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Factors influencing choice to practise in rural and remote communities throughout a physician's career cycle

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Introduction: Although a large portion of the Canadian population lives in rural areas, there remains a deficit in the number of family physicians serving these populations. We explored the factors that influence a family physician's decision to work in rural/remote communities in order to identify strategies that may aid in the recruitment and retention of family physicians to such communities.
Methods: Qualitative study using a participatory research approach. Interview questions were developed based on a literature search of factors influencing family physicians' decisions to practise in a rural/remote location. Semistructured interviews were conducted with rural physicians from across Canada to identify influential factors, and subsequent thematic analysis was performed. Responses to the interview questions were categorized into 3 main themes: factors influencing physicians to work in rural locations, factors influencing physicians to leave or avoid rural practice, and strategies for improving recruitment and retention.
Results: Seventeen interviews were conducted; saturation was achieved after 12. A wide scope of practice and rural training exposure were important factors in encouraging physicians to practise in rural/remote areas. The biggest challenges were issues relating to family and spousal support, ability to attend continuing professional educational opportunities and ability to connect with specialists and tertiary care centres.
Conclusion: Effective strategies are required to increase family physician recruitment to rural communities. Our results provide several strategies for addressing low rates of recruitment and retention of family physicians in rural/remote communities, including, but not limited to, providing opportunities for professional development and having a supportive work environment.

Introduction : Bien qu'une partie importante de la population canadienne vive en milieu rural, il y a un nombre insuffisant de médecins de famille pour servir cette population. Nous avons tenté de déterminer les facteurs qui incitent les médecins de famille à travailler en région rurale et éloignée afin de proposer des stratégies susceptibles de favoriser le recrutement et le maintien en poste de médecins de famille dans ces localités.
Méthodes : Nous avons procédé à une étude qualitative à l'aide d'une approche de recherche participative. Les questions d'entrevue ont été élaborées à la suite d'une recherche documentaire sur les facteurs qui incitent les médecins de famille à exercer en milieu rural et éloigné. Des entretiens semi-structurés ont été menés auprès de médecins de régions rurales partout au Canada afin de cerner les facteurs d'influence et soumettre ensuite ces derniers à des analyses thématiques. Les réponses aux questions d'entrevue ont été divisées en 3 thèmes principaux : facteurs qui incitent les médecins à travailler en milieu rural; facteurs qui incitent les médecins à quitter la pratique en milieu rural ou à l'éviter; et stratégies d'amélioration du recrutement et du maintien en poste.

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Résultats : Dix-sept entretiens ont été réalisés et la saturation a été atteinte après 12 entretiens. Le vaste champ de pratique et l'exposition à la formation rurale étaient des facteurs importants de la décision des médecins d'exercer en région rurale et éloignée. Les principales difficultés étaient liées au soutien de la famille et du conjoint ou de la conjointe, à la capacité de participer à la formation continue, et à la capacité de contact avec des spécialistes et des centres de soins tertiaires.
Conclusion : Nous avons besoin de stratégies efficaces pour accroître le recrutement de médecins de famille dans les localités rurales. Nos résultats offrent plusieurs stratégies pour s'attaquer aux faibles taux de recrutement et de maintien en poste, notamment le fait de bénéficier d'occasions de formation continue et de milieux de travail favorables qui offrent du soutien.

INTRODUCTION

Considering that over a third of Canada's population lives in rural areas,[1] it is assumed that the proportion of family physicians in these areas reflect the same statistic. However, according to a 2012 Canadian Institute for Health Information report, less than 15% of Canada's family physicians are practising in rural towns.[2] Although the ratio of physicians to patients in this country is remarkably low (2.1 per 1000 in 2013),[3] the ratio is approximated to be much lower for rural Canadians (0.8 per 1000).[3] The proportion of rural Canadians without access to a family physician is very high. Attracting family physicians to practise in rural locations is a challenge worldwide and is not just a Canadian problem.[4]

There are several factors that influence the recruitment and retention of physicians to rural communities. Factors that are most often cited include pay factors, professional factors and work factors.[5–9] However, the relative importance of these factors is not consistent throughout the literature.[9,10] Given these discrepancies, it is important to investigate the reasons behind why and when certain factors become more influential than others. As the first Canada-wide qualitative study, this project investigated the influence of factors by speaking directly with physicians who have rural experience from across the country. Although qualitative research has been performed within specific provinces, this Canada-wide perspective will add more depth to the current level of research and will assist with the development of multiple strategies that can be targeted to specific and appropriate circumstances in order to optimize the number of family physicians working in rural and remote communities of Canada.

