P<.001$).

Overall, 62.4% of students reported feeling pressure to practise family medicine, with students in their first year of medical school (71.0%) more likely than those in their fourth year (44.4%) to report feeling this pressure ($P<.005$). Further, 55.2% of students reported having felt pressure to practise medicine in rural communities.

A total of 85.2%, 87.6%, and 92.9% of students felt that financial, lifestyle, and professional development opportunities, respectively, were ethical recruitment strategies. Qualitative data analysis of students' feelings about the ethics of incentive programs revealed 5 main themes: financial considerations, economic forces, the perceived disadvantages of rural practice, competition between communities, and a lack of altruism in choice of practice location.

Under the theme of financial considerations, many students cited ideas like "Money motivates people" and "Paying \$150 000 debt on \$120 000 per year would be difficult otherwise." Other students, however, felt that financial incentives were inappropriate: "Financial incentives take away money from the community health care." Some comments alluded to the potential disparities arising from financial incentives, with statements like "poor medical students might well be unduly influenced by such incentives." Also related to finances, the theme of economic forces emerged, with comments such as "It's simple supply and demand" and "We live in a free market society."

Another theme revealed that some students view the perceived disadvantages of rural practice as reasons why incentive programs are ethical. One student responded by saying, "Because there are disadvantages to practising in a rural community, that should be compensated by incentives." Another student commented, "I believe that practising in a rural area leaves you quite isolated ... therefore I think it makes sense for the communities to make it attractive and a more appealing option for students coming out of school."

Some students responded positively to the idea of competition between communities in comments such as, "May the best deal win." However, other students were concerned that "[o]ffering financial incentives merely results in a bidding war between communities."

The final theme that emerged was a lack of altruism in choice of location. One student commented, "doctors have a highly desirable and marketable skill set. You can't count on good will to spread that talent out where it is needed." Another student asserted that "[t]o suggest that medical students must be perfectly altruistic when making choices about their future practice is unrealistic."

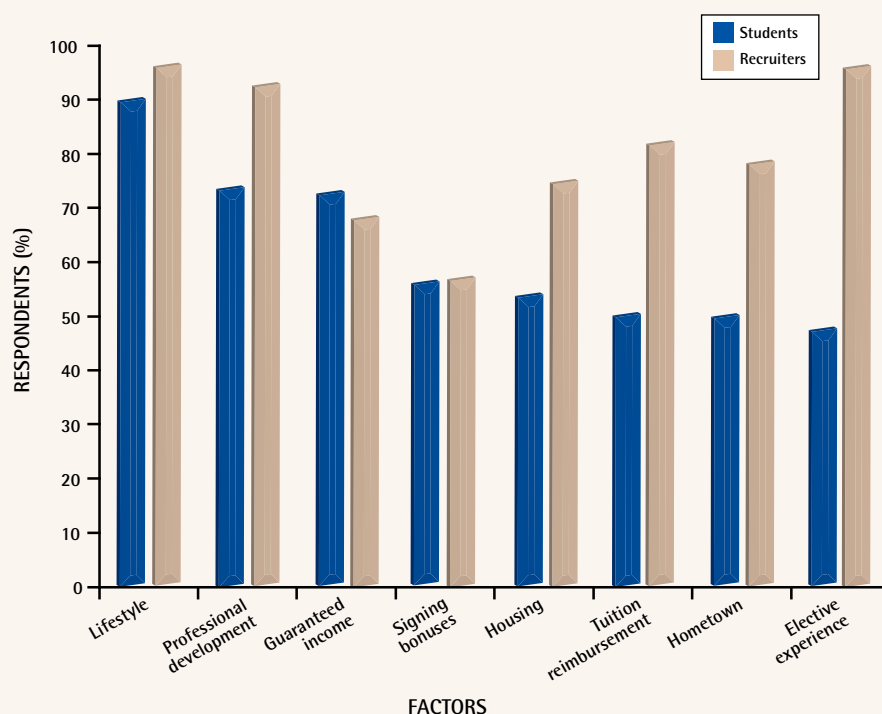
Rural recruiters

Responses were received from 33 of the 71 rural recruiters contacted, for a response rate of 46.5%. Of these, 42.9% represented communities with a population of between 10 000 and 49 999, 35.7% represented communities with a population of less than 10 000, and 21.4% represented communities with a population of between 50 000 and 100 000. Recruiters reported that the greatest proportion of recruitment time was directed toward practising physicians (mean proportion 22.5%) and residents (mean proportion 20.0%), with the least amount of time directed toward recruiting medical students (mean proportion 10.0%). Only 16.7% of rural recruiters devoted more than 25% of their time to medical students.

