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DIRECTRICE DE LA RÉDACTION**
KATE BROWN
800 663-7336 x8417
kate.brown@cma.ca

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Are family practice graduates competent to work rurally?

Peter Hutten-Czapski,
MD
Scientific editor, CJRM
Haileybury, Ont.

Correspondence to:
Peter Hutten-Czapski,
phc@urpc.ca

The concept that rural Canadians deserve competent physicians should not be controversial. What rural competence means is, however, subject to interpretation. The College of Physicians and Surgeons of Ontario (CPSO) has, in an unprecedented move, declared that new family practice graduates (with the exception of those with extra emergency department training or in situ rural training) are inadequately competent to work in rural emergency departments without mentoring.¹ That certainly declares as a lie the assertion that current family practice training, regardless of site, yields stem cell physicians capable on graduation of working anywhere in the country.

Experience does count. Many physicians feel unprepared for practice when they have to deal with the reality of being the attending physician. That's not incompetence. Indeed, if a new graduate is *not* slower and does not at least *ask* for a corridor consultation in the first months of independent practice, it raises questions about his or her insight.

A blanket condemnation of (urban) family practice training for rural practice (that includes emergency department work) is harsh. There are many problems with this.

- First of all, where's the evidence? After all, it's not a new development that rural emergency care is provided (for the most part) by doctors without additional training beyond standard family practice residency.

- It may be un-Canadian to ask, but why is the CPSO stipulating that urban family practice programs need to have "substantive" emergency department training? Does the college have either jurisdiction or expertise in postgraduate training?
- Left unspoken are questions about new graduates' competence in inpatient work, geriatrics and intrapartum obstetrics. Are these also not competencies that are needed rurally and, at least from a distance, may appear to be poorly covered in urban family practice residency training?

This is a wake-up call. A successful family practice graduate needs to be able to practise in rural Canada without question. The rural public is ill served by the chill this gives family practice trainees, especially if there is no evidence of a problem.

Family practice training needs to define competencies in *all* the realms of rural (and urban) practice and to be able and willing to defend the adequacy of training to medical licensing boards, the residents themselves and the rural public. If that can't be done, we need a rural college to define a curriculum of our own. Canadians deserve no less.

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1. College of Physicians and Surgeons of Ontario. Expectations of physicians not certified in emergency medicine intending to include emergency medicine as part of their rural practice changing scope of practice process. 2018. Available: www.cpso.on.ca/CPSO/media/documents/Policies/Policy-Items/Expectations-Physicians-Emerg-Med-Rural-Practice.pdf (accessed 2018 May 24).

Les diplômés en médecine familiale ont-ils la compétence pour travailler en milieu rural?

Peter Hutten-Czapski,
MD
Rédacteur scientifique,
JCMR
Haileybury (Ont.)

Correspondance :
Peter Hutten-Czapski,
phc@jrpc.ca

Personne ne contestera le droit des Canadiens des régions rurales à être soignés par des médecins compétents. Mais encore faudrait-il s'entendre sur la définition de la compétence lorsqu'il est question de médecine rurale. Dans un geste sans précédent, le Collège des médecins et chirurgiens de l'Ontario (*College of Physicians and Surgeons of Ontario* — CPSO) a déclaré que les nouveaux médecins de famille (à l'exception de ceux qui ont suivi une formation additionnelle en médecine d'urgence ou qui ont effectué un stage en milieu rural) n'ont pas la compétence nécessaire pour exercer sans mentorat dans un service d'urgence en milieu rural¹. Cette affirmation entre en contradiction avec la prémisse selon laquelle la formation actuelle en médecine familiale, où qu'elle se donne, produit bel et bien des « *omni*praticiens » capables de pratiquer la médecine partout au pays, dès l'obtention de leur diplôme.

Bien sûr, l'expérience n'est pas à négliger. Beaucoup de médecins se sentent plus ou moins aptes à assumer le rôle de médecin traitant quand ils commencent à pratiquer; et il ne s'agit pas là d'incompétence. Au contraire, c'est si un médecin fraîchement diplômé n'est pas plus *lent* et s'il ne demande pas une *consultation* de couloir au cours de ses premiers mois de pratique, qu'il y a lieu de se demander s'il a le jugement voulu.

Cette condamnation sans nuance de la formation en médecine familiale (donnée en milieu urbain), jugée inadéquate pour la pratique en milieu rural (qui implique de travailler aux services d'urgence), est bien sévère et soulève plusieurs questions :

- Premièrement, sur quelles preuves repose-t-elle? Après tout, ce n'est pas d'hier que les soins médicaux d'urgence en milieu rural sont assurés (en majeure partie) par des médecins qui n'ont pas suivi de formation additionnelle outre leur résidence standard en médecine familiale.

- La question suivante semblera peut-être peu « canadienne », mais sur quoi le CPSO se base-t-il pour décréter que les programmes de médecine familiale urbains ont besoin d'un complément « substantiel » en médecine d'urgence? Détient-il l'autorité et l'expertise pour se prononcer sur la formation postdoctorale?
- On ne fait pas allusion à la compétence des nouveaux diplômés auprès des patients hospitalisés, des patients âgés et des parturientes. Ne s'agit-il pas aussi de compétences requises en milieu rural et qui, à première vue du moins, pourraient paraître inadéquatement couvertes par la formation de résidence en médecine familiale en milieu urbain?

C'est un coup de semonce. Pour réussir, un jeune médecin de famille doit, sans l'ombre d'un doute, être en mesure de pratiquer en milieu rural au Canada. Cela instille un doute dans l'esprit des résidents en médecine familiale, qui se répercute sur la population desservie, surtout en l'absence de preuves qu'un problème existe réellement.

La formation en médecine familiale doit définir les compétences requises pour tous les aspects de la pratique en milieu rural (et urbain) et se doter de moyens pour défendre la qualité de la formation auprès des instances chargées d'émettre les permis d'exercice, auprès des résidents eux-mêmes et de la population rurale, faute de quoi, il nous faudra un collège de médecine rurale qui définira notre programme. La population canadienne ne mérite rien de moins.

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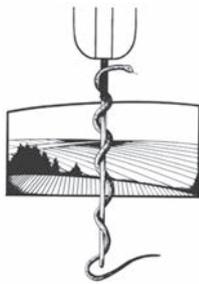
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President's message. Rural and Remote 2018 – the art and soul of rural medicine

*Margaret Tromp, MD
Picton, Ont.*

*Correspondence to:
Margaret Tromp,
margaret.tromp@gmail.com*

Rural doctors from across the country gathered in St. John's in early April for the 26th Annual Rural and Remote Conference. Reminiscent of challenges that rural doctors often face in their home communities, there were delays to arrival because of gale-force winds in St. John's, then delays on departure because of an ice storm that hit southern Ontario.

The theme of the conference was "The Art and Soul of Rural Medicine." The art of medicine describes how we apply medical knowledge to the individual patient or community, taking into account their values and unique characteristics as well as our clinical skills. The soul of medicine can be thought of as that which gives our medical practice purpose and meaning.

In contrast, medical recommendations and guidelines are based on the science of medicine, which is considered to be more consistent and reproducible. However, as we become more aware of issues such as publication bias, we are more wary of accepting research at face value.¹ David Sackett, the father of evidence-based medicine, recognized that implementing medical recommendations in a particular community or for an individual patient is more of an art than a science. It is influenced by beliefs and values of individual patients or communities, cost and other barriers, such as geographic, organizational or behavioural.²

At conference workshops, our rural colleagues were able to help us use the art of medicine to apply guidelines and medical recommendations to our patients and communities in rural Canada.

Many of us who attend R&R do so to nurture our souls. We listen to inspirational plenary speakers, meet with friends and colleagues, and support each other. Speakers described how they used the art of writing, the art of the narrative and their community involvement to give their work meaning and purpose.

Family support is very important to rural physicians. R&R has always been a conference that welcomes spouses and children. Rural spouses are supporting each other and offering sessions that are of broader interest. The conference provides child care and welcomes children to most of the evening entertainment events. We all enjoyed watching the little ones dancing at the Newfoundland kitchen party at the Irish pub.

Next year, we will gather in Halifax for the Rural and Remote Conference. Although the conference will have a different theme, it will once again give us the opportunity to meet with rural colleagues and help each other experience the art and soul of rural medicine.

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1. Jefferson T, Jørgensen L. Redefining the 'E' in EBM. *BMJ Evid Based Med* 2018;23:46-7.
2. Sackett D. Guidelines and killer B's. *ACP J Club* 1999;131:A13-4.

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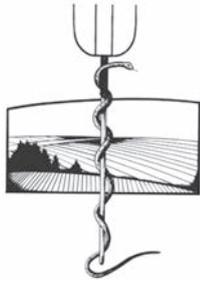
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info@srpc.ca

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Margaret Tromp, MD
Picton (Ont.)

Correspondance : Margaret
Tromp, margaret.tromp@
gmail.com

Message du président. Congrès de médecine rurale 2018 – L’art et l’âme de la médecine rurale

Des médecins de campagne des quatre coins du pays se sont réunis à St. John, Terre-Neuve-et-Labrador, au début d’avril pour le 26^e Congrès annuel de médecine en milieu rural et éloigné (*26th Annual Rural and Remote Medicine Course*). Emblématiques des difficultés auxquelles les médecins de campagne sont souvent confrontés dans leurs communautés, les arrivées et les départs ont été retardés, les premières par des vents violents, et les seconds par le verglas qui s’est abattu sur le sud de l’Ontario.

Le thème, « L’Art et l’âme de la médecine rurale » (*The Art and Soul of Rural Medicine*), décrit bien notre tâche qui est d’appliquer les connaissances médicales aux individus et aux communautés en tenant compte de leurs valeurs, de leurs caractéristiques particulières et de nos compétences cliniques. L’âme de notre pratique médicale est ce qui donne du sens et un but à notre travail.

Pour leur part, les recommandations et les lignes directrices de pratique se fondent sur la science médicale, considérée plus cohérente et reproductible. Or, à mesure que nous prenons conscience des risques associés entre autres aux biais de publication, nous demeurons prudents lorsqu’il est question du fruit de la recherche¹. David Sackett, le père de la médecine fondée sur des données probantes, a lui-même reconnu que l’application des recommandations médicales dans une communauté ou chez un individu donnés relève davantage de l’art que de la science. Elle dépend pour une bonne part des croyances et des valeurs des communautés et des individus, mais aussi de divers autres facteurs ou obstacles de nature économique, géographique, organisationnelle ou comportementale².

Durant les ateliers du congrès, nos collègues des milieux ruraux nous ont montré comment faire appel à l’art de la médecine pour appliquer les recommandations et les lignes directrices médicales à nos patients et nos communautés du Canada rural.

Nous sommes nombreux à nous rendre à ce congrès pour y trouver un supplément d’âme. Nous écoutons d’inspirants conférenciers lors des réunions plénières, nous nous retrouvons entre collègues et amis, et nous nous entraînons. Des orateurs nous ont expliqué comment l’écriture, l’art de la narration, de même que l’engagement communautaire donnent du sens et une direction à leur travail.

Le soutien familial est primordial pour les médecins de campagne et le congrès sur la médecine rurale accueille toujours à bras ouverts les conjoints, les conjointes et les enfants des congressistes. Les conjoints et les conjointes s’épaulent et offrent des ateliers plus généraux. Il y a un service de garderie et les enfants sont les bienvenus à la plupart des activités présentées en soirée. Nous avons tous souri en regardant les petits danser durant le « party de cuisine terre-neuvien » au pub irlandais.

L’an prochain, pour la prochaine édition de la rencontre annuelle sur la médecine en milieu rural et éloigné, nous nous retrouverons tous à Halifax, Nouvelle-Écosse. Et même si la réunion se passera sous un thème différent, nous aurons encore cette occasion en or de nous retrouver et de nous entraider dans cette quête pour incarner l’art et l’âme de la médecine rurale.

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2. Sackett D. Guidelines and killer B’s. *ACP J Club* 1999;131:A13-4.

Mentoring needs of distributed medical education faculty at a Canadian medical school: a mixed-methods descriptive study

Robin J. Krishnan,
BSc, MSc

Lavanya

Uruthiramoorthy, BSc,
MSc

Department of Epidemiology
and Biostatistics, Schulich
School of Medicine &
Dentistry, Western
University, London, Ont.

Noor Jawaid, BHS,
MD

Division of Internal
Medicine, Department of
Medicine, University of
Toronto, Toronto, Ont.

Margaret Steele, MD
Department of Psychiatry,
Schulich School of Medicine
& Dentistry, Western
University, London, Ont.;
present address: Faculty of
Medicine, Memorial
University, St. John's, NL

Douglas L. Jones, PhD
Departments of Physiology
and Pharmacology and of
Medicine, Schulich School of
Medicine & Dentistry,
Western University, London,
Ont.

