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**The Occasional Carpal Tunnel**

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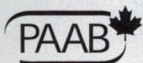
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# Rural Medicine of médecine rurale de la

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The building in this painting is a boathouse on the Winnipeg River in Minaki, Ontario.

No longer legal to build, these structures, which date from the 1920s, recall cottage life of long ago.

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# Reflections on the privatization of health care

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Quebec has for some time allowed private MRI clinics and in the wake of the Chaoulli decision is experimenting with other public-private configurations. Is this change apocalyptic, or is it unexpectedly benign? The following vignettes (admittedly anecdotal) are offered for consideration:

- An elderly relative, when confronted with the need for a hearing aid, chose to wait in a queue for the publicly available test and fitting when she could have leapt that queue and used a private service. No harm was done.
- Another relative, a vet, is confronted daily with the expectations of paying customers. If a test has to be sent to California to rule out a rare disorder, she had better be right!
- When my son fell on his shoulder and was still in pain a year later, I learned that an MRI was covered by my hospital administrator insurance and (staunch defender of public health care that I consider myself to be) arranged to have it done. The problem was identified within the week; however, to date (6 mo later) further management has not been required.
- A patient, with no such insurance, persistent leg pain and a conviction (not well founded) that an MRI would find her problem, waited 6 months. Nothing was found.
- Another patient, injured at work, found that workman's compensation would happily pay for his expedited

MRI, after which, physiotherapy, the treatment prescribed before the test, continued.

- A patient in our ER who developed a neurologic deficit with a level at T10 could not have a stat MRI because of local factors. A CT scan was done instead. The diagnosis was evident and no MRI was needed.

What does all this prove? Nothing definitive, of course, but to me it suggests that although the system is changing, the sky has not fallen.

The landscape is littered with the casualties of this debate — the rest are dug in in opposite trenches, not talking to each other. This non-random sample of 6 more or less sequential events may not prove much, but it does suggest that although a bunch of folks jumped the queue (and a bunch didn't), in the end it didn't matter very much.

This may be the key. Public health care is most hampered by its inability to triage resources effectively to those who need them the most. A variety of pressures, from litigation angst to uncritical use, has made everyone wait. By opening some doors to those who can pay, consumer pressure will be deflected to a system that is designed to respond to it. By absorbing this pressure, largely based on want, space may be freed up in the public system to respond in a more timely fashion to demand based on need. I suspect that the patient in need of a rapid diagnosis leading to an expensive treatment may well prefer, in the end, to have it paid for by the state. I know I would.



# Réflexions sur la privatisation des soins de santé

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**L**e Québec permet depuis quelque temps les cliniques privées d'IRM et, suite à la décision Chaoulli, fait l'essai d'autres formes d'aménagements public-privé. Ce changement sera-t-il cataclysmique ou, malgré tout attente, bénin? Nous vous soumettons les vignettes suivantes (que nous avouons anecdotiques) comme matière à réflexion :

- Comme elle avait besoin d'une prothèse auditive, une parente âgée a choisi d'attendre en file pour les services publics d'examen et d'ajustement disponibles, même si elle aurait pu obtenir plus rapidement un service privé. Elle n'a subi aucun préjudice.
- Une autre proche, vétérinaire, doit faire face quotidiennement aux attentes de clients payants. Lorsqu'elle décide de faire exécuter un test en Californie pour exclure un trouble rare, il est préférable pour elle d'avoir raison!
- Mon fils s'est blessé à l'épaule en tombant et avait encore de la douleur un an plus tard. J'ai alors appris que mon assurance d'administrateur d'hôpital couvrirait une IRM et (en solide défenseur de la santé publique que je crois être) j'ai pris des mesures pour qu'il obtienne cet examen. Le problème a été identifié en moins d'une semaine, mais jusqu'à maintenant (six mois plus tard), il n'a pas eu besoin d'autre traitement.
- Une patiente, qui ne bénéficiait pas d'une telle assurance, atteinte d'une douleur persistante à la jambe et convaincue (sans raison) qu'une IRM découvrirait son problème, a attendu six mois. On n'a rien trouvé.
- Un autre patient blessé au travail a constaté que la commission des accidents du travail s'empresserait de payer son IRM en accéléré, après quoi les traitements de physio-

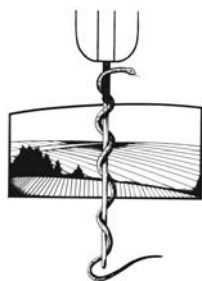
thérapie, prescrits avant l'examen, se sont poursuivis.

- Un patient admis à notre urgence a présenté un déficit neurologique de niveau T10 et n'a pas pu recevoir une IRM immédiatement en raison de facteurs locaux. Il a reçu plutôt une tomodensitogramme. Le diagnostic était évident et il n'a pas eu besoin d'IRM.

Que peut-on conclure de ces anecdotes? Rien de certain, bien entendu, mais cela m'indique que même si le système se transforme, le ciel ne nous est pas tombé sur la tête.

Le champ de bataille est jonché des victimes de ce débat — les autres sont retranchés dans leurs avis opposés et ne se parlent pas. Cet échantillon non aléatoire de six événements plus ou moins séquentiels ne prouve peut-être pas grand-chose, mais il indique que même si beaucoup de gens ont coupé la file (et que beaucoup d'autres ne l'ont pas fait), cela n'a pas eu beaucoup d'importance en bout de ligne.

Voilà peut-être la clé. C'est son incapacité à affecter efficacement les ressources à ceux qui en ont le plus besoin qui entrave le plus le système de santé public. Diverses pressions, de la phobie des litiges à l'utilisation sans discernement, ont fait attendre tout le monde. En ouvrant des portes à ceux qui peuvent payer, on détournera la pression exercée par les consommateurs vers un système conçu pour y répondre. En absorbant cette pression, fondée en grande partie sur les désirs, on pourra peut-être libérer de l'espace dans le système public pour lui permettre de répondre plus rapidement à la demande fondée sur les besoins. Je soupçonne que le patient qui a besoin d'un diagnostic rapide pour un problème nécessitant un traitement coûteux pourrait très bien préférer en bout de ligne que ce soit l'État qui paye. Ce serait mon cas.



### President's message.

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We had another successful Rural and Remote Conference in Saskatoon thanks to the organizing committee members, volunteers, presenters, staff people and participants. The energy at our R&R was upbeat and more positive than ever. I personally received affirmation that rural medicine is one of the best fields of medicine in which to be. The attendees at R&R are younger every year and include medical students, residents and young rural docs. Non-family medicine specialists participated at R&R this year. This was great to see and bodes well for rural medicine.

The theme at this year's R&R was rural health access. The current federal government is focused on the environment, and rightly so. Unfortunately, rural health is not on the government's agenda. We need to remind them of the link between rural health and the environment.

Urban air pollution — of which a significant proportion is generated by vehicles as well as industry and energy production — is estimated to kill some 800 000 people annually.<sup>1</sup> The average wind speed can be reduced by as much as 30% by a big city. Compared with rural surfaces, city surfaces absorb and store significantly more solar radiation.<sup>2</sup> As urban populations grow, the quality of the urban environment will play an increasingly important role in public health with respect to issues ranging from solid waste disposal to provision of safe water and sanitation. With urbanization, the land is altered to meet the needs of the people who live there. This alteration of the land accelerates non-point source pollution because it changes the way water moves, increases

surface runoff and causes erosion.<sup>3</sup> Much of air pollution is concentrated in and around urban areas, where automobiles and industry emit enormous amounts of waste into the environment. Visible smog is present in nearly all urbanized areas. Air pollution adversely affects both humans and animals, curbs vegetation growth and reduces crop yields.<sup>4</sup> Urbanization leads to increased pollution and contributes to the melting of the polar ice caps. Increasing recognition of the need to supplement non-renewable fossil fuels with renewable biofuel augurs well for Canada, provided that rural Canada is supported.

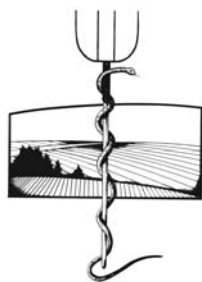
Rural Canadians are being forced to move to the cities because of difficulty with access to health care. The current rural depopulation and urbanization is not in the best interests of Canada nor of the world. Canada's rural natural resources currently provide employment, forest products, minerals, oil and gas, food, tax revenue and much of our foreign exchange. In the future, rural Canada can supply the raw material for biofuels as well.

If our government is interested in the environment, they also need to address rural health.

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4. Einstein DE. *Urbanization and its human influence*. Seminar in global sustainability. University of California; 1999.





## Message du président.

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**L**e Congrès de la médecine en milieu rural et éloigné, à Saskatoon, a remporté une fois de plus un grand succès grâce aux membres du comité organisateur, aux bénévoles, aux conférenciers, aux membres du personnel et aux participants. Notre congrès a été très dynamique et plus positif que jamais. On m'a affirmé personnellement que la médecine rurale est une des meilleures disciplines de la médecine à pratiquer. Les participants sont de plus en plus jeunes et le congrès réunit des étudiants en médecine, des médecins résidents et de jeunes médecins ruraux. Des spécialistes de la médecine non familiale ont aussi participé au congrès cette année, ce est encourageant et augure bien pour la médecine rurale.

Le congrès avait pour thème l'accès aux services de santé en milieu rural. Le gouvernement fédéral actuel se concentre sur l'environnement, avec raison. La santé en milieu rural n'est toutefois pas dans la mire du gouvernement, et nous devons lui rappeler le lien qui existe entre la santé rurale et l'environnement.

On estime que la pollution atmosphérique en milieu urbain — dont importante proportion provient des véhicules, de l'industrie et de la production d'énergie — tue quelque 800 000 personnes par année.<sup>1</sup> Dans une grande ville, la vitesse moyenne du vent peut être réduite de 30 %. Comparativement aux surfaces rurales, celles des villes absorbent et emmagasinent beaucoup plus de radiation solaire.<sup>2</sup> À mesure que la taille des populations urbaines augmente, la qualité de l'environnement urbain joue un rôle de plus en plus important en santé publique, où les enjeux vont de l'élimination des déchets solides à la distribution de l'eau potable et aux services sanitaires. L'urbanisation modifie le terrain pour répondre aux besoins de la population qui y vit. Cette altération accélère la pollution provenant de sources non ponctuelles parce qu'elle modifie le mode de circula-

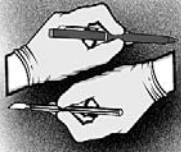
tion de l'eau, augmente le ruissellement et cause de l'érosion.<sup>3</sup> La pollution atmosphérique est concentrée en grande partie dans les régions urbaines et leurs environs, où l'automobile et l'industrie rejettent des volumes énormes de déchets dans l'environnement. Le smog visible est présent dans presque toutes les régions urbanisées. La pollution atmosphérique a un effet indésirable tant sur les êtres humains que sur les animaux, entrave la croissance de la végétation et réduit le rendement des récoltes.<sup>4</sup> L'urbanisation augmente la pollution et contribue à la fonte des calottes polaires. De plus en plus, on reconnaît qu'il faut compléter les combustibles fossiles non renouvelables par des biocarburants renouvelables, ce qui augure bien pour le Canada — à condition que l'on appuie le Canada rural.

Les Canadiens des milieux ruraux sont forcés de déménager en ville à cause de l'accès difficile aux soins de santé. Le dépeuplement rural et l'urbanisation en cours ne sont pas dans le meilleur intérêt du Canada, ni du monde. Les ressources naturelles rurales du Canada fournissent actuellement de l'emploi, des produits forestiers, des minéraux, du pétrole et du gaz, des aliments, des revenus fiscaux et une grande partie de nos devises étrangères. Le Canada rural pourra aussi fournir à l'avenir les matières premières nécessaires aux biocarburants.

Si notre gouvernement s'intéresse à l'environnement, il doit aussi s'intéresser à la santé en milieu rural.

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4. Einstein DE. *Urbanization and its human influence*. *Seminar in global sustainability*. Université de la Californie; 1999.



## ORIGINAL ARTICLE ARTICLE ORIGINAL

# Graduates of northern Ontario family medicine residency programs practise where they train

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This article has been peer  
reviewed.

**Objective:** To examine where graduates of the Northeastern Ontario Family Medicine (NOFM) residency program in Sudbury and the Family Medicine North (FMN) program in Thunder Bay practise after graduation, using cross-sectional and longitudinal analyses.

**Methods:** Data from the Scott's Medical Database were examined. All physicians who graduated from NOFM and FMN between 1993 and 2002 were included in this analysis. Differences in the location of first practice between NOFM and FMN graduates were tested using chi-squared tests. Logistic regression analyses were used to examine the impact of the training program on a physician's first, as well as continuing, practice location.

**Results:** Between 1993 and 2002, FMN graduates were 4.56 times more likely (95% confidence interval [CI] 2.34–8.90) to practise in rural areas, compared with NOFM graduates, but NOFM graduates were 2.50 times more likely than FMN graduates (95% CI 1.35–4.76) to practise in northern Ontario. There was no statistically significant difference between the graduates of the 2 programs in the likelihood of working in either northern Ontario or a rural area. About two-thirds (67.5%) of all person-years of medical practice provided by NOFM and FMN graduates took place in northern Ontario or rural areas outside the north.

**Conclusion:** NOFM and FMN have been successful in producing family physicians to work in northern Ontario and rural areas. Results from this study add to the growing evidence from Canada and abroad that rural or northern medical education and training increases the likelihood that the graduates will practise in rural or northern communities.

**Objectif :** Déterminer, à l'aide d'analyses transversales et longitudinales, où les diplômés du programme de résidence en médecine familiale du nord-est de l'Ontario (MFNO) à Sudbury et ceux du programme de médecine familiale du Nord (MFN) à Thunder Bay pratiquent après avoir obtenu leur diplôme.

**Méthodes :** On a analysé des données tirées de la Scott's Medical Database. L'analyse a inclus tous les médecins qui ont obtenu leur diplôme des programmes MFNO et MFN entre 1993 et 2002. On a analysé au moyen de tests de chi-carré les différences au niveau du lieu de pratique entre les diplômés du programme MFNO et ceux du programme MFN. Des analyses de régression logistique ont permis de déterminer l'effet du programme de formation sur le premier endroit où un médecin décide de pratiquer et sur celui où il continue de le faire.

**Résultats :** Entre 1993 et 2002, les diplômés du programme MFN étaient 4,56 fois plus susceptibles de pratiquer dans des régions rurales (intervalle de confiance [IC] à 95 %, 2,34–8,90), comparativement aux diplômés du programme MFNO, mais ces derniers étaient 2,50 fois plus susceptibles que les diplômés du programme MFN de pratiquer dans le nord de l'Ontario (IC à 95 %, 1,35–4,76). Il n'y avait pas de différence statistiquement significative entre les diplômés des deux programmes quant à la probabilité de travailler dans le nord ou dans une région rurale. Environ les deux tiers (67,5 %) du total des années-personnes consacrées à la pratique de la médecine



par les diplômés des programme MFNO et MFN ont été fournies dans le nord de l'Ontario ou dans des régions rurales ailleurs que dans le nord.

**Conclusion :** Les programme MFNO et MFN ont réussi à former des médecins de famille qui travaillent dans le nord de l'Ontario et dans les régions rurales. Les résultats de cette étude ajoutent à la masse croissante de données probantes provenant du Canada et de l'étranger qui indiquent que l'éducation et la formation en médecine en milieu rural ou dans le nord augmentent la probabilité que les diplômés pratiquent dans des communautés rurales ou du nord.