The objective of this study was to explore factors that influence Canadian family physicians' decisions to work in rural and remote communities through qualitative analysis. We interviewed family physicians with experience in such communities and analyzed their responses to identify themes that are associated with the benefits and disadvantages of practising in a remote or rural location.

METHODS

We employed a qualitative study design using a participatory approach. An iterative feedback process was used to ensure consensus was reached among study team members (researchers and stakeholders) with regard to interview guide development and participant recruitment as well as data collection and interpretation. Stakeholders in this study included rural family physicians and the Advancing Rural Family Medicine Canadian Collaborative Taskforce, comprised of representatives from the College of Family Physicians of Canada and the Society of Rural Physicians of Canada. Once the data were collected and interpreted, we performed member checking to validate the findings.

Interview guide development

We carried out a comprehensive literature search, guided by a librarian, to collect information regarding factors influencing family physicians' decisions to practise in a rural and remote location (see Box 1 for a sample of search terms used in electronic databases of indexed citations). Based on these themes, we developed a list of relevant interview questions. A common agenda was established between stakeholders and researchers by sending a draft of the interview materials (interview guide, introductory email, accompanying documents) to the study team to review. We used a Delphi method to achieve consensus with regard to the content, composition and length of the interview materials. This involved 4 rounds of telemeetings and multiple interview guide revisions before all groups were satisfied with the finished product.

Interview guide testing and interviewer training

The interview guide was initially tested on 2 rural physicians. After the pilot interviews were completed, these participants were asked to provide feedback on the question order and content. The pilot interviews also allowed for the interviewers to familiarize themselves with the interview flow and adjust its structure as necessary.

Participant recruitment and data collection

A list of rural family physicians was generated via purposeful sampling by regions of Canada (West, East, North and Quebec), sex (male, female) and career phase (early [< 5 yr], mid [5–15 yr] and late [> 15 yr]). Physicians were deemed eligible for the study if they had experience working as a family physician in a rural area (population less than 10 000)[8] or remote area (an area where there is no road access or where road access to a hospital is more than 6 hours by road) location which was defined by the study team.

We sent eligible physicians the introductory email a maximum of 6 times at 2-week intervals or until a response was received. The email consisted of a consent and confidentiality form and a document requesting availability and contact information. As participants were recruited, we used a snowballing technique to identify other physicians that might be eligible for the study.

Interviews and data analysis

Two investigators with extensive experience in qualitative interviews performed telephone interviews. Each interview was transcribed verbatim with the use of Express Scribe by 2 research assistants. The transcriptions were then reviewed for themes independently by 3 members of the research team, who later compared their results. Any discrepancies among the 3 reviewers were discussed and resolved through consensus.

Box 1. Search terms used in PubMed search engine for literature review.

((((((factor OR factors OR decision OR decisions OR incentive OR incentives OR influenc* OR motivation)) OR ((("Attitude of Health Personnel"[Mesh:NoExp]) OR "Motivation"[Mesh]) OR "Career Choice"[Mesh]))) AND ((((((retention OR recruitment OR retain* OR turnover OR "turn over" OR selection)) OR (("Personnel Selection"[Mesh]) OR ("Physician Incentive Plans"[Mesh] OR "Health Manpower"[Mesh])))) AND (((("Rural Population"[Mesh] OR "Rural Health Services"[Mesh] OR "Rural Health"[Mesh] OR "Hospitals, Rural"[Mesh]) OR "Medically Underserved Area"[Mesh])) OR (remote OR rural OR isolated))) AND ((((((("Physicians, Family"[Mesh]) OR "General Practitioners"[Mesh]) OR "Family Practice"[Mesh]) OR "General Practice"[Mesh])) OR ("family physician" OR "family physicians" OR GP OR "general practitioner" OR "general practitioners" OR "family doctor" OR "family doctors" OR "family practitioner" OR "family practitioners"))))

Collaborative interpretation

Once common themes were identified through thematic analysis, we used the Delphi method in a series of weekly teleconferences with stakeholders. The purpose of these teleconferences was to clarify and organize themes and subthemes, and to ensure key focus areas were accurately identified and organized. Any disagreements between the stakeholders and researchers were addressed by reviewing and reorganizing the themes and key focus areas during teleconferences. Consensus was achieved after 3 rounds.