Correspondence to: Douglas
Jones, dljones@uwo.ca

This article has been peer
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Introduction: The Schulich School of Medicine & Dentistry in London, Ontario, has a mentorship program for all full-time faculty. The school would like to expand its outreach to physician faculty located in distributed medical education sites. The purpose of this study was to determine what, if any, mentorship distributed physician faculty currently have, to gauge their interest in expanding the mentorship program to distributed physician faculty and to determine their vision of the most appropriate design of a mentorship program that would address their needs.

Methods: We conducted a mixed-methods study. The quantitative phase consisted of surveys sent to all distributed faculty members that elicited information on basic demographic characteristics and mentorship experiences/needs. The qualitative phase consisted of 4 focus groups of distributed faculty administered in 2 large and 2 small centres in both regions of the school's distributed education network: Sarnia, Leamington, Stratford and Hanover. Interviews were 90 minutes long and involved standardized semistructured questions.

Results: Of the 678 surveys sent, 210 (31.0%) were returned. Most respondents (136 [64.8%]) were men, and almost half (96 [45.7%]) were family physicians. Most respondents (197 [93.8%]) were not formal mentors to Schulich faculty, and 178 (84.8%) were not currently being formally mentored. Qualitative analysis suggested that many respondents were involved in informal mentoring. In addition, about half of the respondents (96 [45.7%]) wished to be formally mentored in the future, but they may be inhibited owing to time constraints and geographical isolation. Consistently, respondents wished to have mentoring by a colleague in a similar practice, with the most practical being one-on-one mentoring.

Conclusion: Our analysis suggests that the school's current formal mentoring program may not be applicable and will require modification to address the needs of distributed faculty.

Introduction : L'École de médecine et de dentisterie Schulich, à London en Ontario, offre un programme de mentorat à tout le personnel enseignant à temps plein. L'École aimerait étendre son programme aux médecins enseignants des établissements de formation médicale décentralisée. Le but de cette étude était de déterminer à quel mentorat, le cas échéant, ces médecins ont accès actuellement et d'établir leur intérêt pour le programme de mentorat de l'École et leur vision du programme le plus approprié pour répondre à leurs besoins.

Méthodes : Nous avons mené une étude en méthodologie mixte. Lors de la phase quantitative, nous avons envoyé des questionnaires à tous les médecins des établissements de formation médicale décentralisée afin d'obtenir des renseignements sur les caractéristiques démographiques de base ainsi que les expériences et besoins de mentorat. La phase qualitative comprenait quatre groupes de discussion composés de médecins enseignants décentralisés dans deux grands et deux petits centres des deux régions du réseau de formation décentralisée de l'École, soit Sarnia,

Leamington, Stratford et Hanover. Les entrevues étaient d'une durée de 90 minutes et se composaient de questions semi-structurées normalisées.

Résultats : Sur les 678 questionnaires distribués, 210 (31 %) ont été retournés. La plupart des répondants (136 [64,8 %]) étaient des hommes et presque la moitié (96 [45,7 %]) étaient des médecins de famille. La plupart des répondants (197 [93,8 %]) n'agissaient pas comme mentors officiels auprès du personnel enseignant de l'École de médecine et de dentisterie Schulich et 178 (84,8 %) ne recevaient pas de mentorat officiel actuellement. L'analyse qualitative suggère que plusieurs répondants participaient à une forme quelconque de mentorat informel. De plus, environ la moitié des répondants (96 [45,7 %]) souhaitaient recevoir un mentorat officiel à l'avenir, mais avaient possiblement des contraintes liées au manque de temps et à l'isolement géographique. Les répondants ont systématiquement exprimé le désir d'obtenir un mentorat d'un collègue dans une pratique similaire et un mentorat individualisé, de façon pratique.

Conclusion : Notre analyse suggère que le programme actuel de mentorat de l'École n'est peut-être pas applicable et nécessitera des modifications pour répondre aux besoins du personnel enseignant décentralisé.

INTRODUCTION

Extensive research has shown mentorship to be positively associated with faculty retention, career satisfaction and research productivity.¹⁻⁵ The Schulich School of Medicine & Dentistry at Western University, London, Ontario, is committed to facilitating the professional development and success of their faculty. In 2010, a formal mentorship program extending across the school was initiated to facilitate mentorship relationships among clinical and basic science full-time academics. An ongoing evaluation study conducted annually showed that over 50% of full-time medical faculty agreed that formal mentorship was beneficial to their career;⁶ this finding was in accordance with previous research.⁷

Within the program's current framework, only full-time faculty must be offered a formal mentorship committee (www.schulich.uwo.ca/hospitalandinterfacultyrelations/faculty_mentorship). The school also has an extensive distributed medical education program across southwestern Ontario, including a regional campus in Windsor. The distributed education program was established in 1997 to complement traditional undergraduate and postgraduate medical education within the academic London Health Sciences Centre and to offer learners additional rural exposure in the surrounding areas (https://www.schulich.uwo.ca/medicine/undergraduate/current_students/dme.html, https://www.schulich.uwo.ca/distributededucation/about_us/what_is_distributed_education.html). To date, several hundred distributed faculty have been appointed across the region to help support the school's distributed educational initiative.

The school would like to expand its mentorship program to physician faculty located in distributed medical education sites, as mentoring is recognized as being essential for career success.^{5,7,8} We conducted a prospective mixed-methods study to determine what,

if any, mentorship distributed physician faculty currently have, to gauge their interest in expansion of the mentorship program of the Schulich School of Medicine & Dentistry to distributed physician faculty and to assess whether the school's current mentorship program is equipped to address their needs.

METHODS

We used a mixed-methods approach encompassing a quantitative survey and qualitative focus group interviews. The primary population for this study was the distributed physician faculty of the Schulich School of Medicine & Dentistry, defined as physician faculty members with predominantly limited duties who reside in the school's distributed region. The questionnaire was designed by 2 of the authors (M.S. and D.L.J.). To ensure its appropriateness, it was piloted to members of the school's Faculty Mentorship Working Group and to 10 physicians who were full-time faculty with positions dealing with issues of faculty affairs. The quantitative survey, divided into 4 sections, was designed to determine 1) basic demographic characteristics (e.g., primary department affiliation and academic status), 2) whether the respondent was currently a mentor (defined as someone with experience and expertise in a field who provides guidance to other faculty members), 3) whether the respondent was currently a mentee (defined as someone who is less experienced or a novice in a certain field of expertise who is being guided by someone in that field) and 4) whether the respondent desired to be a mentee in the future (e.g., preferences for the format of a mentoring relationship).

We used 2 methods to maximize the response rate. First, quantitative surveys and information letters were mailed in accordance with the Dillman procedure, which emphasizes the use of sequential

mail outs to ensure adequate response rates.⁹ Second, we used both handwritten and online surveys; respondents had the option to choose either format.

For the qualitative portion of this study, focus group interviews were conducted by M.S. and D.L.J. in 2 large and 2 small centres in both of the Local Health Integration Networks (Erie St. Clair and South West) of the school's distributed education network: Sarnia (Erie St. Clair; population 71 594), Leamington (Erie St. Clair; population 27 595), Stratford (South West; population 31 465) and Hanover (South West; population 7648). The largest distance between sites was about 325 km. Interview sessions were about 90 minutes in length, and an interview guide with preset questions was used to provide structure and consistency. Interview questions were open ended and were designed to highlight participants' mentorship experiences, perceived challenges and/or barriers to mentoring, mentoring needs and caveats that were deemed important in the format of a mentoring program. Interview transcripts were thematically analyzed by 4 independent reviewers (R.J.K., M.S., L.U. and N.J.) and were then merged. We used STATA 14 (StataCorp) for descriptive analysis of quantitative data.

Ethics approval

The study was approved by the Western University's Health Sciences Research Ethics Board.

RESULTS

Quantitative results

Of the 678 physicians invited to participate in the study, 210 returned a survey, for a response rate of 31.0%. Most of the respondents were men (136 [64.8%]) and adjunct professors (178 [84.8%]); 96 (45.7%) were practising family physicians, and 27 (12.8%) were surgeons. The respondents ranged widely in age and clinical experience.

Being a mentor

Thirteen respondents (6.2%) perceived themselves to be mentors to school faculty. They engaged in a variety of mentoring relationships, including one-on-one mentoring (3 [23%]), participating in a mentorship committee at another school (1 [8%]), peer mentoring (2 [15%]) or a combination of all 3 (5 [38%]); 2 respondents (15%) did not answer this question.

Mentors felt confident in a variety of mentoring skills (Fig. 1) and had experienced both personal and professional benefit from their mentoring relationships (Fig. 2 and Fig. 3). Eight respondents (62%) stated that they wished to have additional training in being a mentor, specifically in the form of faculty development workshops (5 [62%]), modelling a mentor in combination with having

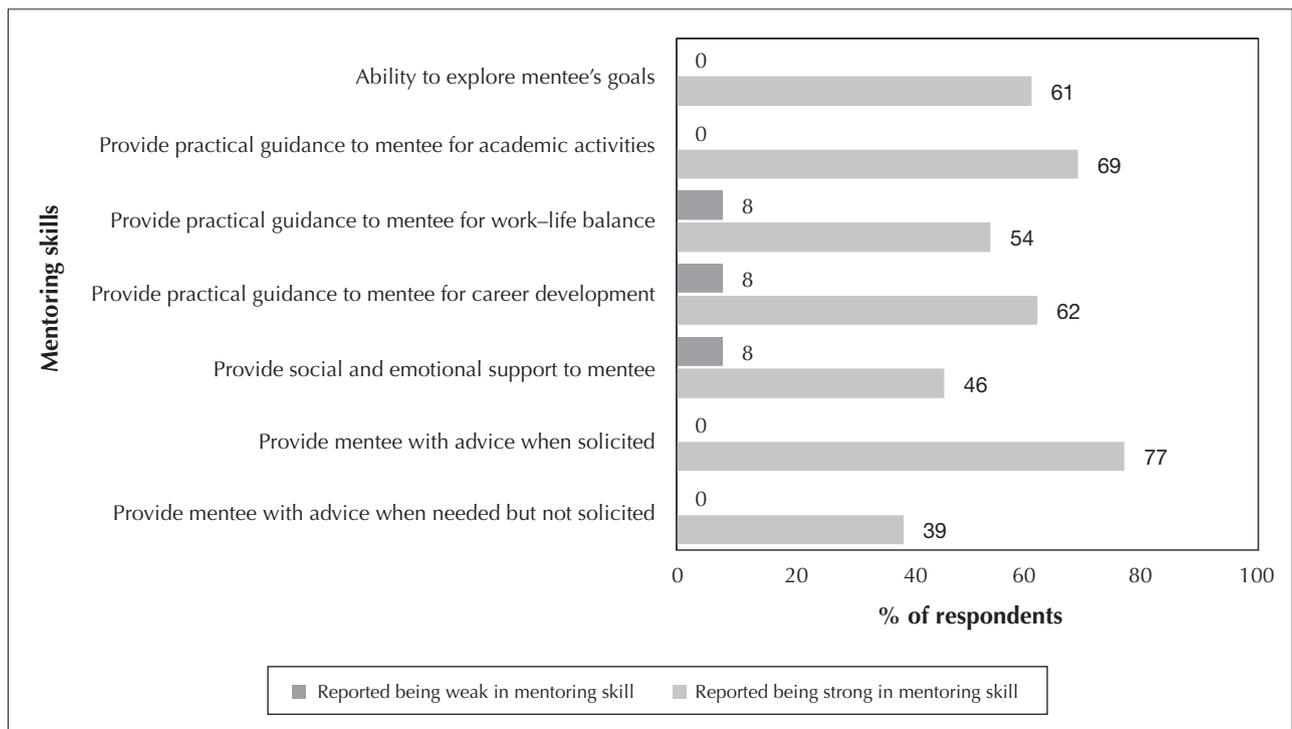


Fig. 1: Reported confidence in mentoring skills among mentors ($n = 13$).