## INTRODUCTION

The mismatch between the geographic distribution of physicians and that of the Canadian population as well as the belief that there are critical shortages of physicians in many rural communities has been noted time and again.<sup>1-5</sup> Governments have used many strategies in recent decades to try to increase the number of rural physicians, mostly through financial incentives, recruitment drives, better access to continuing medical education and rural locum relief programs.<sup>6-8</sup> Another important strategy pursued in some jurisdictions around the world is medical training in rural communities. This is because there is increasing evidence that doctors who are exposed to rural settings while growing up or during medical education are more likely to practise in rural areas, compared with those with an urban background.<sup>9</sup> For example, in 1999 Rourke and colleagues<sup>10</sup> surveyed 484 physicians who were practising in rural and urban areas in Ontario and found that rural physicians were significantly more likely to have had clinical training in a rural setting during medical school. Physicians trained in rural areas are more likely to work in rural areas because, among other things, rural medical education imparts the knowledge and skills necessary to work in challenging rural environments.<sup>11-14</sup>

Like other mostly rural regions, northern Ontario — a vast area with a relatively small and widely dispersed population — has experienced chronic shortages of physicians. Over the last several decades, many programs, such as the Underserved Area Program, have been introduced in an attempt to encourage more physicians to establish medical practice in northern Ontario. In 1991, the provincial government introduced another important initiative. Two family medicine residency programs — the Northeastern Ontario Family Medicine (NOFM) program in Sudbury and the Family Medicine North (FMN) program in Thunder Bay — were established. The rationale was to increase family medicine residents' exposure to and experi-

ence in northern Ontario, including smaller and more remote communities, in the hope that they would consider practising in northern Ontario upon completion of residency training. The mandate of these 2 programs was captured in a 1990 press release issued by the Office of the Premier of Ontario:

A Northern Ontario residency training program for medical school graduates entering family practice was announced today by Premier David Peterson. . . 'This new program promises to help solve the problem of recruitment and retention of physicians in northern, rural and remote communities,' said Mr. Peterson.<sup>15</sup>

Our study examines, over a 10-year period, at both the start of physicians' careers and in subsequent years, the extent to which these 2 family medicine programs have been successful in producing physicians who enter northern or rural practice. Our study is part of a larger research project, supported by the Canadian Institutes of Health Research. Its goal is to look at the role of rural medical education in Canada in training an adequate supply of rural physicians.

## METHODS

### *Study subjects*

Our study examines all physicians who graduated from either NOFM or FMN between 1993 and 2002 and is based on a secondary analysis of data from the Scott's Medical Database (SMDB; formerly known as the Southam Medical Database) maintained by the Canadian Institute for Health Information (CIHI). SMDB provides data that can be used to examine a variety of medical workforce issues such as demographic profiles, supply, distribution and migration of Canadian physicians. At the request of the research team, staff at the NOFM and the FMN constructed a registry of all program graduates between 1993 and 2002, which was then sent to CIHI and linked to SMDB by physician name, medical school and medical school graduation year.

After completing this link, CIHI removed the names of the physicians and provided the anonymous data set to the research team. Each physician's practice location was tracked for each year following completion of residency training until 2002, but no attempt was made to identify or contact individual physicians to obtain additional or missing data.

### ***Practice location***

We classified physician practice location in 3 ways: urban versus rural, northern Ontario versus outside northern Ontario, and northern Ontario or rural versus urban outside northern Ontario. To determine these classifications, we identified the Census Subdivision (CSD) of each physician's practice based on postal code information in the SMDB. Each CSD was assigned to a Metropolitan Influence Zone (MIZ) category to classify urban and rural practice. Using this definition, rural areas are designated as places with less than 10 000 people and where less than 50% of the work force commutes to work in an urban area.

### ***Recruitment and retention***

There were 2 sets of outcomes that correspond to recruitment and retention — the 2 major rural health workforce issues. The first set of outcomes measured the locations of initial year of practice of the graduates. Two definitions of "initial year of practice" were used in light of the fact that many new graduates spend their first 1 or 2 years as locum tenens and that some take additional training in specialized fields: a physician's graduation year from FMN or NOFM plus 1 year and a physician's graduation year plus 2 years.

The second set of outcomes concerned retention — the likelihood of graduates to continue to practise in northern Ontario or rural areas. Typically, retention is understood in terms of the amount of time a physician remains in a particular community. But since this study was more interested in the extent to which a group of physicians practised in certain types of areas, such as northern Ontario or rural communities, and because there was considerable geographic mobility among the family physicians, a new unit of analysis — person-year of medical practice — was introduced. The use of this unit of analysis was also made necessary by the nature of the SMDB data, which were for each physician for each year (as of December 31). One person-year in rural practice, for example, means 1 year of medical

practise by a family physician in one or more communities classified as rural, not necessarily in a particular rural location. Needless to say, more recent graduates have fewer person-years than those who started medical practice earlier.

### ***Analyses***

Bivariate analyses comparing differences in the location of first practice between NOFM and FMN graduates were conducted using chi-squared tests. Logistic regressions were used to examine the impact of the training program on a physician's first practice location, adjusting for other factors such as the physician's age and sex. To examine the impact of the training program on continuing practice, adjusting for other factors, we conducted logistic regressions on practice location in a given year. We employed generalized estimating equations and a repeated-measures analysis with autoregressive error terms to examine the likelihood of physicians to continue to practise in northern Ontario or rural areas. These analyses, respectively, employed the logistic model (LOGISTIC) and generalized linear model (GENMOD) procedures in SAS 8.1 (SAS Institute Inc., Cary, NC).

This study received research ethics approval from the research ethics committee at the Sunnybrook and Women's Health Sciences Centre.

### **RESULTS**

Of the 203 graduates of the 2 residency programs, 3 graduates were excluded because they were practising in the United States or other foreign countries at the time of the research, and another 6 were excluded because their current medical addresses could not be confirmed in the SMDB or because they had indicated that they did not wish to have their data released.

Table 1 provides descriptive information about the physicians included in this study. The 2 groups of graduates were similar in terms of age and sex distribution and their participation in additional residency training. FMN graduates were much more likely than NOFM graduates to choose a first practice location in a rural area, at both 1 year and 2 years after graduation. NOFM graduates, however, were more likely to choose a first practice location in northern Ontario, but this difference was apparent only at 2 years after graduation. Between two-thirds and three-quarters of NOFM and FMN graduates started practice in either northern



Ontario or in a rural area, and there was no difference between the 2 programs.

Altogether, there were 1117 person-years of medical practice provided by the graduates of the 2 residency programs during the period from 1993 to 2002. Slightly over one-half of all person-years of medical practice took place in northern Ontario and two-thirds of all person-years of practice took place in northern Ontario, in rural areas or both (Fig. 1).

Regression analyses examining choice of practice location (Table 2) confirm the findings in the above-mentioned bivariate analyses. FMN graduates were more likely than NOFM graduates to be working in a rural area at both 1 and 2 years after graduation and NOFM graduates were more likely to be working in Northern Ontario at 2 years after graduation. There were no statistically significant differences between the 2 programs in the likelihood of starting practice in a community in either northern Ontario or in a rural area. Physicians' age, sex and additional residency training had no impact on their choice of initial practice location.

Table 2 also presents the results of the multivariate analyses of the likelihood of FMN and NOFM graduates to continue to practise in northern Ontario or rural areas. Similar to the logistic regressions reported above, FMN graduates (odds ratio [OR] 2.98, 95% confidence interval [CI] 1.70–5.23) were more likely to continue practising in rural areas and less likely to continue practising in northern Ontario (OR 0.48, 95% CI 0.29–0.79), compared with NOFM graduates, after controlling for the number of years since completion of residency

training. Graduates from both programs were less likely to practise in northern Ontario as time after graduation increased. When the combined outcomes of rural areas and northern Ontario were examined, graduates from both programs were more likely to continue practising in either of these areas (OR 1.11, 95% CI 1.02–1.23) as the number of years after graduation increased.

## DISCUSSION

This study examines the extent to which the graduates of 2 northern Ontario-based family medicine residency programs established initial practice and continued to work in northern Ontario and rural areas. There are several noteworthy findings:

1. When initial year of practice was defined as

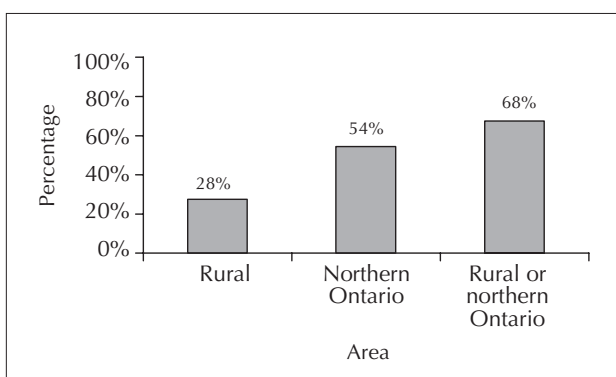


Fig. 1. Percentage of total person-years (measured from the year of graduation to 2002) of medical practice spent in rural areas, northern Ontario, and rural or northern Ontario by Northern Ontario Family Medicine and Family Medicine North graduates (combined), from 1993 to 2002.

Characteristic	Graduation year + 1			Graduation year + 2		
	NOFM, %†	FMN, %†	p value	NOFM, %†	FMN, %†	p value
Study participants, no.	99	95		87	85	
Female sex	47	52	0.57	47	48	0.88
Average age, yr	30.6	31.1	0.39	30.6	31.1	0.39
Additional year of training	25	23	0.73	22	19	0.62
Location of initial practice						
Rural practice‡ v.	17	47	< 0.001	21	42	0.002
Urban practice	83	53		79	58	
Northern Ontario v.	61	53	0.26	68	46	0.003
Southern Ontario and rest of Canada	39	47		32	54	
Northern Ontario, rural practice or both v.	69	73	0.55	75	67	0.27
Others	31	27		25	33	

NOFM = Northeastern Ontario Family Medicine program; FMN = Family Medicine North program.  
 \*Data source: Scott's Medical Database as well as data from FMN and NOFM.  
 †Unless otherwise indicated.  
 ‡The definition of the Metropolitan Influenced Zone was used to create this variable.

2 years after graduation, 67% of FMN graduates and 75% of NOFM graduates were practising in either northern Ontario (including both urban and rural communities) or rural areas outside northern Ontario. In other words, about 7 out of 10 graduates established initial medical practice in northern or rural areas.

2. In relation to retention, when northern Ontario and other rural practice locations were considered together, just over two-thirds (68%) of all person-years of medical practice by FMN and NOFM graduates took place in such areas. Some interesting differences between the 2 programs were found; for instance, compared with NOFM graduates, FMN graduates were more likely to practise in rural areas.
3. When examined at 2 years after graduation, NOFM graduates were more likely than FMN graduates to practise in northern Ontario.
4. There was no statistically significant difference between the 2 groups of graduates with respect to where they worked when northern Ontario and other rural locations were considered together and compared with urban locations outside northern Ontario.

The results of this study show that from the perspective of recruitment and retention, the 2 programs have fulfilled, to a large extent, their mandate of training family physicians to work in northern Ontario and other rural areas. It should be noted that although northern Ontario includes several small and mid-sized cities, almost the entire region has been designated by the Underserved Area Program of the Ontario Ministry of Health and Long-Term Care as “underserved” for general and

family practitioners for an extended period of time.<sup>16</sup> It should also be recalled that the 2 residency programs were established with a view to training family physicians to work in all of northern Ontario, not just in rural or remote communities.

Our results are consistent with the observations made by a recent report on the supply and use of family physician services in Ontario.<sup>17</sup> A key finding of this report was that between 1992 and 1993 and between 2001 and 2002, northern Ontario was the only region of the province with a consistent increase in physician supply. The authors of that report suggested that the NOFM and FMN programs, coupled with other measures, such as incentive grants, bursaries with return-of-service obligations and locum programs, contributed to an increase in physician supply in northern Ontario.

Our results also contribute to the accumulation of research evidence regarding the effects of rural medical education in overcoming the problem of geographic maldistribution of physicians. Policy-makers, health care administrators and medical educators need to know the effectiveness of different strategies and programs. This study, along with others conducted in Canada and in other countries, has shown that physicians tend to practise where they train.<sup>18–20</sup> It shows that training physicians in underserved areas can help ameliorate physician maldistribution or shortage situations.

Another interesting finding is the differences between the 2 residency programs when rural practice locations and northern Ontario practice locations were considered separately. As noted earlier, while FMN graduates were more likely to work in rural communities, NOFM graduates were more

**Table 2. Factors influencing physicians' likelihood of practising in rural, northern Ontario, or rural or northern Ontario at different times after graduation**

Characteristic	Likelihood 1 year after graduation, OR, 95% CI			Likelihood 2 years after graduation, OR, 95% CI			Likelihood to continue, OR, 95% CI		
	Rural area outside northern Ontario	Northern Ontario	Rural or northern Ontario	Rural area outside northern Ontario	Northern Ontario	Rural or northern Ontario	Rural area outside northern Ontario	Northern Ontario	Rural or northern Ontario
FMN program	4.56, 2.34–8.90	0.73, 0.41–1.30	0.83, 0.44–1.54	2.91, 1.47–5.75	0.40, 0.21–0.74	1.42, 0.73–2.78	2.98, 1.70–5.23	0.48, 0.29–0.79	1.38, 0.84–2.28
Male sex	0.96, 0.51–1.84	1.68, 0.94–2.99	1.02, 0.55–1.90	0.96, 0.49–1.89	1.71, 0.91–3.22	0.71, 0.36–1.39	0.88, 0.52–1.50	1.49, 0.91–2.45	0.89, 0.54–1.46
Age	0.93, 0.85–1.03	1.02, 0.95–1.10	1.00, 0.92–1.08	1.00, 0.92–1.08	1.02, 0.94–1.11	1.01, 0.93–1.10	1.01, 0.93–1.09	1.03, 0.97–1.09	0.97, 0.91–1.04
Additional training	1.18, 0.56–2.47	1.14, 0.58–2.24	0.89, 0.43–1.85	1.76, 0.79–3.92	1.54, 0.69–3.43	0.45, 0.17–1.18	0.88, 0.50–1.56	1.32, 0.78–2.22	0.76, 0.42–1.37
Years since completion of residency	NA	NA	NA	NA	NA	NA	1.04, 0.93–1.16	0.86, 0.79–0.94	1.11, 1.02–1.23

OR = odds ratio; CI = confidence interval; FMN = Family Medicine North; NA = not applicable.



likely to work in northern Ontario (including both urban and rural communities). Hutten-Czapski and Thurber<sup>21</sup> reported similar findings. They found that for the period of 1994–98, 51% of FMN graduates were practising in rural areas, compared with only 12% of NOFM graduates. Such divergence in outcomes could be due to differences between the 2 programs in the way the residents are trained. FMN has 6 months of mandatory rural rotations and an option to do an additional 6 months of rural training, with the remaining clinical rotations occurring in Thunder Bay. The NOFM program has 4 months of mandatory rural rotations and an option to do only 2 additional months of rural training, with all other rotations occurring in the urban centres of northeastern Ontario.<sup>22</sup>

The greater likelihood of FMN graduates, compared with NOFM graduates, of practising in rural areas may also be due to the geographic and demographic characteristics of the 2 regions of northern Ontario. FMN is located in northwestern Ontario, which has many rural or remote communities but only 2 urban centres with a population of 10 000 or more (i.e., Thunder Bay and Kenora). NOFM is located in northeastern Ontario, which has 6 communities with a population of 10 000 or more (i.e., Sudbury, Sault Ste. Marie, North Bay, Timmins, Elliot Lake and the “Tri-town” area of New Liskeard, Haileybury and Cobalt, where the 3 contiguous communities — now renamed Temiskaming Shores — have a combined population of more than 10 000 and are classified as a Census Agglomeration by Statistics Canada). Thus, while about 53% of the residents of northwestern Ontario live in Thunder Bay and Kenora, about 82% of the residents of northeastern Ontario live in the 6 urban centres. Since medical graduates tend to practise where they train, all else being equal, FMN graduates who decide to set up medical practice in northwestern Ontario are more likely to do so in rural or small-town settings, while NOFM graduates are more likely to practise in urban areas if they wish to remain in northeastern Ontario.

Other findings may also have implications for medical educators and policy makers, particularly in relation to medical workforce planning in northern Ontario. First, as shown in Table 2, male physicians appear to be much more likely than female physicians to practise in northern Ontario (ORs range from 1.49 to 1.71). In light of our findings, what are the long-term implications of the feminization of medical education for the north? Second, physicians who have additional training following family medi-

cine residency also appear to be more likely to practise in the north (ORs range from 1.14 to 1.54). Does this mean that northern Ontario should try to encourage family physicians to acquire further training? Although our study provides no answers to these questions, we flag them for further discussion. Third, while the 2 programs have been successful in training family physicians to work in northern Ontario and rural areas, the study shows that not all graduates ended up working in northern or rural communities. Close to one-third of the person-years of medical practice occurred elsewhere. It is important to understand the reasons behind this “loss” to urban centres. A companion study by Pong and associates,<sup>23</sup> which examines why some rural- or northern-trained physicians opted for urban practice, provides some useful insights.

