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# Potential urban-to-rural physician migration: the limited role of financial incentives

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Background: Rural/remote communities have persistent problems in recruiting and retaining physicians, despite the use of financial incentives. The objectives of this study were to investigate some factors influencing physician settlement in British Columbia and to explore potential policy recommendations for the future — specifically, policies to promote urban-to-rural practice relocation.
Methods: Between December 1999 and February 2000, surveys were faxed to 405 urban and 405 rural/remote physicians. Urban physicians were asked about the likelihood of their moving to a rural/remote location and their perceptions of such areas. Rural/remote physicians were asked about factors that affected their decision to practise in a rural/remote community.
Results: Surveys were returned by 311 (38.4%) of the 810 physicians. The response rates between urban and rural/remote physicians varied considerably (28.6% vs. 48.1% respectively). Most urban physicians (71.7%) would not move to rural/remote locations under any circumstances, and most of those who would consider it wanted a substantial increase (35.3%) in taxable income. Rural/remote physicians, when originally choosing the community they were practising in, were most attracted by the opportunity to acquire diverse medical experience. At the time of the survey, approximately 18% of these physicians were planning to relocate to urban areas, with on-call issues being the most influential factor. Most physicians in both groups believed that the quality of children's education in rural/remote areas is less than that in urban areas. The 2 groups differed in their perceptions of spousal employment opportunities in rural/remote areas.
Conclusions: This study illustrates the reluctance of physicians currently practising in an urban area to settle in rural/remote areas, despite financial incentives. These findings suggest the need to explore alternatives to financial incentives in addressing physician recruitment and retention in rural/remote areas.

Contexte : Les communautés des régions rurales et éloignées ont toujours de la difficulté à recruter et à garder des médecins, même en ayant recours à des incitations financières. Cette étude visait à analyser certains facteurs qui incitent des médecins à s'établir en Colombie-Britannique et à explorer des recommandations stratégiques possibles pour l'avenir — et plus précisément des politiques de promotion du déplacement d'une pratique d'un milieu urbain à une région rurale.
Méthodes : Entre décembre 1999 et février 2000, on a télécopié des questionnaires à 405 médecins urbains et 405 médecins de milieux ruraux ou éloignés. On a demandé aux médecins urbains d'indiquer la probabilité qu'ils déménagent en milieu rural ou éloigné et leur perception de ces régions, et aux médecins des régions rurales ou éloignées de préciser les facteurs qui ont joué sur leur décision de pratiquer dans une communauté rurale ou éloignée.
Résultats : Des 810 médecins, 311 (38,4 %) ont renvoyé leur questionnaire. Les taux de réponse ont varié considérablement entre les médecins des régions urbaines et leurs collègues des régions rurales ou éloignées (28,6 % c. 48,1 % respectivement). La plupart des médecins des régions urbaines (71,7 %) ne déménageraient pour aucune raison dans un endroit rural ou éloigné et la plupart de ceux qui envisageraient de le faire voudraient une augmentation importante (35,3 %) de leur revenu imposable. Lorsqu'ils ont choisi à l'origine la communauté où ils pratiquent, les médecins des régions rurales ou éloignées étaient attirés principalement par la possibilité d'acquérir une expérience médicale variée. Au moment du sondage, environ 18 % de ces médecins envisageaient de déménager en milieu urbain et les problèmes liés aux périodes de garde constituaient pour eux le facteur le plus important. La plupart des médecins des deux groupes étaient d'avis que dans les régions rurales ou éloignées, l'éducation des enfants est de moins bonne qualité qu'en milieu urbain. Les deux groupes différaient par leur perception des possibilités d'emploi pour le conjoint dans les régions rurales ou éloignées.
Conclusions : Cette étude démontre que les médecins qui pratiquent actuellement en milieu urbain ne veulent pas s'établir dans les régions rurales ou éloignées, en dépit d'incitations financières. Ces constatations indiquent qu'il faut explorer des solutions de rechange aux incitations financières pour s'attaquer aux problèmes de recrutement des médecins et de maintien des effectifs dans les régions rurales ou éloignées.

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Physician recruitment and retention in rural/remote communities continue to be important issues in health care. The problem has existed for years.1 With the majority of British Columbia's physicians setting up practice in urban centres such as Vancouver, remote communities often find themselves underserved. No scheme will completely solve the distribution problem, but steps can be taken to reduce it.

One potential rapidly deployable source might be the pool of physicians currently practising in urban centres. This study explores the potential of financial and other incentives for tapping into this pool.

Attempts at levelling the distribution of physicians in Canada have traditionally relied on financial incentives to encourage physicians to practise in rural/remote regions, or on financial disincentives to discourage them from practising in urban centres.2-5 But the issue is not merely a financial one. Physicians avoid or leave rural/remote regions for a variety of reasons. First, most medical students come from urban backgrounds, and until recently, all medical schools were located in major urban centres. Therefore, these future physicians tend to be biased toward urban life and know relatively little about rural life. Many who do choose rural/remote communities experience difficulty in finding locum relief for vacation or continuing medical education (CME). Stressful hours and, in particular, on-call schedules, also discourage physicians from practising in small communities. Furthermore, urban life tends to offer a greater variety of cultural, educational and recreational opportunities for physicians and their families.