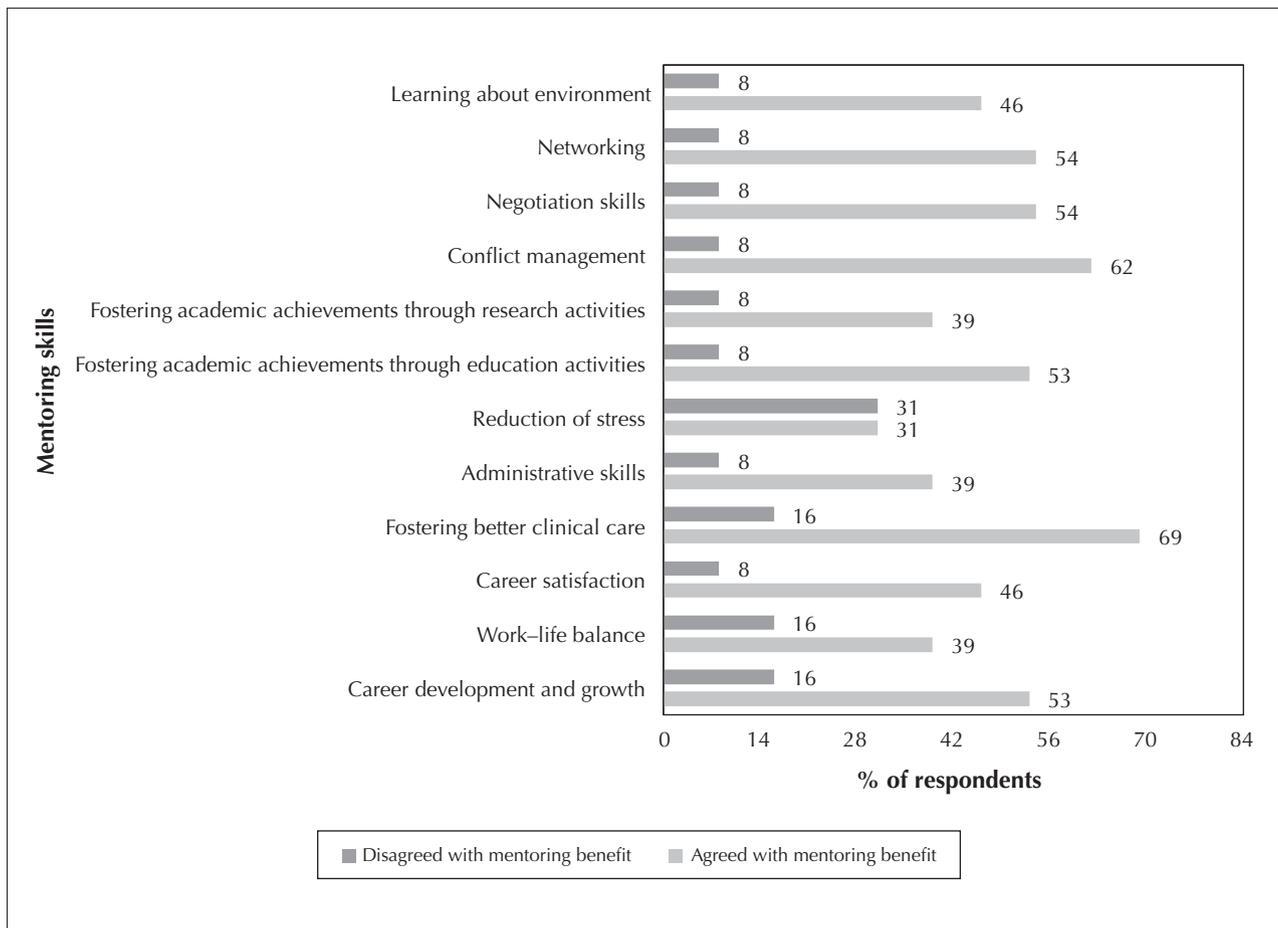


Fig. 2: Reported professional benefits of mentoring ($n = 13$).

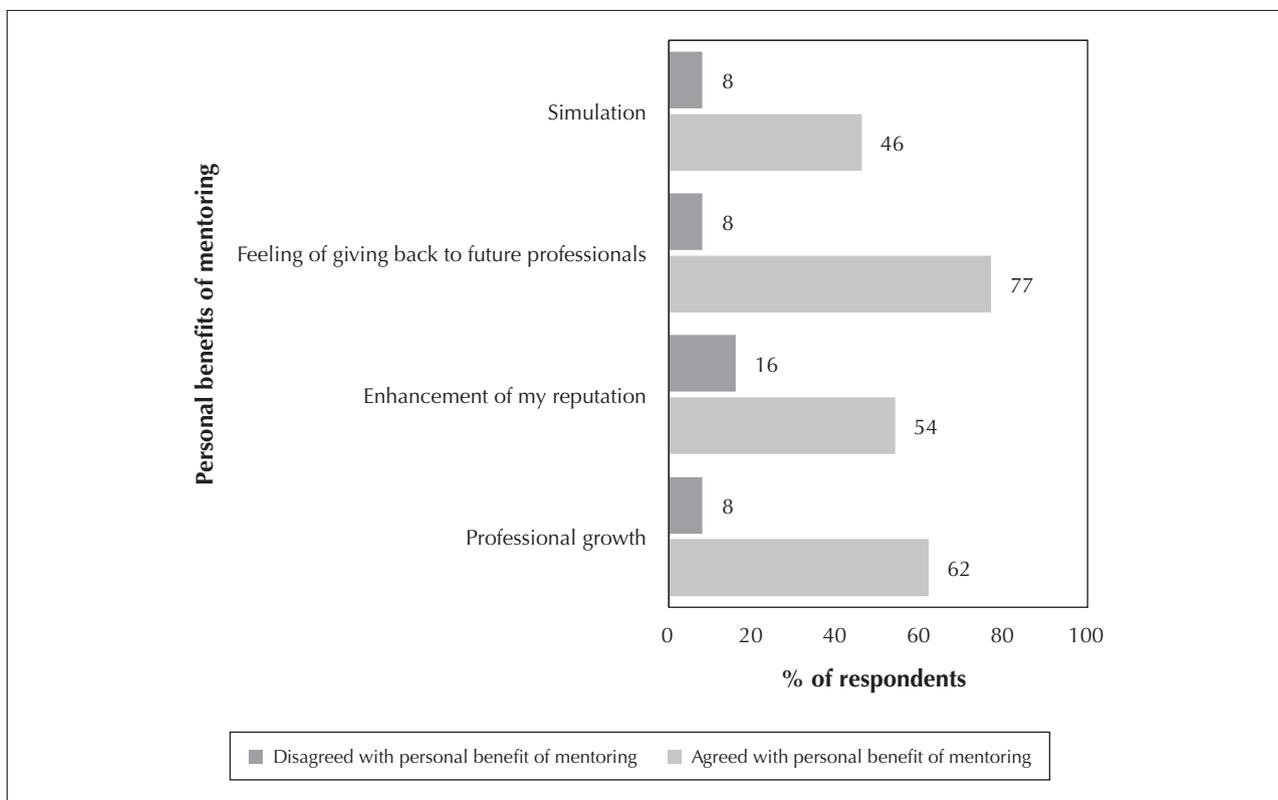


Fig. 3: Reported personal benefits of mentoring ($n = 13$).

supervision in mentoring (1 [12%]) or other forms of training, such as Web-based learning, books or self-learning modules (4 [50%]).

Being a mentee

A total of 178 respondents (84.8%) reported not currently being formally mentored. However, 116 (55.2%) stated that they had benefited from some form of mentoring in the past: 56 (48.3%) had bene-

fit most from informal mentoring, and 39 (33.6%) had benefited from various combinations of mentoring types (Table 1). None had benefited from a peer mentoring committee alone.

Nearly half (96 [45.7%]) of respondents were considering being or wished to be mentored sometime in the future. Most (62 [64%]) wished to choose their mentor from a predetermined pool of willing mentors (Table 2). Respondents who wished to be mentored in the future were asked to rate their preferences regarding a variety of mentor attributes and mentorship opportunities. They valued mentors with primarily clinical or educational experience, and those holding a faculty appointment for more than 10 years (Table 3). They placed importance on opportunities within a mentoring relationship related to formal teaching in small groups, advisory meetings, informal discussion, sessions on faculty development, how to mentor medical students, how to conduct a literature review, developing networking skills and developing negotiation skills (Table 4).

Sixty-three respondents (30.0%) stated that they wished to have additional training in being a mentee, specifically in the form of faculty development workshops (49 [78%]), having supervision in being a mentee (4 [6%]), other training (2 [3%]), or 2 or more of these training types (6 [10%]); 2 respondents (3%) did not specify the type of training desired.

Qualitative results

Attendance was low in all 4 focus group sessions, with 9 participants attending the focus groups across all 4 locations. Thus, it is highly unlikely that

Table 1: Reported benefits of being a mentee among respondents who had previously benefited from mentoring

Type of mentoring	No. (%) of respondents <i>n</i> = 116
Informal	56 (48.3)
Peer	11 (9.5)
Peer mentoring group	2 (1.7)
Multiple/network mentoring	1 (0.9)
Other	4 (3.4)
≥ 2 mentoring types	39 (33.6)
Not answered	3 (2.5)

Table 2: Preferred method of being mentored among respondents who wished to be mentored in the future

Preferred method	No. (%) of respondents <i>n</i> = 96
Randomly assigned	7 (7)
Choosing from predetermined pool of willing mentors	62 (64)
Personally choosing mentors	17 (18)
≥ 2 preferences	3 (3)
No preference	1 (1)
Not answered	6 (6)

Table 3: Importance of mentor attributes among respondents who wished to be mentored in the future

Mentor attribute	Importance; no. (%) of respondents <i>n</i> = 96					
	Not at all	Neutral	Somewhat important	Very important	Always important	Did not answer
Same sex	40 (42)	33 (34)	13 (14)	6 (6)	1 (1)	3 (3)
Opposite sex	41 (43)	47 (49)	5 (5)	0 (0)	0 (0)	3 (3)
From rural/regional area	13 (14)	38 (40)	21 (22)	14 (15)	7 (7)	3 (3)
From urban centre	18 (19)	45 (47)	19 (20)	10 (10)	1 (1)	3 (3)
Primarily educational expertise	7 (7)	13 (14)	30 (31)	35 (36)	8 (8)	3 (3)
Primarily research expertise	31 (32)	28 (29)	19 (20)	11 (11)	3 (3)	4 (4)
Primarily clinical expertise	1 (1)	7 (7)	15 (16)	42 (44)	28 (29)	3 (3)
Newly appointed faculty member (< 5 yr of appointment)	23 (24)	45 (47)	18 (19)	2 (2)	2 (2)	6 (6)
Established faculty member (> 10 yr of appointment)	2 (2)	16 (17)	32 (33)	35 (36)	8 (8)	3 (3)

thematic saturation was reached. Nonetheless, our qualitative study elucidated interesting aspects that align with our quantitative results.

Three major barriers to accessing structured mentorship programs were identified: time constraints, distance and inability to coordinate mentorship meetings (Table 5). Furthermore, in line with this study's quantitative results, focus groups revealed that distributed faculty perceive them-

selves to have no "structured" mentorship ("I don't think I've really had any mentorship from the school"); however, there was some evidence to suggest that distributed faculty were unknowingly engaging in informal mentorship ("Yeah, I do have my contacts of colleagues ... we talk to each other").

Qualitative analysis also revealed specific perceived needs and logistical requirements for the school's distributed faculty (Table 5).

Table 4: Importance of mentorship opportunities among respondents who wished to be mentored in the future

Mentorship opportunity	Importance; no. (%) of respondents n = 96					
	Not at all	Neutral	Somewhat important	Very important	Always important	Did not answer
Observing mentor during clinical hours	33 (34)	17 (18)	26 (27)	15 (16)	1 (1)	4 (4)
Observing mentor during research/academic work	33 (34)	28 (29)	24 (25)	7 (7)	0 (0)	4 (4)
Formal teaching in large groups	23 (24)	29 (30)	26 (27)	11 (11)	3 (3)	4 (4)
Formal teaching in small groups	15 (16)	17 (18)	31 (32)	22 (23)	7 (7)	4 (4)
Advisory meetings	13 (14)	22 (23)	29 (30)	22 (23)	6 (6)	4 (4)
Informal discussions	2 (2)	5 (5)	28 (29)	40 (42)	17 (18)	4 (4)
Sessions on faculty development — how to be a mentor or mentee	2 (2)	19 (20)	27 (28)	31 (32)	12 (12)	5 (5)
Sessions on how to mentor medical students and/or residents	2 (2)	11 (11)	25 (26)	38 (40)	15 (16)	5 (5)
Learning to do a literature review	15 (16)	26 (27)	26 (27)	19 (20)	6 (6)	4 (4)
Developing a research grant	27 (28)	25 (26)	24 (25)	13 (14)	2 (2)	5 (5)
Writing papers	25 (26)	26 (27)	19 (20)	14 (15)	8 (8)	4 (4)
Developing network skills	7 (7)	21 (22)	19 (20)	32 (33)	12 (12)	5 (5)
Developing negotiation skills	7 (7)	15 (16)	25 (26)	29 (30)	9 (9)	11 (11)

Table 5: Perceived barriers to structured mentorship programs, and needs and logistical requirements

Variable	Representative quote
Barriers	
Time constraints	It's just too busy, you're just overwhelmed with work.
Distance	I have always felt there's that distance barrier [with regard to formal mentorship].
Inability to coordinate meetings	Sometimes we are not able to coordinate with each other at the same time.
Needs	
Guidelines for teaching medical students	It would be good just to have feedback about what I should expect [the medical students] to do. ... Like certain guidelines.
Guidelines for giving constructive feedback	I would like to get more experience [as to] how to give constructive feedback to the [medical students].
Learning how to perform small procedures in the office	Other than that, maybe a little bit more in skill in doing small procedures in the office.
Logistical requirements	
Use of teleconference	I think it would be interesting if there was a teleconference that we sit there and go through, then definitely I think that a lot of us could access it.
Prerecorded videos	The video, that's a very good idea. Because then, you do that on your own time.
Shadow opportunities within other physicians' practices	We can always watch things on YouTube, but seeing in person is different. ... If I can have, like, a day with somebody: a dermatologist or orthopedic surgeon or somebody when they are doing small procedures. Go there, see them and see them practise.
Facilitation of informal mentoring networks and small-group sessions with distributed faculty from surrounding areas	It would be nice to have a local person ... who knows the community, knows the hospital, the delivery of care, the emergencies ... that's the most helpful ... so he would know our needs, our constraints, our time and all, [rather] than somebody from outside, although somebody from outside may know more about the academic and that side of it.

