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IN THIS ISSUE

DANS CE NUMÉRO

Occasional Eye Removal for Corneal Transplantation

Rural Women and Pharmacologic Care

Orientation of IMGs



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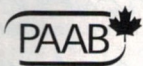
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Kenderdine Cabin

Oil on canvas panel, 9" x 12"

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This painting is of one of the small original cabins on the Kenderdine Campus of the University of Saskatchewan at Emma Lake, Sask. The campus has a very rich art history, from its founding by Gus Kenderdine in the 1930s, to the international artist workshops held through the 1960s and 1970s. Emma Lake has been home to artists from all over the world. Its setting in the natural boreal forest makes it a never-ending source of inspiration.

More of Cam Forrester's work can be seen at artistsincanada.com.



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DIRECTRICE ET ÉDITRICE
GLENDA PROCTOR

MANAGING EDITOR
DIRECTRICE DE LA RÉDACTION
KATE BROWN
800 663-7336 x2114
kate.brown@cma.ca

EDITORIAL COORDINATOR
COORDONNATRICE DE LA RÉDACTION
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PRODUCTION
KATHRYN A. FREAMO
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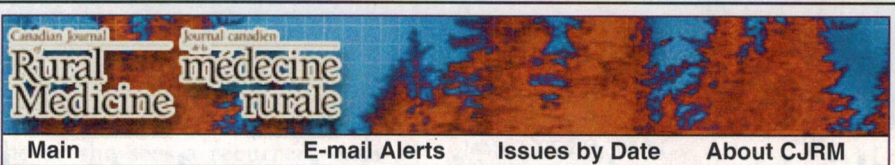
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Don't tell me I'm a specialist

*Peter Hutten-Czapowski,
MD
Scientific editor, CJRM
Halleybury, Ont.*

*Correspondence to:
Dr. Peter Hutten-Czapowski,
phc@rpsc.ca*

I have remained stubbornly impervious to the mantra that specialization in some way enhances the credentials of a doctor. — Simon Willcock

My (rural) auto mechanic is a generalist. He will fix my Corolla as easily as my Chrysler minivan. There actually isn't enough work in our town for someone to specialize in a foreign make. Our town also can't support an orthopedist, but there is enough work for our general surgeon (a real generalist surgeon who does a bit of orthopedics and the occasional cesarean).

There should be no shame in this — it's actually a virtue. Yes, the system that rural Canada has by necessity has evidence for the best outcomes for society. The best health care systems in the world are predominated by generalists.

Health care systems that depend on the family doctor, who has an office where he or she sees a recurrent case-load, reduce all-cause mortality and mortality caused by cardiovascular and pulmonary diseases.¹ They also reduce the need for emergency department visits and hospital admissions^{2,3} as well as giving better preventive care,^{4,5} including better detection of breast cancer and reduced incidence and mortality caused by colon and cervical cancer. We also give better patient satisfaction with less testing and less medication use, and a much lower total cost to society.^{6,7}

Volume does not improve results for most garden-variety diagnoses as a rule. It's only the rare diagnosis, such as prematurity, and highly complex procedural work, such as esophagectomies, pancreatic cancer surgery and angioplasty, that

have been shown in Canada to be best done in high-volume hospitals.⁸

Specialization, and especially specialization of family practice, is a threat to rural medicine as we don't have the volume to sustain it. I'm a generalist who has a hand in hospital care, emergency care, chronic care, maternity care and prevention, as well as that centre of continuity: office care. I am that most general of generalists, the rural general practitioner, and am mighty proud of the work that we as rural doctors do for our communities.

Don't tell me I'm a specialist.

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Ne venez pas me dire que je suis spécialiste

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

Correspondance : Dr Peter
Hutten-Czapowski,
phc@srpc.ca

Je me suis entêté à résister au mantra voulant que la spécialisation améliore d'une façon ou d'une autre les titres d'un médecin. — Simon Willcock

Mon mécanicien d'automobile (rural) est généraliste. Il répare ma Corolla aussi facilement que ma minifourgonnette Chrysler. Il n'y a en fait pas suffisamment de travail dans notre ville pour un spécialiste d'une marque étrangère. Notre ville ne peut pas non plus faire vivre un orthopédiste, mais il y a suffisamment de travail pour un chirurgien général (un vrai chirurgien généraliste qui fait un peu d'orthopédie et pratique une césarienne à l'occasion).

Il ne devrait y avoir aucune honte à cela — c'est en fait une vertu. Le système que la nécessité impose au Canada rural prouve que les résultats sont meilleurs pour la société. Les généralistes dominent les meilleurs systèmes de santé du monde.

Les systèmes de santé qui dépendent du médecin de famille, qui a un cabinet où il reçoit régulièrement des patients, réduisent la mortalité toutes causes confondues et la mortalité attribuable aux maladies cardiovasculaires et pulmonaires¹. Ils réduisent aussi le nombre des visites à l'urgence et des hospitalisations^{2,3}, administrent de meilleurs soins préventifs^{4,5}, et détectent mieux le cancer du sein tout en réduisant l'incidence et la mortalité attribuables au cancer du côlon et au cancer du col. Nous donnons aussi plus de satisfaction aux patients en les soumettant à moins d'exams et en leur faisant prendre moins de médicaments, le tout à un coût beaucoup moindre pour la société^{6,7}.

En règle générale, le volume n'améliore pas le résultat pour la plupart des diagnostics ordinaires. C'est seulement pour les diagnostics rares, comme

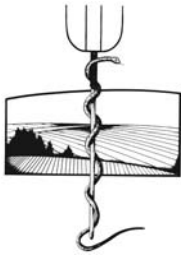
la prématurité, et d'interventions très complexes, comme l'œsophagectomie, la chirurgie du cancer du pancréas et l'angioplastie, qu'on a démontré qu'il est préférable de les pratiquer dans des hôpitaux à fort volume au Canada⁸.

La spécialisation, et particulièrement celle de la médecine familiale, constitue une menace pour la médecine rurale, car nous n'avons pas les volumes de patients nécessaires pour la faire vivre. Je suis un généraliste qui s'occupe de soins hospitaliers, de soins d'urgence, de soins chroniques, de soins en maternité et de prévention, ainsi que de ce qui constitue le pivot de la continuité, les soins en cabinet. Je suis le plus général des généralistes, l'omnipraticien rural, et je suis très fier du travail que nous faisons comme médecins ruraux pour nos communautés.

Ne venez pas me dire que je suis spécialiste.

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President's message. Trouble brewing

*Karl Stobbe, MD,
CCFP(EM), FCFP
Beamsville, Ont.*

*Correspondence to:
Dr. Karl Stobbe,
kstobbe@srpc.ca*

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Our Society of Rural Physicians of Canada (SRPC) has been effective in improving morale for our members during its 16 years of existence. In addition, we have had great success in providing rural-relevant continuing medical education through our annual Rural and Remote Medicine Conference and the Rural Critical Care Course. We have established ourselves as a national medical organization, and we speak as the voice of Canada's rural physicians to the government, to other medical organizations and to the press. Rural doctors across Canada are better connected with each other: some of us talk regularly via teleconference meetings; many more via RuralMed. We can connect with like-minded colleagues, vent and rant, and celebrate the joys and challenges of rural practice and rural life. This brings us together, even though we're separated by Canada's vast geography.

However, after speaking with many of you and reading this summer's RuralMed postings, I see trouble brewing. For many of you, trouble is already here. As the physician shortage in Canada deepens, rural Canada is disproportionately affected. Government initiatives such as wait time guarantees, though important and successful, are urban solutions to urban problems. The rural population of this country comprises over 20% of the total population. This is more than the number of seniors. More than the number of children. More than the populations of 8 of our provinces. More people than the populations of Alberta, Saskatchewan and Manitoba combined.¹

Imagine a government program that

provides *half* the level of service to seniors, to children or to the people in our Prairie (or Atlantic) provinces compared with the rest of Canada. We have such a program, and it's aimed at rural Canadians: our health care system. Although this is not the intent of the government policy, it is the effect. A change of policy is needed.

We've tried a number of single solutions. We recruit doctors from other countries and from other provinces. This relocates the doctor shortage. We've created rural training programs. Great training, but city kids go back to the city.² We lure doctors with money; after the money's gone they leave.³ And rural Canadians suffer: shorter life expectancy, more health problems and poor access to care.^{4,5}

There is a way forward. The SRPC has developed a broad-based national strategy (the National Rural Health Strategy) to provide rural Canadians with fair access to health care. This must be implemented by the federal government, for all rural Canadians. I will be meeting with politicians in Ottawa this fall to tell them about it.

In order to act, politicians will need to hear many voices. Talk to your politicians. Show them our solution. Share with them the SRPC's National Rural Health Strategy. You can get it by emailing us at admin@srpc.ca, calling our office at 877 276-1949 or from the website at www.srpc.ca/librarydocs/nrhs.pdf.