### *Limitations*

This study has several limitations. First, practice locations were based on mailing addresses in the SMDB at a point in time in a given year. Physicians may move within the year or the mailing address may not represent actual practice location. For instance, a physician doing locum work in various small towns in northern Ontario may use his parents’ address in Toronto as his mailing address. The magnitude of this problem is not readily known. Further validation of SMDB data on practice locations would be useful.

Second, person-years of medical practice are a somewhat rudimentary measure, owing to another limitation of the SMDB data. Person-year data do not provide any information about changes in practice location that have taken place within the same calendar year because SMDB location data obtained from the CIHI are available only as of December 31 of each year. As an illustration, one would not be able to tell from the data that a physician moved from Thunder Bay to Toronto in February and returned to Thunder Bay in November of the same year. Third, we had no information on other factors that may influence physicians’ practice location decisions, which would ideally have been included in the regression analyses. Such factors include background of physicians and their spouses, remuneration, professional support, locum relief, workloads, spousal employment opportunities, community attributes and proximity to family members.<sup>6,24,25</sup> Yet, despite this multitude of factors, the effect the Canadian medical educational system has on practice location is unlikely to be neutral.<sup>21</sup>

Finally, the focus of this study is on the 2 family medicine residency programs in northern Ontario; thus, the generalizability of the findings may be limited to medical education programs similar to FMN and NOFM, and the conclusions may not be applicable to programs that have a much shorter duration of rural or northern exposure. Future studies of a similar nature may consider including a wider range of rural or northern medical education programs. However, by focusing on 2 relatively similar programs, this study has the advantage of ensuring comparability and eliminating possible effects of extraneous factors. The results of this study, while useful from an outcome assessment perspective, would be more meaningful if similar data were available for comparison from urban-based family medicine residency programs. Future studies should consider including one or more comparison groups in the study design.

## CONCLUSION

The FMN and NOFM programs have had good success in achieving their mission of supplying family physicians to underserved communities. While FMN has had more success at rural placement of graduates and NOFM has had stronger placement in northern Ontario, both programs are equally successful at placing graduates in northern Ontario or rural communities outside the north. The retention of the graduates in northern or rural communities is also impressive, as reflected by the fact that over two-thirds of all person-years of medical practice by graduates of the 2 programs took place in such areas.

This study adds to the growing evidence from Canada and abroad that educating physicians in northern and rural settings increases the likelihood that the graduates will practise in rural or northern communities. Thus, effective rural and northern medical education must be a cornerstone of any long-term physician workforce strategy designed to address the inequitable distribution of medical practitioners in Canada.

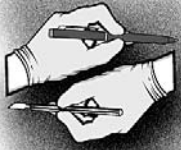
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**Competing interests:** None declared.

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## ORIGINAL ARTICLE ARTICLE ORIGINAL

# Big cities and bright lights: rural- and northern-trained physicians in urban practice

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**Introduction:** Rural medical education is increasing in popularity in Canada. This study examines why some family physicians who completed their residency training in northern Ontario decided to practise in urban centres.

**Methods:** We used a qualitative research method. We interviewed 14 graduates of the Family Medicine North program and the Northeastern Ontario Family Medicine program. The interview transcripts were content-analyzed.

**Results:** There were different pathways leading to urban practice. While some pathways were straightforward, others were more complicated. Most participants offered multiple reasons for choosing to work in urban areas, suggesting that the decision-making processes could be quite complex. Family and personal factors were most frequently mentioned as reasons for choosing the urban option. The needs of the spouse and the children were especially important. Most of the participants had no plans to return to rural medical practice, but even these physicians retained some vestiges of rural practice.

**Conclusion:** Most Canadian medical schools now offer some rural medical training opportunities. The findings of this study provide some useful insights that could help medical educators and decision-makers know what to expect and understand how practice location decisions are made by doctors.

**Introduction :** La formation en médecine rurale gagne en popularité au Canada. Cette étude examine les raisons pour lesquelles des médecins de famille qui ont terminé leur résidence dans le nord de l'Ontario ont décidé de pratiquer dans des centres urbains.

**Méthodes :** Nous avons utilisé une méthode de recherche qualitative. Nous avons interviewé 14 diplômés du programme de médecine familiale du nord et du programme de médecine familiale du nord-ouest de l'Ontario. Nous avons analysé le contenu du compte rendu des entrevues.

**Résultats :** Les voies menant à la pratique en milieu urbain différaient. Même si certaines étaient directes, d'autres étaient plus compliquées. La plupart des participants ont présenté de multiples raisons pour justifier leur décision de travailler en milieu urbain, ce qui indique que les processus de prise de décision pourraient être très complexes. Ils ont mentionné le plus souvent des facteurs familiaux et personnels pour justifier leur choix de l'option urbaine. Les besoins des conjoints et des enfants étaient particulièrement importants. La plupart des participants ne prévoyaient pas retourner pratiquer la médecine en milieu rural, même s'ils en gardaient quelques vestiges.

**Conclusion :** La plupart des facultés de médecine du Canada offrent maintenant des possibilités de formation en médecine rurale. Les résultats de cette étude présentent des aperçus utiles qui pourraient aider les éducateurs en médecine et les décideurs à savoir à quoi s'attendre et à comprendre comment les médecins choisissent l'endroit où ils pratiqueront.

## INTRODUCTION

Shortages of physicians in rural areas have been a long-standing problem in

Canada as well as in many other countries. A study by Pong and Pitblado<sup>1</sup> has shown that just under 16% of family physicians and only 2.4% of specialists

were located in rural and small-town Canada, where slightly over 21% of the population resided in 2004. Many attempts have been made in this country to recruit physicians to work in non-urban areas and to keep them there as long as possible, mostly by offering them financial and other incentives or by improving rural physicians' practice environment; however, these have had varying degrees of success.<sup>2-4</sup>

In recent years, more attention has been paid to medical education as a long-term solution. It has been shown that physicians from a rural background and those with extensive rural exposure during medical education are more likely to become rural physicians,<sup>5-8</sup> but not all physicians trained in rural settings end up practising in rural communities. Some of them choose to work in urban centres.

Relying mostly on surveys, many studies conducted in Canada and other countries have examined factors that influence physicians' decisions to work or not to work in rural areas and to stay or not to stay in rural practice.<sup>9-13</sup> In 1991, the Canadian Medical Association surveyed 400 physicians who had relocated their medical practices from rural to urban areas.<sup>14</sup> Factors that were found to be important in shaping the decisions of physicians to forsake rural practice were (in descending order of importance) work hours, children's education, spouse's job opportunities, recreation, professional backup, cultural opportunities, availability of specialty services, opportunity for additional training and earning potential.

With few exceptions, past studies have focused mostly on rural physicians or former rural physicians who may or may not have received formal training in rural medicine. It is likely that most of them acquired rural practice skills experientially since rural medical education is a relatively recent phenomenon in Canada.<sup>15</sup> By contrast, the subjects of the present study are physicians who have received 2 or more years of training specifically designed to familiarize them with non-urban practice settings and to equip them to work in northern Ontario or rural areas.

This study is one component of a larger research project — supported by the Canadian Institutes of Health Research — whose overall objective is to examine the extent to which rural medical education in Canada is successful in producing rural physicians. Our component of the research project seeks to understand why some family physicians who were trained in northern Ontario opted for “big cities and bright lights” instead of working in rural communities.

## METHODS

### *Research context*

Two 2-year family medicine residency programs were established in northern Ontario in 1991 to prepare physicians for medical practice in northern Ontario and rural communities. The Sudbury-based Northeastern Ontario Family Medicine (NOFM) program was affiliated with the family medicine program of the University of Ottawa, and the Thunder Bay-based Family Medicine North (FMN) program with McMaster University (it should be noted that both programs have since been incorporated into the new Northern Ontario School of Medicine of Laurentian University and Lakehead University). Most of the clinical training took place in northern Ontario. Except in the initial years, the 2 programs combined accepted about 30 residents annually.

### *Participants*

For our study, we chose graduates of FMN and NOFM practising in urban centres at the time of the research. We chose these 2 programs because they are the first full-fledged family medicine residency programs in Ontario with a mission to train physicians for northern or rural practice and because they have produced a sizeable number of graduates. The 2 programs are also sufficiently similar in nature that they can be examined together.

The names of graduates who completed their family medicine training at FMN and NOFM between 1993 and 2002 and their contact information, if available, were provided by the 2 programs. We contacted all graduates who were known to be working in “larger urban centres” at the time and asked if they would be willing to take part in the study. Fourteen were successfully contacted and agreed to participate.

This study used a qualitative research methodology. In-depth interviews were conducted over the telephone by 2 researchers. The interviews took place from late 2003 to early 2004. The interviews followed an interview protocol, but the participants were encouraged to speak freely and provide whatever information they felt was relevant. The interviews lasted about 40 minutes on average. The interviews were tape recorded with the permission of the interviewees and transcribed verbatim by a research assistant. The transcripts were then perused and content-analyzed by the first author.



The content analysis focused on several themes, including background characteristics of the participants, reasons for doing residency training in northern Ontario, career paths and transition to urban practice, reasons for practising in cities, likes and dislikes about rural and urban medical practice, and future practice plans. All transcripts were then read a second time and the initial content analysis was reviewed to ensure proper interpretation, classification and inclusion of information.

### *Definition of rural*

Since this study focuses on knowing why some FMN and NOFM graduates decided to practise in larger urban centres, it is necessary to determine what "larger urban centres" mean in the present context. In Canada, there are no officially sanctioned or universally accepted definitions of "rural." Communities with a population of less than 10 000 and that are not in close proximity to a city are generally considered rural.<sup>16</sup> Similarly, there is no consensus on what "northern" means. In the present study, "northern" refers mostly to northern Ontario as defined administratively by the provincial government (i.e., the region of the province that is north of, and including, the District of Parry Sound).

Northern Ontario is not entirely rural or remote. There are several small and mid-sized cities such as North Bay, Sault Ste. Marie, Sudbury and Thunder Bay. Thus it is the mandate of the 2 programs to train family physicians to work in northern Ontario cities as well as in small or remote communities.

In this study, Sudbury (population 155 000) and Thunder Bay (population 120 000) are put in the "larger urban centre" category, because practising in these 2 urban centres may be more like practising in other mid-sized cities than in rural or remote communities. Both cities have a fairly large regional tertiary care hospital, other health care services (e.g., cancer treatment centres, mental health programs and nursing homes) and a considerable number of specialists. Thus, for the purpose of this study, "larger urban centres" refer to cities with a population of 100 000 or more (including those in northern Ontario). This also corresponds to the Census Metropolitan Area definition used by Statistics Canada.

This component of the research project was approved by the Research Ethics Board at Laurentian University. All interviewees gave informed consent verbally over the telephone.

## **RESULTS**

We conducted 14 interviews of family physicians. Since the FMN graduates as a group did not differ substantially from the NOFM graduates as a group with respect to demographic characteristics and the nature of their responses, the 2 programs are not distinguished in the presentation of findings. When a quote from a participant is used, the individual is identified only by his or her identification number (in parentheses).

### *Characteristics and practice locations of research subjects*

Table 1 presents the characteristics of the subjects and Table 2 shows their practice locations at the time of the interviews. It is worth noting that most of the subjects did not come from a rural background. Most of them obtained their undergraduate medical degrees from universities in Ontario. Close to one-half of the interviewees were practising in northern Ontario (i.e., in Sudbury and Thunder Bay), with the remainder working in mid-sized or large cities in southern Ontario or other provinces such as Ottawa, Windsor and Edmonton. However, no one practised in very large cities such as Toronto and Vancouver.

### *Transition to urban practice*

The interviewees were asked to indicate where they had practised since completion of their residency training. If they had worked in more than one community, they were asked to identify each community,

**Table 1. Respondents' (n = 14) demographic and medical training characteristics**

Characteristic	No. of respondents
Sex	
Male	8
Female	6
Rural background	
Yes	4
No	10
Program	
NOFM (Sudbury)	8
FMN (Thunder Bay)	6
Year of completion of residency	
1993–96	7
1997–99	4
2000–02	3
NOFM = Northeastern Ontario Family Medicine program; FMN = Family Medicine North program.	

how long they had worked in each place, the nature of their practice and why they decided to relocate. The information was used to chart a career path for each physician and to establish patterns of transition to urban practice.

Several patterns can be identified. Five physicians started practising in an urban setting immediately after graduating from FMN or NOFM. Six physicians gravitated toward urban practice following a short period of working as locum tenens (most of the locums were in rural areas), travelling and (or) further medical training. Both of these patterns suggest little (for those doing rural locums) or no rural practice before working in an urban setting. The third pattern is characterized by a period of rural practice lasting one or more years followed by the transition to an urban practice. There are 2 physicians in this category. One physician moved back and forth between rural communities and cities.

### *Reasons for choosing urban practice*

In analyzing in-depth interviews, it is useful to know what factors were not reported by the interviewees as being responsible for their decisions to practise in cities. First, their decision to work in cities was not because they were disinterested in rural practice. Most thought that rural practice was more rewarding, particularly in terms of autonomy, variety of clinical work and respect from patients. When asked to compare their current urban practice with their previous rural practice, several subjects expressed what could be described as a sentiment of rural nostalgia. As one subject remarked, "urban family practice is boring, to a large extent, I should say" (respondent 07).

Second, the decision to move to urban practice was not because physicians were insufficiently prepared for rural practice. As a matter of fact, almost all respondents had nothing but praise for the 2 residency programs and the preparation they provided

for northern or rural practice. When asked to comment on the quality of his residency training, one interviewee said it gave him "an increased level of confidence in the [northern] practice setting" (respondent 14).

Third, only one physician mentioned that there was no opportunity to set up a practice in a rural community in which he and his family would have liked to live. In other words, lack of medical practice opportunities in rural areas was not a major reason for physicians ending up in cities.

Finally, none of the respondents indicated that they felt inadequately compensated for rural practice. One physician admitted: "I get paid more to work in a rural area than I do to work [in a city]" (respondent 03). In other words, the decision to work in cities was not financially motivated.

When asked to explain why they chose to practise in cities, many subjects offered more than one reason and some mentioned the pros and cons of practising in urban versus rural areas. The responses were examined to identify similar reasons. The reasons were further grouped into 4 main categories: family concerns, personal preferences, returning to roots and professional or political considerations. Table 3 lists the reasons for choosing urban practice and the number of times each reason was mentioned.

### *Family concerns*

Family and personal reasons were mentioned most frequently. In particular, the spouse appeared to play an important role in shaping practice location decisions. "Spouse's employment or career" was mentioned 9 times. The following is a typical response:

The key factor for us was the spouse's occupation. . . I really enjoyed living up in [a mostly rural region in eastern Ontario]. It was a beautiful area and I loved the outdoor[s]. . . But for me the move down [to a mid-sized city in southern Ontario] was really more for [my] spouse's occupation. (respondent 14)

It is worth noting that male physicians were just as likely as female physicians to say that their decisions to work in cities were at least partly due to their spouse's employment or career. It appears that the traditional mobility pattern of the wife following the husband no longer holds true. Other family-related reasons were mostly related to children or the extended family and included lack of good schools for children in rural areas and being too far away from relatives.

**Table 2. Respondents' (n = 14) practice locations**

Location	No. of respondents
Geographic region	
City in southern Ontario (e.g., Windsor)	7
City in northern Ontario (e.g., Sudbury)	6
City in another province (e.g., Edmonton)	1
Community size	
Large city (250 000 to 1 million people; e.g., Ottawa)	7
Mid-sized city (100 000 to 200 000 people; e.g., Thunder Bay)	7



Reasons related to “preference for city living by respondent or spouse” were mentioned 6 times. Several interviewees talked about the pluses and minuses of living in a small community. Some of the negative aspects mentioned were social isolation, lack of privacy, lack of stimulation and lack of available services (e.g., good restaurants). One physician remarked, “I think the satisfaction as a family physician is probably greater in rural area[s] in general, except I think that lifestyle in a smaller city or rural area is more difficult” (respondent 03).

Conversely, each of the 7 professional reasons was mentioned only once (Table 3). Two physicians decided to pursue urban practice in northern Ontario for “political” reasons. At the time, the Ontario provincial government was considering new policies (e.g., linking billing numbers of new physicians to their practice locations) to channel newly licensed doctors to smaller or more remote communities. Fearing that they might be “trapped” in a remote location and unable extricate to themselves later on, these physicians decided to make a strategic move by setting up practices in urban communities instead.