DISCUSSION

Our results support the assumption that distributed faculty are interested in having mentorship. However, the current program for major academic centres is felt to be difficult to develop for distributed faculty, and an alternative strategy using technology and more one-on-one mentoring was felt to be more appropriate.

The sex and age distribution of our sample was heavily weighted toward male physicians and those more than 41 years of age. This is in line with the literature on mentors and mentees.¹⁰ It will take some time to determine whether this will change, with enrolment in medical schools currently being equal between the sexes or slightly higher for women.

Our respondents clearly identified the advantages of the mentor–mentee relationship, and their input reflected an understanding similar to that of physicians at the larger centre.⁶ Notably, a greater proportion of distributed faculty within this sample placed importance on having a rural mentor (44%) than an urban mentor (31%). This result was corroborated within the focus groups, where some participants felt strongly that finding a mentor with a similar practice was important, and from the quantitative survey, where 64% of respondents preferred to choose a mentor if given the opportunity. Furthermore, 90% of respondents wished to have more informal discussion opportunities as opposed to formal mentorship. These results are consistent with those of a previous study examining mentorship experiences among family physicians in another academic centre in Ontario.¹¹

Perhaps not surprising were the perceived barriers due to time constraints and distance, which contributed to the issue of coordinating meetings. Although there are parallels in large centres, these were perceived to be more acute for the distributed faculty, which may also have contributed to the relative rarity of mentorship activities occurring on a regular basis for the distributed physician faculty. Nevertheless, respondents suggested ways to facilitate additional opportunities, many of which included the use of technology, while recognizing that different centres and offices could be limited in the extent to which they could use sophisticated technology. Thus the necessity for low-level but reliable technological solutions was important.

An unexpected finding was that, although those associated with larger centres had more ready access to opportunities to gather at a central location, there did not seem to be much of a discrepancy

in perceived barriers between the smaller and larger centres. Also, there was a desire for additional training opportunities for both mentors and mentees. As most of these opportunities are through face-to-face sessions at large centres, the need to address the availability of such training through technology is noteworthy.

Although the main objective of the study was to determine what type of peer mentorship would be most useful to the distributed clinical faculty, a consistent concern of the respondents related to their clinical practice and their interactions with residents with whom they were in a supervisory relationship as clinical teachers. There was some relation with mentorship, as this could be interpreted as looking for opportunities to be able to share best practices and discuss difficulties with trainees. In addition, there was a consistent request for the use of technology for improving access to professional development, thus circumventing the issues of protracted travel time for a short professional development session. There was also recognition that there could be an advantage to having occasional larger gatherings a few times per year with those in similar practices, which could be a social event coupled with educational programs. At the same time, there was a recognition that opportunities for ongoing and regular mentorship with peers were more likely to be achievable with one-on-one peer interactions (informal and formal), which could also be facilitated with technology.

Limitations

Like all studies using survey design, this research was subject to lack of response. Our response rate was 31%. This, combined with the fact that the study was conducted within 1 school and the low attendance across the focus group sessions, means that our results should be interpreted with caution, as they may not be reflective of all distributed medical faculty population at this school or at other institutions. Despite these limitations, we believe that our results hold merit and set the standard for future studies.

Conclusion

The current Schulich Faculty Mentorship Program involves formal mentorship catered to full-time faculty at the school. However, for the distributed faculty at this school, the combination of distance and time constraints, together with a desire for more informal discussions, suggests that the school's current formal mentoring program may not be

applicable to the needs of distributed faculty. It will require modification to address their perceived needs. There was a strong desire to have mentorship opportunities available, although it was felt that a variety of different formats were needed.

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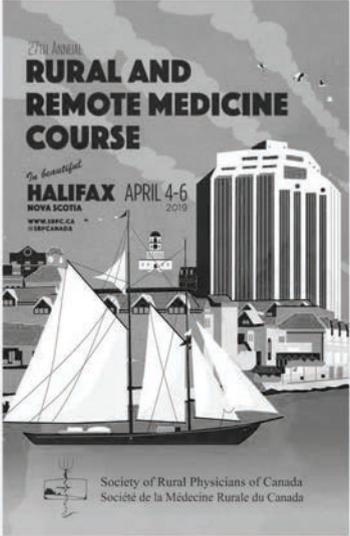
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Competing interests: None declared.

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Workload of French-speaking family physicians in francophone rural and northern communities in Ontario

Patrick E. Timony,
MA

Centre for Rural and
Northern Health Research,
Laurentian University,
Sudbury, Ont.

Alain P. Gauthier, PhD

Centre for Rural and
Northern Health Research
and School of Human
Kinetics, Laurentian
University, Sudbury, Ont.

Boroma Sanou, MA

Centre for Rural and
Northern Health Research,
Laurentian University,
Sudbury, Ont.

Elizabeth F.

Wenghofer, PhD
Centre for Rural and
Northern Health Research
and School of Rural and
Northern Health,
Laurentian University,
Sudbury, Ont.

Correspondence to:
Patrick Timony,
pe_timony@laurentian.ca

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Introduction: Previous studies have shown that French-speaking family physicians (FSPs) in Ontario are less numerous in areas with high proportions of francophones. The purpose of the current study was to assess whether the degree of concordance between physicians' language of competence and the linguistic profile of the community in which they practise is associated with workload and to explore variations in this relation in rural and northern regions of the province.

Methods: This was a secondary analysis of the 2013 College of Physicians and Surgeons of Ontario Annual Membership Renewal Survey. We analyzed the primary practice location and language of competence of family physicians/general practitioners. We compared the practice characteristics of FSPs and non-French-speaking physicians (NFSPs) by the proportion of the francophone population, geographic location (north vs. south) and community size (urban vs. rural).

Results: Data for 10 548 family physician/general practitioners were analyzed. In areas densely populated by francophones, FSPs worked more hours per week on average and had a greater mean number of patient visits than NFSPs. Non-French-speaking physicians working in areas densely populated by francophones had fewer patient visits per hour on average than FSPs. In most cases, the results were particularly accentuated in rural and northern communities.

Conclusion: Our findings suggest that, compared to NFSPs, the demands placed on FSPs are disproportionately greater in communities where the need for French-language health care services is greatest and the supply of FSPs is the smallest. Our results underline the importance of properly preparing family physicians to work in areas densely populated by francophones.

Introduction : Des études antérieures ont révélé que les médecins de famille francophones (MFF) en Ontario sont moins nombreux dans les régions à forte population francophone. L'objectif de cette étude était de déterminer si le degré de concordance entre la langue de compétence des médecins et le profil linguistique de la collectivité dans laquelle ils exercent est associé à la charge de travail, et d'examiner les variations de cette relation dans les régions rurales et nordiques de la province.

Méthodes : Il s'agit d'une analyse secondaire des données du sondage de 2013 sur le renouvellement annuel de l'inscription à l'Ordre des médecins et chirurgiens de l'Ontario. Nous avons déterminé le principal lieu de pratique et la langue de compétence de médecins de famille et d'omnipraticiens. Nous avons comparé les caractéristiques de la pratique des MFF et des médecins de famille non francophones (MFNF) par rapport à la proportion de la population francophone, l'emplacement géographique (nord par opposition à sud) et la taille de la collectivité (urbaine par opposition à rurale).

Résultats : Nous avons analysé les données provenant de 10 548 médecins de famille ou omnipraticiens. Dans les régions à forte population francophone, les MFF travaillaient en moyenne davantage d'heures par semaine et accueillaient en moyenne plus de patients que les MFNF. Les médecins non francophones qui travaillaient en régions à forte population francophone accueillaient en moyenne moins de patients

par heure que les MFF. Dans la plupart des cas, les résultats étaient particulièrement marqués dans les collectivités rurales et nordiques de la province.

Conclusion : Nos résultats suggèrent que les demandes imposées aux MFF sont disproportionnées par rapport à celles imposées aux MFNF dans les collectivités où le besoin de services de santé en français est le plus élevé et où la disponibilité de MFF est la plus faible. Nos résultats mettent en lumière l'importance de bien préparer les médecins de famille à travailler dans les régions à forte population francophone.

INTRODUCTION

Access to French-speaking family physicians (FSPs) in Ontario may be an issue not of quantity but, rather, of maldistribution of services.¹ A 2013 study revealed that the smallest ratios of FSPs to French-speaking populations in Ontario were in communities densely populated by francophones, the majority of which are in northern or rural areas.² Anecdotal evidence from family physicians working in areas densely populated by francophones suggests that these physicians face differing working conditions. Namely, FSPs report being under greater demand, and non-French-speaking physicians (NFSPs) feel it requires more time to adequately provide services to French-speaking patients.³

Wenghofer and colleagues⁴ recently found that the geographic location in which physicians choose to practise can affect the nature of their work. Although rural and northern family physicians and general practitioners work more hours per week than their counterparts in other parts of the province, they see fewer patients. Several suggestions have been made to explain the greater workload of family physicians/general practitioners in rural areas. Foro and colleagues⁵ outlined 2 groups of factors that influence physician workload. First, there are factors related to the practice itself, such as patient characteristics, provider characteristics and the mode of practice, referred to as immediate factors. Second, there are global factors beyond the practice (e.g., population characteristics, cultural norms, geographic location and available resources) that indirectly affect workload. Considering immediate factors, younger and male physicians have been found to work more hours than older and female physicians,^{6,7} whereas female physicians and physicians over the age of 45 have been found to see fewer patients than their male and younger counterparts.⁸ Interestingly, physicians in rural northern Ontario are predominantly young and male.⁹ Considering global factors, populations in rural Canada

are generally older and of lower socioeconomic status than those in other regions,¹⁰ and it has been shown that economically disadvantaged patients generate a higher workload than their more advantaged counterparts¹¹ and that older patients require more visits than younger patients.¹² Furthermore, rural populations have lower levels of education than urban populations and behaviours that are less conducive to good health.¹⁰ In Ontario, these characteristics are even more prominent in francophones.¹⁵ Presumably, physicians in rural northern areas work longer hours but see fewer patients because they must spend more time with patients in general, who are older and more ill than in other parts of the province.⁴ These increased time commitments would also be exacerbated in the presence of a linguistic discordance between the patient and the physician,¹⁴ the potential for which is greater in rural and northern locations.²

Northern Ontario is home to only 6% of the population; however, its land mass covers 88% of the province.¹⁵ Over one-third (36%) of the population in northern Ontario is classified as rural, with the remainder residing in 7 urban centres that are largely separated by uninhabited wilderness.¹⁶ In rural and northern areas, many locations are medically underserved because of the low population density and the distances between centres.¹⁷ For instance, because there are few specialists in rural and northern areas, family physicians have heavier hospital responsibilities, and the range of services they offer to patients is more extensive than that of their colleagues in southern urban centres.¹⁸ Such circumstances may explain the higher number of hours worked by rural physicians while limiting the number of patients they see.⁴

Rural and northern Ontario practice results in the convergence of many factors that can increase a physician's workload. However, the extent to which physician linguistic competences (i.e., French-speaking vs. non-French-speaking) and certain community characteristics (i.e., francophone population density) affect workload is not yet well

known. Therefore, the objectives of this study were to assess whether the degree of concordance between a physician's language of competence and community linguistic profile is associated with workload and the extent to which this interaction varies in rural and northern practices. We hypothesized that 1) FSPs in communities densely populated by francophones work more hours and have more patient visits than their NFSPs owing to the possibly higher demand and 2) visits with NFSPs in communities densely populated by francophones overall take longer (fewer visits per hour) than those with FSPs owing to the increased likelihood of a language barrier.

METHODS

Data source

This study consisted of a secondary analysis of data from the 2013 College of Physicians and Surgeons of Ontario registry and Annual Membership Renewal Survey. The college, which is the licensing and regulatory body of physicians in Ontario, regularly collects practice data as part of its licensing and certification process. This annual "census" of all Ontario physicians allows for descriptive comparisons without the need for inferential statistical analysis. The current analyses focused on family physicians/general practitioners with an active independent primary practice located in Ontario.