There have been 2 key BC surveys in the past decade: one by the British Columbia Medical Association (BCMA)5 and one by researchers at UBC.6 The BCMA survey covered factors affecting satisfaction, recruitment and retention of physicians. The UBC survey addressed practice location decisions and spousal satisfaction.

In the current study, a shorter survey — "Physician Survey 2000: the Urban-Rural Split" — was developed to focus on specific financial and non-financial factors affecting practice decisions. Two versions were created for the purpose of comparing 2 groups of physicians: urban and rural/remote. The goal was to generate potential policy recommendations that will ease the distribution problem, particularly in the long run.

## Methods

Between December 1999 and February 2000, 810 surveys were faxed to 405 urban and 405 rural/remote BC physicians. Fax numbers were obtained from the directory of the College of Physicians and Surgeons of British Columbia. Most of the urban physicians were located in Vancouver, Burnaby and Surrey, but some were selected from Victoria, Coquitlam and Port Coquitlam. Most of the rural/remote physicians were located in Northern and Isolation Allowance (NIA) communities. These are communities that the BCMA and the provincial government have agreed

upon as having sufficient professional isolation to warrant a premium on fee-for-service billings by physicians. However, because many faxes to the physicians in NIA communities were not transmitted successfully, some rural/remote physicians were selected from non-NIA communities (see Appendix 1) to maintain the sample size.

### Urban survey

Urban physicians were asked whether they would consider moving their practice to a rural/remote location in BC, and how much more they would want to be paid if they relocated. The survey assessed the familiarity of the urban group with rural/remote schemes and the services of Health Match BC, a no-fee, health care recruitment service for the province of BC (www.healthmatchbc.org). They were also asked about their perceptions of spousal employment opportunities and of the quality of education for children in rural/remote communities.

Those who had previously practised in a rural/remote area were asked why they had left.

### Rural/remote survey

Rural/remote physicians were asked to rank the influence of 6 given factors on their original decision to practise in their community. The response scale ranged from 1 (most important) to 6 (least important). In addition, they were asked about spousal employment opportunities and quality of education for children in their communities.

Those who were planning to move to an urban setting were asked to rank the influence of 6 factors on their decision to relocate.

## Results

As of Mar. 30, 2000, 311 out of 810 physicians had returned the survey, yielding an overall response rate of 38.4%. Of 405 urban physicians, 116 (28.6%) returned the survey by the aforementioned date, compared with 195/405 (48.1%) of the rural/remote physicians. Most responses were received within several weeks, by fax, mail and email. Three surveys were returned after the report was completed; therefore, their data were not included. Statistical calculations were performed using Shazam Econometric Software (http://shazam.econ.ubc.ca/).

## Urban physicians

Urban physicians were asked if they would consider moving to a rural/remote location. Of 113 respondents, 81 (71.7%) stated "Under no circumstances," 23 (20.4%) stated "Depends on incentives" and 9 (8%) indicated "Yes, but I haven't been able to." Of those who replied "Depends on incentives" or "Yes, but I haven't been able to," 84.4% reported they would want to be paid more if they were to relocate to a rural/remote area. They wanted an average percentage increase in taxable income of 35.3% (95% confidence interval, 24.8-45.9).

Urban respondents (n = 115) were relatively unfamiliar with rural/remote programs other than the NIA (Table 1). And only 15/112 (13.4%) respondents were familiar with the services of Health Match BC.

Only 30/99 urban physicians believed their spouses would be able to find employment of first choice in a rural/remote setting, and just 18/100 believed that schools in rural/remote communities could offer their children a quality of education at least as high as that of urban schools.

Of 100 urban respondents, 57% believed their income would increase if they moved to a rural/remote setting.

Those who were previously established in a rural/remote setting (n = 32) gave various reasons for moving to an urban area. These included insufficient specialist back-up, insufficient locum support, onerous on-call schedule, desire for further training or specialization, proximity to family members, spousal employment and children's education.

## Rural/remote physicians

Of the 6 factors influencing their original decision to practise in a smaller community, the following were ranked as the most important by 192 rural/remote physicians: opportunity to acquire diverse medical experience, have appropriate training/exposure to rural medicine, and desire to help underserved communities. Other factors such as spousal/family support, having been born or raised in a community similar in size, and lower living and recreational expenses were assigned lower rankings (Table 2).

Rural/remote physicians were asked about spousal employment opportunities; 115/170 (67.6%) reported that their spouses found employment of first choice in their community. When asked if they believed their children were receiving education of equal or greater quality than that offered in an urban setting, 60/145 (41.4%) responded Yes. Some reported sending their children to private/boarding schools for education beyond the elementary level.