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Message du président. Des problèmes à l'horizon

*Karl Stobbe, MD,
CCFP(EM), FCFP
Beamsville (Ont.)*

*Correspondance :
Dr Karl Stobbe,
kstobbe@srpc.ca*

La Société de la médecine rurale du Canada (SMRC) a réussi à améliorer le moral de ses membres au cours de ses 16 ans d'existence. Nous avons aussi connu beaucoup de succès en offrant de l'éducation médicale continue pertinente à la pratique rurale dans le cadre de notre Congrès annuel de la médecine en milieu rural et éloigné et du cours sur les soins intensifs en milieu rural. Nous nous sommes établis comme organisation médicale nationale et nous sommes la voix des médecins ruraux du Canada auprès du gouvernement, d'autres organisations médicales et de la presse. Les médecins ruraux du Canada sont mieux reliés les uns aux autres : certains d'entre nous participent à des téléconférences périodiques alors que beaucoup d'autres se parlent via RuralMed. Nous pouvons avoir des contacts avec des collègues aux vues similaires, nous défouler et divaguer, célébrer les joies et les défis de la pratique et de la vie en milieu rural. Cela nous rassemble, même si la vaste géographie du Canada nous sépare.

Or, après avoir parlé à beaucoup d'entre vous et avoir lu les messages affichés cet été sur RuralMed, j'entrevois des problèmes à l'horizon. Pour beaucoup d'entre vous, les problèmes sont déjà là. La pénurie de médecins qui s'aggrave au Canada frappe de façon

disproportionnée le Canada rural. Même si elles sont importantes et fructueuses, les initiatives gouvernementales comme les garanties sur les temps d'attente sont des solutions urbaines à des problèmes urbains. La population rurale constitue plus de 20 % de la population totale du Canada. C'est plus que le nombre de personnes âgées. Plus que le nombre d'enfants. Plus que les populations de 8 de nos provinces. C'est plus que les populations de l'Alberta, de la Saskatchewan et du Manitoba combinées¹.

Imaginons un programme gouvernemental qui fournirait la moitié du niveau de service aux personnes âgées, aux enfants, à la population des provinces des Prairies (ou des provinces atlantiques) comparativement au reste du Canada. De tels programmes existent et ils visent les Canadiens ruraux : c'est notre système de santé. Même si ce n'est pas le but de la politique du gouvernement, c'en est l'effet. Un changement de politique s'impose.

Nous avons fait l'essai de nombreuses solutions individuelles. Nous recrutons des médecins à l'étranger et dans d'autres provinces, ce qui déplace la pénurie de médecins. Nous avons créé des programmes de formation rurale. C'est une excellente formation, mais les enfants de la ville retournent en ville². Nous attirons des médecins

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*Karl Stobbe, MD,
CCFP(EM), FCFP
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*Correspondance :
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kstobbe@srpc.ca*

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Imaginons un programme gouvernemental qui fournirait la moitié du niveau de service aux personnes âgées, aux enfants, à la population des provinces des Prairies (ou des provinces atlantiques) comparativement au reste du Canada. De tels programmes existent et ils visent les Canadiens ruraux : c'est notre système de santé. Même si ce n'est pas le but de la politique du gouvernement, c'en est l'effet. Un changement de politique s'impose.

Nous avons fait l'essai de nombreuses solutions individuelles. Nous recrutons des médecins à l'étranger et dans d'autres provinces, ce qui déplace la pénurie de médecins. Nous avons créé des programmes de formation rurale. C'est une excellente formation, mais les enfants de la ville retournent en ville². Nous attirons des médecins

avec de l'argent. Lorsqu'il n'y a plus d'argent, ils partent⁵. Les Canadiens ruraux en souffrent : espérance de vie plus courte, problèmes de santé plus nombreux et accès médiocre aux soins^{4,5}.

Il y a moyen d'aller de l'avant. La SMRC a établi une stratégie nationale générale (la Stratégie nationale sur la santé rurale) afin de donner aux Canadiens ruraux un juste accès aux soins de santé. Le gouvernement fédéral doit la mettre en œuvre pour tous les Canadiens ruraux. Je rencontrerai des politiciens à Ottawa cet automne pour leur en parler.

Les politiciens doivent entendre de nombreuses voix pour agir. Parlez à vos politiciens. Présentez-leur notre solution. Faites-leur part de la Stratégie nationale sur la santé rurale de la SMRC. Vous pouvez le faire en nous envoyant un message à admin@srpc.ca, en appelant notre bureau au 877 276-1949, ou en passant par notre site web à www.srpc.ca/librarydocs/nrhs.pdf.

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Doctors Speak Out

Podium — Letters to the Editor — Editorials

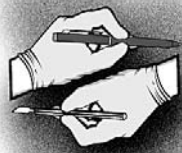
We invite physicians to speak out on issues that concern them. Send your submissions to Suzanne Kingsmill, Managing Editor, *CJRM*, P.O. Box 4, Station R, Toronto ON M4G 3Z3; cjrm@lino.com

Les médecins s'expriment

La parole aux médecins — Lettres à la rédaction — Éditoriaux

Nous invitons les médecins à commenter les questions qui les intéressent.

Faites parvenir vos textes à Suzanne Kingsmill, rédactrice administrative, *JCMR*, C. P 4, succ. R, Toronto (Ontario) M4G 3Z; cjrm@lino.com



ORIGINAL ARTICLE ARTICLE ORIGINAL

A qualitative study of the international medical graduate and the orientation process

Vernon Curran, PhD
Director of Academic
Research and Development,
Associate Professor of
Medical Education, Faculty
of Medicine, Memorial
University, St. John's, NL

Ann Hollett, MA
Research Coordinator,
Faculty of Medicine,
Memorial University,
St. John's, NL

Scarlett Hann
Provincial Recruitment
Officer, Newfoundland and
Labrador Health Boards
Association, St. John's, NL

*Catherine Bradbury,
MD*
Director, Physician Services,
Department of Health and
Community Services,
Government of Newfoundland
and Labrador, St. John's, NL

*Correspondence: Dr. Vernon
Curran, Centre for Collaborative
Health Professional
Education, Faculty of Medi-
cine, Memorial University of
Newfoundland, St. John's NL
A1B 5V6; fax 709 777-6576*

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reviewed.*

Introduction: International medical graduates (IMGs) play an important role in physician resource planning in many countries and are heavily relied on to fill vacancies in underserved communities. New IMGs may experience difficulty with understanding how medicine is organized in new countries. Effective orientation processes can assist new IMGs in making successful transitions to medical practice in their new countries, reducing professional isolation and enhancing the integration of IMGs and their families within their new communities. The purpose of this qualitative study was to explore perceptions of, and experiences with, orientation processes for new IMGs.

Methods: A stratified sample of IMGs and senior administrators of medical services from each of the regional health authorities in Newfoundland and Labrador was invited to participate in semistructured telephone interviews.

Results: Thirteen general practitioners/family physicians, 6 specialists and 4 administrators were interviewed. New IMGs need to learn about the health care system and the peculiarities of the specific practice context in which they will be working. Orientation needs to include opportunities for reflecting on one's own cultural biases and for learning about the cultural background and beliefs of a new patient population. Mentoring and effective integration within the community also emerged as important components of effective orientation processes.

Discussion: Our findings suggest that orientation processes for new IMGs must be attentive to both professional and personal needs, comprehensive, multifaceted and sustained. Orientation that is responsive to the various needs of new IMGs and their families may contribute to enhanced retention.

Conclusion: Effective orientation processes are an important means of reducing professional isolation and supporting new IMGs in the transition to medical practice in their new communities.

Introduction : Les diplômés de facultés de médecine étrangères (DFMÉ) jouent un rôle important dans la planification des effectifs médicaux dans beaucoup de pays et on compte énormément sur eux pour combler des postes vacants dans les communautés mal desservies. Les nouveaux DFMÉ peuvent avoir de la difficulté à comprendre l'organisation de la médecine dans un nouveau pays. Des processus efficaces d'orientation peuvent aider les DFMÉ à réussir le passage à la pratique de la médecine dans leur nouveau pays, réduisant ainsi l'isolement professionnel et améliorant l'intégration des DFMÉ et de leur famille dans leur nouvelle communauté. Cette étude qualitative visait à explorer les perceptions des processus d'orientation des nouveaux DFMÉ et leurs expériences à cet égard.

Méthodes : On a invité un échantillon stratifié de DFMÉ et de cadres supérieurs de services médicaux de chacune des régions régionales de la santé de Terre-Neuve et Labrador à participer à des entrevues téléphoniques semi-structurées.

Résultats : On a interviewé 13 omnipraticiens-médecins de famille, 6 médecins spécialistes et 4 administrateurs. Les nouveaux DFMÉ doivent être renseignés sur le système de santé et les particularités du contexte où ils travailleront. L'orientation doit inclure des possibilités de réfléchir à ses propres préjugés culturels et de s'initier et aux

antécédents culturels d'une nouvelle population de patients. Le mentorat et une bonne intégration dans la communauté sont aussi apparus comme des éléments importants de processus efficaces d'orientation.

Discussion : Nos constatations indiquent que les processus d'intégration des nouveaux DFMÉ doivent être attentifs aux besoins tant professionnels que personnels, et être complets, à facettes multiples et soutenus. Une orientation à l'écoute des besoins des nouveaux DFMÉ et de leur famille peut contribuer à améliorer le maintien en poste.

Conclusion : Des processus efficaces d'orientation sont un moyen important de réduire l'isolement professionnel et d'aider les nouveaux DFMÉ à effectuer la transition vers la pratique de la médecine dans leur nouvelle communauté.