Variables and data analyses

We categorized physicians as French-speaking if they reported to the College of Physicians and Surgeons of Ontario that they were competent enough to practise in French; all other physicians were considered non-French-speaking. Practice characteristics analyzed in this study were the self-reported number of hours worked per week and the number of patient visits per week. In addition, we calculated the number of patient visits per hour by dividing the number of visits by the number of hours worked. Physicians not in direct patient care or primary care (e.g., postsecondary institution, research facility, regulatory organization) were excluded from the study. Physicians who reported practice characteristics that were beyond 3 standard deviations from the mean were also eliminated, as these atypical physicians could potentially skew results, particularly in rural and northern communities, where fewer physicians are located.

We compared the practice characteristics of FSPs and NFSPs by the degree of francophonie (proportion of francophone residents, as per the 2011 population census) of the primary practice address. We used our previously established degree of francophonie to categorize communities: those with a francophone population of 25% or greater were classified as strong French communities, those with a francophone population between 10% and 24.9% were classified as moderate French communities, and those with a francophone population of less than 10% were classified as weak French communities.² We also explored differences between FSPs and NFSPs according to their geographic location (north vs. south, based on Local Health Integration Network [LHIN] boundaries, with the North West LHIN and the North East LHIN representing the north¹⁹) and size of the community (rural vs. urban, based on Statistics Canada's Statistical Area Classification definition, whereby communities with populations < 10 000 are considered rural²⁰).

We explored the influence of 3 factors on the physicians' practice characteristics: 1) the independent influence of the linguistic profile of the community (regardless of the physician's language of competence), 2) the independent influence of the physician's language of competence (regardless of the community in which he or she practised) and 3) the combined influence of language of competence and linguistic profile of the community.

Ethics approval

This study received ethics approval from Laurentian University's institutional research ethics board.

RESULTS

Descriptive statistics

A total of 10 719 family physicians/general practitioners were initially included in the analyses; after removal of outliers, 10 548 physicians remained. Of these, 1478 (14.0%) self-identified as being competent enough to practise in French. Most physicians were located in weak French communities of southern Ontario; the fewest were located in rural strong and moderate French communities (Table 1). French-speaking physicians were younger than NFSPs (mean age 49.8 yr vs. 51.7 yr). This age difference remained relatively consistent across the province (Table 1). A higher proportion of FSPs than NFSPs were female (46.1% vs. 43.6%).

Table 1: Distribution, age and sex of French-speaking and non-French-speaking family physicians across Ontario, 2013

Location/community size; community type	French-speaking		Non-French-speaking		Total	
Ontario						
Strong French						
No. of physicians	155		158		313	
Age, yr, mean ± SD	48.6 ± 11.9		50.0 ± 12.4		49.3 ± 11.9	
% women	36.1		36.7		36.4	
Moderate French						
No. of physicians	539		735		1274	
Age, yr, mean ± SD	50.1 ± 11.8		51.0 ± 11.7		50.6 ± 11.8	
% women	51.0		53.5		52.4	
Weak French						
No. of physicians	780		8168		8948	
Age, yr, mean ± SD	49.9 ± 12.1		51.8 ± 12.2		51.6 ± 12.2	
% women	44.6		42.8		43.0	
Geographic location						
	North			South		
	French-speaking	Non-French-speaking	Total	French-speaking	Non-French-speaking	Total
Strong French						
No. of physicians	87	144	231	68	14	82
Age, yr, mean ± SD	47.4 ± 11.7	49.9 ± 12.4	48.9 ± 12.2	50.2 ± 10.9	52.0 ± 13.4	50.5 ± 11.3
% women	37.9	37.5	37.7	33.8	28.6	32.9
Moderate French						
No. of physicians	30	83	113	509	652	1161
Age, yr, mean ± SD	52.7 ± 11.7	52.0 ± 11.0	52.2 ± 11.1	49.9 ± 11.8	50.9 ± 11.8	50.5 ± 11.8
% women	30.0	25.3	26.5	52.3	57.1	55.0
Weak French						
No. of physicians	52	341	393	728	7827	8555
Age, yr, mean ± SD	47.9 ± 10.2	49.6 ± 11.1	49.3 ± 11.4	50.0 ± 12.2	51.9 ± 12.2	51.7 ± 12.2
% women	38.5	41.6	41.2	45.1	42.9	43.0
Community size						
	Rural			Urban		
	French-speaking	Non-French-speaking	Total	French-speaking	Non-French-speaking	Total
Strong French						
No. of physicians	47	36	83	108	122	230
Age, yr, mean ± SD	50.7 ± 12.3	50.5 ± 11.4	50.6 ± 11.8	47.7 ± 10.9	50.0 ± 12.8	48.9 ± 12.0
% women	38.3	36.1	37.3	35.2	36.9	36.1
Moderate French						
No. of physicians	17	25	42	522	710	1232
Age, yr, mean ± SD	51.5 ± 11.1	52.8 ± 9.9	52.3 ± 10.3	50.0 ± 11.8	51.0 ± 11.8	50.6 ± 11.8
% women	29.4	32.0	31.0	51.7	54.2	53.2
Weak French						
No. of physicians	96	709	805	684	7459	8143
Age, yr, mean ± SD	48.1 ± 11.6	51.5 ± 11.9	50.1 ± 11.9	50.1 ± 12.1	51.8 ± 12.2	51.7 ± 12.3
% women	35.4	39.1	38.6	45.9	43.2	43.4

SD = standard deviation.

Practice characteristics

The 3-way interaction among community size, geographic location and linguistic profile produced many small cells (for instance, there were practically no NFSPs practising in southern rural moderate French communities or urban strong French communities). The results of larger cell

sizes are discussed when appropriate but are not presented.

Hours worked per week

Overall, Ontario physicians reported working an average of 38.8 hours per week. Physicians who practised in strong French communities worked

more hours per week on average (42.0) than those in moderate or weak French communities (35.3 and 38.5, respectively). Non-French-speaking physicians worked slightly more hours per week (average 1.2) than FSPs. However, FSPs in strong French communities worked the most hours of any group (mean 42.2, 0.4 more hours than NFSPs) (Fig. 1).

Considering the combined impact of the physician's language of competence and the linguistic profile of the community, with higher degrees of francophonie, there was an overall tendency for FSPs to work more hours than NFSPs. However, a more detailed exploration of geographic variations revealed that this tendency was observed only in northern and urban regions of the province. In northern Ontario, FSPs in strong and moderate French communities worked the most hours (average of 46.6 and 47.8, respectively) and worked an average of 5.1 and 4.8 more hours, respectively, than NFSPs. The reverse trend was observed in the south, where NFSPs consistently worked more hours than FSPs, particularly in strong French communities, where the latter worked 9.1 fewer hours on average. French-speaking physicians in urban strong French communities worked more hours per week (by an average of 1.3 h) than NFSPs, whereas those in rural strong and moderate

French communities worked fewer hours on average than NFSPs (by 4.0 h and 4.8 h, respectively). Nevertheless, analysis of the combined interaction of degree of francophonie, community size and geographic location revealed that FSPs practising in northern rural strong French communities worked the most hours of any group (average 55.4) (data not shown owing to small cell sizes) and worked 5.4 more hours on average than NFSPs.

Patient visits per week

Physicians reported an average of 113.5 patient visits per week. Those in strong French communities had the most patient visits per week (average 118.0), followed by those in weak French (116.9) and moderate French (94.7) communities. Non-French-speaking physicians had more patient visits (by an average of 16.1) than FSPs; however, FSPs working in strong French communities had the most patient visits per week of any group (average 122.3) and had 8.5 more visits on average than NFSPs. Non-French-speaking physicians practising in moderate and weak French communities had more visits (by an average of 11.4 and 13.6, respectively) than FSPs (Fig. 2).

Overall, there was a tendency for FSPs to have more patient visits per week than NFSPs with

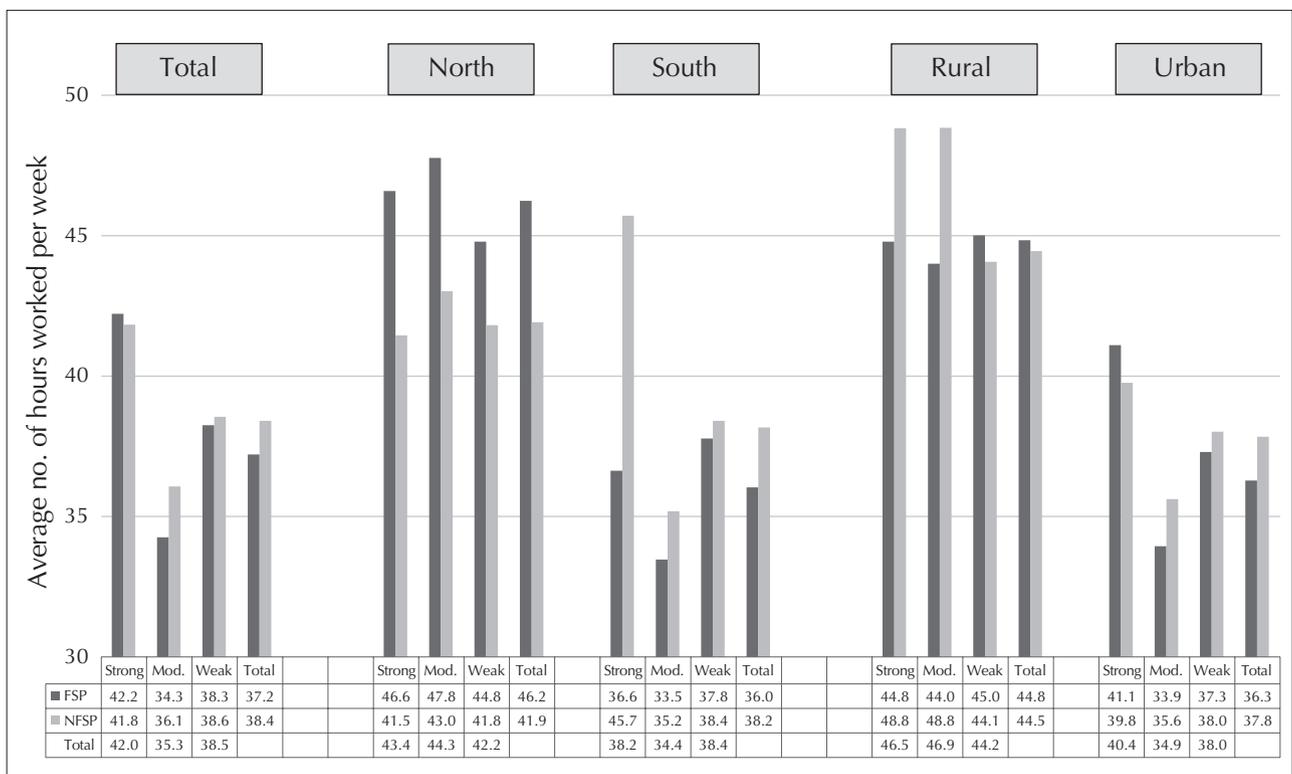


Fig. 1: Average number of hours worked per week overall and by geographic location (north vs. south) and size of community (rural vs. urban), according to linguistic profile of community (strong French, moderate [mod.] French or weak French). FSP = French-speaking family physician, NFSP = non-French-speaking family physician.