Of 178 rural/remote respondents, 42.7% believed their incomes would decrease if they moved to an urban area, 27% believed their incomes would increase and the remaining physicians did not believe their incomes would change significantly.

Thirty-five of 195 (18%) rural/'remote physicians indicated they were currently planning to relocate to an urban setting, and 33 of these 35 physicians ranked the influence of 6 factors on their decision to relocate. The most important factors were being on call too frequently and feeling dissatisfied with on-call reimbursement (Table 3).

## Discussion

### Northern and Isolation Allowance Program

As Barer and Stoddart7,8 pointed out, there is almost universal agreement among analysts that the problem of maldistribution of physicians is the most difficult to solve of all physician resource policy problems. Clearly, more money in the pockets of doctors is not the magic solution: at the time of the survey, the BC government was spending approximately $9 million annually on the NIA alone, and problems still persist in the province. As one rural/remote respondent wrote: "Money won't bring or keep people in the north." This view is supported by the results of this study's survey: 57% of urban respondents believed their incomes would rise if they moved to a rural/remote setting, yet 72% would not consider moving to such a location under any circumstances.

On the other hand, one must not underestimate the importance of bonuses. Of the 33 rural/remote physicians planning to relocate to urban practice, the top 2 ranked reasons were related to frequency of call and poor or no reimbursement for call (Table 3). Hence, one might presume that many rural/remote physicians would not maintain the level of work they do if incentives were removed, and more of them would consider moving to urban centres. Furthermore, it would be very difficult to attract locums to smaller communities. For these reasons, financial incentives are

necessary in the short run.

To maintain fairness in the assignment of bonuses to rural/remote communities, the NIA program should undergo continuous review. Some rural/remote respondents pointed out potential flaws in the NIA formula for computing eligibility. As an example, one respondent stated that Kimberley is just a few kilometres too close to Cranbrook to qualify for NIA benefits, but nearby communities (Invermere, Creston and Fernie) receive the NIA despite having more physicians. The respondent also pointed out that Dobbin on-call remuneration and supplemental CME funds only apply to NIA communities. (The Dobbin Report's recommendations [www.srpc.ca/dobbin.txt] included bonuses for after-hours work and an increase in CME allotment.) Another issue is that some rural/remote physicians do not want additional physicians to enter their communities because it may ruin their eligibility for incentive benefits.7 Schemes like the NIA should be revised to minimize such adverse effects.

Other rural/remote programs and services

Urban physicians should be informed of the services of Health Match BC. Only 13% of the surveyed urban physicians knew of this organization and how it can help physicians settle in smaller communities. Furthermore, urban physicians should be better informed of rural/remote schemes other than the NIA.

Family issues

Any long-term strategy must address family issues. This survey questioned physicians about spousal employment and children's education. An interesting finding is the difference in views between urban and rural/remote physicians with respect to spousal employment. Whereas only 30.3% of urban respondents believed their spouses would be able to find employment of first choice in rural/remote areas, 67.6% of rural/remote respondents reported that their spouses had been successful in finding employment of first choice in their communities. While this may be explained by selection bias, it does suggest that a breaking down of misconceptions about rural/remote life is needed in order to increase the number of physicians who choose such a practice location. A job-matching service for spouses of physicians might still be useful, however. In general, such a service would make the transition of physicians from urban to smaller communities easier. The service may encourage more physicians (and potential physicians) to consider moving to, or staying in, more rural areas.

As for children's education, the government is responsible for ensuring that the standard of education in smaller communities is competitive with that in urban centres, especially at the high school and college/university levels. This message must then be actively promoted to the public and, in particular, physicians.

### Medical students with a rural background

Given that many physicians come from urban backgrounds and tend to be biased toward urban life, additional research could explore the utility of expanding the pool of qualified medical school applicants coming from rural/remote backgrounds.

Optimism for the success of innovative initiatives might be found in such examples as the Med Quest program (www.med.mun.ca/medquest/) hosted by the Faculty of Medicine of Memorial University of Newfoundland. At a modest investment of approximately $40 000 per year, this program shows significant promise in increasing the participation of rural/remote students in the medical field. Since these individuals are from rural/remote communities, they are more likely to serve in such communities as physicians than those who grew up in urban areas.9 This is supported by the results of the present survey: rural/remote physicians reported having grown up in smaller communities than did their urban counterparts.

### Limitations of study

Limitations of this study include the relatively low response rate from urban physicians. Results may also not apply to subspecialists who rely on the population size of an urban centre for their practices.

## Conclusions

This study demonstrates a limited role for financial incentives as a stand-alone policy in influencing the chronic shortage of physicians who choose or move to rural/remote practice locations. It highlights a number of other areas of potential policy influence, such as spousal employment and children's quality of education. It is likely that integrated policy development seeking to address some or all of these points of influence would prove more effective. Further research would be required to explore these and other factors both in isolation and as part of an integrated policy initiative.

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