The 2 physicians who were originally from northern Ontario and who were still practising there cited “returning home” as their main reason for deciding to work in one of the 2 northern Ontario cities. One of them confided that he wanted to practise in this northern Ontario city “because of the family roots that I have here. My wife is from here too. So that was important” (respondent 12).

## *Future plans and attachment to rural practice*

What about the future? How likely is it that physicians will give up “big cities and bright lights”? The interviewees were asked to ponder their future, particularly in relation to a possible return to rural practice. The results are reported in Table 4.

Most respondents indicated that they had no plans to give up urban practice. One specifically said that after working in a city for several years, the skills needed for rural practice were no longer there. A few of them did not rule out the possibility of eventually returning to rural practice, but said it was not in the foreseeable future. Only 1 physician had made plans to return to rural practice.

This does not, however, necessarily mean that rural medical practice no longer has any appeal to them. On the contrary, it appears that most of the participants had lingering links to rural medical

**Table 4. Respondents' future plans for medical practice**

Future plan	No. of respondents
No plan to give up urban practice	8
No plan to leave city but desire to practice in nearby small communities	2
No plan to give up urban practice but desire to do rural locums	1
Plan to leave city in a few years but not necessarily for a rural area	1
May return to rural practice when children grown	1
Has made plans to return to rural practice	1

**Table 3. Reasons for practising in cities**

Reason	No. of respondents
Family concerns	
Spouse's employment or career	9
Cities are better for children (e.g., better schools)	3
Closer to extended family	3
Health problems experienced by family members in northern Ontario	1
Personal preferences	
Subject or spouse preferred city living	6
No ethnic or cultural ties in rural areas	1
Returning to roots	
Originally from Sudbury or Thunder Bay and wanted to return home to practise	2
Professional or political considerations	
Easier to be part-time or have flexible medical practice in cities	1
Professional isolation in rural areas	1
Difficult to specialize in a special field (e.g., palliative care) in rural areas	1
Wanted to do obstetrics in a large centre with full back-up	1
Easier to establish medical practice in northern Ontario city where contacts and networks were established	1
Opportunity to teach in a medical program	1
Concern about proposed health care policies	2

practice. Almost all regarded rural practice to be more challenging and stimulating than working in an urban environment. Some maintained a broad-scope practice or worked in multiple clinical settings, possibly in an attempt to mimic a rural practice profile, as other studies have shown that rural family physicians tend to have a much broader scope of practice than their urban counterparts.<sup>1,17</sup> Interestingly, several physicians who worked in the 2 northern Ontario cities considered their practices “not rural and not urban.” One physician described his practice as a “northern urban” practice, which was deemed to be different from an urban practice in southern Ontario. Another physician explained:

Thunder Bay, I find, is unique, because they call it a city but you still practise, I feel, like a rural family doctor because we are remote. . . from the rest of Ontario, the bigger centres. So. . . even though there are specialists, there is a big shortage of specialists. So, you still [have] to do so much. . . in terms of your own management. (respondent 11)

Thus they claimed not to have completely given up on rural medicine. Also, as shown in Table 4, a few physicians, though living and working in cities, would like to do some rural locums or see patients in nearby small towns.

## DISCUSSION

This study has shown that family and personal factors are the main reasons for choosing to work in cities. There is very little that medical schools or governments can do to alter personal preferences, family relationships or spouses’ career aspirations. As one physician put it, “spouse’s occupation was a big thing. I don’t really know if you can do anything about that” (respondent 08). The importance of spousal influence, especially in relation to spouses’ career goals or plans, has also been reported in other studies.<sup>10,11,14,18</sup>

In light of the importance of spousal influence, when recruiting physicians, rural communities should pay special attention to the needs and expectations of the physicians’ spouses. A successful recruitment may be short lived if the physician’s spouse is not content. The role of a rural physician recruitment committee may need to be expanded to include finding suitable employment for the physician’s spouse. This may require involving or getting the cooperation of local businesses and employers. At the very least, rural communities should try to make physicians and their families feel welcome and

to integrate them into the community as a way of reducing feelings of social isolation.<sup>19</sup> This is particularly important in light of the expected rise in the number of international medical graduates, many of whom will receive additional medical training in rural areas or may be required by provincial ministries of health to spend some time in underserved communities.

## *NFM and NOFM*

The focus of this study is on those FMN and NOFM graduates who have “abandoned” rural practice, but this does not imply that the 2 residency programs have not fulfilled their mandate. The success of these 2 programs in training physicians to work in northern Ontario and rural areas has been well recognized. A companion study by Heng and colleagues<sup>20</sup> found that just over two-thirds (67.5%) of the person-years of medical practice by FMN and NOFM graduates took place in northern Ontario (including cities) and rural areas.

The success of the 2 programs can also be gauged by how their graduates viewed their training. Many participants said that FMN and NOFM were 2 of the best family medicine residency programs. The one-on-one preceptor model of learning and the opportunity to see many patients and do a lot of hands-on procedures were deemed especially appealing, as exemplified by this comment: “The other thing is that because the model is preceptor-based, I actually received a tremendous amount of direct supervision by very highly qualified individuals” (respondent 02).

It is possible that not all physicians who did their residency at FMN and NOFM had intended to pursue rural practice, at least not for the long haul. When asked if the desire to practise rural medicine was the reason for doing a residency in northern Ontario, one physician admitted, “Well, I mean, not so much. The rural environment wasn’t as important to me. The level of training there was” (respondent 08). It is ironic that as the programs become more recognized for their approach and performance, the more likely they are to attract applicants who are more interested in the quality of the programs than they are in becoming rural physicians. It is, therefore, important for rural medicine programs to select trainees who have a genuine interest and desire to engage in rural practice upon graduation. Admittedly, this is easier said than done.

One also needs to be realistic about the outcome of any rural or northern medical education pro-



gram. A certain degree of "attrition" (i.e., graduates not becoming rural or northern physicians) is inevitable, though efforts should be made to lower the attrition rate as much as possible.

## Limitations

This study has a few limitations. As it is based on a non-representative sample of graduates from 2 residency programs that are located in one region of the country, the findings are not necessarily generalizable to all former rural physicians or all physicians who have undertaken rural medical training. Like many other studies using a qualitative research approach, this one is exploratory in nature. Its intent is to explore a hitherto understudied topic and to shed new light on how practice location decisions are made. It is, therefore, suggested that future studies involve family physicians from a wider range of medical training programs with a rural or northern orientation. This will help avoid obtaining findings from or drawing conclusions based on just a handful of programs.

Many of the subjects in this study were new physicians — a few had practised for 3 years or less. As a result, we might not have seen the full impact of the need to make important career choice decisions, including decisions to stay or not to stay in rural practice. If a similar study is to be conducted in the next few years, we may see more intricate and interesting career path patterns or we may see more switching back and forth between rural and urban settings. Thus this calls for the continuing monitoring of practice locations as well as examination of decision-making processes.

## CONCLUSION

Decisions regarding where to practise tend to be complex. This is evident in the fact that few participants in this study offered a single reason for working in urban centres. Similarly, there were different pathways leading to urban practice. In some cases, the transition to urban practice was straight forward, like establishing an urban practice immediately after completion of residency training; others were more complicated. Family and personal factors were the main reasons for choosing the urban option. Preference for urban lifestyle and the needs of the spouse or children were especially important. The most often cited reason was the spouse's employment or career. Although most of the partici-

pants had no plans to give up on "big cities and bright lights," there appeared to be a lingering attachment to rural practice.

Many new initiatives in rural medical education have been introduced in recent years.<sup>15,21</sup> Most Canadian medical schools now offer some rural medical training opportunities at the undergraduate level, at the post-graduate level or both. There is a desire to know the extent to which these initiatives have been successful in training physicians to work in rural, northern or remote areas. The findings of this study provide some useful insights that could help medical educators and decision-makers know what to expect and understand how practice location decisions are made by doctors.

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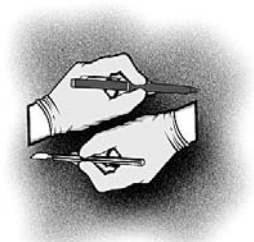
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## ORIGINAL ARTICLE

## ARTICLE ORIGINAL

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# A comparative analysis of the perceived continuing medical education needs of a cohort of rural and urban Canadian family physicians

**Objective:** To assess the perceived continuing medical education (CME) needs of a cohort of Canadian family physicians.

**Methods:** We distributed a questionnaire survey to Canadian family physicians who became Certificant members of the College of Family Physicians in 2001 and practised outside the province of Quebec. Main outcome measures were self-reported CME needs, professional development needs and preferences for CME delivery methods.

**Results:** We distributed 482 surveys and 197 questionnaires were returned for a response rate of 40.9%. Significant differences between rural and urban respondents' self-reported CME needs were found in the clinical areas of dermatology, endocrinology, emergency medicine, musculoskeletal, ophthalmology, otolaryngology, psychiatry and urology. Generally, a greater proportion of rural respondents reported significantly higher CME needs in emergency medicine. Urban respondents reported a significant preference for consulting colleagues as a method of CME, while rural respondents reported a significant preference for videoconferencing.

**Conclusion:** Self-reported CME needs and preferences for CME delivery methods differ on the basis of region of practice and size of the community in which family physicians' practise.

**Objectif :** Évaluer les besoins perçus en éducation médicale continue (EMC) d'une cohorte de médecins de famille canadiens.

**Méthodes :** Nous avons distribué un questionnaire à des médecins de famille du Canada qui ont obtenu un certificat du Collège des médecins de famille en 2001 et pratiquaient en dehors du Québec. Les principales mesures de résultats étaient les besoins autodéclarés en EMC, les besoins en perfectionnement professionnel et les méthodes privilégiées de prestation de l'EMC.

**Résultats :** On a distribué 482 questionnaires dont 197 ont été renvoyés, ce qui donne un taux de réponse de 40,9 %. On a constaté des différences importantes entre les besoins autodéclarés en EMC des répondants ruraux et urbains dans les domaines cliniques suivants : dermatologie, endocrinologie, médecine d'urgence, appareil musculosquelettique, ophtalmologie, otolaryngologie, psychiatrie et urologie. En général, un pourcentage plus élevé de répondants ruraux ont signalé des besoins beaucoup plus élevés d'EMC en médecine d'urgence. Les répondants urbains ont signalé une préférence importante pour la consultation de collègues comme méthode d'EMC, tandis que les répondants ruraux ont affirmé préférer de loin la vidéoconférence.

**Conclusion :** Les besoins autodéclarés en EMC et les préférences quant aux modes de prestation diffèrent en fonction de la région et de la taille de la communauté où pratiquent les médecins de famille.

## INTRODUCTION

It has been suggested that the continuing medical education (CME) needs of rural physicians are unique and varied.<sup>1-3</sup> Several studies have examined the differences between the rural and urban physician's CME needs and the findings indicate there are distinct differences, influenced in part by the nature of the medical practice and the distance from major urban areas.<sup>2,4</sup> A number of authors have suggested that the farther rural physicians are from large urban health care resources, the more knowledgeable and competent they must be in a greater number of clinical areas.<sup>5-7</sup> Research has indicated that rural family physicians generally practise in a greater number of procedural areas than their urban counterparts.<sup>8-10</sup> In rural areas with a small hospital, the rural physician's scope of practice can include office-based family practice, house calls and nursing home visits, and hospital-based medicine (e.g., anesthesia, obstetrics, emergency care and even surgery).<sup>7</sup>

Several authors have suggested that physicians entering rural practice do not feel prepared in relevant clinical skills and procedures for rural practice.<sup>11-15</sup> Graduates of Canadian family medicine programs have also reported low levels of confidence and competence in their procedural and technical skills.<sup>14-16</sup> Van der Goes and colleagues<sup>17</sup> found that Canadian family practice residency programs have varying expectations of procedural skills for their residents. Norris and colleagues<sup>18</sup> suggest that better attention to the type of training provided during medical school might help to offset the effects of professional isolation, reduce dissatisfaction reported by rural providers and, in turn, enhance both rural recruitment and retention. Norris and colleagues conducted a needs assessment of family physicians in the United States who had entered rural practice within 3 years of residency. Respondents reported inadequate preparation in areas related to allergy, rehabilitation medicine, many forms of counselling, advanced and operative obstetrics, pediatric trauma care, and nutrition.

Access to CME is believed to be an important issue for rural physicians because of the scope of practice and professional isolation of rural medicine. In one study, Blackwood and McNab<sup>19</sup> surveyed family physicians who were active members of the College of Family Physicians of Canada (CFPC) and who lived and practised in rural areas. About 36% of respondents felt that they were not adequately trained for rural practice and at least 20% felt that they were not adequately trained in obstet-

rics, emergency medicine, anesthesia and surgery. Of the respondents, 39.8% identified CME as an issue of concern and 32% felt that local CME initiatives were inadequate. Newbery<sup>20</sup> has suggested that newly graduating physicians are often choosing not to practise in rural communities because they do not have the confidence, the skills or the abilities to cover rural emergency departments and offer the required obstetric services.

Several studies have used questionnaire surveys to evaluate the effectiveness of, and inform the design of, postgraduate family medicine curricula.<sup>21-25</sup> The questionnaire survey has also been used as a common methodology for conducting needs assessment in medical education.<sup>26</sup> In the CME literature, a number of studies have reported using the questionnaire as an instrument for collecting needs assessment information. These studies include the use of the questionnaire to collect data related to discipline-specific learning needs such as the recognition and management of mental health problems, family physicians' perceptions of asthma management, palliative care and rural physician CME needs.<sup>27-30</sup>

The objective of our study described herein was to assess the perceived CME needs of a cohort of Canadian family physicians.

## METHODS

In February 2005, we distributed a total of 482 questionnaires to Canadian family physicians who became Certificant members (CCFPs) of the CFPC in 2001 and were practising outside the province of Quebec. The questionnaire was distributed to respondents following the principles of the Dillman Total Design Method.<sup>31,32</sup> The questionnaire encompassed 3 sections:

- Section A (Continuing Medical Education) — a list of patient problems and associated competencies or skills relevant to family medicine;
- Section B (Professional Development) — a list of management skills and associated topic areas relevant to family medicine;
- Section C (Respondent Characteristics) — demographic, education and practice characteristics of respondents.

Sections A and B consisted of items that were adapted from the list of "Rural Family Medicine Problems and Associated Skills" from the Report of the Working Group on Postgraduate Education for Rural Family Practice — Appendix 2.<sup>33</sup> Using a checklist, respondents were asked to check those

items that represented areas of high CME or continuing professional development (CPD) need. The questionnaire was piloted before distribution and ethics approval for this study was received through the Human Investigations Committee of Memorial University of Newfoundland. Responses were analyzed using the Statistical Package for the Social Sciences (SPSS 11.0 for Windows, SPSS Inc., Chicago, Ill.).

## RESULTS

Questionnaires were received from 197 respondents for a response rate of 40.9%. The majority of respondents (65.5%) graduated from medical school in 1999 and completed their family medicine residency at a Canadian university (85.5%). A summary of the respondents' scope of clinical practice as well as the areas of practice reported by Certificant members of the CFPC in the 2004 National Physician Survey (NPS)<sup>34</sup> are presented in Table 1. The majority (80.7%) of respondents reported that they practised family medicine, which was comparable to the CCFP population (81.8%) as reported by the 2004 NPS. However, a higher proportion of survey respondents reported practise in emergency medicine (44.2% v. 32.9%), whereas a lower proportion reported practise in geriatrics (38.6% v. 52.4%) and psychotherapy (19.3% v. 44.0%) when compared with the reported practice areas of CCFP respondents to the 2004 NPS.

Respondents' current practice location was categorized into 4 regions: Atlantic Canada (Newfoundland and Labrador, Nova Scotia, New Brunswick and Prince Edward Island), Ontario, Western Canada (Manitoba, Saskatchewan, Alberta and

British Columbia) and the Territories (Yukon, Northwest Territories and Nunavut). Figure 1 summarizes the proportion of survey respondents by each region as well as the proportion of CCFP respondents by region as reported by the 2004 NPS.<sup>34</sup> A large proportion of survey respondents (44.9%) reported practising in Ontario, while 35.2% practised in Western Canada.

The majority of respondents (80.4%) reported practising in an urban area (population > 10 000). Of these respondents, 32.5% practised in communities with populations of more than 250 000, 30.9% practised in communities with populations between 50 000 and 250 000, and 17.0% practised in communities with populations between 10 000 and 49 999. Nineteen percent (19.6%) indicated practising in a rural area (population < 10 000). According to the 2004 NPS<sup>34</sup> results, about 12.7% of CCFP respondents reported that they served a primarily rural, geographically isolated or remote population.