Responses to questions regarding recruitment strategies currently in place in each community revealed that 92.9% of communities have financial incentives, including signing bonuses, bursaries, and debt repayment programs. Lifestyle incentives were offered by 78.6% of communities and included memberships to athletic facilities and access to recreational activities. Professional development opportunities, such as protected time and funding for continuing medical education, were cited as incentives by 64.3% of rural recruiters. Results of an open-ended question addressing specific incentive programs in place revealed that assistance with housing and elective programs for medical students and residents were among the additional incentives offered.

Rural recruiters were also asked to rank the importance of various incentive strategies in influencing medical students to consider rural practice (**Figure 1**). All rural recruiters rated lifestyle considerations and previous elective experience as important factors. Further, the majority of rural recruiters felt that professional development opportunities and tuition reimbursement programs were important. As indicated in **Figure 1**, rural recruiters were more likely to assign importance to tuition reimbursement, housing, location of one's hometown, and previous elective experience than medical students were.

Figure 1. Percentage of medical students and rural recruiters rating factors involved in the decision to practise in rural communities as important to medical students



DISCUSSION

Medical school tuition in Ontario has increased dramatically; as a result, many medical students describe their financial situation as “very” or “extremely” stressful and believe that financial considerations will ultimately be a main influence on their choice of specialty.¹⁹ It is not surprising, therefore, that our study discovered that financial benefits were important incentives for medical students when considering rural practice, especially for those with higher expected debt upon graduation and lower family incomes. It is also not surprising that almost all rural recruiters offered financial incentives. However, although financial incentives might entice students to consider practice in a rural area, they can also create a situation where some physicians practising in rural communities would rather practise elsewhere. There is some evidence that physicians who are in “extremely stressful” financial situations because of their medical school debt might be less satisfied with their careers and leave their rural practices as soon as they are no longer obligated to stay.¹⁹ Indeed, a recently published systematic review looking at the effectiveness of financial incentives with respect to short- and long-term retention of physicians found that these programs work well only in the short term.²⁰

Beyond financial incentives alone, factors such as favourable geographic location and access to


recreational opportunities had a positive influence on medical students' choice of practice location. In fact, in our study most medical students rated lifestyle incentives as important influences when considering rural practice. This finding is not surprising, as students have been reported to be increasingly attracted to "lifestyle-friendly" specialties.²¹ Community recruiters appeared to recognize the importance of "lifestyle" to medical students, but still fewer communities offer lifestyle incentives than financial ones.

In spite of theoretical concerns about the ethics of incentive programs, the overwhelming majority of medical students in our study felt it was ethical for rural communities to offer lifestyle, financial, and professional development incentives to attract physicians, and that altruism should not be expected in their choice of future practice.

Limitations

The questionnaires used to survey the medical students and the rural recruiters were developed from a review of the literature based on the study objectives. No validated survey instrument that could adequately explore the objectives of this research was available. Our instruments were not pilot-tested. The response rate among third- and fourth-year students was lower than among first- and second-year students because senior students were away on clinical rotations or out-of-town electives; therefore, their results might not be generalizable to the entire class. Further, the opinions of first- and second-year medical students might not be generalizable beyond this particular medical school, which emphasizes rural medicine in the curriculum. These limitations decrease our ability to generalize our results to all medical students.

Conclusion

Medical students are influenced by both lifestyle and financial factors when considering rural practice. Although rural recruiters appear to recognize both factors, their incentive programs are primarily financial. Most medical students in this study felt incentive programs offered by rural communities were ethically appropriate. 

Dr Jutzi is a resident in the Department of Obstetrics and Gynecology, **Dr Vogt** is a resident in the Department of Surgery, **Dr Drever** is a resident in the Department of Internal Medicine, and **Dr Niskier** is a Professor in the Department of Obstetrics and Gynecology, all at the University of Western Ontario in London.

Contributors

The survey design and implementation was conducted by **Drs Jutzi, Vogt, and Drever**. The statistical analysis was completed by **Dr Vogt**. The manuscript was prepared by **Drs Jutzi, Vogt, Drever, and Niskier**.

Competing interests

None declared

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