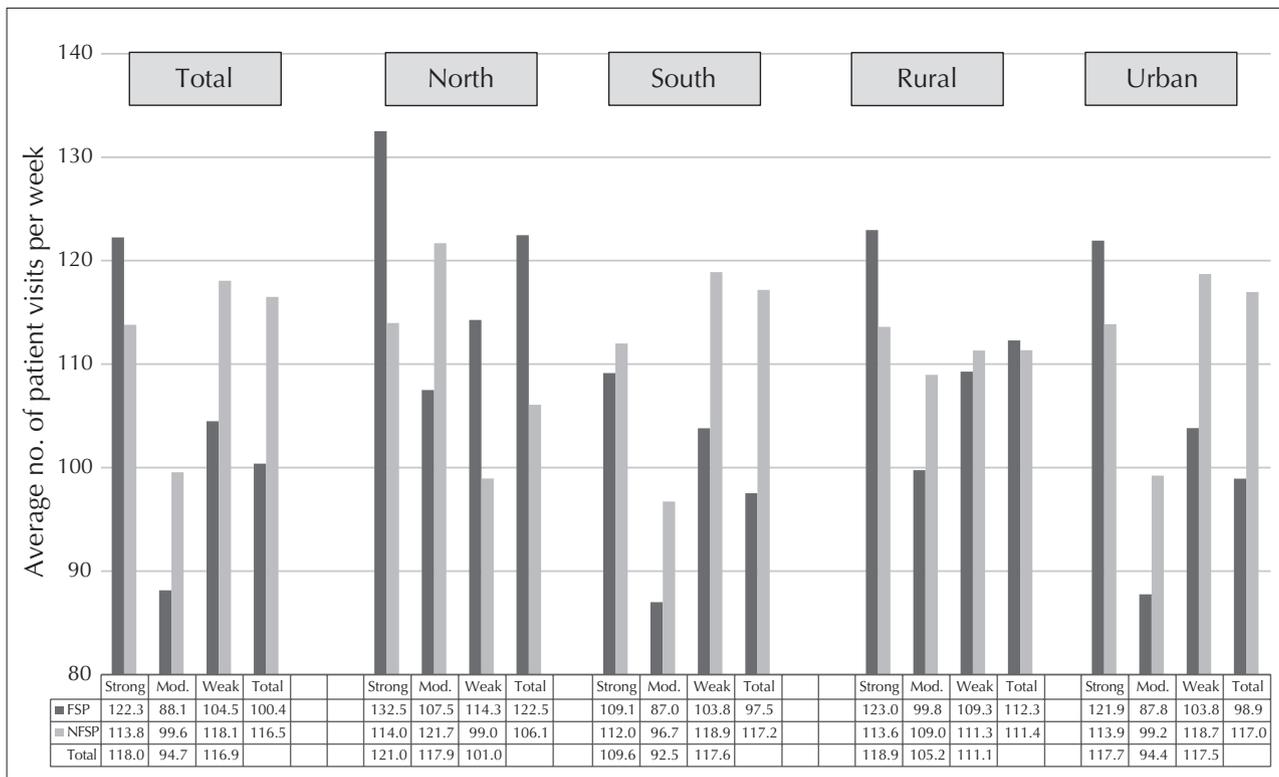


Fig. 2: Average number of patient visits per week overall and by geographic location (north vs. south) and size of community (rural vs. urban), according to linguistic profile of community (strong French, moderate [mod.] French or weak French). FSP = French-speaking family physician, NFSP = non-French-speaking family physician.

increasing proportions of francophones in the community. This tendency was present in all geographic locations and community sizes except the south. In the north, FSPs in strong French communities had the most patient visits (average 132.5) and had 18.5 more patient visits on average than NFSPs. Once again, this trend was reversed in the south, where NFSPs consistently had more patient visits than FSPs. It should be noted, however, that the difference between the 2 groups was smallest in southern strong French communities. In both rural and urban areas, FSPs in strong French communities had the most patient visits per week (average 123.0 in rural and 121.9 in urban strong French communities) and had an average of 9.4 and 8.1 more visits than NFSPs in rural and urban strong French communities, respectively. Conversely, in both rural and urban areas, NFSPs had more patient visits in moderate and weak French communities. Analysis of the combined interaction of degree of francophonie, community size and geographic location revealed that FSPs in northern rural strong French communities had the most patient visits per week of any group (average 135.7), followed closely by FSPs in northern urban strong French communities (average 131.4). These FSPs had an average of 19.2 and 17.9 more

patient visits, respectively, than NFSPs (data not shown owing to small cell sizes).

Patient visits per hour

We calculated an average of 2.9 patient visits per hour. Physicians in weak French communities had the most patient visits per hour (average 3.1), followed by those in strong French (2.9) and moderate French (2.7) communities. Non-French-speaking physicians had 0.3 more patient visits per hour on average than FSPs. Non-French-speaking physicians in weak French communities had the most patient visits per hour (average 3.1) and had an average of 0.3 more patient visits per hour than FSPs, followed closely by FSPs in strong French communities, who had an average of 3.0 visits per hour and 0.2 more visits per hour on average than NFSPs (Fig. 3).

For all geographic locations and community sizes, with increasing proportions of francophones, there was a clear tendency for NFSPs to have fewer patient visits per hour than FSPs. Non-French-speaking physicians had an average of 0.2 and 0.6 fewer visits per hour than FSPs in northern strong French communities and southern strong French communities, respectively. The same trend

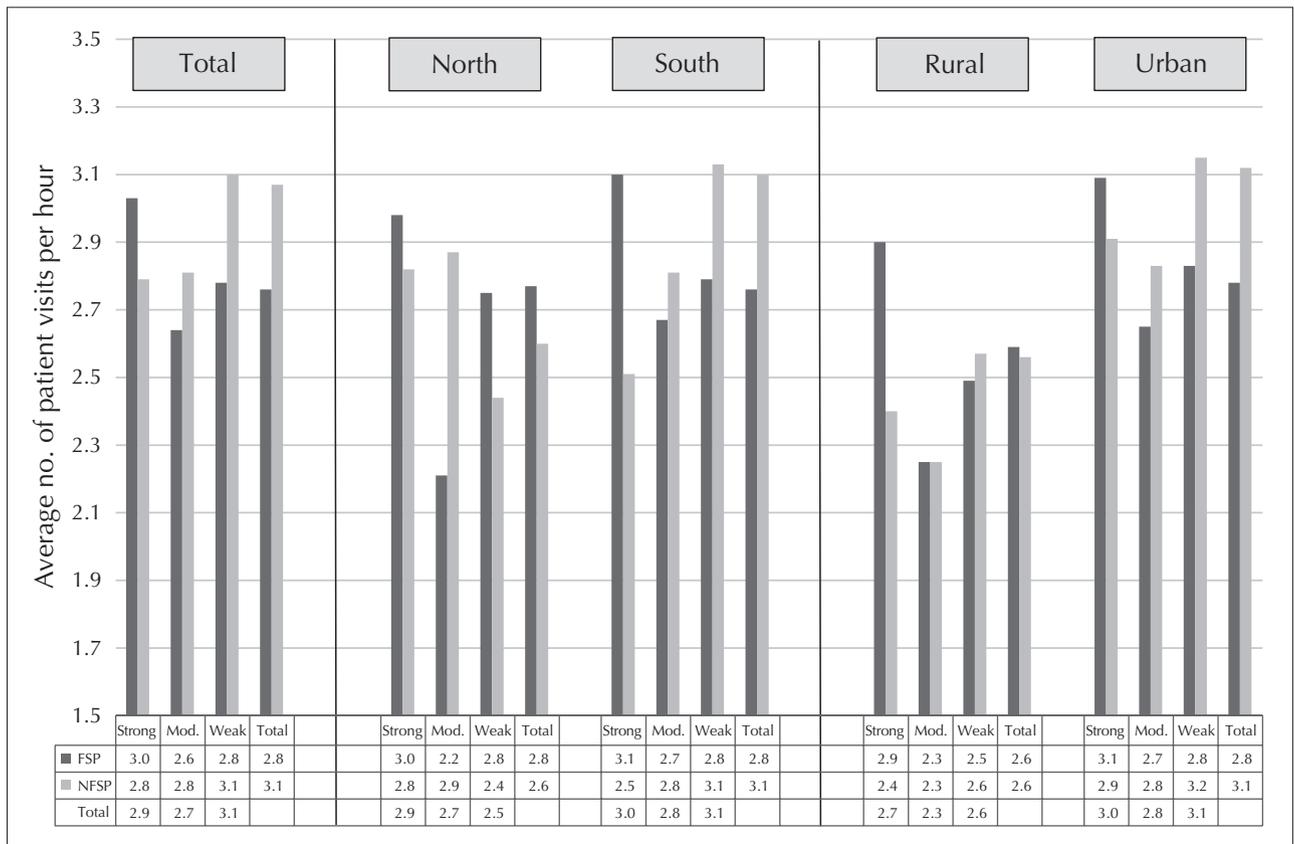


Fig. 3: Average number of patient visits per hour overall and by geographic location (north vs. south) and size of community (rural vs. urban), according to linguistic profile of community (strong French, moderate [mod.] French or weak French). FSP = French-speaking family physician, NFSP = non-French-speaking family physician.

persisted in both rural and urban strong French communities, where NFSPs had an average of 0.5 and 0.2 fewer visits per hour, respectively, than FSPs. In nearly all instances, NFSPs had more patient visits per hour than FSPs in moderate French communities and even more so in strong French communities. Analysis of the combined interaction of community size, geographic location and degree of francophonie confirmed that NFSPs consistently had fewer patient visits per hour than FSPs in all strong French communities. Of note were southern rural and northern urban strong French communities, where FSPs had an average of 0.9 and 0.3 more visits per hour, respectively, than NFSPs (data not shown owing to small cell sizes).

DISCUSSION

In this study, we sought to verify existing anecdotal evidence suggesting that family physicians who advertise themselves as being able to offer services in French may be inundated by francophone patients soliciting their services^{5,21} and that NFSPs face additional time commitments when treating francophone patients.⁵ Both of these situations are more likely to

occur in strong French communities (those with a francophone population $\geq 25\%$). Overall, physicians who practised in strong French communities had a tendency to work more hours and to have more patient visits per week than those who work in moderate and weak French communities, whereas NFSPs had larger workloads than FSPs. The combined influence of the linguistic profile of the community and the physician's language of competence confirms our initial hypothesis that FSPs in strong French communities have more patient visits and work more hours than NFSPs in the same communities. Such work conditions may help explain why many physicians who can speak French have chosen to practise in communities where they are less likely to encounter francophone patients.² Our results further suggest that, with increasing degrees of francophonie, FSPs have a tendency to have heavier workloads than NFSPs. However, the extent of this difference is somewhat dependent on geographic location. Of note are northern rural strong French communities, where not only did FSPs have the heaviest workload in the province, but also the greatest difference in workload was found between FSPs and NFSPs. In fact, FSPs in northern rural

strong French communities reported working an average of 5.4 more hours a week than NFSPs. If we consider that the latter reported working an average of almost 50 hours a week (or 10 h/d during a 5-d week), these FSPs were working over half a day more per week than NFSPs. In addition, they had an average of 19.2 more patient visits per week than NFSPs. If we consider that the average NFSP in northern rural strong French communities reported 116 patient visits per week, FSPs had nearly the equivalent of 1 day's worth of visits more per week.

Our results also confirm our second hypothesis that visits with NFSPs in strong French communities take longer than those with FSPs. If we consider that the average NFSP in northern rural strong French communities had 0.9 fewer visits per hour than FSPs, this would amount to the equivalent of 45 fewer patient visits per week (for physicians who work 50 h a week).

These results strongly suggest that the linguistic profile of the community, together with the physician's language of competence, affects workload, particularly for FSPs practising in strong French communities. Past research has shown variations in workload based on the geographic location of the practice (rural and northern family physicians work more hours than family physicians in other parts of the province⁴) and the age and sex of the physician (younger and male physicians work more hours^{6,7} and see more patients⁸ than older and female physicians). However, the present findings cannot be explained by these factors: although we also found regional differences in workload, our analyses suggest that these differences have a disproportionate impact on FSPs in rural and northern strong French communities, who had heavier workloads than NFSPs. In addition, the age and sex of the 2 groups were virtually identical in these strong French communities, with both having a 36% female representation and with FSPs being only 1.4 years younger on average than NFSPs.

The present findings have implications both for physicians and for agencies that plan health care services. First, our results support the need for agencies to provide the right services in the right places. There is an obvious need to increase the FSP workforce in areas that have the greatest demand. In doing so, physicians working in isolated locations, French-speaking and non-French-speaking alike, may experience a reduction in pressure to meet the needs of francophone patients. Rural communities across Canada have long faced challenges in recruiting and retaining physicians.²² As a result, 2 strategies have

recently been implemented to increase the FSP workforce. At the provincial level, the Northern Ontario School of Medicine was established in 2005 with a social accountability mandate to respond to the health care needs of northern populations,²³ including the linguistic needs of francophones. To this end, the school actively recruits and selects French-speaking students and provides them with learning opportunities in francophone communities. At the national level, the Association of Faculties of Medicine of Canada developed the Franco Doc initiative, which identifies French-speaking students in English-language medical schools, prepares them for French-language practice and recruits them for placements in francophone communities across Canada.²⁴ However, the extent to which these strategies have improved the availability of FSPs in rural and northern strong French communities of Ontario has yet to be evaluated.

The fact that NFSPs working in strong French communities had fewer patient visits per hour than FSPs can be interpreted in 1 of 2 ways. Either NFSPs were less efficient than FSPs, given the greater likelihood of language discordance with their patients, or FSPs had more patient visits per hour than NFSPs, given the greater need to meet demand. Both possibilities raise concerns pertaining to patient care. Language barriers have been linked to reduced compliance with physician instructions, increased hospital admission and adverse medication reactions.^{25,26} Longer patient encounters can become a barrier to access by contributing to longer wait times for all patients. Conversely, if high demand is causing FSPs to have more patient visits per hour, they are subsequently spending less time with individual patients, which has been found to have a negative impact on patient satisfaction, chronic health outcomes and risk of malpractice claims.²⁷ Both of these concerns could be addressed by increasing the supply of FSPs in strong French communities.

Limitations

In interpreting the present findings, it should be kept in mind that we have drawn conclusions based on 2 important assumptions. First, our analysis is based on physicians' self-reported work activities and linguistic proficiency, both of which are subject to recall bias and misjudgment. Second, we assumed language concordance/discordance based on the physician's language of competence and the linguistic profile of the community in which they worked. We present convincing tendencies of the impact of the relation between physician language of competence and

community linguistic profile on workload yet were unable to measure it at the individual level and could not account for other global factors that differ from one community to the next, both of which may explain some of our conflicting results. The actual existence of this relation can be confirmed only with the collection of additional primary data, which should be the focus of future research efforts and may be achieved only through collaboration with regulatory authorities. For instance, collecting data on patients' linguistic preferences would help planning efforts by identifying both physician needs and gaps in services.