Table 2 summarizes respondents' highest ranked CME needs based on the patient problems and associated topic or competency areas presented on

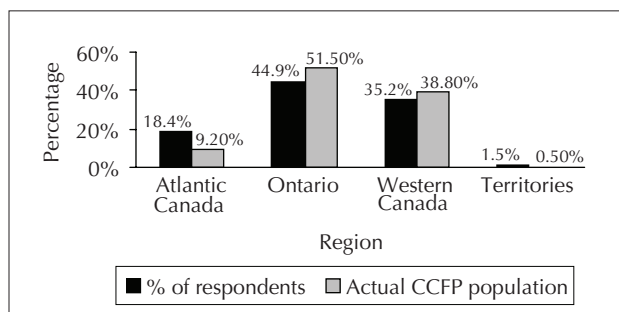


Fig. 1. Respondents' current region of practice compared with the actual CCFP (certificate, College of Family Physicians) population reported in the 2004 National Physician Survey.<sup>34</sup>

Type of practice	2001 CCFP respondents, no. (and %)	Actual CCFP population,* %
Family medicine	159 (80.7)	81.8
Emergency medicine	87 (44.2)	32.9
Inpatient	84 (42.6)	NA
Geriatrics	76 (38.6)	52.4
Palliative care	76 (36.5)	41.0
Walk-in clinic	71 (36.0)	NA
Obstetrics and intrapartum	43 (21.8)	26.9†
Psychotherapy	38 (19.3)	44.0
Aboriginal health care	32 (16.2)	NA
Other	24 (12.2)	NA
Surgery	18 (9.1)	8.6
Inner-city medicine	14 (7.1)	NA
Anaesthesia	7 (3.6)	4.0

CCFP = certificate, College of Family Physicians; NA = not applicable.  
 \*2004 National Physician Survey.<sup>34</sup>  
 †Obstetrics only.

CME needs	No. (and %) of respondents
Common and serious skin conditions	146 (74.1)
Congestive heart failure: basic and complex management	134 (68.0)
Approach to proteinuria	134 (68.0)
Management of headaches	132 (67.0)
Thyroid disorders	130 (66.0)
Modern-day care for TIA and stroke patients	128 (65.0)
Travel medicine	124 (62.9)
Renal failure: acute and chronic	123 (62.4)
Investigation of hematuria	122 (61.9)
Anemias: determining the cause	122 (61.9)
The red eye	121 (61.4)
Low back pain management	119 (60.4)

CME = continuing medical education; TIA = transient ischemic attack.  
 \*Represents items selected by at least 60.0% of respondents.



the questionnaire. The highest ranked topic, "common and serious skin conditions," was selected by over 74% of respondents. High CME need was also reported for "congestive heart failure" (68.0%), "approach to proteinuria" (68.0%) and "management of headache" (67.0%).

A comparison of CME needs across regions using chi-squared analyses revealed significant differences at a  $p < 0.05$  level for specific patient problems and associated topics or competencies in the clinical areas of dermatology, emergency medicine, gastroenterology, hematology, minor surgery and palliative care. A larger proportion of Atlantic Canadian respondents reported a high need for CME on "care of the diabetic foot" ( $p = 0.044$ ), "disaster planning and management" ( $p = 0.007$ ), "jaundice through the spectrum of life" ( $p = 0.037$ ) and "family issues; advance directives" ( $p = 0.023$ ). A larger proportion of Ontario respondents reported a high need for CME on "emergencies in sickle cell patients" ( $p = 0.024$ ), while a larger proportion of western Canadian respondents reported a high need for "minor office procedures for family physicians" ( $p = 0.010$ ).

Table 3 summarizes respondents' CME needs for each of the patient problems and associated topic or competency areas presented on the survey by the size of the community in which they practise (rural <

10 000 or urban > 10 000). A comparison of CME needs between rural and urban respondents using chi-squared analyses revealed significant differences at a  $p < 0.05$  level in the clinical areas of dermatology, endocrinology, emergency medicine, musculoskeletal, ophthalmology, otolaryngology, psychiatry and urology. Emergency medicine was the clinical area that revealed the most profound differences. Generally, a larger proportion of rural respondents reported CME needs related to "the septic baby" (57.9% v. 41.0%;  $p = 0.045$ ), "toxicology" (60.5% v. 34.0%;  $p = 0.003$ ), "the blue baby" (52.6% v. 35.9%;  $p = 0.045$ ), "the unconscious patient" (60.5% v. 29.5%;  $p = 0.000$ ) and "shock recognition and stabilization" (44.7% v. 19.9%;  $p = 0.002$ ). A larger proportion of rural respondents also reported CME needs pertaining to "reduction of common and critical joint dislocations" (57.9% v. 31.4%;  $p = 0.002$ ), "ENT (ear, nose and throat) procedures" (65.8% v. 42.3%;  $p = 0.008$ ), "the suicidal patient" (47.4% v. 30.8%;  $p = 0.043$ ) and "the spectrum of prostate diseases" (52.6% v. 35.9%;  $p = 0.45$ ).

Table 4 summarizes respondents' needs for each of the professional development topic areas by the size of the community in which they practise. There were no significant differences at a  $p < 0.05$  level on the basis of the size of the community in which

**Table 3. Overall CME needs by community size\***

CME needs	Rural, < 10 000 people, no. (and %) of respondents	Urban, > 10 000 people, no. (and %) of respondents
Approach to proteinuria	30 (78.9)	102 (65.4)
Chronic ulcer care	29 (76.3)	NA
Thyroid disorders	29 (76.3)	99 (63.5)
Common and serious skin conditions	29 (76.3)	115 (73.7)
Renal failure: acute and chronic	28 (73.7)	NA
Investigation of hematuria	27 (71.1)	NA
Low back pain management	27 (71.1)	NA
Management of headaches	26 (68.4)	104 (66.7)
Anemias: determining the cause	26 (68.4)	95 (60.9)
The red eye	25 (65.8)	94 (60.3)
ENT procedures: nasal packing; removal of foreign bodies; ear syringing	25 (65.8)	NA
Assessing limbs and other gait problems	25 (65.8)	NA
Congestive heart failure: basic and complex management	24 (63.2)	108 (69.2)
Modern day care of TIA and stroke patients	24 (63.2)	103 (63.2)
Post-MI care and long-term management	23 (60.5)	NA
Toxicology	23 (60.5)	NA
The unconscious patient	23 (60.5)	NA
Hepatitis review and update	23 (60.5)	NA
Drugs in pregnancy	23 (60.5)	NA
Use of MRI, ultrasound, CT, nuclear medicine and interventional techniques	23 (60.5)	NA
Travel medicine	NA	102 (65.4)
The complex type 2 diabetes patient	NA	96 (61.5)

CME = continuing medical education; NA = not applicable; ENT = ear, nose and throat; TIA = transient ischemic attack; MI = myocardial infarction; MRI = magnetic resonance imaging.  
\*Represents items selected by at least 60.0% of respondents.

respondents practise and their self-reported professional development needs. Figure 2 summarizes respondents' preferred delivery methods for CME/CPD. Most rural and urban respondents indicated a preference for "reading journals and books," "one-day conferences" and "attending CME lectures and rounds." Chi-squared analyses revealed significant differences at a  $p < 0.05$  level between rural and urban respondents with regard to preferred CME method. A larger proportion of urban respondents reported a preference for "consulting colleagues" (46.2% v. 28.9%;  $p = 0.040$ ), whereas a larger proportion of rural respondents reported a preference for "videoconferencing" (18.4% v. 5.8%;  $p = 0.019$ ).

## DISCUSSION

Significant differences between regions were identified for patient problems and associated topics or competencies in the clinical areas of dermatology, emergency medicine, gastroenterology, hematology, minor surgery and palliative care. The greatest differences between rural and urban physicians' self-reported CME needs were in the emergency medicine area. These results may be reflective of different community and patient demographic characteristics, population health issues, variations in scopes of practice between physicians in these different regions and communities, and even differences between postgraduate family medicine curricula across the country. The literature certainly does suggest that the rural physician's scope of practice is generally broader than the urban physician's and as a result the rural physician must maintain competency in a wider array of knowledge and skill.

The results from the study suggest that there are differences between physicians in terms of their preferred method of CME and that this is also influenced by the region and community of practice. Urban respondents reported a preference for consulting colleagues, while rural respondents reported a preference for videoconferencing. Respondents

from western Canada reported a greater preference for online CME and accessing or reviewing Internet resources, compared with their colleagues from other regions. The difference between rural and urban respondents in particular and in their preferred CME methods may be influenced by the characteristics of rural versus urban practice, the extent of geographic isolation or remoteness, and access to CME. Urban respondents are more likely to have greater opportunities for consulting with colleagues, whereas rural respondents are more likely to have access to CME through tele-education methods, such as videoconferencing.

The results of this study do raise the importance of identifying and validating the various contextual factors that may influence family medicine practice

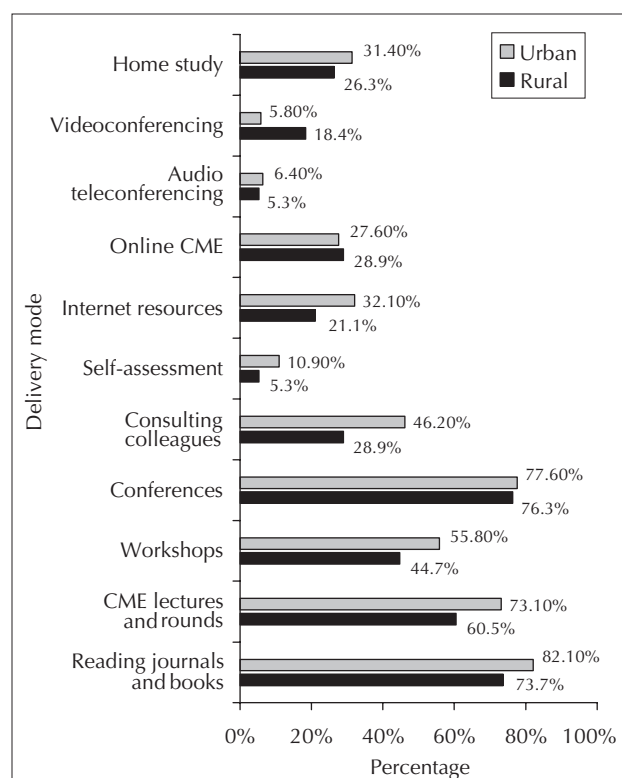


Fig. 2. Respondents' preferred delivery mode for continuing medical education (CME) and continuing professional development.

**Table 4. Professional development needs by community size**

Professional development needs	Rural, < 10 000 people, no. (and %) of respondents	Urban, > 10 000 people, no. (and %) of respondents
Evidence-based therapeutic management decision making	15 (39.5)	43 (27.6)
Electronic health records	14 (36.8)	49 (31.4)
Accessing and using online medical resources	14 (38.6)	40 (25.6)
Improving office efficiency	12 (31.6)	63 (40.4)
Ensuring practice meets legal obligations	11 (28.9)	43 (27.6)
Teaching in an office or ambulatory setting	11 (28.9)	NA
Personal and financial management	NA	47 (30.1)

NA = not applicable.

in different regions, communities and practice settings. The specification of these factors as well as due consideration of them in the design of CME programming and post-graduate family medicine training is critical to ensuring that medical education programming is responsive to the needs of practitioners and the practice settings in which they may find themselves.

The main limitation of the study is that the results represent the self-reported needs of a cohort of family physicians practising in Canada outside the province of Quebec. The over-representation of certain respondent groups, compared with the 2004 NPS results, may also limit generalizability of the findings. The proportion of 2001 CCFP survey respondents from Atlantic Canada and those reporting practice in rural areas may have been over-represented in the respondent sample when compared with the 2004 NPS results. Because the respondent population was limited to a single CCFP cohort, we were also unable to examine in greater detail the relation of such variables as practice experience to self-reported needs; we were not able to make broader level generalizations because of this. A key strength of the study was the questionnaire and the validity of the items that composed the survey instrument. The needs assessment questionnaire, which was developed for the study, was brief, easy to complete and could serve as a model instrument for conducting similar survey-based, needs assessment studies.

## CONCLUSION

The results of this study suggest that for this cohort of family physicians, CME needs and preferences for CME delivery methods differed on the basis of region of practice as well as the size of the community in which the family physician practices.

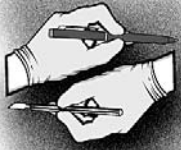
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**Competing interests:** None declared.

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## ORIGINAL ARTICLE ARTICLE ORIGINAL

# The needs of rural and urban young, middle-aged and older adults with a serious mental illness

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**Objective:** The delivery of mental health services is often provided through agencies set up to serve both young and older adults. Young and older adults with a severe mental illness (SMI) have different needs; this study was designed to identify important differences.

**Methods:** This is a descriptive study based on a representative sample of mental health services users from northwestern Ontario ( $n = 532$  [one-half rural and one-half urban]). The service provider most familiar with each user completed a questionnaire. We compared the characteristics and needs of users aged 18–29, 30–59 and 60 years and older.

**Results:** The results showed that a greater proportion of individuals in the older group (55.3%) had physical comorbidities, compared with people in the younger and middle-aged groups (30.3% and 45.2%, respectively;  $p = 0.004$ ), and more people in the older group used psychotropic medications (83.0% v. 62.9% and 75.5%, respectively;  $p = 0.006$ ). Although the level of need was great for all age groups, the older group had greater need for medication management, physical health care, self-care and other activities of daily living ( $p < 0.05$ ). A greater need for support was also identified for the family of older adults ( $p = 0.005$ ). A lesser need was identified for psychotherapy or counselling, vocational training, and correction, probation or parole matters ( $p < 0.05$ ).

**Conclusion:** We identified important differences in the needs of young, middle-aged and older people with an SMI. Addressing the needs of the older adults assumes a system that is responsive to their particular situations. Further work to ensure that the treatment of older adults reflects these differences and is based on best practices should be conducted.

**Objectif :** Les services de santé mentale sont souvent fournis par l'intermédiaire d'organismes établis pour servir à la fois les adolescents et les adultes plus âgés. Les adolescents et les adultes plus âgés atteints de une maladie mentale grave (MMG) ont des besoins différents. Cette étude visait à cerner les différences importantes.

**Méthodes :** Il s'agit d'une étude descriptive fondée sur un échantillon représentatif d'utilisateurs de services de santé mentale du nord-ouest de l'Ontario ( $n = 532$  [moitié ruraux, moitié urbains]). Le fournisseur de services qui connaissait le mieux chaque utilisateur a rempli un questionnaire. Nous avons comparé les caractéristiques et les besoins des utilisateurs âgés de 18 à 29 ans, de 30 à 59 ans et de 60 ans et plus.

**Résultats :** Les résultats ont montré qu'une proportion plus importante de personnes du groupe des sujets plus âgés (55,3 %) avaient des comorbidités physiques comparativement aux jeunes et aux groupes d'âge moyen (30,3 % et 45,2 %, respectivement;  $p = 0,004$ ) et que plus de personnes du groupe des personnes plus âgées prenaient des psychotropes (83,0 % c. 62,9 % et 75,5 %, respectivement;  $p = 0,006$ ). Même si le niveau de besoin était grand dans tous les groupes d'âge, les besoins des sujets plus âgés l'étaient davantage pour la gestion des médicaments, les soins de santé physiques, les soins auto-administrés et les activités de la vie quotidienne ( $p < 0,05$ ). On a aussi déterminé que la famille des adultes plus âgés avait davantage besoin de soutien ( $p = 0,005$ ).

Dans ce groupe, on a constaté un besoin moindre en psychothérapie ou counselling, en formation professionnelle et pour les questions reliées aux services correctionnels, à la libération sur parole ou à la libération conditionnelle ( $p < 0,05$ ).

**Conclusion :** Nous avons dégagé d'importantes différences entre les besoins des jeunes, des personnes d'âge mûr et des personnes âgées atteints d'une MMG. Pour répondre aux besoins des adultes plus âgés, il faut un système adapté à leur situation particulière. Il faudrait effectuer d'autres travaux pour veiller à ce que le traitement des adultes plus âgés tienne compte de ces différences et se fonde sur les meilleures pratiques.