Member checking

To ensure the accuracy and completeness of the thematic analysis and that key information was not missed, we emailed participants a summary of the study's main findings. The email was sent to participants 3 times, and it was requested that they review the material and provide feedback if anything was inaccurate or missing.

Ethics approval

The study was approved by the Newfoundland and Labrador Health Research Ethics Board.

RESULTS

From the literature review a total of 150 factors were identified, which were subsequently categorized into 11 themes: personal factors, health factors, family factors, training factors, practice factors, work factors, professional factors, pay factors, community factors, regional factors and system/legislation factors.

Overall, 17 interviews were conducted; saturation was achieved after 12. Five additional interviews were conducted after saturation to make sure all key informant groups were included (Table 1) and to further examine the differences found in the participants' responses.

Of the 68 family physicians who were contacted, 17 (25%) participated in the interview. Most of the

physicians who participated had a full licence (n = 16), were married (n = 10), had children (n = 13) and lived where they practised (n = 15). About half (n = 9) of the participants grew up in a rural community/region (Table 2).

After analysis of the interviews, responses to the interview questions were categorized into 3 main themes: attractive factors influencing physicians to work in rural locations, deterring factors influencing physicians to leave or avoid rural practice, and strategies for improving recruitment and retention.

Attractive factors influencing physicians to work in rural locations

Physicians identified several reasons for choosing rural over urban practice, including the ability to practise a wide scope of skills, opportunities to work in both hospital and community health settings, and the possibility of continuity of care throughout a patient's life. It was also mentioned that previous educational or life experiences in rural locations had an influence on their decision to practise rurally.

"The reason I like rural is because I grew up with it. I like the independence of it."

Those who enjoyed nature and being outdoors found rural practice to be attractive. However, the importance of spousal agreement to settle rurally and the possibility of spousal employment were noted. There was some disagreement surrounding financial incentives, as some physicians were enticed by these benefits, but others stated that pay incentives alone were not enough to encourage a move to a rural location.

"I think a lot of people when they think of recruitment they think of the money that comes attached to it. … Which … don't get me wrong … it doesn't hurt … but I don't think that people who do not have it in their hearts to work rurally will … be swayed to come rurally just because of money."

Attractive factors mentioned that related to success and retention in rural practice included access to continuing education and professional development opportunities as well as being reimbursed for associated travel expenses, collegial support in a positive working environment, a strong practice team and an accommodating health care system.

In addition, participants indicated that factors associated with the community itself can have a profound impact on a physician's decision to practise rurally. Community traits that participants considered attractive included being very welcoming and appreciative of the services a physician provides and having members who respect the workload and responsibilities of a rural family physician.

Table 1: Purposeful sampling information

Variable	No. of participants (n = 17)
Region	
East	5
Quebec	2
North	2
West	8
Sex	
Female	8
Male	9
Career phase	
Early (< 5 yr)	6
Mid (5–15 yr)	4
Late (> 15 yr)	7
Age group, yr	
< 40	5
40–65	9
> 65	3

Table 2: Demographic characteristics of the participants

Characteristic	No. of participants
Licence type	
Full	16
Provisional	1
Marital status	
Single	4
Married	10
Divorced	3
Children	
Yes	13
No	4
Childrens' age at time of interview*	
Young	2
Adolescent	1
Adult	11
No children	4
Grew up in rural region	
Yes	8
No	9
Live in community of their practice	
Yes	15
No	2

*One physician had both young and adolescent children.

"The vast majority of people are very caring and supporting of other people within that community, and that's something … I've never perceived living in the larger cities."

A community that provides a good level of security and privacy, while at the same time maintaining a sense of intimacy, were other factors that participants expressed as being attractive traits for a community.

Deterring factors influencing physicians to leave or avoid rural practice

Study participants mentioned that, although proximity of amenities (e.g., clinic, grocery store, school, arena) within the community itself was sometimes considered to be a benefit, travelling long distances to visit family and access large-centre amenities (e.g., hospitals, entertainment centres) was expensive and difficult (owing to weather, airport location, remuneration for travel).