INTRODUCTION

Many countries depend on a regular supply of international medical graduates (IMGs) or doctors trained overseas to join national medical workforces.^{1,2} In Canada, designation as an IMG refers to the place of medical education and the term refers to a physician who received a medical degree outside a Canadian medical school (accredited by the Committee on Accreditation of Canadian Medical Schools), or outside a US medical school (accredited by the Liaison Committee on Medical Education).³ An IMG may be

- a Canadian citizen or permanent resident who went abroad to study medicine;
- a Canadian citizen or permanent resident who studied medicine abroad before immigrating to Canada;
- a citizen of another country who studied abroad and is visiting Canada temporarily to study, teach or do research; or
- a citizen of another country who studied medicine and lives abroad.³

An IMG may also be referred to as a foreign medical graduate, an internationally trained physician, a foreign-trained physician, a foreign medical doctor, a foreign-trained doctor, an internationally trained medical doctor or a physician practising outside of Canada.⁵ These physicians may also have a wide range of backgrounds. They may

- have several years of independent practice experience in their country;
- have just recently completed medical school;
- have completed a residency training program;
- have gone directly into practice with no requirement for a residency;
- be from a country with a medical education system similar to Canada's; or
- be from a country whose medical education system is very different from Canada's.

Each province or territory in Canada has responsibility for the regulation of the practice of medicine in its respective jurisdictions. As a result, the process for registration to practise medicine in Canada varies from each province or territory for IMGs. This licensure process has many stages and can seem complex to those not familiar with the Canadian approach. Depending on the province or territory, licensure may involve the following:

- a series of exams (eligibility, program selection, qualifying, certification);
- language proficiency tests;
- credentialing;
- postgraduate training and assessment;
- return-of-service agreements (practising in an underserved community for an agreed upon period of time).³

In the province of Newfoundland and Labrador the shortage of physicians is particularly problematic in rural communities, and IMGs represent an important resource for bridging this shortfall.⁴ In 2005 alone, Newfoundland and Labrador provided new employment sponsorship to about 100 new physicians; however, less than 50% will settle in the province for a period greater than 2 years.⁴ Previous work in the area of physician retention suggests that a variety of personal, cultural, organizational and familial factors influence physicians' decisions to leave or remain.^{5,6} For IMGs, immigrating to a new country means adapting to differences in disease patterns, levels of technology, treatment options, forms of health care delivery, language, culture, lifestyle, gender roles and, in some ways, status.⁷ IMGs have reported feelings of alienation, anger and isolation when entering new medical workforces, and may have difficulty familiarizing themselves with the administrative aspects of a new medical practice.⁸ Inadequate orientation has been cited as a real concern by new physicians establishing practices in rural communities.⁹

Grimshaw¹⁰ suggests that current orientation models assume that a new physician can immediately jump in and be successful; however, these models don't quite work. It takes longer for new physicians to become oriented and to feel like an integral part of the practice. It has been suggested that effective orientation that builds both professional and personal relationships, and enhances understanding and integration into the new working environment is key to the retention of IMGs.^{1,7} Across a number of commonwealth countries (e.g., the United Kingdom, Australia and New Zealand) there have been calls for better orientation to national health care systems and the workplace, and for improving communication with patients and other health care workers.^{2,11,12} Different approaches to IMG orientation have been reported, including centralized induction courses, supervised attachments, and mentoring and peer-support programs.^{2,8,13,14} The Canadian Task Force on Licensure of International Medical Graduates¹⁵ has recommended the development of orientation programs that highlight the cultural, ethical and legal organization of medicine in Canada.

Han and Humphreys⁵ suggest that what facilitates and inhibits the integration of overseas-trained doctors and their families into rural communities, and how, is not well known. Kearns and colleagues⁶ suggest that the concept of "experiential place integration" is relevant to the retention of rural doctors as it highlights the relationship between a rural practitioner's strength of feeling part of a community (i.e., feeling "in place") and the degree of integration with his or her host community. According to Kearns and colleagues⁶ it might be speculated that the more rural practitioners are integrated into a community, the less likely they are to leave, and hence, the greater the contribution to a positive retention rate.

The purpose of our qualitative study was to explore the perceptions and orientation experiences of IMGs who practise or have practised in Newfoundland and Labrador. Health and community services in the province are provided through 4 regional health authorities and, at the time of our study, a variety of approaches to IMG orientation were reported to exist. Staff orientation workshops are typically offered by each regional health authority throughout the year. New physicians are provided with tours of the facilities in which they will be working and medical directors often provide an overview of the regional health authority, the organization and delivery of medical services. Upon arrival, it was reported that new physicians are provided with checklists for self-directed orientation

and (or) a list of scheduled appointments with colleagues and resource people in various divisions or departments. A variety of documentation is provided during orientation, including copies of relevant policies and procedures.

IMGs have also been required to participate in an orientation from the College of Physicians and Surgeons of Newfoundland and Labrador, which included information on understanding Canadian medical practice. It was reported that some regional health authorities and practice sites arranged specific orientation activities. In some instances, the IMG may have received a social/community orientation and one region reported the use of community representatives to help ease the transition into the community for the IMG and his or her family.

Within the province, the Clinical Skills Assessment and Training (CSAT) program is also available to IMGs. The CSAT program operates from the Western Memorial Regional Hospital in Corner Brook, NL, and is governed through the Professional Development Department, Faculty of Medicine, Memorial University of Newfoundland. The CSAT program is designed to assess core knowledge, skills and competencies of physicians in a general/family practice setting. It provides specific, individualized training, as prescribed by the assessment process and evaluates the effectiveness of the training through in-training evaluation and, in some situations, a reassessment. This program is regarded as a "best practice" approach to integrating orientation with clinical skills training. Physicians entering the CSAT program referred by the College of Physicians and Surgeons of Newfoundland and Labrador must be sponsored by a health authority. This sponsorship may be in the form of financial assistance for the CSAT program for which a return-of-service agreement is then required.

Audas and Vardy¹⁶ conducted a survey of physicians who practised under a provisional licence in Newfoundland and Labrador during the years 1995 through 2004. The findings suggest that IMGs continuing to practise in the province were more likely to have reported participation in an orientation upon entering practice. Most of those reporting participation in an orientation reported they had also received an orientation to the health facilities in which they worked and to relevant policy. However, most of the IMG respondents also reported they had not received any orientation to the Canadian, provincial and (or) regional health system or orientation to the community in which they would be practising or living. Spousal orientation was also

reported as a missing component of the orientation received by most IMGs.

Effective orientation practices would appear to be an important element in enhancing retention of rural physicians. An exploration of the perceptions of IMGs and their experiences related to orientation programming is a useful step in identifying ways to improve orientation and retention strategies for new IMGs.

METHODS

A stratified sample of IMGs recruited within 24 months of the study start date and of IMGs who had relocated from their original practice location in the province to another practice location, either in the province or elsewhere in Canada, within 48 months of the study start date were invited to participate in semistructured telephone interviews. Stratification was based on the original practice location of the IMG within the regional health authority organizational structure. The goal was to recruit a sample of IMGs from across rural communities and regional health authorities within the province. Senior administrators of medical services from each of the regional health authorities in the province were also invited to participate in semistructured telephone interviews. Interview questions for IMGs dealt with specific experiences with orientation practices at professional and personal levels, as well as suggestions for improving the IMG orientation experience. Medical services administrators were asked to comment on perceptions of effective orientation practices and ways to improve orientation experiences for new IMGs. Interviews were conducted between Aug. 3, 2006, and Oct. 16, 2006, and were audiotaped, transcribed and coded using Ethnograph 7.0 software (Qualis Research). Data were analyzed using the constant comparative method¹⁷ and ethics approval was received from the Human Investigations Committee, Memorial University of Newfoundland.

RESULTS

Thirteen family physicians and 6 specialists were interviewed, and time practising in the province ranged from 11 months to 8 years. The respondents' country of origin included countries in the regions of Africa, South Asia and the Middle East, and years of practice experience ranged from 1 to 31 years. Four senior administrators of medical services, one from each of the regional health authorities in the province, were also interviewed.

Orientation to the Canadian health system and practice context

Orientation was described as a particularly important process for IMGs and "meeting colleagues" and "touring facilities" were highlighted as important components. Orientation to the Canadian health system was identified as essential and included learning about the organizational structure, policy and procedures in which new IMGs would be practising:

From the professional perspective, they need to know how to fit into the system and make sure that they've got all the necessary contact information to practise professionally. — Regional health authority senior administrator of medical services

Orientation to the Canadian health care system also included awareness of culturally acceptable medical practices and patient expectations. The cultural background of an IMG was believed to have a strong influence on the type of medical practices he or she was comfortable performing:

It's part of the cultural thing ... we need to be aware of what are the types of things that these new physicians may find different in their practice, and particularly when it comes to women's health issues ... where they've come from, a lot of this is done by a female physician or a female of some other sort of health profession. So when they come here, we're coming with certain expectations and they have not done these things in their day-to-day activities. So, unless they're familiarized with Canadian culture and the Canadian system, they might not even be able to identify them because they may not see them as issues themselves. — Regional health authority senior administrator of medical services

An enhanced understanding of the population, socio-cultural values and beliefs, and awareness of population health characteristics were also considered to be important components of orientation for IMGs:

... especially when you're talking about rural practice. It's a little bit different because there are a lot of challenges, and I didn't discover them until I actually started working; some focus should be on the local issues pertinent to that area. — IMG, general practitioner, relocated, current practice in Newfoundland and Labrador

Language and communication skills were identified as important issues to address as part of the orientation process:

They need to understand as well the culture that they're going into. Language, in particular, has been cited as an issue sometimes, and particularly in rural areas where we have some interesting dialects and that can be a real challenge sometimes ... it's important to get a sense of what that individual's communication skills are in the orientation process. — Regional health authority senior administrator of medical services

Cultural sensitivity

Cultural sensitivity emerged as an important theme and had implications for new IMGs as well as medical and health staff with whom IMGs were working. Cultural sensitivity needed to be fostered throughout the organization, and respondents felt it was important that staff were sensitive to different cultural values and beliefs, and respected such differences through their working relationships:

There probably needs to be some focus at some point during the year on the richness of the multicultural community that we do have in our physicians. I don't think we actually celebrate that in any way, and it may be helpful for some sort of process that recognizes, appreciates, complements the diversity that we do have and lends itself to mutual respect in a variety of cultural practices. — Regional health authority senior administrator of medical services

Mentoring

Mentoring also emerged as an important component of a responsive orientation process for new IMGs:

I think one of the ideal things that we could do with an IMG, particularly sending them out to a rural area where they're alone and operating in a solo practice, is if there could be a way to have a buddy system and have them placed ... with another physician for a period of time, just for the introduction to the health care system in Canada. — Regional health authority senior administrator of medical services

A number of respondents discussed the importance of the provincial CSAT program as a means for new IMGs to receive such mentoring and to enhance clinical skills and understanding of the Canadian health system. Respondents with prior CSAT experience generally reported more positive perceptions of mentoring and mentoring relationships:

I think the main thing would be the CSAT program because during that program ... it's a full program of orientation. So they walk you through different practices ... and during that time you will be with a mentor and he will guide you through the processes. — IMG, general practitioner, relocated, current practice in Newfoundland and Labrador

Orientation to community and place

Orientation to the community in which one would be living and the range of amenities and services available was identified as another important component of an effective orientation process. Information about banking, housing, schooling and recreational opportunities was identified as an important

need for new IMGs. Support for spouses was also described as an important component of orientation:

A lot of priority should be given to helping physicians and their families adjust and settle in these parts and that, of course, goes into help with schools for the kids and jobs for the spouses if they are so inclined to work and especially with housing. — IMG, general practitioner

Facilitating sociocultural connection within the community and with others from the same cultural background was also identified as an important factor in fostering integration into community and place. An administrator described the use of "community representatives" as one way to facilitate the transition for IMGs and their families:

We arrange community linkages. We do have some community reps in various areas that will actually take physicians and families out and give them tours of the area, introduce them to the services offered with respect to day care programs for children and things like that. And we also try to link them with other members in the community, whether they're physicians or not, of the same culture, race, religion ... so they can develop a contact with their culture when they come initially. — Regional health authority senior administrator of medical services

Respondents felt it was important to include colleagues from similar backgrounds in the orientation process as well as groups that offer support for new Canadians (e.g., the Association for New Canadians).

Time for transition

Time for transition emerged as an important theme with overarching significance for orientation for new IMGs. Respondents perceived the need for more time for orientation and greater support over a prolonged transitional period for new IMGs entering practice in the Canadian health system:

I think there needs to be some sort of transition period in which people have a chance to acquire those skills because all of a sudden they're staff and that's not a good transition for them, and I know several of us have been quite stressed with that. — IMG, general practitioner

DISCUSSION

Several prominent themes related to orientation at professional and personal levels for new IMGs emerged from our study. On a professional level, respondents felt it was necessary for new IMGs to receive relevant orientation to the Canadian health system. The influence of an IMG's own cultural beliefs on his or her medical practice as well as an understanding of the cultural background and

beliefs of the population he or she would be working with were highlighted as being important. Cultural sensitivity emerged as a significant theme and was believed to be something which needed to be fostered throughout health organizations. Orientation to the community and mentoring were also identified as important components of effective orientation. Minimizing the experience of "isolation" meant paying particular attention to helping IMGs adjust and integrate within their new communities.

Hall and colleagues¹⁸ found that IMGs studying in Canada needed to learn about how to work in the Canadian health care system, including a better understanding of legal and ethical issues. The Canadian Task Force on Licensure of International Medical Graduates¹⁵ has identified the following topics as being important for new IMG orientation:

- Canadian medical system;
- principles of medicare;
- provincial health care system;
- provincial health care insurance plans;
- nature and structure of national and provincial licensing and registration requirements;
- liability coverage;
- professional associations and memberships;
- practice support;
- practising medicine in Canada; and
- Canadian context of practice.

Whelan⁷ suggests that some IMGs may carry a cultural perspective, including cultural biases or misperceptions. A poor understanding of cultural differences between the IMG and his or her patients and colleagues can cause distress and have a negative impact on medical practice and workplace relationships.^{2,18} Orientation programs that help to facilitate cultural adjustment related to the perceived discrepancies between the culture of medicine in the country of origin and the new place of practice are important.^{11,19,20} A better understanding of the English language, particularly the use of idioms, nuances and vernacular terms and the more common or ordinary terms used by patients and families is also important.^{11,18}

Sociocultural integration is an important retention concern with respect to IMGs in rural communities and includes such things as the acceptance of the practitioner by the community, the spouse's happiness in the community and the availability of religious support structures.^{6,21} Maintaining cultural and religious values, as well as relationships with respective ethnic communities, is important to overseas-trained doctors.⁵ Carlier and colleagues¹ suggest that information on how to obtain food peculiar to the

IMGs country of origin, arranging links with families from the same ethnic/religious background and support from a local mentor family can also help.

Our findings suggest that orientation processes for new IMGs must be needs-based, relevant, comprehensive, multifaceted and sustained. Different IMGs arrive with different needs, and in some instances it may be necessary to individualize specific aspects of orientation. Orientation must include information that is relevant to the type of practice in which the IMG will be working. Orientation processes must be attentive to both the professional and personal needs of the IMG and his or her family. Factors that influence physicians' decisions about locating and remaining in rural practices are often rooted in the community. Successfully integrating new IMGs into rural communities not only reduces their loneliness and isolation, but also enhances the prospects for their long-term retention.⁵ Addressing community issues should be part of orientation and retention strategies, and effective integration of the community and health care into these efforts increases their success.²² Orientation must also be approached as a process that occurs over time. During this time of transition it is important to maintain an ongoing system of support for the new IMG to ensure effective integration on professional and personal levels.

Topics that would be of practical value in orientation programming for new IMG practitioners include the Canadian health system, organization and structure of medical services within the community or region of practice, relevant rules and policies of the practice site, and cultural idiosyncrasies and language uses of the community/region of practice. Mentoring programs that enable the new IMG to be supported by a colleague familiar with the work site and the community would also be useful. As well, an emphasis on spousal and familial support to assist with integration into the community would also be helpful to new IMGs and their families.

CONCLUSION

IMGs play an important role in addressing health human resource shortages in rural communities across Canada. Effective orientation processes that address the professional and personal needs of new IMGs and their family members are important in supporting the transition to medical practice in a new country, reducing professional isolation and enhancing the successful integration of the IMG and his or her family within the community. Orientation programs that address these varied needs in a

comprehensive manner are more likely to be successful in improving retention of IMGs in rural communities.

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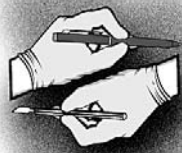
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CORRECTION

In a recent off call article,¹ Linda Johannson's email address should have been listed as ljohnnson@yahoo.com. We apologize for the error.

REFERENCE

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Rural women and pharmacologic therapy: needs and issues in rural Canada

Beverly D. Leipert, PhD, RN

Chair, Rural Women's Health Research, Faculty of Health Sciences and Faculty of Medicine and Dentistry, University of Western Ontario, London, Ont.

Doreen Matsui, MD, FRCPC

Departments of Paediatrics and Medicine, Faculty of Medicine and Dentistry, University of Western Ontario, London, Ont.

Jessica Wagner, RN, BScN, MScN

Nurse practitioner student, School of Nursing, University of Western Ontario, London, Ont.

Michael J. Rieder, MD, PhD, CIHR-GSK

Chair, Paediatric Clinical Pharmacology, Division of Clinical Pharmacology, Departments of Paediatrics, Physiology and Pharmacology and Medicine, Schulich School of Medicine and Dentistry, University of Western Ontario, London, Ont.

Correspondence to:

Dr. Beverly Leipert, Faculty of Health Sciences and Faculty of Medicine and Dentistry, Rm. H029, Health Sciences Addition, University of Western Ontario, London ON N6A 5C1; bleipert@uwo.ca

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Introduction: The needs and issues of rural women regarding pharmacologic information and therapy are rarely explored. We sought to explore the needs and issues of rural women in Canada regarding drug-related information and prescription and nonprescription pharmaceuticals.

Methods: We used the qualitative methodology of interpretive description. In-depth semistructured face-to-face interviews were conducted with 20 women aged 17–88 years who lived in rural southwestern Ontario.

Results: Although rural women accessed prescription medications, complementary and alternative medicine (CAM) was highly favoured, and alcohol and illicit drugs such as marijuana, crystal meth and cocaine were prevalent in rural communities. Factors that affected rural women's decisions about which medications to use included access to health care practitioners, costs of medications, experiences of family members and friends with prescribed and alternative medications, attitudes and approaches of health care providers and health store employees, and the women's own expectations and desires. Factors that affected the use of illicit drugs included availability, boredom, peer pressure and cultural norms. Rural factors that influenced access to drug information and use included presence or lack of confidential care, distance to resources, and presence, accessibility and acceptability of rural resources.