## INTRODUCTION

Presently, there are 3.8 million Canadians over the age of 65 years and Statistics Canada estimates that by 2011 they will number almost 5 million. From 2001 to 2011 Statistics Canada predicts that the growth rate of the population aged 65 years and older will show the greatest increase. Consequently, there will be an increased demand for services for older individuals who have a severe mental illness (SMI).<sup>1</sup>

Because most individuals with an SMI are cared for in the community, the psychiatric care for the geriatric population needs to be provided in outpatient settings. However, it is often perceived that this cohort is best treated on an inpatient basis, and as a result resources for geriatric outpatient care have not been a priority.<sup>2</sup> Further, older adults are often neglected by mental health services,<sup>3</sup> possibly because "community mental health programs have tended to operate on the assumption that their services are most appropriate for younger people with mental or emotional distress" (p. 69).<sup>4</sup> Hence, researchers have asserted that it is very likely that current community geriatric mental health services will be unable to meet the future demand.<sup>5</sup> Some have even gone as far as referring to the pending deficit as a "crisis."<sup>1</sup>

This potential crisis may be exacerbated in geographical areas with fewer mental health services or reduced accessibility. Rural and remote areas are potential places where the needs of older adults with an SMI may be even more pressing given that service accessibility is compromised because of distance issues and the lack of health care professionals. In addition, it is increasingly evident that older adults with an SMI often have other medical comorbidities<sup>6</sup>; these older adults may be further compromised by these comorbidities.<sup>7</sup> Sullivan and colleagues have argued that to provide best practices for older adults we will need to understand older populations and their

needs within a local context that emphasizes the relevant catchment area.<sup>8</sup>

Unfortunately, there is a paucity of data comparing the situation and needs of older and younger adults with an SMI across age cohorts and even less regarding the needs of older adults living in rural and remote areas. Yet, a better understanding of the differences between older and younger adults will allow service providers to more effectively address problems confronting older adults. The purpose of this study was to document differences and similarities between young, middle-aged and older adults regarding their individual characteristics and mental health needs.

## METHODS

### *Sampling*

The data used in this study were part of a larger assessment of mental health services in northwestern Ontario. The region encompasses the districts of Thunder Bay, Kenora and Rainy River, an area of approximately 526 000 km<sup>2</sup>. This area represents about one-half of the whole province area yet is home to a total of only 250 000 inhabitants (approximately one-half are located in one urban centre), yielding a very low population density.

Program managers (who were health professionals with various backgrounds) of all community mental health programs ( $n = 61$ ) who provided services to individuals with an SMI and received funding from the Ontario Ministry of Health and Long-Term Care filled out a detailed profile that included information on community context, staffing levels and disciplines represented on staff. The program managers of 51 of these programs (27 urban and 24 rural) supplied us with a list of patients over the age of 18 years who had used their services between September 1, 2001, and November 30, 2001 ( $n = 3246$ ). We created a database using initials of patient sex and date of birth

and drew a representative sample based on age, sex and geographic region ( $n = 549$ ) for staff assessment.

## Data collection

Using a “train-the-trainer” approach, one staff member from each program attended a one-day training session to learn how to correctly complete the assessment tool. This individual then shared training information with colleagues involved in the assessment of patients. Subsequently, the mental health worker (e.g., nurse or social worker) most familiar with the selected patient completed the staff assessment. The assessment included demographic information and a needs profile (number of monthly visits). The needs were rated on a 5-point scale (1 = none, 5 = 8 or more times per month), but to simplify the interpretation of the findings we dichotomized the data as “no need” versus “any” (analyses with analyses of variance using the 5-point scale provided similar results to those presented here).

## Analytical plan

For our comparisons, we divided the sample into 3 groups: 18–29 years old, 30–59 years old and 60 years and older. We present descriptive information using means and standard deviations (SDs) and frequencies (along with proportions). To formally compare the older and younger groups, we used the chi-squared statistic. Statistical significance was set at  $p \leq 0.05$ . However, given the large number of comparisons and the increased risk of type I errors, we also present actual  $p$  values.

## RESULTS

Of the 549 patients for whom we requested an assessment, 532 were completed (response rate of 97%). Of the 532 for whom we had data, there were 97 patients aged 18–29 years, 347 aged 30–59 years, and 88 who were aged 60 years and older. Exactly 266 were from the urban setting and 266 from the rural setting. Demographic characteristics of the patient sample are shown in Table 1.

Differences between the 3 groups of patients emerged for DSM-IV diagnostic categories (more than 1 diagnosis could be provided if appropriate) and other clinical attributes of the patients. The most frequent diagnosis was the presence of a mood disorder (45%). However, while the second most frequent diagnostic category for the older

group was the presence of an organic disorder (e.g., dementia; 26.1%), this type of diagnosis was present in only 1% of the younger group and 4% of the middle-aged group ( $p = 0.001$ ). We noted that a greater proportion of patients from the urban setting, compared with those from the rural setting,

**Table 1. Demographic characteristics of the patient sample**

Characteristic and setting	Age, yr, $n$ (and %)*		
	18–29	30–59	$\geq 60$
Sample size, $n$			
Urban	36	177	53
Rural	61	170	35
Mean age, yr (SD)			
Urban	25.75 (2.95)	44.18 (8.48)	75.07 (10.01)
Rural	23.68 (3.58)	42.95 (7.74)	74.14 (9.88)
Female sex			
Urban	19 (52.8)	96 (54.2)	27 (50.9)
Rural	34 (55.7)	105 (61.8)	25 (71.4)
Education			
Less than high school			
Urban	17 (53.1)	71 (47.3)	30 (66.7)
Rural	25 (45.5)	64 (42.1)	13 (41.9)
Completed high school			
Urban	9 (28.1)	47 (31.3)	12 (26.7)
Rural	25 (45.5)	57 (37.5)	15 (48.4)
Completed post-secondary			
Urban	6 (18.1)	32 (21.3)	3 (6.7)
Rural	5 (9.1)	31 (20.4)	3 (9.7)
Marital status			
Single			
Urban	19 (52.8)	77 (43.5)	14 (26.4)
Rural	28 (45.9)	42 (24.7)	10 (28.6)
Married or common law			
Urban	6 (16.7)	42 (23.7)	20 (37.7)
Rural	19 (31.1)	72 (42.4)	14 (40.0)
Separated, divorced or widowed			
Urban	11 (30.6)	58 (32.8)	19 (35.8)
Rural	14 (23.0)	31 (18.2)	11 (31.4)
Main source of income			
Public assistance, pension or insurance			
Urban	25 (71.4)	127 (82.9)	47 (88.7)
Rural	23 (40.3)	74 (45.9)	23 (67.7)
Employment			
Urban	6 (17.1)	25 (14.4)	1 (1.9)
Rural	15 (26.3)	53 (32.9)	5 (14.7)
Family			
Urban	1 (2.9)	18 (10.3)	4 (7.5)
Rural	14 (24.6)	26 (16.1)	3 (8.8)
Other			
Urban	3 (8.6)	4 (2.3)	1 (1.9)
Rural	5 (8.8)	8 (5.0)	3 (8.8)

SD = standard deviation.

\*Values are frequency counts unless otherwise indicated.



appeared to have diagnoses. To examine this issue formally, we compared the overall number of psychiatric diagnoses across settings. Although we found similar overall proportions of diagnoses across age groups within settings, we found significant differences across settings. In the urban set-

ting, the proportion of patients with no diagnoses was 1.9%; with 1 diagnosis it was 45.1%; and with 2 or more diagnoses it was 53.0%. Conversely, these proportions were 18.4%, 47.4% and 34.2%, respectively, for the rural settings ( $\chi^2_2 = 46.77$ ,  $p = 0.001$ ). Also, while most patients were using psy-

Table 2. Diagnostic category (DSM-IV) and medical issues						
Diagnostic category and setting	Age, yr, n (and %)*			$\chi^2$ †	df	p
	18–29	30–59	≥ 60			
Mood disorder				1.09	2	0.581
Urban	20 (55.6)	90 (50.8)	24 (45.3)			
Rural	20 (32.8)	65 (38.2)	19 (54.3)			
Anxiety disorder				0.31	2	0.857
Urban	10 (27.8)	44 (24.9)	14 (26.4)			
Rural	13 (21.3)	35 (20.6)	4 (11.4)			
Schizophrenia or psychotic				6.47	2	0.39
Urban	10 (27.8)	72 (40.7)	11 (20.8)			
Rural	6 (9.8)	20 (11.8)	4 (11.4)			
Personality disorder				2.85	2	0.240
Urban	9 (25.0)	28 (15.8)	7 (13.2)			
Rural	10 (16.4)	20 (11.8)	3 (8.6)			
Substance-related disorder				6.00	2	0.50
Urban	12 (33.3)	31 (17.5)	6 (11.3)			
Rural	11 (18.0)	27 (15.9)	3 (8.6)			
Organic disorder				58.38	2	0.001
Urban	1 (2.8)	9 (51.)	18 (34.0)			
Rural	0 (0)	5 (2.9)	5 (14.3)			
Mental retardation				1.03	2	0.597
Urban	1 (2.8)	12 (6.8)	0 (0)			
Rural	3 (4.9)	8 (4.7)	3 (8.6)			
Childhood or adolescence				3.92	2	0.141
Urban	3 (8.3)	14 (7.9)	0 (0)			
Rural	4 (6.6)	6 (3.5)	1 (2.9)			
Eating disorder				7.59	2	0.023
Urban	4 (11.1)	6 (3.4)	5 (9.4)			
Rural	4 (6.6)	5 (2.9)	3 (8.6)			
Other				2.54	2	0.281
Urban	1 (2.8)	21 (11.9)	7 (13.2)			
Rural	4 (6.6)	13 (7.6)	3 (8.6)			
Unknown				1.71	2	0.425
Urban	1 (2.8)	2 (1.1)	1 (1.9)			
Rural	5 (8.2)	16 (9.4)	1 (2.9)			
Number of diagnoses				0.35	4	0.990
No diagnoses						
Urban	1 (2.8)	3 (1.7)	1 (1.9)			
Rural	9 (14.8)	37 (21.8)	3 (8.6)			
1 diagnosis						
Urban	15 (41.7)	81 (45.8)	24 (45.3)			
Rural	32 (52.5)	75 (44.1)	19 (54.3)			
2 or more diagnoses						
Urban	20 (55.6)	93 (52.5)	28 (52.8)			
Rural	20 (32.8)	58 (34.1)	13 (37.1)			
Other medical diagnoses				11.30	2	0.004
Urban	12 (35.3)	87 (50.9)	30 (58.8)			
Rural	15 (27.3)	63 (39.1)	17 (50.0)			
df = degrees of freedom.						
*Values are frequency counts (percentages within the age group for each region).						
†Chi-squared values are based on the overall test of association between age and the presence of diagnoses.						

chotropic medications in the urban area (88.0%), a lower proportion of patients living in rural areas were using them (60.9%;  $\chi^2_1 = 51.21, p = 0.001$ ). Further, the patterns across age groups were also different across settings. A greater proportion of middle-aged (90.4%) and older (90.6%) adults were using these medications, compared with the younger adults (72.2%) in the urban setting ( $\chi^2_2 = 9.76, p = 0.008$ ), whereas the pattern of use did not differ significantly across age groups in the rural setting (57.4%, 60.0% and 71.4%, respectively;  $\chi^2_2 = 2.01, p = 0.367$ ). In addition, the presence of other medical, non-psychiatric diagnoses was noted in 55.3% of older adults, compared with 30.3% of the younger ones and 45.2% of the middle-aged ones ( $p = 0.004$ ; Table 2), but fewer such diagnoses were recorded for the rural setting (38.0%) than for the urban setting (50.4%;  $\chi^2_1 = 7.87, p = 0.005$ ).

The documented disabilities identified by staff

illustrate different functional limitations in older adults (Table 3). Although the overall number of disabilities was similar, a greater proportion of older patients had hearing disabilities ( $p = 0.001$ ). Further, 15.9% of older patients were non-ambulatory, compared with only 4.3% of the middle-aged adults and none of the younger adults ( $p = 0.001$ ).

An analysis of the need for services and supports revealed considerable needs for this population as a whole, yet a number of differences between the 3 groups appear consistent with the above-noted medical issues and disabilities, in addition to differences that may arise because of age-related changes. Staff reported greater needs for older adults, compared with younger ones, regarding medication management, physical health care, self-care and other activities of daily living. In addition, the respondents identified greater needs for the families and caregivers of older

Table 3. Patients' documented disabilities as identified by staff.						
Type of disability	Age, yr, n (and %)*			$\chi^2$ †	df	p
	18–29	30–59	≥ 60			
Developmental				2.56	2	0.279
Urban	1 (2.8)	13 (7.3)	0 (0)			
Rural	4 (6.6)	10 (5.9)	2 (5.7)			
Deaf				32.23	2	0.001
Urban	0 (0)	2 (1.1)	7 (13.2)			
Rural	1 (1.6)	7 (4.1)	7 (20.0)			
Blind				3.83	2	0.147
Urban	0 (0)	6 (3.4)	4 (7.5)			
Rural	1 (1.6)	3 (1.8)	1 (2.9)			
Speech impairment				1.30	2	0.522
Urban	0 (0)	6 (3.4)	3 (5.7)			
Rural	1 (1.6)	1 (0.6)	0 (0)			
Non-ambulatory				25.12	2	0.001
Urban	0 (0)	9 (5.1)	11 (20.8)			
Rural	0 (0)	6 (3.5)	3 (8.6)			
Learning				4.72	2	0.095
Urban	1 (2.8)	11 (6.2)	1 (1.9)			
Rural	7 (11.5)	9 (5.3)	0 (0)			
Other				2.52	2	0.283
Urban	9 (25.0)	41 (23.2)	5 (9.4)			
Rural	5 (8.2)	29 (17.1)	8 (22.9)			
Number of disabilities				6.75	4	0.150
No disabilities						
Urban	26 (72.2)	110 (62.1)	33 (62.3)			
Rural	46 (75.4)	117 (68.8)	19 (54.3)			
1 disability						
Urban	9 (25.0)	52 (29.4)	13 (24.5)			
Rural	12 (19.7)	41 (24.1)	12 (34.3)			
2 or more disabilities						
Urban	1 (2.8)	15 (8.5)	7 (13.2)			
Rural	3 (4.9)	12 (7.1)	4 (11.4)			

df = degrees of freedom.

\*Values are frequency counts (percentages within the age group for each region).

†Chi-squared values are based on the overall test of association between age and the presence of diagnoses.

adults, compared with those of younger adults. However, fewer needs for older adults were reported regarding psychotherapy and counselling, substance abuse programming, vocational issues, and correction, probation or parole issues. These data are shown in Table 4.

## DISCUSSION

We found important differences between older and younger users of community mental health services. Not only is this a relevant observation on its own, but it also highlights the importance of carefully considering the local context when devising services for older adults with an SMI.<sup>8</sup> We found that a greater proportion of older adults, compared with younger ones, had a diagnosis of organic disorder, used psychotropic medications and had other, non-psychiatric medical diagnoses. This is consistent with the results of others showing increased comorbidity among older adults<sup>6</sup> and also illustrates that the mental health system must be able to adequately

serve distinct groups, whether based on age, as in this study, or based on ethnic differences as suggested by others.<sup>9</sup>

The needs of the older adults were consistent with these medical and functional problems and contrasted with those of younger adults in important ways. A greater proportion of older adults needed support with medication management. This is consistent with our observation that a greater proportion of older adults are using psychotropic medications. It is also consistent with the greater use of medication in older adults, in general, and the heightened risk of medical complications related to medication use.<sup>10</sup> There was also a greater need regarding physical care, self-care and other activities of daily living, possibly compounding the medical difficulties identified above.