"So I think that's a challenge for sure, especially for docs who live in the country and may be a little distance from the hospital and have to get on a bad highway in the winter."

As a result of being far from tertiary care centres, access to specialists and allied health care professionals was also discouraging when contemplating rural practice. Similarly, being far from training sites made attending continuing medical education sessions difficult.

It was also mentioned that specialists often assume that rural family physicians do not have the skill set that is required to perform certain procedures or to resolve certain issues, which can be disheartening. Burnout and feeling overburdened were mentioned as symptoms that occur when working in rural practice, where physicians said they are often exposed to high staff turnover and long work hours.

Participants who had experience practising in a rural location voiced their struggles with maintaining a social life, losing anonymity and maintaining healthy personal–professional boundaries. In addition, the lack of extracurricular activities and entertainment in rural locations was a challenge for physicians and their families. Participants who had left rural practice stated that their primary reasons for leaving were related to their personal life, specifically spousal employment, education and personal development opportunities for their children, dissolution of marriage/relationships and distances from other family members. Another reason for leaving rural practice involved cultural or language barriers, which made it difficult for physicians to communicate with or understand their patients. Finally, 1 participant mentioned that the lack of spiritual or cultural centres available in a rural community made it difficult to celebrate religious ceremonies with the family.

Strategies for improving recruitment and retention

Participants noted a number of strategies that they felt could help improve recruitment and retention in rural practice (Fig. 1). Enhancing collegial and personal support systems was mentioned as a possible strategy to improve both recruitment and retention of rural physicians. Participants considered having a supportive team of physicians that help manage the workload often found in underserviced areas as being fundamental in rural practice. Having support from a fellow physician to help with community integration and navigation was also mentioned as a means of making the transition into rural practice less jarring.

"We also have a very supportive hospital and a supportive hospital board. I know of other communities where the hospital boards can be very antagonistic towards their medical staff … and we don't have situations like that at all. … We get along well with our staff and we are well supported."

Other strategies mentioned addressed recruitment and retention independently. Rural exposure during medical school and residency was one strategy mentioned to improve recruitment, along with selecting medical students who are originally from rural and remote areas on medical school enrolment (Table 3). A few participants felt that exposing trainees to rural medicine early, through undergraduate

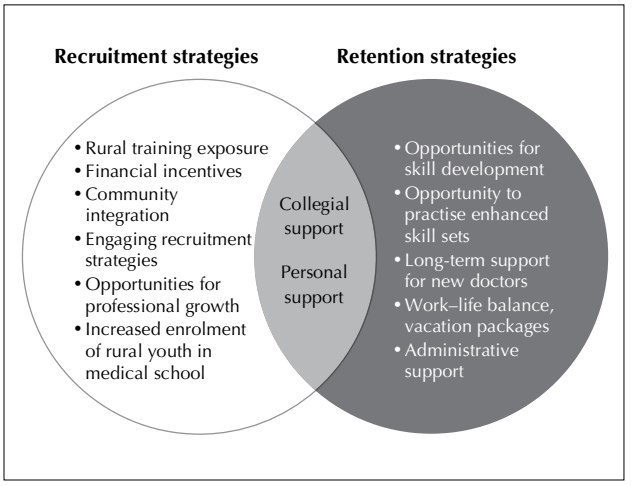


Fig. 1. Strategies that participants felt could help improve recruitment and retention in rural practice.

Table 3: Strategies mentioned for training residents and medical students to be a rural physician

Strategy	Description
Early rural exposure	Undergraduate training is important
Community integration	Find ways to involve learners in the community during training
Competencies	Specific competencies that target rural and remote skills
Supportive training environment	Encouraging preceptors; supportive faculty

training, was vital in increasing the number of students who consider rural practice as a career.

"We need to train physicians in the location that best approximates their future practice. So, if it's a rural-remote, then you train in a rural-remote setting."

Similarly, a few physicians felt that mandatory rotations in rural areas were beneficial to rural physician recruitment, since they exposed rural medicine to those who had not previously considered it. However, 1 participant disagreed with the concept of mandatory rotations, feeling that it could lead to animosity.