Conclusion: Rural women use a variety of drug therapies and sources of information, and experience unique socioeconomic and environmental issues that affect access to appropriate drug-related information and therapies. Further research is needed to clarify and articulate pharmacologic needs, issues and solutions for women in diverse rural settings.

Introduction : On étudie rarement les besoins et les problèmes des femmes rurales en ce qui concerne l'information pharmacologique et la pharmacothérapie. Nous avons voulu explorer les besoins et les problèmes d'information des femmes rurales du Canada sur les médicaments et sur les produits pharmaceutiques d'ordonnance et en vente libre.

Méthodes : Nous avons utilisé la méthodologie qualitative de la description d'interprétation. Nous avons effectué des entrevues personnelles semiestructurées approfondies avec 20 femmes âgées de 17 à 88 ans vivant en milieu rural dans le sud-ouest de l'Ontario.

Résultats : Même si les femmes rurales ont accès aux médicaments d'ordonnance, les produits de la médecine complémentaire et parallèle (MCP) sont très populaires, et l'alcool et les drogues illicites comme la marijuana, le crystal meth et la cocaïne sont prévalentes dans les communautés rurales. L'accès aux praticiens des soins de santé, les coûts des médicaments, l'expérience des membres de la famille et des amis face aux médicaments d'ordonnance et autres, les attitudes et les approches des fournisseurs de soins et des employés des magasins de produits de santé, ainsi que les attentes et les désirs des femmes elles-mêmes, sont au nombre des facteurs qui influencent les décisions des femmes rurales en matière de pharmacothérapie. Par ailleurs, les facteurs qui influencent l'utilisation des drogues illicites comprennent la disponibilité, l'accès, l'ennui,

la pression des pairs et les normes culturelles. Les facteurs ruraux qui influencent l'accès à l'information sur les médicaments et leur utilisation comprennent la présence ou l'absence de soins confidentiels, l'éloignement des ressources, ainsi que la présence de ressources rurales, leur accessibilité et leur acceptabilité.

Conclusion : Les femmes rurales utilisent tout un éventail de pharmacothérapies et de sources d'information, et vivent des problèmes socioéconomiques et environnementaux particuliers qui ont une incidence sur l'accès à l'information au sujet des médicaments et des pharmacothérapies appropriées. Une recherche plus poussée s'impose pour clarifier et définir les besoins pharmacologiques, les problèmes et les solutions des femmes vivant dans divers contextes ruraux.

INTRODUCTION

The study of rural women's health has been much neglected in the United States^{1,2} and in Canada, where about 1 in 5 women live in a rural area.^{3,4} Rural women in Canada experience particular physical and mental health issues and unique geographical and cultural contexts that contribute to injury from farm machinery and animals,⁵ cancers related to toxins⁶ and limited access to health promotion, illness prevention, treatment and rehabilitation resources.^{3,7} In addition, rural women have particular drug-related needs, depending on their values and health status. Mental health issues such as despair, depression and psychological distress are becoming increasingly common for rural women as they and their families cope with downturns in rural economies and rural depopulation.⁷

Geographical issues that influence rural women's needs and solutions regarding drug information and therapies include distance to health care professionals, weather and road conditions, access to a vehicle, and access to, and facility with, technology such as computers and telephones.^{4,9} In addition, rural cultural beliefs and values can affect how health issues are defined, valued and addressed. For example, issues related to mental health may be stigmatized, and even if local remedies are available, rural people may not use them because of real or imagined lack of confidentiality and anonymity.¹

In 2005, rural areas in Canada were served by only 16% of family physicians and 2% of specialists.¹⁰ Practising rural physicians compared with urban physicians are significantly more likely to be male.¹¹ In some rural settings the community health nurse may be the only health care professional or the only female health care professional.¹² Rural areas may have difficulties retaining pharmacists and pharmacies, and many small and independent pharmacies are under financial stress.¹³

Little is known about the use of medications by

rural women as few studies have focused on this population. In a study of rural gynecologic patients in the United States,¹⁴ 92% of women reported using prescription drugs, 97% took at least 1 over-the-counter drug, 59% used at least 1 herbal product and nearly 25% of participants took psychotherapeutic agents (81% of these were antidepressants). Prescription drug use in this population increased with age (all women 55 years of age or older used prescription drugs). In a survey of an elderly rural population in Pennsylvania where 71% reported taking at least 1 prescription medication, women took significantly more medications than men.¹⁵

Rural physicians may differ in their drug prescribing practices from their urban counterparts. In a study in Quebec,¹⁶ lower rates of new drug use were shown among physicians in rural areas. The authors postulated this may have been related to characteristics of physicians who practise in rural communities, the relative isolation of rural physicians from colleagues and differential intensity of visits by pharmaceutical industry representatives related to geographic inaccessibility. A study in Queensland, Australia,¹⁷ confirmed that rural general practitioners there were more likely than urban physicians to agree that their practice location had an effect on their prescribing, including the prescribing of new drugs.

There is a paucity of work that explores rural women's use of complementary and alternative medicine (CAM). In a study in rural Alberta,¹⁸ sex was the only variable significantly related to having seen an alternative practitioner, with women more likely than men to have done so. The Australian Longitudinal Study on Women's Health¹⁹ found that CAM users were more likely to reside in non-urban areas. In a study of older rural women's use of complementary therapy in rural Montana and North Dakota,²⁰ 26% of the women reported using CAM recently and they were most likely to use CAM if they were well educated, not currently married, in early older

years, had significant chronic illness and experienced lower health-related quality of life due to emotional concerns.

To advance understanding about rural women and pharmaceuticals, we studied the issues and needs of rural women in southwestern Ontario regarding drug-related information and therapies. Drugs were defined as including prescribed medications available from a physician, nurse practitioner or pharmacist; over-the-counter drugs such as acetylsalicylic acid; alternative medications such as herbs available without a prescription; illicit drugs such as marijuana and cocaine; and elements that may not be viewed as drugs, such as alcohol, but which nonetheless contain medicative properties. Rural was defined as living "outside of commuting zones of urban centres with 10 000 or more population."²¹

METHODS

The qualitative method interpretive description²² guided our study. The objective of interpretive description is to achieve insights that may inform clinical reasoning and practice, acknowledging the constructed and contextual nature of human experience. Qualitative methods are particularly useful in exploring a topic about which little is known.²⁵ In addition, as rural women were interviewed using face-to-face semistructured interviews, qualitative research facilitated access to information from rural women's perspectives and afforded them the opportunity to have a voice in research. As rural women are often not included and feel that they do not have a voice in research,⁵ it was deemed important that a qualitative method be used.

Study context

The province of Ontario has the highest number of rural women in Canada.²⁴ Southwestern Ontario consists of varied rural contexts and diverse health and socioeconomic needs and resources, and includes agricultural, recreational and retirement communities,²⁴ and Aboriginal, Mennonite and other cultural groups.

Recruitment

After ethical approval was received from the University of Western Ontario Research Ethics Board, rural women were recruited in southwestern Ontario at a rural auction, rural craft fair, Catholic Women's League meeting, by rural public health

nurses and by word of mouth. Study inclusion criteria were that women lived in a rural area, could read and speak English, and were able and willing to speak about needs, issues and solutions regarding drug information and therapies.

Data collection

In order to obtain maximal variation of data and a complex interpretation of themes, sampling continued until data saturation, or replication of data in themes, occurred.²² Participants lived on farms and in or near small towns that varied in population from 50 to 6000 residents. Each woman was interviewed in her home from May to November 2006 using a semistructured open-ended interview format. In the interviews, women were asked about their experiences or knowledge about rural women's issues or solutions regarding use of prescription and nonprescription pharmaceuticals. Probing with additional questions helped to obtain data relevant to each participant's situation, to access sensitive data such as use of illicit drugs and to access perspectives regarding themes emerging from interviews with other participants. Interviews lasted 45 minutes to 2 hours and were audiotape recorded.

Data analysis

Each interview was transcribed word-for-word and then imported into the qualitative data management computer program NVIVO 7 (QSR International) for analysis. Each transcript underwent line-by-line coding by a minimum of 2 researchers to determine themes regarding rural women's needs, issues and solutions about drug-related information and therapies. Throughout the analysis, the researchers attempted to understand the overall picture revealed by the findings by asking themselves, "What is happening here?" and "What are we learning about this?"²² Rigour was attended to by conducting interviews as other interview data were analyzed, and by primary analysis by 2 researchers with conceptualizations brought back to the research team for consideration. These strategies assisted with the development and refinement of conceptualizations that accurately reflected data presented by study participants.

RESULTS

Forty-four women in southwestern Ontario responded to recruitment efforts. Sampling saturation resulted in a sample size of 20 rural women of

diverse backgrounds. Study participants varied in age from 17 to 88 years of age; 1 was of Mennonite background, 1 was an Aboriginal woman who lived on a reserve, and the remainder were white or did not explicitly claim a cultural background.

Our main findings revealed themes related to prescription drugs, CAM, and alcohol and illicit drugs.