Another observation was the greater need for support of the family of older adults. One explanation for this finding is that some of the caregivers are becoming older and have medical concerns or functional limitations of their own. Another possibility is

Table 4. Need for supports or services						
Support or service and setting	Age, yr, n (and %)*			$\chi^2$ †	df	p
	18–29	30–59	≥ 60			
Medication management				6.55	2	0.038
Urban	23 (67.6)	139 (81.1)	43 (82.7)			
Rural	30 (53.6)	83 (52.5)	21 (67.7)			
Assessment or diagnosis				4.85	2	0.088
Urban	23 (74.2)	120 (71.9)	39 (81.3)			
Rural	35 (63.6)	86 (56.6)	23 (71.9)			
Psychotherapy or counselling				10.31	2	0.006
Urban	31 (93.9)	136 (80.0)	35 (70.0)			
Rural	55 (91.7)	147 (90.7)	29 (82.9)			
Substance abuse program				7.08	2	0.029
Urban	17 (56.7)	57 (33.9)	13 (28.9)			
Rural	23 (40.4)	57 (37.5)	8 (22.9)			
Crisis intervention				3.39	2	0.184
Urban	20 (64.5)	99 (58.9)	19 (43.2)			
Rural	29 (50.9)	73 (48.0)	15 (42.9)			
Physical health care				7.43	2	0.024
Urban	26 (74.3)	135 (83.3)	44 (88.0)			
Rural	38 (70.4)	103 (67.8)	30 (88.2)			
Dental care				0.39	2	0.821
Urban	23 (67.6)	107 (69.9)	29 (65.9)			
Rural	34 (69.4)	80 (59.7)	22 (68.8)			
Self-care				17.59	2	0.001
Urban	3 (8.6)	63 (37.1)	23 (46.0)			
Rural	8 (14.8)	24 (15.4)	11 (32.4)			
Other ADL				15.81	2	0.001
Urban	9 (25.7)	76 (45.5)	31 (64.6)			
Rural	15 (27.8)	46 (29.1)	15 (44.1)			
Vocational				14.64	2	0.001
Urban	21 (63.6)	83 (50.3)	14 (32.6)			
Rural	26 (46.4)	52 (32.9)	4 (12.1)			



that many of the older patients have dementia (26% of older adults had a diagnosis of organic disorder). There is sufficient evidence demonstrating that caring for someone with dementia can result in considerable strain.<sup>11</sup> With current trends favouring community living over institutionalization<sup>12</sup> it is likely that families will assume greater responsibilities in the care of older adults.

It is not surprising that respondents reported fewer needs for older adults regarding vocational and correction, probation or parole issues. However, the respondents also reported fewer needs of older adults for psychotherapy or counselling, compared with their younger counterparts. This finding may be explained by the larger proportion of older individuals with an organic diagnosis; it is possible that people with such a diagnosis may not benefit from psychotherapy or counselling interventions. However, older adults are often perceived as less likely to benefit from interventions and some illnesses (e.g., depression) are often seen as part of normal aging.<sup>13</sup> Further research should examine whether all older adults with an SMI receive the psychotherapy or counselling they need.

We found that fewer people in the rural setting had diagnoses (psychiatric or other) and that fewer used psychotropic medications. One possible explanation is that people with more severe illness moved to the urban centre to access treatment. Another is that there are fewer physicians available in the rural setting to make formal diagnoses and prescribe medications. While it is not possible with the current data to answer this question, we noted that the number of disabilities (which is not dependent on the presence of a physician) did not differ across settings. It will be important to resolve this issue to ensure that people with an SMI can "age in place."

### *Implications for service delivery*

Possibly the first important observation regarding our sample is the great level of need regardless of the age category. This should not be surprising given that we surveyed providers of services to individuals with SMIs. However, the greater proportion of older adults with functional limitations and physical disabilities results in a distinct profile of needs for

<b>Table 4. continued</b>						
Meaningful activity				2.75	2	0.253
Urban	24 (68.6)	120 (70.2)	43 (81.1)			
Rural	30 (53.6)	79 (51.3)	16 (51.5)			
Educational				5.12	2	0.077
Urban	18 (52.9)	77 (46.4)	14 (31.8)			
Rural	23 (41.1)	44 (27.7)	8 (24.2)			
Social or recreational				3.78	2	0.151
Urban	25 (71.4)	123 (73.2)	42 (79.2)			
Rural	33 (58.9)	83 (52.9)	22 (66.7)			
Housing support				0.50	2	0.778
Urban	13 (38.2)	79 (46.5)	25 (50.0)			
Rural	17 (28.8)	35 (22.2)	6 (18.2)			
Income or financial assistance				0.20	2	0.906
Urban	16 (47.1)	94 (55.3)	24 (54.5)			
Rural	25 (43.1)	63 (38.4)	13 (8.2)			
Rights protection				2.00	2	0.369
Urban	10 (31.3)	64 (37.9)	24 (48.0)			
Rural	15 (26.8)	47 (30.1)	8 (24.2)			
Support to family				10.42	2	0.005
Urban	17 (48.6)	67 (39.2)	30 (56.6)			
Rural	22 (40.0)	49 (32.0)	17 (51.5)			
Correction, probation or parole				11.02	2	0.004
Urban	8 (23.5)	21 (12.2)	2 (4.3)			
Rural	13 (22.4)	21 (13.0)	3 (8.6)			
Developmental disability				4.16	2	0.125
Urban	1 (2.9)	10 (5.9)	0 (0)			
Rural	6 (10.5)	14 (8.8)	1 (2.9)			
df = degrees of freedom; ADL = activities of daily living.						
*Values are frequency counts (percentages within the age group for each region).						
†Chi-squared values are based on the overall test of association between age and the presence of need for supports or services.						

older adults, compared with that of younger adults. Our findings corroborate other studies indicating that services need to address physical illnesses, caregiver burden, organic disorders and problems with activities of daily living for older users of mental health services.<sup>14</sup>

The differences between older and younger users of community mental health programs point to the necessity of ensuring that health care professionals devising the treatment plans consider what is for many a lifetime of SMI, medication use and poor health behaviours.<sup>7</sup> Because these older adults have been living under unfavourable conditions for a long time they require comprehensive and well-coordinated care according to best practices.<sup>8</sup> These considerations should be included when developing programs for older adults with an SMI. A necessary condition for the successful delivery of services to this population includes more training in geriatrics for care providers.<sup>10</sup>

It is also necessary to recognize that older adults can be helped by community treatment. Researchers, clinicians and patients need to continue to contest the stereotype that depression, anxiety disorders or alcohol abuse are a component of old age.<sup>5</sup> Many therapies have proven effective for older adults (see Bartels and colleagues for a review of evidence-based practices).<sup>15</sup> Early recognition and responsive treatment of mental illnesses can result in improved quality of life for patients and their caregivers. For example, cognitive behavioural therapy has been successful when working with the elderly in outpatient settings.<sup>16</sup> Older adults who received the services of a psychiatrist have also shown improvement.<sup>6</sup> Outreach mental health programming has been found to effectively support patients and their families.<sup>17</sup> An intensive case management model targeted to older adults also resulted in improvements for patients and their caregivers.<sup>18</sup> However, one obvious challenge is to deliver adequate services in a rural and remote context where these specialized services may be less accessible. Although this setting poses considerable challenges, it may be feasible by using nurses trained in psychiatric and medical issues as case managers,<sup>7</sup> other health care professionals and tele-medicine.

The data also highlight important needs of the informal caregivers. This reinforces our belief that the health care system should consider the dyad (care recipient and caregiver) as the focus of interventions. Not surprisingly, guidelines for the management of dementia suggest the consideration of

caregivers in the development of care plans.<sup>19</sup> Supporting caregivers is an additional approach to best serve the needs of people with SMIs.

## LIMITATIONS

Our study has sampling limitations that should be taken into account when considering the results. Staff assessments could only be done on people who were accessing services; we do not have information about people who were not using specialized mental health programming in their communities. Similarly, we did not include individuals who received mental health care from primary care providers such as general practitioners. Research has shown that older adults are more likely to see their general practitioner about a mental health problem,<sup>20</sup> but it is unclear how this pattern fits with the more severely ill. Also, the First Nations population in the region was underrepresented in the sample. Several of the programs providing services to First Nations people have not had data collected on program participants, which prevented us from including them in the project. Further, mental health programming provided to First Nations people is federally sponsored and these organizations did not take part in this study. However, for the users of the programs examined, we obtained a large representative sample.

## CONCLUSION

This sample provides a clear picture of the considerable needs of people with SMI. It also identifies older people with SMI as a distinct group, requiring special attention. While the geographical limitations imposed by rural and remote regions are substantial, developing and embracing innovative approaches to the delivery of care for people with an SMI has the potential to improve their health outcomes and quality of life.

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# THE PACTITIONER LE PRATICIEN

## The occasional carpal tunnel injection

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*This article has been peer  
reviewed.*

A 21-year-old patient presents to your office with a 3-week history of increasing pain and numbness in his right dominant hand. Particularly affected are the index and long fingers. Symptoms are worse at night and awaken him from sleep. To relieve the symptoms, he flicks the wrist as if he were shaking down a thermometer. On examination, flexion at the wrist reproduces the pain within 45 seconds. Tapping the proximal wrist crease also reproduces the pain. There is decreased pin prick sensation in the index finger, compared with the other hand. Muscle mass in the hand is normal. The diagnosis is easy — carpal tunnel syndrome (CTS). The etiology is more difficult to ascertain.

Not all carpal tunnel syndrome is median neuropathy. Even with “classic” symptoms, up to one-third of patients will have normal median nerve conduction.<sup>1</sup> In light of this, many surgeons will not decompress the carpal tunnel unless there is an electromyograph (EMG) on the chart indicating abnormal median nerve conduction. In my region, the EMG, the surgeon and the hospital will add many weeks to months of waiting. However, the patient can be treated on the day of presentation in the office.

A single injection of a steroid into the carpal tunnel will provide relief for 85% of patients with CTS symptoms, according to a Cochrane review.<sup>2</sup> If there is no response or symptoms recur despite this conservative treatment, then I refer for EMG.

Alternate therapy, such as night wrist splints (particularly for pregnant patients), may be helpful and can be combined with injection. Note that nonsteroidal anti-inflammatory drugs,

diuretics and pyridoxine are no more effective than placebo in relieving the symptoms of CTS.<sup>3</sup>

Risks of the procedure include infection, bleeding and injury to underlying structures. Case reports of median nerve injury exist but are felt to be much less common than with carpal tunnel surgery.

### EQUIPMENT

- Alcohol swabs
- Plastic strip bandage
- Sterile gloves
- 25 gauge 40 mm needle
- 3 mL syringe
- 10 mg methylprednisolone

### PROCEDURE

#### STEP 1

Check the surface anatomy to find the injection site. You may roll a small towel to place under the wrist to put it in mild extension. You want to enter the skin just ulnar to the palmaris longus tendon and proximal to the wrist crease. For those few patients without a palmaris longus tendon, you can landmark the flexor carpi radialis just ulnar to the midline of the wrist (Fig. 1).



Fig. 1. The injection is made proximal to the transverse carpal ligament and ulnar to the palmaris longus tendon.

## STEP 2

Prepare the skin and your solution. When I started injecting the carpal tunnel I used a mixture of 2% xylocaine and 20 mg methylprednisolone. My patients would get anesthesia in the median nerve distribution, which would confirm proper location of the solution. However, as patients are disconcerted by a numb hand, even for just an hour, I now just inject the steroid (Fig. 2).



Fig. 2. Methylprednisolone and syringe.

## STEP 3

Insert the needle at a 30° angle, directed toward the ring finger (Fig. 3). If the patient experiences paresthesias you are close to the nerve and the needle should be withdrawn immediately and redirected in a more ulnar fashion. As with any injection, aspirate to ensure that the needle has not been placed in a blood vessel. Injection should be done slowly and not meet any resistance.



Fig. 3. The needle is inserted at 30° aiming for the ring finger.

If a venous plexus makes it difficult to inject at the wrist you can use a longer needle and enter the skin 3 cm proximally at a more shallow angle (10–20°) (Fig. 4). Do not try to inject distally through the transverse carpal ligament as the space there is more limited, with increased potential for pain or injury.

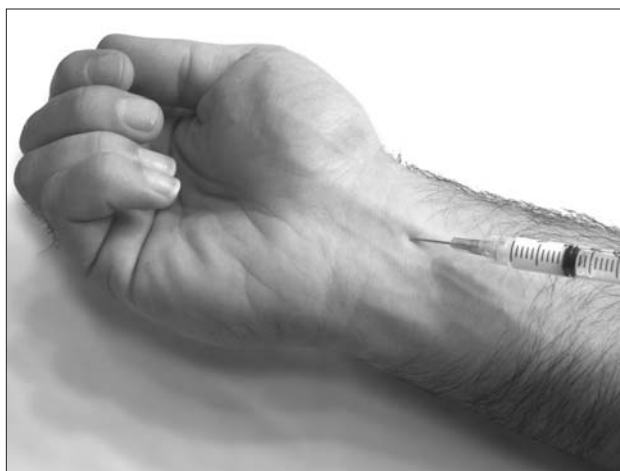


Fig. 4. Alternately, the injection can be made distally at 10–20°.

## SUMMARY

Patients often present to rural doctors with CTS. A single injection of corticosteroid into the tunnel is an easy and effective form of treatment. Determination of median neuropathy is only important if the patient wants surgery or if steroid injection fails.

**Competing interests:** None declared.

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## PODIUM: DOCTORS SPEAK OUT LA PAROLE AUX MÉDECINS

### Remote reflections

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I was recently asked to speak at the 25th reunion of my 1981 University of Cape Town graduating class on having survived as a (geographically) remote family physician among a sea of specialists and urbanites. My class has undergone a Diaspora, following which, one-half are no longer in the land of their training. (At least our reunion could be held in Cape Town, unlike a subsequent crop who found it logistically simpler to hold their 20th reunion in the Okanagan Valley.) Along with the realization that our rural breed is regarded as something of a curiosity, this opportunity provoked reflection on what it means to be a rural doctor and on what sustains me year after year.

Ever since I can remember, I wanted to be a small-town GP; the more remote, the better. Having actually achieved this, in a setting that has allowed my family to flourish, is for me something of a cause for celebration, even though the hemisphere and continent are not what I had once envisioned. My initial South African work experience, with 4 doctors caring for a population of 100 000, encouraged me. Then my long-term African plans were interrupted briefly by a sojourn to Saskatchewan to earn some cash in order to travel a bit. Two days after arriving, I met the girl of my dreams working in a small prairie hospital, and thereafter rural Canada it was!

For many immigrant physicians, small-town rural practice is a conve-

nient entry point, often the beginning of a migration route that will typically end in BC's Lower Mainland or suburban Ontario. I am delighted to have voluntarily gotten stuck on this route, having landed up in the foothills of the Rocky Mountains in northeastern BC in an idyllic setting.

After a while, I learned a few things about rural Canada and about myself:

- The skill sets that family physicians possess, grounded in an appreciation for the scientific method, are often in short supply in rural areas and can be of immense benefit not only for patients, but also for the community as a whole.
- I admire my saintly colleagues who find total inspiration in their work, but while I love the satisfaction and rewards of rural medicine, for me it is *Materia Non Medica* — passions for hobbies and pursuits that can be realized more easily and completely in a remote community than anywhere else — that sustain.
- Long-term survival without a supportive family to love and be loved by would be very trying, and inadequate educational opportunities for the kids form the single wild card that can prompt a devoted rural doc to dig up roots and head south. A spouse who takes matters into her own hands, volunteers and coaches in the schools, thereby mitigating the deficiencies of rural education, is therefore a blessing and an irreplaceable asset.

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This all requires a large amount of luck in life.

- There is no such luxury as anonymity. Some of my dedicated colleagues have left this practice for more crowded climes because of this factor alone. Aside from using it as an excellent excuse not to go grocery shopping, there seems to be only one reasonable approach to this phenomenon: embrace it and get totally involved in the community.
- One of the easiest ways to accomplish this is by setting an example of healthy outdoor living, which is of course easier to achieve by virtue of the remote location: run half marathons; ski loppets; campaign and raise money for the local athletics track; coach kids and adults; wear your pedometer prominently; create mountain runs and place enormous posters of them on your office walls, close to the chin-up bar in the entrance, beside the prominent display of your and your staff's graph showing lengths swum in the local pool; develop a local sports hall of fame — whatever it takes! The result is not only fitness, but also fulfillment.

For me and my family, the passions that sustain have gone through a number of phases and led us in unexpected directions. Phase 1 involved the joy and excitement of exploration born of realizing we had landed in an astoundingly beautiful corner of Canada, which had not been well detailed. This invoked the thrill of being among the first to behold and photograph waterfalls, discover and enter caves, find lakes and springs not marked on any map, and learn the secrets above the treeline of the alpine tundra and seldom-trodden mountain summits.

Phase 2 was both physical and intellectual, and coincided with the near-death experience of our community. At the time, Tumbler Ridge was a one-industry coal mining town that was almost annihilated by the collapse of the coal market. The challenge involved the diversification of the economy into tourism to enable community survival, and the method was 2-pronged:

- Design and build over 25 hiking trails; sharing these wild and coveted destinations would also give them a chance of survival against the industrial onslaught.
- Research the history of and write the first books on this magnificent area, including details on the trails.