Conclusion

We present empirical evidence to support anecdotal conclusions that FSPs located in areas densely populated by francophones are in higher demand than NFSPs. Our findings suggest that, compared to NFSPs, the demands placed on FSPs are disproportionately greater in communities where the need for French-language health care services is greatest and the supply of FSPs is smallest, namely, in strong French communities of rural and northern Ontario. Thus, our study underlines the importance of properly preparing family physicians to work in areas densely populated by francophones.

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Competing interests: None declared.

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Country cardiograms case 63

*Brent M. McGrath,
MD, MSc, PhD,
FRCPC*

*Division of Cardiology,
New Brunswick Heart Centre,
Saint John, NB*

*Kenneth Quadros,
MBBS, FRCPC*

*Adult Cardiology, Division of
Cardiology, Mazankowski
Alberta Heart Institute,
University of Alberta,
Edmonton, Alta.*

*Correspondence to:
Brent McGrath,
brent.mcgrath@ualberta.ca*

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reviewed.*

An 84-year-old man with dementia presents to his local emergency department after a nurse at his care home found him to have a heart rate in the 30s. The patient denied any clear cardiac symptoms but did feel nauseous and had an episode of emesis before being sent to the emergency department. His past medical history was most notable for an admission to hospital for pneumonia 2 weeks earlier. During this prior hospital stay, he was found to be in complete heart block with a junctional escape rhythm and thus underwent implan-

tation of a single-chamber pacemaker once his pneumonia cleared.

Physical examination during the current presentation showed that the patient was in no distress at rest. His heart rate was 35 beats/min and his blood pressure was 163/59 mm Hg. Initial cardiac laboratory investigations revealed normal results of serial determinations of troponin levels and that electrolyte levels were within the normal range. The patient's initial electrocardiogram (ECG) is shown in Fig. 1. What are the important findings on this ECG? What might the underlying cause of

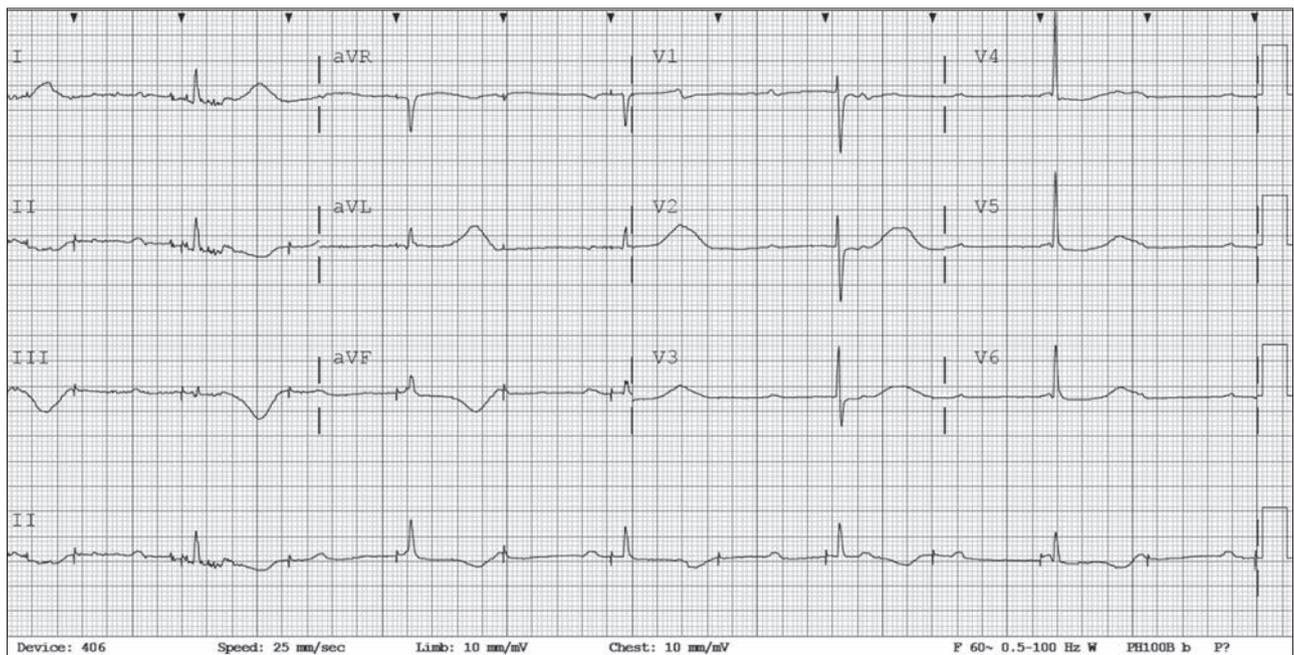


Fig. 1: Electrocardiogram of 84-year-old man with recently implanted single-chamber pacemaker.

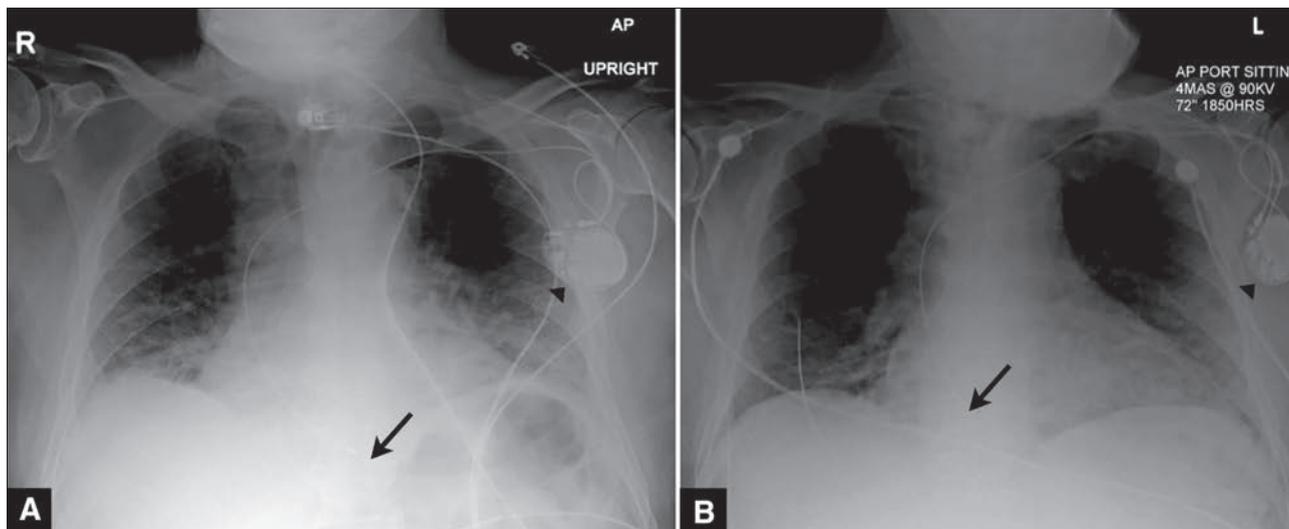


Fig. 2: Portable anteroposterior chest radiographs immediately following pacemaker implantation (A) and during current presentation, about 2 weeks later (B). The pacemaker generator is indicated by an arrowhead, and the tip of the pacemaker lead is indicated by an arrow.

the pacemaker malfunction be? Do the chest radiographs shown in Fig. 2 help you with the diagnosis?

For the answer, see page 91.

Competing interests: None declared.

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The occasional vertical mattress suture

Gordon Brock, MD,
FCFP, FRRMS

Centre de santé
Témiscaming, Témiscaming,
Que.

Fanyi Meng, MD
Department of Plastic and
Reconstructive Surgery,
McGill University Health
Centre, Montréal, Que.

Correspondence to: Gordon
Brock, geebee@ontera.net

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INTRODUCTION

“Suturing” (from the Latin *sutura*, meaning “seam”) is defined by Dictionary.com¹ as “a joining of the lips or edges of a wound or the like, by stitching or some similar process; a particular method for doing this; or one of the stitches or fastenings employed.” Wounds have been sutured for thousands of years, and there are now several additional options for skin closure, such as tape, glue, suturing and staples.²

For many physicians, the gold standard and the commonest technique is still suturing with needle and thread. There is a bewildering array of needle types and sizes, thread materials, thread diameters and suturing techniques, although some suturing techniques (i.e., the chest drainage tube knot and the purse-string suture) are relatively specialized. A repertoire of 5 or 6 suturing techniques is probably the most that most of us need and can reliably use for the wounds that we see in rural areas.

During the repair of any wound, the edges must be approximated to eliminate any dead space that may accumulate a hematoma or serve as a site of bacterial infection, and the skin edges should be everted, leaving a slight elevation of the wound edge above the skin line (Fig. 1). This eversion is necessary to allow for some scar contraction during the normal healing process and thus avoidance of a visible scar.³

In this article, we discuss the use and technique of the vertical mattress suture.

Like most suturing techniques, the vertical mattress suture has advantages

and disadvantages and wounds for which it is best suited (Box 1). It is designed for use when the skin edges are likely to be difficult to evert (Fig. 2).^{3,4} In addition, with only 1 kind of suture, the vertical mattress suture will:

- Evert the wound edges
- Close shallow dead space
- Give — by incorporating a (relatively) large amount of tissue into the thread loops — a better distribution of wound tension, especially in areas of high skin tension, such as the back and thorax. It can be used alone to close a wound or in conjunction with simple interrupted sutures.

The disadvantage of the vertical mattress suture is that it can leave “railroad-track” scars. It should not be used on the face or neck.

TECHNIQUE OF INSERTION

The technique is best described as “far–far, near–near” (Fig. 3). Suitable YouTube videos are available.^{5,6}

- Begin *far*. Start as you would for a simple interrupted suture. Insert the needle perpendicularly into the skin about 0.5–1 cm from the wound edge. Take a large bite of tissue and travel through the subcutaneous tissue under the dermis to emerge on the opposite edge of the wound, the same distance away from the edge as on the first side of the wound.
- Release the needle from the needle holder and reverse it in the needle driver. Take a *near* bite 1–2 mm away from the wound edge and

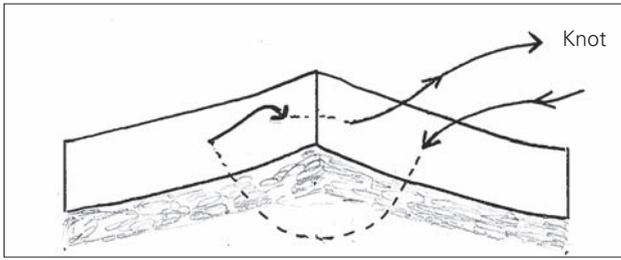


Fig. 1. During the repair of any wound, the skin edges should be everted, leaving a slight elevation of the wound edge above the skin line.

Box 1: Wound selection for the vertical mattress suture

Wounds well-suited

- Wounds in areas of lax skin (e.g., elbow, dorsum of hand), where there is a tendency for the skin edges to fall into the wound
- Wounds in concave areas
- Wounds that are not deep enough to allow insertion of separate absorbable deep sutures but still require some deep closure

Wounds not suited

Wounds on the face and neck

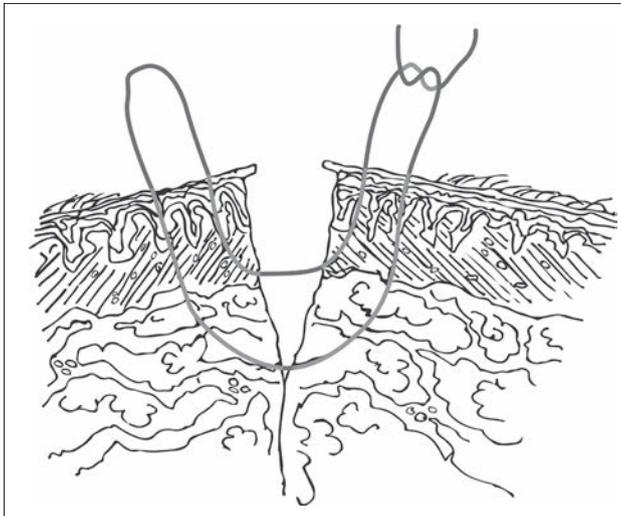


Fig. 2. The vertical mattress suture is designed for use when the skin edges are likely to be difficult to evert.