Prescription drugs

Various prescription drugs were used by study participants, most frequently antihypertensives, antidepressants, analgesics and birth control pills. Women in the study appreciated having access to physicians who respected and included them in decisions about their medications and care. The women also noted that it was difficult to find a physician because of the shortage of physicians. As one woman commented, "Shortage of doctors ... I used to have a doctor that I was very, very pleased with, I liked very, very much, [but] he went into anesthesiology." Another woman noted, "This doctor took us right away. He was my parents' doctor ... so before our other doctor left we were able to get him." However, women's access to drug-related information and therapies was compromised by the limited time and attention accorded them by some physicians. Participants spoke about being permitted as little as 5 minutes in a visit with their physician, and stated that physicians often restricted them to 2 or 3 questions and then required that they make another appointment for additional questions. A participant stated,

[Visits to my physician are] very rushed, and I have to make a list and when I don't get to certain things on the list, he stands up and says, "We only get a certain amount of time per patient, I have to go." I don't feel that he is a good doctor. ... I don't trust him and I completely feel like a number.

Another participant noted,

This is very hard and I feel frustrated and guilty because lots of times I have my list of questions and she's [physician] [leaving] and walking down the hall. ... I feel guilty taking up her time ... maybe my concerns aren't all that important.

Restricted time and attention hindered women's ability to access information related to their health, undermined confidence in care and prompted some to consider changing physicians ("I wish I could switch doctors but I don't have that choice") or to seek more accessible complementary and alternative practitioners and medications. Although urban women may experience similar challenges, in rural areas women may have much more limited or no

other health care options to which they can turn. As a rural participant noted, "There's no choice [here]."

Participants were very interested in learning all they could about prescribed drugs. They conducted searches on the Internet if they had access to computers ("We don't have Internet ... but I use it at the library"), asked questions of health care providers and read information that they could locate. They particularly appreciated information received in pamphlets from the pharmacist, as one participant explained, "Because if you couldn't remember what the pharmacist said, you could at least go back for reference ... even a month or 2 [later]."

However, participants also identified how the provision of drug-related information was not helpful. The lack of a private place in the pharmacy where the pharmacist could confidentially advise and counsel women discouraged women from asking questions. Judgmental or condescending counselling by pharmacists humiliated women and discouraged questions, especially when not in a private location. Comments by this participant are particularly revealing:

The pharmacist gave me a big lecture about being [overweight] ... you should do this and this, you shouldn't be on high blood pressure pills [or] on Tylenol 3. ... I felt *very* awful. So now the guy behind me knows exactly what kind of medication I take and that doesn't make me feel very good. ... Privacy is very important. ... I still wouldn't have appreciated [the pharmacist's] attitude but it would have made a difference [if his advice had been given privately].

Although privacy issues can also affect urban women, in rural areas people who overhear remarks may know the woman, so anonymity and confidentiality are particularly compromised.

Either knowing or not knowing the pharmacist could help or hinder women's access to information and medications. If the woman knew and felt comfortable with the pharmacist, she was more likely to consult him or her. However, familiarity could also discourage drug access and information, as this participant explained:

I had to go to the pharmacy where my ex-boyfriend's father works to get the morning after pill ... living in a small town ... it's the confidentiality and people aren't supposed to say anything, but the reality is that people do say things. ... I've heard things that I shouldn't know ... people talk and there's always that worry and that judgment.

Not knowing the pharmacist could help women feel more comfortable in accessing medications that were sensitive, such as birth control medications. On the other hand, not knowing the pharmacist

could also discourage access, as women could not be certain that the pharmacist would not judge them or be receptive to their inquiries, as this participant explained:

The way [the pharmacist] responds to you, it makes you feel like you're stupid 'cause you can't understand what he's saying and you keep asking 'cause you don't understand and you need to know because it's [medication] that you're taking and ... it's for you.

Some participants enjoyed helpful and trusting relationships with rural pharmacists as these comments reveal, “[Pharmacists] have the computer history [so] I've known the pharmacist to question something,” and “[The pharmacist] was very good ... she called back and gave me the information over the phone.”

Other factors that affected rural women's access to prescription drugs in pharmacies included the location and hours of operation of pharmacies as some rural pharmacies close on Sundays, weekends and evenings. Some participants travelled up to an hour to reach a pharmacy that was open during these times. Women coped with these pharmacy limitations by being organized so that they would not run out of medication, stocking up on medication and picking up medications for themselves and others when in town. For women in low-income situations and those without driver's licences or vehicles, access to drugs often required dependence on others. This dependence compromised women's privacy and sense of independence, and made access to medications problematic, especially for those medications of a sensitive nature. A young woman in the study explained why she needed to drive over half an hour to a neighbouring community to access confidential pharmacy services:

I will NOT go to my local pharmacy ... to access the morning after pill, birth control pills, condoms, pregnancy tests. ... I would go to a pharmacy further away ... where you don't know the cashier and people in line [behind you]. ... They [cashiers] are not subject to any ethical code of conduct.

Some groups of rural women may experience unique issues. A low-income participant noted that she took only half the recommended dose to extend her treatment and delay the purchase of medications. An Aboriginal woman stated that it was rare for Aboriginal people on her reserve to be denied medications such as analgesics by physicians:

If an Aboriginal person goes to [physicians] in their own community and says “I'm in pain. I need Oxycontin or Percocet,” they're prescribed it quite readily, without a lot of questions. ...

It's like they have a sense of entitlement ... [and] there's a lot of intimidation that goes on [like] “You have a job here because of me” ... [and] repercussions might be “You might have to deal with my family if you don't give me [what I want].” ... Maybe non-Aboriginal people who work here come to accept the idea that ... “There's not a lot that we can do.”

A consequence of easy access to prescription drugs on reserves is that these drugs can become sources of income, as people sold prescription drugs for profit and then returned to the physician for more drugs. The Aboriginal woman in the study was coping with this drug trade and addiction environment by moving off the reserve, placing her more distant from her support systems.

Complementary and alternative medicine

CAM emerged as a significant theme in the study; 18 of the 20 participants used medications such as echinacea, cod liver oil, milk thistle, garlic, vitamins and primrose oil. CAM was used to boost immunity, enhance nutrition and treat effects of menopause. Knowledge about and use of CAM medications were influenced primarily by family, friends and health food store employees, as this participant noted: “[I talked with] my sister-in-law [who] is involved in a company with various herbs, also a friend of mine introduced me to Enrich.” Participants purchased medications at health food and grocery stores, and at CAM house parties given by friends and family members. CAM medications allowed participants more input and control over drug decisions, and helped them avoid distance, weather and limited access to and censure by physicians and pharmacists in rural locations.

Participants were asked about how they determined the validity of their sources of information regarding CAM. For Web sources, women felt that Health Canada and other government sources instilled the most trust. Participants also felt that information was reliable and valid if more than 1 website repeated the same thing. Determination of the validity of CAM information and recommendations provided by friends, family and health food store owners was more nebulous. Friendliness, sociability, trust, length of time the person was known and the confidence of health food store employees in CAM products were attributes that women assessed when evaluating CAM products. Participants explained, “There's different people that have said that it was good. ... A chap in [X] seemed to think that milk thistle saved him because we all thought that he was

going to die,” and “I started reading [about herbal supplements] when I was a teenager and I educated myself by buying books ... now the Internet has everything on it.”

Participants used CAM medications for various purposes, including replacement of medications such as hormone replacement therapy. A participant explained, “I was put on HRT. ... When the research came out, [my physician] said, ‘I want you off that.’ ... So I’ve been taking a herbal remedy for [menopause side effects].” CAM medications were also used to promote health (“I started taking milk thistle. I’ve been told it’s supposed to be good for care of your liver and stuff. And I thought after the chemo ... I would try that and see if it makes things work,” and “I’ve used LifeFiber for probably 12–15 years. And I would say that I’m now free of irritable bowel”) and, because they were considered natural, it was felt by some participants that “They can’t hurt.” CAM medications, such as echinacea, were used to avoid or delay the need for prescribed medications (e.g., for flu). In addition, using CAM medications helped women “buy time” that could help them postpone or avoid travel and long waiting times for prescription medications in physician offices or emergency departments (“I’d rather go to the barn and shovel cow poop than go to emergency”). CAM medications were also used because they were deemed valid in their own right, as this participant explained: “I find that if you take vitamins and stuff from the health food store for certain things, it goes to the cause, whereas if you go to a medical doctor, they treat symptoms, and it does not take the cause away.”

Some participants realized that it was important to inform their physician and pharmacist that they were taking CAM medications and that CAM and prescription medications could interact in unhealthy ways. However, most participants chose to not inform physicians about their CAM medications. Participants commented,

[My physician] would respond negatively to [CAM]. ... I actually told [my physician] that [my sister-in-law] takes shark cartilage and it helps to slow and almost stop [the progression of her arthritis]. ... His comment was “Well it didn’t help the shark any.” ... Probably ‘cause he is from an older school he doesn’t know anything about it.

and “Some doctors are open enough to hear of the more natural remedies. And others, they’ve gone to ... doctors’ school and learned about drugs because, yeah, that’s where the money is!” and “I always have a feeling that my doctor’s not really open to

herbal medications. ... So I don’t really talk to him about that.”

Alcohol and illicit drugs

Alcohol use, common in several communities in the study, was used to combat isolation and boredom; it was seen as a cultural norm and for some people — but not all — was acceptable. A participant vividly described this situation:

I’m disgusted to the max with ... the amount of drinking I’ve seen ... [The attitude seems to be] “If you can’t beat ‘em, join ‘em.” But gosh, on a Sunday, you just go up the street and there’s men holding up the side of their garages. Two hours later they’re still there. And you think, “GET A LIFE! Do something!”