Phase 3 was the product of a chance pivotal moment in 2000, when my young son and his friend correctly identified a dinosaur trackway in a canyon close to town, a feat repeated by my daughter a few

years later. The resultant positive feedback loop led to the discovery of western Canada's oldest dinosaur bones (currently over 400 and counting), the formation of a Museum Foundation to help protect and interpret this resource, the need to fundraise to employ palaeontologists, the creation of a palaeontological research centre and the development of a discovery gallery. It is all a hopeful prelude to the ultimate goal, the creation of a museum of international standard that could truly form a hedge against the boom and bust cycles of resource-based northern BC, and serve a priceless heritage and educational function.

As a representative of this initiative I was unwillingly thrust into a world of regional politics; a world illuminated by occasional candles in the dark, held by adults still able to experience awe and wonder. I learned about rocks, fossils and deep time, and I allowed my dormant interest in comparative anatomy to awaken. The kids led the way again, revisiting the canyons and mountains of our earlier explorations, discovering their amazing fossils and assimilating the tales the rocks told. I learned that to understand who we are and where, as a species, we are headed, we need to appreciate where we have come from, both in the evolutionary and the recent sense.

This past summer, high up in the mountains on a steep talus slope, I came upon part of a 220 million-year-old ichthyosaur infant, maybe even a neonate. Two hours later, and over 100 metres away, my son found the exact matching part, yielding a unique and complete specimen. The parent rock had come off from the high cliffs above and broken, with its component parts ending up far apart at the foot of the slope. The virtual miracle of our discovering both pieces was matched by what we held in our hands — something so old, yet so young, probably nothing like it ever seen by humans before, and so precious, just like life itself. These are indeed the moments we live for.

I came to appreciate that palaeontology brings all the life and earth sciences together, and is an unsurpassable educational tool — the history of past temperature changes informs us of the magnitude and gravity of global warming, learning about the 5 past major extinction events illuminates the one that we humans are inducing and the fact that nothing larger than a cat survived the end of the Permian extinction (similar, it seems, to the current crisis) provokes alarm about our own future.

All this circuitously brings me back to being a rural physician in uncertain times. My current daily practice is suffused with a worry that there is a bitter

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irony in promoting patient health in an ailing world. I suspect that we, as family physicians, concerned as we so necessarily are with alleviating human suffering, are in a unique position to understand the implications of planetary illness. We are well placed to lend our support to the growing chorus calling for an essential revision, not just of our individual health habits, but of our collective consumptive habits. *Mens sana in corpore sano in mundo sano* (a healthy mind in a healthy body in a healthy world).

I wonder if the increasing disconnectedness of our society from the natural world, and the resulting self-absorption, are part of the mass-denial phase that, to echo the fears of Al Gore, may turn to despair without an intervening phase of action and motivation. Maybe the habit I got into this last summer, of taking an afternoon off each week to run the enthusiastic kids in town along the hiking trails we have built, is not just enjoyable, but vital. Perhaps the plan I have, to take 6 months off medicine to write a book that encapsulates these concerns and provides an original framework for addressing them, is not as crazy an idea as my friends seem to think.

These considerations are the products of my own journey after 15 years of staying the course in one remote community. Quite simply, I don't think it would have been possible without the furnace of

daily work on the medical front line and the experiences, insights and rewards that result. But it is one journey out of a potential multitude of journeys, all of which, depending on our various proclivities and passions, can be enabled, catalyzed and supported by being a member of an endangered species—the rural family physician—to which I am proud to belong.

The more rural and remote we get, the more are life's challenges writ large and the greater the difference we can make, countering ennui with enthusiasm. We need to pick our battles—from the apartheid battle of my youth to the environmental battle today, I recognize the same fires burning within. I am grateful that rural medicine has provided so consistent and reliable a crucible, and provided so many practical outlets for constructively channeling this energy.

I don't really know what my colleagues from 1981 thought of this diatribe, which was entitled "Docs and Dinos, Making Rural Medicine Work" (although they did appear to enjoy the accompanying slideshow, with photos of waterfalls, trails, mountains and fossils). But I do know that the simple exercise of reflection brought about a personal sense of contentment and a refreshed desire to "seize the day."

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# PODIUM: DOCTORS SPEAK OUT LA PAROLE AUX MEDICINE

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## Bella Bella baby

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*This essay was the winner of  
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Student Essay Contest*

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I am a Bella Bella baby.

Nestled in the Great Bear Rainforest on British Columbia's northern coast, Bella Bella is home to the Heiltsuk Nation. With a population of just over 1000 people and accessible only by plane or boat, Bella Bella is rural by any author's definition. Yet on a foggy morning in 1982, miles from a regional or tertiary care centre, I was born by cesarean section. My sister would follow 2 years later, another birth by cesarean section. We, along with thousands of other babies who came before and after us, are Bella Bella babies.

Bella Bella babies are an endangered species. Cesarean sections stopped being offered in Bella Bella in the year 2000. The cessation of vaginal deliveries followed closely, ending in the year 2002. Parturient women now deliver in Vancouver. This means they must leave their community weeks before the delivery date and live in an unfamiliar city until the birth of their child. What should be a celebration in the community becomes an anxiety-filled event. Parturient women worry about the financial implications of a birth in Vancouver and delivering far away from their home and family.<sup>1,2,3</sup>

First Nations people say that a community raises a child, and in keeping with this, a community welcomes the birth of a baby. My mother tells stories of how all the women in the community came to see her after my sister and I were born, bearing knitted gifts and congratulations. When women deliver in Vancouver, the cultural aspect of birth in Bella Bella is lost, along with

the identity of being a Bella Bella baby.

Who I am today was shaped by my place of birth. When my sister and I were born, the Heiltsuk people welcomed us into their community. We were adopted into the Eagle and Whale family. I am not of First Nations ethnicity, but I feel as though I belong in Bella Bella.

A summer of research at the Rural Maternity Care offices in Vancouver taught me that Bella Bella is not unique in its struggle to provide local maternity services. In rural British Columbia, 17 maternity care services have closed since 2000.<sup>4</sup> This trend is mirrored in the other Canadian provinces.<sup>5,6</sup>

Why are maternity services closing? Health authorities are attempting to minimize costs by centralizing maternity services. However, when the health authority must fund the travel of a rural woman to the referral centre for birth, and with increasing evidence of poorer neonatal outcomes from locations with reduced maternity care services,<sup>7-9</sup> is the centralization of services truly cost-effective? To my knowledge there is no research evidence addressing this question.

Another factor in the disappearance of rural maternity care services is provider choice. Rural maternity care services depend on family physicians to provide maternity care, yet fewer family physicians are choosing to include maternity services in their practice. A recent study by the Canadian Institute for Health Information supports this statement, showing that only 19% of family physicians billed for obstetrical services in 1999, compared with 31% in 1989.<sup>10</sup> In a recent article, Stretch and colleagues summarized the literature



regarding the factors contributing to the decline as “a lack of support from a variety of levels. These include anesthetic, surgical, and nursing backup, time off, skills training, practice structure, and financial compensation.”<sup>11</sup>

In Bella Bella, obstetrical services were provided by family physicians. Operative deliveries were done by family physicians with advanced skills training in surgery and anesthesia. When the physicians who provided operative deliveries left, the remaining physicians felt it was no longer safe to offer vaginal deliveries without operative backup. This decision is mirrored in other rural BC communities. Physicians worry that they would not be able to justify their decision to offer vaginal deliveries in the case of a bad outcome.<sup>12</sup>

So that leaves Bella Bella and hundreds of other rural communities across Canada without local maternity services. It is a loss for the mothers who must leave their families for the birth of a new child. It is a loss for the community who cannot readily welcome a new member. It is a loss for the babies who will be born in a place to which they have no ties.

I am a Bella Bella baby.

**Competing interests:** None declared.

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# OUT BEHIND THE BARN DANS LE FEU DE L'ACTION

## Windows Desktop – Shortcuts

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**T**he Windows Desktop display contains a number of icons (small pictures with labels) that are shortcut links to Windows programs. When a new program is installed, it usually installs an icon on the Desktop. This article describes how to create your own handy shortcuts to programs, directories and files.

### BASIC SHORTCUTS

Most Windows computers already have "My Documents," "My Computer" and "Internet Explorer" icons displayed on the Desktop. If any are missing, click the "Start" button, select "Settings," then "Control Panel." *Double-click* on the "Display" item. Click on the "Desktop" tab, then on "Customize Desktop." Click on the box next to any missing item so that a check-mark appears in the box. Then click on "OK" to accept the changes.

### CREATE A PROGRAM SHORTCUT

You can add your own program shortcuts to the Desktop. The following example is based on the XP Pro version of Windows. The steps may vary in other versions. As an example, let's create a shortcut to the handy Windows Calculator accessory. Click on the "Start" button, then on "Programs" or "All Programs." Click on "Accessories" in the pop-up menu, then *right-click* on "Calculator." Select the "Create Shortcut" option. A new item should appear in the list, labelled "Calculator (2)." *Right-click* on this item, then click on "Copy."

Return to the Windows Desktop and *right-click* on any blank space (i.e., not

on an existing icon). Click on "Paste Shortcut" in the pop-up menu. A new icon labelled "Calculator (2)" will appear on the desktop. Repeat these last 2 steps so that another new icon labelled "Calculator (3)" appears on the Desktop. We'll use the extra copy to show you how to delete an unwanted icon.

### CREATE A DIRECTORY SHORTCUT

First, let's create a new folder called "Aardvark" to use for this demonstration. Click on the "My Documents" icon on the Desktop. Click on "File" in the main menu bar, select "New," and then click on "Folder." Name this new folder "Aardvark," then press the Enter key. The folder will initially appear at the bottom of your folder list, but will be sorted later alphabetically.

*Right-click* on the "Aardvark" folder, then select "Create Shortcut." A new "Shortcut to Aardvark" entry appears at the bottom of the list. Copy and paste this shortcut to the Desktop as in the previous example. If any of the Desktop is visible on the screen, you can also click and drag the shortcut directly to the Desktop. You can now use this icon to quickly access the "Aardvark" directory, even if it is later moved elsewhere.

### CREATE A FILE SHORTCUT

The process for creating a shortcut to an actual data file is the same as for creating one to a folder. Use "My Computer" to navigate to the desired file, then *right-click* on the file name and select "Create Shortcut."

## RENAMING DESKTOP ICONS

To rename a desktop icon, *right*-click on the icon itself, then select "Rename." Type the name that you want to appear under the icon. You can use letters, numbers, spaces and some punctuation marks in desktop icon names. Certain characters (\ : / \* ? " > < |) cannot be used in icon names. You can also rename an icon by slowly clicking the name twice and then typing the new name.

## DELETING SHORTCUT ICONS

To delete a shortcut icon, *right*-click on the icon,

then select "Delete." When you delete a shortcut, the original program or file is not deleted. It still exists in its original location. If you created a duplicate "Calculator (3)" shortcut earlier, delete it now.

## UNUSED ICONS

The Windows default is to remind you every 60 days about unused icons on your Desktop. To change this, go the "Display" section of "Control Panel" as described above, under "Basic Shortcuts." Click on the "Desktop" tab, then on "Customize Desktop." De-select the option to "Run Desktop Cleanup Wizard every 60 days."

# RENSEIGNEMENTS GÉNÉRAUX

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## RESIDENTS' PAGE

## PAGE DES RÉSIDENTS

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### You know you're a rural resident when...

*Jonathan Kerr, MD*

*PGY-1, Rural Family  
Medicine, Queen's University*

*Tim Van Aerde, MD*

*PGY-2, Rural Family  
Medicine, University of  
Alberta*

*Gabe Woollam, MD*

*PGY-1, Rural Family  
Medicine, Memorial Univer-  
sity*

*Amy Jongerius, MD*

*PGY-2, Rural Family  
Medicine, University of  
Western Ontario*

*Correspondence to:  
Tim Van Aerde:  
tim.vanaerde@arfmn.ab.ca*

- You've only met your program director over video conference.
- Your obstetrics preceptor gets called to the ER to place a chest tube.
- You've hurled obscenities at your computer after being instructed by "Up-To-Date" that the only way to make a diagnosis is to get a STAT CT scan.
- Your idea of "rush hour" is rushing to finish your 10 km run around the lake before your 2 minute drive to the hospital.
- Your idea of "rush hour" is hitting the one traffic light in town.
- Your idea of a wild weekend is a barn dance and a plowing competition.
- You've had an elderly patient try to "set you up" with their grandchild.
- Your CURRENT mailing address is "The little room next to the morgue, Random Rural Hospital, County Road 7."
- You've delivered a baby in a canoe.
- You keep a snow shovel in your car ... just in case.
- You've racked up 4678 kilometers on your car so far this year...and it's only April.
- Your mailing address has changed 8 times in the past year.
- You've eaten a Canada goose.
- You've become lost, more than once, during a jog down back roads.
- You've body checked your preceptor during a hockey game.
- In return, your preceptor has elbowed you in the face during the same game.
- You've arrived by bus in a small town at 3 am, in the rain, with no map and with no idea of how to get to the hospital.
- You've had more meals at your preceptor's house than you've cooked yourself this week.
- You've spent time in a sweat lodge.
- You've cross-country skied or canoed to the hospital.
- Your MSN name is "where\_am\_I\_now@hotmail.com"
- Your preceptor wears Birkenstocks in the office.
- You've kayaked to the grocery store.
- You've arrived at work by air ambulance.
- You've paid \$2 for an apple at a grocery store.
- You've hit a deer with your car.
- You can drive for 3 hours and easily count the cars on the road.
- At the local grocery store, one of your patients asks you to check her breast lump... right there in the middle of the aisle!
- Your next rotation is only a 36-hour drive away.
- Everybody in town knows your name, and you've only been there a week.
- Even the grannies in town drive Ford F-150s.
- Your car gets stuck in the snow on the way to work AND on the way home.
- **You're broadly-skilled, multitasked and one of the best-trained residents in Canada!!**



## Letters / Correspondance

Please send us your comments and opinions. / Nous serons heureux de recevoir vos commentaires et opinions. Letters to the editor should be addressed to: / Prière de faire parvenir les lettres à la rédaction à l'adresse suivante :

*CJRM*, Box / CP 1086, Shawville QC J0X 2Y0; fax 819 647-9972, [cjrm@lino.com](mailto:cjrm@lino.com)

### RURAL OBSTETRICS IN THE WINTER *CJRM*

*To the Editor:*

I was very impressed with the Winter edition of *CJRM*, particularly in reference to 2 articles related to rural obstetrics.<sup>1,2</sup>

The shoulder dystocia article by Peter Hutten-Czapski and Alistair Anderson<sup>2</sup> covered the major interventions regarding shoulder dystocia very well. The diagrams were exceptionally well done for the McRoberts and Gaskin Manoeuvres.

The article contains a great deal of wisdom in that the authors state "shoulder dystocia is not reliably predictable." Obviously, that is another reason why an overwhelming majority of physicians do not wish to attend home births, since during these events, as the authors point out, an entire collaborative team, including anaesthesia and newborn resuscitation, may well be required.

Congratulations to the editors for printing this helpful article and also to the authors for their

excellent review with very practical suggestions for all physicians, including obstetricians.

**Richard U. Johnston**

Chair, Ontario Society of Obstetricians and Gynaecologists

### REFERENCES

1. Stretch N, Voisin A, Dunlop S, et al. Survey of rural family physician-obstetricians in Southwestern Ontario. *Can J Rural Med* 2007;12:16-21.
2. Hutten-Czapski P, Anderson A. The occasional shoulder dystocia. *Can J Rural Med* 2007;12:37-40.

## Doctors Speak Out

Podium — Letters to the Editor — Editorials

We invite physicians to speak out on issues that concern them. Send your submissions to Suzanne Kingsmill, Managing Editor, *CJRM*, Box 1086, Shawville QC J0X 2Y0; [cjrm@lino.com](mailto:cjrm@lino.com)

## Les médecins s'expriment

La parole aux médecins — Lettres à la rédaction — Éditoriaux

Nous invitons les médecins à commenter les questions qui les intéressent. Faites parvenir vos textes à Suzanne Kingsmill, rédactrice administrative, *JCMR*, BP 1086, Shawville (Québec) J0X 2Y0; [cjrm@lino.com](mailto:cjrm@lino.com)