Some participants recommended selecting trainees who demonstrate specific skills required for rural practice, which may lead to a more positive experience during a rural rotation. Other training factors that encourage rural recruitment mentioned by participants included a supportive training environment with encouraging mentors and involving trainees in the social aspects of rural life such as community events and activities.

Although financial remuneration was considered beneficial for recruitment, participants indicated that it does not often promote retention to the area.

"Communities don't want physicians who are there for the money. They want physicians who will come and who will stay."

Some participants stated that having someone who actively recruits physicians to the community would attract more physicians to rural and remote areas. This person could help the physician become integrated into the community and could be available for ongoing support. The recruitment process should engage more trainees, rather than using a passive approach, in the hopes of building relationships and improving recruitment opportunities. Participants also mentioned that health agency websites and provincial registries should ensure that job postings are current and up-to-date.

"I think the people that end up being the recruiters don't really get the personal factors that are going to get someone to move to a community. I think they waste a lot of time on flashy adverts and this and that, but what they really need to do … [is], they just need to sit down … and develop a personal relationship with each of the [physicians]."

A few participants mentioned that, similar to having a recruitment coordinator, having temporary housing arranged for them before their arrival would help reduce the stress of moving to a new community.

Retention strategies that were mentioned by participants that are focused toward their professional needs were opportunities for skill development, support through mentors and a working environment that promotes teamwork and mutual support. In addition, quality administrative support in clinic was also deemed a beneficial retention strategy.

"I think collaborative colleagues who sit down together on a regular basis and make decisions together so you don't have a physician or two that's isolated … [that] can make retention very difficult so I think a cohesive group of physicians is a huge retention factor."

Enabling enough time for personal leave, having a healthy work–life balance, providing adequate education for children and providing employment opportunities for spouses were all factors considered to play a crucial role in long-term physician retention. Several recruitment and retention strategies are summarized in the following quote:

"A stable physician group would help to keep people there. … Colleagues who will support you and mentor you. Certainly, having a spouse that's happy here and the kids are happy. A hospital that it's easy to work in, that there's not a lot of politics."

Member checking

Member checking resulted in 4 physicians' providing positive feedback in response to an email sent to all participants that included a 2-page summary of the study and its findings.

DISCUSSION

The interviews conducted with Canadian family physicians showed that personal and community support as well as rural exposure during training were important factors in encouraging physicians to spend their career in a rural location. Furthermore, having a supportive work environment can help prevent burnout and ultimately staff turnover.

Personal factors such as family and spousal support and having a personality conducive to a rural lifestyle were also found to contribute to physician retention. There was some level of disagreement regarding financial incentives such as recruitment bonuses or higher salaries: some participants found these to be appealing, whereas others thought they would not solve long-term retention problems. The distance to larger centres was found to be one of the bigger obstacles for physician retention since all aspects of a physician's life, including maintaining relationships with family members, professional development and connecting with specialists and tertiary care centres, are affected by this distance. Lack of anonymity and having difficulty maintaining a social life outside of work were also cited by participants as being challenges associated with rural practice. Participants felt that problems with recruitment and especially retention can be mitigated through efforts made by the community to make physicians feel welcomed, integrated and respected.

Our results are in agreement with those of other investigators. The 3 most commonly cited factors found in the literature deal with issues related to salary and whether it can be used as an effective tool for both initial recruitment and long-term retention,[11] opportunities for professional development[12] and working environment.[13] These factors were also identified by the 2013 National Physician Survey, which showed that rural family physicians are less likely than their urban counterparts to be satisfied with their work–life balance and that the top 6 improvements to motivate rural family physicians are opportunities for continuing medical education/continuing professional development (52%), availability of locums (46%), more reasonable workloads (46%), access to hospital facilities/services (45%), ability to reduce on-call duties (38%) and more multidisciplinary support (10%),[14] all of which were highlighted by our participants. Other research on the effectiveness of pay incentives also shows that if such incentives were offered independently of other factors, money alone would not persuade physicians to practise rurally.[15,16] Opportunities for professional development and a positive work environment were both well-documented factors influencing a physician's decision to work in a rural location in our literature review[17] and were also noted as being important by our participants. The influence of being raised in a rural area has also been highlighted in the literature.[9] This factor was identified in 25% of the articles included in our literature review. In our qualitative interviews, some physicians agreed that being raised in a rural town was somewhat important, but this was not one of the most influential factors mentioned.