Although alcohol use was prevalent, one participant observed, “We’re seeing a new trend now, where people are less likely to drink alcohol and more likely to do drugs.” Drugs that participants noted were used in rural communities included marijuana, crystal meth, cocaine and mushrooms. Participants volunteered that people in their small communities, by virtue of knowing each other, were often aware of who was taking drugs, especially on reserves, as the Aboriginal participant noted, “You can see people any time of the day just going to his [drug provider’s] house.” Participants attributed reasons for taking alcohol and other drugs to a family history of illicit drug-taking (“The ones who get into drugs tend to be from the poorest families ... with lack of home life, they turn to friends to try to find whatever support they can ... if their parents did drugs, then the kids think that was right”); the accessibility of drugs (“There’s a barn right across the street at the end of this field ... it’s well known ... drug dealers go there all the time”); peer pressure (“I’ve been offered [marijuana] so many times ... I’ve always said no”; “I didn’t want to be around drugs [so I changed friends]”); boredom and limited options (“[People here do drugs because of] boredom ... there’s not much to do [here]”); and the need for “a source of income.”

On-reserve, cultural norms and easy access to prescribed medications such as oxycodone often resulted in abuse and addictions. The effects of drug addiction on life choices and family and community life were eloquently described:

School ... a job ... no longer becomes a priority. Stealing from parents, neighbours, becomes an issue. ... [The mother of a son with a drug addiction] worries about him all the time. ... He’s an embarrassment to his father. ... He’s quite violent when he’s coming down. ... We know when they’re buying, you can see when they’re dying.

To address prescription drug addiction, this participant advised that, "If you're not dealing with the people who are selling, there's always going to be a problem." Thus physicians and pharmacists, as well as community members who provide drugs, must also be included as part of the solution to rural community drug abuse and addiction.

Drug treatment and rehabilitation resources may also be helpful; however, these resources are often not appropriately available in rural settings. As one participant noted, "One drug and alcohol counsellor ... is limited in what he can do because the problem is so *big*." Thus rural residents often need to travel to urban centres for this treatment. Distance, lack of knowledge about the location and diverse purposes of rehabilitation resources in urban settings, and costs for rehabilitation compromise the ability of rural residents to access these resources. A participant observed,

Unless you're paying a lot of money to get somebody into a good treatment centre ... you're just going to send somebody where they can stay to dry out but they have to do it on their own [without counselling].

Due to the nature of rural employment, rural residents rarely have sufficient or any insurance coverage for drug rehabilitation. Thus rehabilitation resources are virtually inaccessible to many rural residents.

Finally, even if resources are available, they may not be used appropriately. For example, although methadone can be used to treat drug addiction, it can also be used to supplement and enhance, rather than substitute for, illicit drug-taking. On reserves and in rural communities,

people in positions of power ... police ... don't want to do anything about it because it's their family members who are selling ... using. ... It's the whole interconnected social network thing ... everybody's related.

Without resources to educate, monitor and rehabilitate, rural residents are mostly left on their own to cope with alcohol and illicit drug use and its consequences.

DISCUSSION

The main results of our study revealed themes regarding access to information and therapies related to prescription drugs, CAM, and alcohol and illicit drugs. Women were more inclined to ask for information if they perceived that the care provider — physician, pharmacist, nurse — would be receptive

to and respectful of their inquiries. Denigration of women's questions, criticism of drugs that women were interested in and lack of time with care providers for questions or for meaningful confidential interaction served to silence women. As a result, participants sometimes sought information and therapies elsewhere. Limited access to respectful professional advice, ready and friendly access to information and advice from nonprofessional sources, and challenges associated with assessing the validity of nonprofessional sources of information and therapies suggest that rural women may be at risk of taking inappropriate, ineffective or unsafe medications. In addition, rural women may elect to forgo drug therapy altogether, choosing instead to endure rather than treat drug-responsive conditions.

Study participants valued both verbal and written drug information, especially if provided in understandable forms. A qualitative study conducted with urban participants in the United States²⁵ found that low literacy, defined as reading at or below the sixth-grade level, resulted in misunderstanding prescription drug labels and taking a greater number of prescription drugs. The elderly were noted as being particularly vulnerable.²⁵ In Canada, rural and remote locations are characterized by higher morbidity and mortality⁹ and a higher proportion of seniors compared with urban settings.²⁶ Thus the need for literacy-appropriate medication information is particularly important for rural residents.

Our study confirms the findings of others^{14,27,28} in that CAM therapies are often integrated with conventional prescription drug therapy by rural residents. Lack of access to physicians, nurse practitioner, and pharmacies may account for some CAM use. Low incomes and lack of access to health insurance plans²⁶ may preclude rural residents' ability to purchase expensive drugs, thereby encouraging the use of CAM therapies. In addition, it may be that the social support of familiar health food store employees, family and friends may be important encouragements for the use of CAM medications.

Our study confirms and extends the findings of other studies^{4,14} regarding the fact that women may not receive good advice from health care professionals, particularly physicians, regarding CAM therapies. Our study revealed that women's reluctance to ask health care professionals about CAM drugs could contribute to their receiving limited or inappropriate advice. Thus the onus may need to be more on health care professionals than on rural women to facilitate a dialogue about CAM therapies.

Both an American¹⁴ and a Canadian study²⁸ found that rural residents favour CAM medications and are likely to continue to do so. As CAM medications have legitimate and safe uses,^{29,30} more research is clearly needed to investigate rural preferences for CAM medications and physician perspectives regarding their use. In addition, as rural women are often primary care providers and access medication for other family members⁴ as well as themselves, additional research is needed to enhance rural women's decision-making and access to CAM and other drug-related information and therapies.

Rural women experience higher fertility rates compared with urban women.⁷ Our study revealed that access to information and medications related to reproductive decisions is often influenced in rural areas by cultural and religious values. Rural values that lead to the restriction or refusal of health resources such as public health nurses in rural schools, misunderstanding of teen behaviours related to sexuality and lack of confidential access to contraceptive resources hinder women's ability to make appropriate reproductive decisions.

Women in this study commented on the strengths and weaknesses of rural pharmacies. Although rural pharmacies have not been studied in Canada, Leipter and colleagues³¹ and Xu and Borders¹⁵ have noted that rural areas often have difficulties retaining pharmacies and pharmacists, and that small independent pharmacies are under financial stress. In the province of Ontario, where this study was conducted, the government is proposing a law that would prohibit pharmacies from receiving rebate payments from generic drug companies in return for stocking their medications.³² This law may affect the ability of small businesses, of which pharmacies would be one, to keep expensive drugs, and independent rural pharmacies would be the most vulnerable. If this law is passed, rural residents in Ontario may experience even more compromised access to medications.

Our study revealed that alcohol and illicit drugs were prevalent in rural communities. Rural communities in the United States are seeing an alarming increase in the use of crystal meth³³ and abuse of prescription drugs³⁴ and alcohol.³⁸ The rates of crystal meth drug use in rural America now rival urban rates.³⁶ Availability of the drug, ease of production due to the availability of constituent components in agricultural products, low cost and the highly addictive nature of crystal meth account for its growing popularity in rural areas.³⁷ Clearly, further research is needed in rural Canada to explore the nature,

prevalence and health effects of alcohol and illicit drug use. Programs and policies could be developed to address alcohol and other substance abuse in rural communities.^{33,35,38}

Our study revealed that factors in the rural environment both helped and hindered rural women's access to and ability to make decisions about drug-related information and therapies. Although familiarity and small populations could hinder access to prescription medications, these factors also facilitated trust among rural residents and health care providers, which, in turn, fostered the establishment of helpful services, such as delivery of medications to farms by pharmacies and neighbours. However, the lack of anonymity that is characteristic of small communities where everyone knows everyone else could also inhibit access to drugs because of community norms and religious beliefs. For example, young women were particularly sensitive to the need for anonymous access to birth control medications. However, lack of anonymity was often welcomed by others such as older participants, as their usually greater need for care meant that being visible and known would increase the likelihood that resources, such as travel to a physician or the delivery of needed medications, would be offered to them. Limited or no access to physicians and pharmacies, while compromising women's access to prescription medications, also motivated women to learn about CAM resources that they could purchase (e.g., herbal preparations), access (e.g., through nurse practitioners, naturopathic physicians), prepare (e.g., salves and teas) or develop (e.g., growing herbs). Thus participants in this study revealed that rural locations hold promise and possibility as well as compromise and limitation when it comes to drug-related information and therapies.

Limitations

This research revealed a first glimpse into issues and needs of rural women regarding pharmacotherapy. To facilitate broader understanding, additional research is needed with a larger sample of rural women who represent pharmacologic experiences in diverse rural settings. In addition, in order to best provide pharmacotherapy to those who need it most, additional research should explore the needs of rural women with acute and chronic illnesses, addictions and other health conditions, as well as the health promotion needs of rural women of all ages. Further exploration of rural women's use of CAM medications and of the attitudes and practices of health care providers regarding CAM would also be valuable.

CONCLUSION

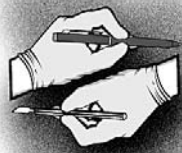
This study, one of the first to explore needs and issues regarding pharmaceuticals in rural Canada, reveals that both strengths and problems exist for rural women, and that more research is not only warranted, but critical. Additional research will identify and elaborate on key pharmaceutical issues as well as effective solutions to advance the health of rural women.