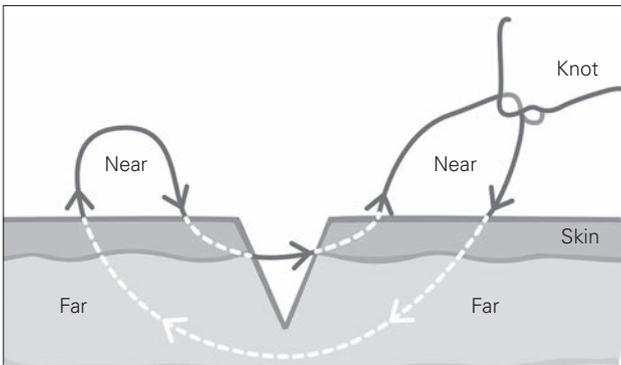


Fig. 3. “Far-far, near-near” vertical mattress suture technique.

emerge on the opposite side of the wound, again the same distance away from the wound edge as on the opposite side. Ideally, this near bite should travel through the deep dermis to allow adequate approximation of the skin edges. Assure proper wound edge eversion with the near sutures. It is better to err on the side of too much rather than too little edge eversion. You are now back on the side from which you started.

- Tie the ends on the same side from which you started. The knot should be snug, but beware of excess tension on the near-near sutures, as this can lead to tearing of the skin edges, necrosis or excess eversion.^{4,7}

Symmetric placement of both the far-far and near-near sutures is of great importance, and some meticulousness here will pay great dividends. The 2 loops must be placed at equal depth and equidistant from the wound edges; otherwise, a wound shelf will be created, which can lead to poor wound healing and a subsequent scar.⁴

One can use a combination of simple interrupted sutures and mattress sutures to close the wound. With a gaping wound, it is sometimes handy to insert 1 or 2 vertical mattress sutures to anchor the wound and relieve the skin tension, and then insert simple interrupted sutures in-between for the remainder of the wound. Also, some physicians put the near-near sutures in first as a matter of personal preference.

SUTURE REMOVAL

It is a little difficult to be dogmatic on exactly when to remove the sutures, as it depends on several factors, such as 1) patient age (sutures should be left in longer in older patients), healing ability and type of skin, 2) location of the wound (e.g., abdomen v. lateral chest wound, flexural surface v. nonflexural surface), 3) amount of wound tension present initially and 4) whether other sutures, such as simple interrupted sutures, were inserted as well.

Although it has been recommended that “interrupted vertical mattress sutures should be removed from most wounds in 4–6 days,”⁴ this seems early to us and is perhaps more applicable for vertical mattress sutures in wounds sutured with a combination of vertical mattress and simple interrupted sutures. For wounds sewn with vertical mattress sutures only, we recommend suture removal times approximating the time for standard suture removal: 7–14 days. Use the longer interval

for wounds under greater tension or on the lower extremity. Again, there must be a balance between removing the sutures too early and risking dehiscence, or too late, risking railroad-track scars.

It is also reasonable to supplement the wound closure with taping for a few days after the sutures are removed.²

Once the laceration is healed (2–3 wk post-repair or 1 wk after suture removal), scar massages can be started twice per day for 5–10 minutes each time to reduce the visibility of the scar and prevent hypertrophic scarring.

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Country cardiograms case 63: Answer

*Brent M. McGrath,
MD, MSc, PhD,
FRCPC*

*Division of Cardiology,
New Brunswick Heart Centre,
Saint John, NB*

*Kenneth Quadros,
MBBS, FRCPC*

*Adult Cardiology, Division of
Cardiology, Mazankowski
Alberta Heart Institute,
University of Alberta,
Edmonton, Alta.*

*Correspondence to: Brent
McGrath,
brent.mcgrath@ualberta.ca*

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The electrocardiogram (ECG) shown in Fig. 1 (on page 86) reveals third-degree atrioventricular (AV) block with an underlying nonconducting sinus rhythm at a rate of about 80 beats/min. The narrow complex escape rhythm most likely represents a junctional escape rhythm at a rate of 30 beats/min. There was underlying nonconducted atrial activity. Pacing spikes are also clearly visible, at a rate of 75 beats/min, with no ventricular capture (i.e., pacemaker noncapture). The chest radiograph shown in Fig. 2, A (on page 87) shows the pacemaker immediately after implantation, about 2 weeks before the current presentation. A single pacemaker lead is visible in the right ventricle, with the pacemaker pulse generator in the left infraclavicular area. Fig. 2, B is the radiograph at the time of the current presentation. It shows the pacemaker lead retracted, with its tip no longer in the right ventricle. The lead tip is most likely in the right atrium. The device also appears to have migrated laterally and caudally, likely secondary to device manipulation. The patient was admitted to the coronary care unit for monitoring and management.

High-degree AV block is a second-degree AV block in which the P:QRS ratio is 3:1 or higher. Unlike third-degree heart block, there is still some relation between the P waves and the QRS complexes. This produces a very slow ventricular rate. Complete heart block occurs when there is complete electrical dissociation between the atria and the ventricles, with the ventricles beating independently of the atria. This shows as complete AV dissociation on an ECG.

Patients with high-degree AV block and third-degree AV block accompanied by a slow escape rhythm often present with symptoms that include shortness of breath, near syncope and syncope. Symptoms of heart failure and angina may be worsened by the slow ventricular rate. The causes of high-degree and third-degree AV block are diverse.¹ Both high-degree AV block and complete heart block warrant insertion of a transvenous pacing system to prevent symptoms from bradycardia.

Pacemaker lead dysfunction is relatively common within the first year after device implantation, with lead re-intervention required in over 4% of patients.² In 1 large prospective registry, the most common problems encountered were lead dislodgement, malfunction and/or perforation.² The lead most commonly involved was the right atrial lead, and the RV lead was least commonly involved.

Twiddler's syndrome is an uncommon complication after implantation of a permanent pacemaker. It was first noted by Bayliss and colleagues³ in 1968. This syndrome refers to pacemaker malfunction owing to external manipulation of the pacemaker pulse generator by the patient. The patient consciously or subconsciously moves the pulse generator in the pacemaker pocket. In the classic form of the syndrome, this results in the device's spinning on itself, with resultant coiling of the lead(s) in the pocket. When the slack on the lead is removed, further manipulation results in dislodgement of the pacemaker lead from the cardiac chamber. If the ventricular lead dislodges, this often results in cessation in ventricular pacing. This can have serious, life-threatening consequences if

the patient is pacemaker dependent. With continued spinning or reeling of the device in the pocket, further retraction of the lead occurs. If retracted far enough, diaphragmatic pacing may occur, resulting in abdominal pulsations from ipsilateral phrenic nerve pacing. Last, ipsilateral arm twitching can occur from stimulation of the brachial plexus in the arm, in the area of the pacemaker pocket.⁴

Twiddler's syndrome is more likely to occur in young children and older adults. It has also been noted to have an association with obese patients, those with intellectual disabilities and those with dementia.^{5,6} The syndrome is also known to occur in patients with transvenous implantable cardioverter defibrillators, which can result in inappropriate shocks and even defibrillator failure.^{7,8}

Although pacemakers are often implanted at larger hospitals, many patients are from smaller, often remote, communities. As the patient's time in hospital is often short, device malfunction may occur after the patient has been discharged and returned to his or her community. This makes recognizing and diagnosing pacemaker malfunction important for all acute care physicians. Diagnosis of pacemaker malfunction starts with a good symptom history and an understanding of the original device indication. Twelve-lead ECG can be very helpful in identifying rhythm disturbances, particularly when the ECG is compared to a previous ECG. Also essential in the diagnostic investigation is chest radiography. It is essential to obtain both anteroposterior and lateral views in order to fully evaluate the lead position. For the nonexpert, it is best to compare the current radiograph to the radiograph that was done immediately after implantation. One should compare the position of the lead, particularly the distal lead tip, looking for migration. One should also examine the lead along its entire length to assess for fracture, which would appear as a break in the lead's continuity. Finally, the lead-generator connection should be assessed. Again, it is important to compare new and old radiographs and evaluate the contact between the proximal end of the lead and the generator connector terminal, looking mainly for differences.

Acute management of pacemaker malfunction, including twiddler's syndrome, depends on the presentation of the patient. In patients who are pacemaker dependent, dislodgement of a ventricular

pacing lead can result in pacing failure, with extreme bradycardia or asystole. These cases warrant urgent or emergent insertion of a temporary transvenous pacing system until a more definitive permanent pacing solution can be established. If patients are hemodynamically stable on presentation, with an underlying stable escape rhythm, chronotropic agents such as isoproterenol or dopamine can be given intravenously until the permanent lead can be repositioned. Twiddler's syndrome can be avoided by minimizing the pocket size, suturing the device to surrounding tissues and, when possible, educating the patient about avoiding external device manipulation. A further preventive measure is using a compression band around the upper chest and shoulder for the first few days after device implantation.^{9,10} Patients at higher risk for twiddler's syndrome (e.g., children, people with intellectual disabilities and people with dementia) should be followed more closely.

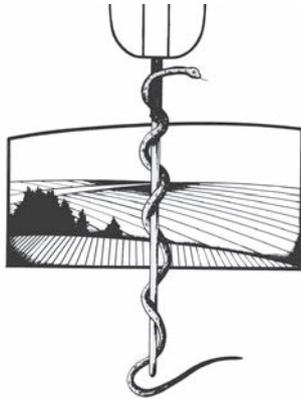
Our patient was ultimately brought back to the electrophysiology laboratory, and the lead and generator were repositioned and secured. The patient was discharged home and will be followed by the device clinic.

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For the question, see page 86.

Competing interests: None declared.



SRPC ANNUAL AWARDS

RURAL SERVICE AWARD (RSA)

Dr. Julie Copeland — Mount Brydges, Ont.
Dr. David Goranson — Salt Spring Island, BC
Dr. Sara Goulet — Winnipeg, Man.
Dr. Wendy Graham — Channel-Port aux Basques, NL
Dr. Heather Abramenko — Almonte, Ont.
Dr. Sarah Giles — Orléans, Ont.
Dr. Gabe Woollam — Happy Valley–Goose Bay, NL

Criteria: Physicians must have worked in rural and remote Canada for 10 years and have been members of the SRPC for at least the last 5 consecutive years.

RURAL LONG SERVICE AWARD (RLSA)

Dr. Frances Berard — Notre Dame de Lourdes, Man.
Dr. Paul Mackey — Kamloops, BC
Dr. Kristie Overhill — Mansons Landing, BC

Criteria: Physicians must have been members of the SRPC for at least the last 5 consecutive years, have served rural Canada for 20 years and have previously received the Rural Service Award.

LIFETIME MEMBERSHIP AWARD

Dr. Kweku Dankwa — St. Anthony, NL
Dr. Len Kelly — Sioux Lookout, Ont.
Dr. George Magee — Burns Lake, BC
Dr. James Rourke — St. John's, NL
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FELLOWSHIP AWARD

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Dr. Frances Berard — Notre Dame de Lourdes, Man.
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Dr. Gavin Parker — Pincher Creek, Alta.
Dr. Christopher Patey — St. John's, NL
Dr. John Pawlovich — Abbotsford, BC
Dr. Maurianne Reade — Mindemoya, Ont.
Dr. Jared Van Bussel — Pincher Creek, Alta.
Dr. Sara Van Der Loo — Atikokan, Ont.

Criteria: The Fellowship Award is presented to physicians who are previous recipients of the Rural Service Award (worked in rural or remote Canada for at least 10 years and have been a member of the SRPC for the last 5 consecutive years). The recipient must attend the Rural and Remote Medicine Course to receive and accept the award.

In addition, the recipient must have a minimum of 10 of the following credits: 1 credit for each SRPC-sanctioned event; 1 credit for each year as a student or resident preceptor in a rural/remote community; 1 credit for each full year serving on an SRPC committee; 1 credit for each skill (GP Surgery, GP Anesthesia, GP Obstetrics); and 1 credit for having published in the *CJRM*.

KEITH AWARD

Presented to Memorial University

Criteria: This year's Keith Award looked at the largest number of graduates practising in rural areas 5 years after graduation. Family medicine residents were identified through the Canadian Post-MD Education Registry. Practice location was taken from the Canadian Medical Association database 10 years later.

RURAL MEDICAL EDUCATION AWARD

Presented to the Northern Ontario School of Medicine

Criteria: Presented to an undergraduate medical program that has excelled in producing graduates headed for a career in rural medicine. This year we looked for the medical school program matching the most graduates to rural family medicine programs in the 2018 CaRMS match. The Northern Ontario School of Medicine excelled by a significant margin, with 47.5% of total graduates matching to a rural family medicine residency.

STUDENT AND RESIDENT AWARDS

Resident Essay Contest

Dr. Meghan Olson — Kenora, Ont.

Student Essay Contest

Ms. Bailey Steele — North Bay, Ont.

Resident Leadership

Dr. David Jerome — Sioux Lookout, Ont.

Student Leadership

Ms. Jasmine Waslowski — Caledon Village, Ont.

Resident Research Poster Winner

Dr. David Jerome — Sioux Lookout, Ont.

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Mrs. Dakotah Janes — Conception Bay South, NL



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