Limitations

Our results should be interpreted in light of the limitations associated with qualitative research, particularly when extending its implications to physicians across Canada. However, value and validity were added through the use of a participatory approach, collection of data until saturation and member checking. In future research, the application of quantitative analytical methods and random sampling of physicians from a national database would add to the information on rural recruitment and retention strategies collected in our study.

CONCLUSION

Our findings highlight a number of factors that influence recruitment and retention of family physicians to rural practice. A wide scope of practice, exposure to training in a rural setting, family and spousal support, and enjoyment of a rural lifestyle were considered very important factors for the recruitment and retention of family physicians by our participants. A supportive working environment was also influential, as it helps with initial community orientation and limits the possibility of burnout and turnover. Strategies that enable accessible and frequent continuing education opportunities, in addition to challenging work environments where the necessary tools and amenities are available to successfully complete tasks, are essential to physicians considering rural practice. Future research should investigate these strategies and evaluate their influence on family physician recruitment and retention to rural practice. This approach will ensure that successful strategies are implemented in order to initiate an upward trend in rural practice.

REFERENCES

1. Providing leadership for rural physicians. Shawville (QC): Society of Rural Physicians of Canada; 2015. Available: www.srpc.ca/srpc_about.html (accessed 2015 Nov. 6).
2. Supply, distribution and migration of Canadian physicians, 2011. Ottawa: Canadian Institute for Health Information; 2012. Available: https://secure.cihi.ca/estore/productSeries.htm?pc=PCC34 (open access) (accessed 2015 Nov. 6).
3. Canadian Collaborative Centre for Physician Resources. *Canadian physician resources – 2013 basic facts*. Ottawa: Canadian Medical Association; 2013.
4. Lawn JE, Rohde J, Rifkin S, et al. Alma-Ata 30 years on: revolutionary, relevant, and time to revitalise. *Lancet* 2008;372:917-27.
5. Rourke J. Increasing the number of rural physicians. *CMAJ* 2008; 178:322-5.

6. Rourke JT, Incitti F, Rourke L, et al. Keeping family physicians in rural practice. Solutions favoured by rural physicians and family medicine residents. *Can Fam Physician* 2003;49:1142-9.
7. Hansen V, Pit S, Honeyman P, et al. Prolonging a sustainable working life among older rural GPs: solutions from the horse's mouth. *Rural Remote Health* 2013;13:2369.
8. Li J, Scott A, McGrail M, et al. Retaining rural doctors: doctors' preferences for rural medical workforce incentives. *Soc Sci Med* 2014;121:56-64.
9. Wasko K, Jenkins J, Meili R. Medical practice in rural Saskatchewan: factors in physician recruitment and retention. *Can J Rural Med* 2014;19:93-8.
10. Kotzee TJ, Couper I. What interventions do South African qualified doctors think will retain them in rural hospitals of the Limpopo province of South Africa? *Rural Remote Health* 2006;6:581.
11. Mathews M, Sequin M, Chowdhury N, et al. A qualitative study of factors influencing different generations of Newfoundland and Saskatchewan trained physicians to leave a work location. *Hum Resour Health* 2012;10:18.
12. Odom Walker K, Ryan G, Ramey R, et al. Recruiting and retaining primary care physicians in urban underserved communities: the importance of having a mission to serve. *Am J Public Health* 2010; 100:2168.
13. Matthews M, Seguin M, Chowdhury N, et al. Generational differences in factors influencing physicians to choose a work location. *Rural Remote Health* 2012;12:1864.
14. Lung E, Kobeissi B, Kljujic D, et al. Employment issues among rural family physicians in Canada. National Physician's Survey [poster]. Presented at Canadian Association for Health Services and Policy Research conference, Toronto, May 12–15, 2014.
15. Heng D, Pong R, Pitaldo J, et al. Sources of data for rural health research: development of an inventory of Canadian databases. *J Agric Saf Health* 2005;11:219-27.
16. Rural and remote practice issues [CMA policy]. Ottawa: Canadian Medical Association; 2000.
17. Viscomi M, Larkins S, Gupta T. Recruitment and retention of general practitioners in rural Canada and Australia: a review of the literature. *Can J Rural Med* 2013;18:13-23.

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