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ORIGINAL ARTICLE ARTICLE ORIGINAL

Rural–urban differences in provider practice related to preconception counselling and fetal alcohol spectrum disorders

Suzanne C. Tough,
MSc, PhD

Departments of Pediatrics
and Community Health
Science, University of
Calgary and Calgary Health
Region, Calgary, Alta.

Krystyna Ediger, BN
Faculty of Nursing,
University of Calgary and
Calgary Health Region,
Calgary, Alta.

Matt Hicks, MD, PhD
Department of Community
Health Science, University of
Calgary and Calgary Health
Region, Calgary, Alta.

Margaret Clarke, MD
Departments of Pediatrics,
University of Calgary and
Calgary Health Region,
Calgary, Alta.

Correspondence to:
Dr. Suzanne Tough, Child
Development Centre clo 2888
Shaganappi Trail NW,
Calgary AB T5B 6A8

*This article has been peer
reviewed.*

Objective: Fetal alcohol spectrum disorders (FASDs) are the most common form of nongenetic birth defect in North America with devastating, long-term consequences. Physicians are the primary providers of medical care for pregnant women and they play an important role in the prevention and diagnosis of FASD. We sought to determine whether differences exist between rural and urban health care providers in knowledge of, attitudes about and awareness of FASD and preconception counselling.

Methods: Surveys were mailed to a national, random sample of Canadian health care providers ($n = 5361$) between October 2001 and May 2002. Bivariate data analysis was completed using SPSS 14.0.

Results: Compared with their urban counterparts, rural providers were more likely to report being prepared to access resources related to alcohol use and dependency, yet they were less likely to agree that it was the physician's role to manage these issues (78.4% v. 82.8%, $p < 0.05$). Rural providers were more likely than urban providers to use a standardized tool to screen patients for alcohol use, to ask all pregnant women if they were drinking, to have cared for a patient with an FASD (56.7% v. 48.8%), to agree that providers do not make a diagnosis because of lack of time and training, and to recognize legal issues and inappropriate behaviour as secondary outcomes of FASD. Rural and urban providers were similar in their diagnostic knowledge of FASD.

Conclusion: Few differences between rural and urban providers exist with regard to knowledge and diagnosis of FASD; however, rural providers are more prepared to access resources for women with addiction issues and are more likely to care for patients with an FASD.

Objectif : L'ensemble des troubles causés par l'alcoolisation foetale (ETCAF) constitue la forme la plus courante de malformation congénitale non génétique en Amérique du Nord et elle a des conséquences à long terme dévastatrices. Les médecins sont les principaux fournisseurs de soins médicaux aux femmes enceintes et jouent un rôle important dans la prévention et le diagnostic de l'ETCAF. Nous avons cherché à déterminer s'il existe des différences entre les fournisseurs ruraux et urbains de soins de santé au niveau de la connaissance de l'ETCAF, des attitudes et de la sensibilisation, ainsi que du counselling avant la conception.

Méthodes : On a envoyé des questionnaires par la poste à un échantillon aléatoire national de prestataires de soins de santé du Canada ($n = 5361$) entre octobre 2001 et mai 2002. On a effectué une analyse bidimensionnelle de données au moyen du logiciel SPSS 14.0.

Résultats : Comparativement à leurs homologues urbains, les fournisseurs ruraux étaient plus susceptibles de se déclarer prêts à consulter des ressources liées à la consommation et la dépendance de l'alcool, mais ils étaient moins susceptibles de reconnaître qu'il incombe aux médecins de gérer ces questions (78,4 % c. 82,8 %, $p < 0,05$). Les fournisseurs ruraux étaient plus susceptibles que les fournisseurs urbains d'utiliser un outil normalisé pour dépister la consommation d'alcool chez les patientes, de demander à toutes les femmes enceintes si elles consommaient de l'alcool, d'avoir traité

un patient atteint de l'ETCAF (56,7 % c. 48,8 %), de reconnaître que les fournisseurs ne posent pas de diagnostic par manque de temps et de formation, et de reconnaître les problèmes légaux et le comportement inapproprié comme des résultats secondaires de l'ETCAF. Les fournisseurs urbains et ruraux se ressemblaient par leur connaissance du diagnostic de l'ETCAF.

Conclusion : Il y a peu de différences entre les fournisseurs ruraux et urbains en ce qui a trait à la connaissance et au diagnostic de l'ETCAF, mais les fournisseurs ruraux sont plus disposés à consulter des ressources pour les femmes qui ont des problèmes d'accoutumance et plus susceptibles de s'occuper de patients atteints de l'ETCAF.

INTRODUCTION

Fetal alcohol spectrum disorders (FASDs), which can result from prenatal alcohol exposure, are the most common form of nongenetic birth defect in North America, with devastating, long-term medical, social and financial consequences for individuals, families and communities.¹⁻⁵ Individual deficits may present as primary disabilities such as physical defects (i.e., craniofacial defects, microcephaly) or neurodevelopmental abnormalities, or as secondary disabilities that develop as a consequence of living with primary disabilities, and may include mental health comorbidities or problems in school and with the criminal justice system.^{6,7} The community incidence of fetal alcohol syndrome (FAS) varies widely but has been reported to be as high as 190 affected per 1000 children.^{8,9} Based on a synthesis of best available evidence, the estimated global incidence of FAS is 0.97 per 1000 live births and is higher among "heavy" drinkers (i.e., ≥ 2 drinks/d or 5–6 drinks/occasion) at 43.1 per 1000 live births.¹ The incidence of FASD, which includes FAS, partial FAS, alcohol-related neurodevelopmental disorder and alcohol-related birth defects, is believed to be about 10-fold higher, at 9.1 per 1000 live births or about 1% of births.³

Several studies have found that the incidence of FAS is highest in rural and remote communities with reports as high as 190 per 1000 children.^{3,10-12} In a recent South African study, women in rural communities were more likely to have children with FAS (odds ratio 7.93) compared with urban women.¹¹ In addition, there are disparities in overall health status between rural and urban communities, including higher prevalence of health risk factors (including smoking and being overweight), lower functional health status and higher rates of chronic disease and mental health issues among residents of rural or remote areas. Rural dwellers are also more likely to have lower self-reported ratings of health status.¹³ It is unclear if differences in FASD incidence

are influenced by economic factors, corporate practices, culture or health care delivery.

There is some evidence that early detection of at-risk children and mothers results in improved outcomes for both and, as such, it is appropriate for health care professionals to be knowledgeable and proactive in the prevention and detection of FAS.¹⁴ In the last decade, there have been health and social policy initiatives in the United States and Canada that have focused on public awareness, primary prevention and improved detection of FASD and maternal alcohol consumption (e.g., Centers for Disease Control and Prevention, Prairie Northern Pacific Partnership and Federal FAS Funding Initiative, Health Canada, Canadian Task Force on the Periodic Health Examination). Key components of these initiatives have been strategies to improve provider awareness of issues related to the detrimental effects of alcohol on pregnancy outcomes and improve early detection of FASD.^{14,15} Studies have shown that physicians' knowledge, attitudes and beliefs about a health problem related to alcohol abuse can either predispose or deter them from screening, identifying and managing the problem.¹⁶ Physicians are typically the primary provider of medical care for pregnant women and they play an important role in the prevention and diagnosis of FASD.¹⁶⁻¹⁹ The American Academy of Pediatrics has recommended that pediatricians and other health care professionals become informed and assume a leadership role in public education regarding in utero alcohol exposure.²⁰ However, there may be a considerable disparity among physicians in terms of knowledge, attitude, practices and educational needs regarding this condition, and provider training must be tailored appropriately to meet identified needs.²¹

The purpose of our study was to determine if differences exist between rural and urban health care providers in knowledge of, attitudes about and awareness of FASD and preconception counselling related to alcohol use.

METHODS

A questionnaire was modified from a prior survey based on extensive consultation and pilot testing with the National Advisory Committee on FAS and professional groups. The questionnaire consisted of 4 parts, including general knowledge, prevention and diagnostic issues, and background information. All but 2 questions were in forced-choice format with response options varying depending on question content (e.g., yes/no, Likert scales). The survey package was translated into French, electronically scanned into a database for analysis and programmed in HTML for a Web-based version.

Surveys were mailed to a national, random sample of Canadian providers, selected from the mailing lists of medical professional organizations, between October 2001 and January 2002. Not all questions were relevant for all provider groups so the denominator and respondent group varies in some cases. Packages contained a hand-signed cover letter, instructions for completing paper- or Web-based versions, the survey, a stamped return envelope and notice of a draw for a Palm Pilot. Mailed questionnaires were followed up with 2 reminder postcards, repeat mailings, telephone follow-up and an attempt to reach participants whose original contact information was incorrect. Return of the completed questionnaire was taken to signify consent to participate.

Sample size and statistical analysis

Preliminary sample size calculations were completed, and, based on a minimum sample size of 375 within provider specialty, we found a difference of about 14% ($n = 174$ per group) to be significant in response to a question such as "It is OK to drink after the first trimester." All data were transferred into SPSS/PC version 14.0 (Softonic International) for analysis. Descriptive analysis and bivariate comparisons (χ^2 and χ^2 trend) were completed to understand provider attitudes, knowledge and practices toward FAS by provider group. *P* values refer to comparisons made across provider groups.

RESULTS

Surveys were sent to 5361 Canadian health providers; 2101 providers, who identified their practice as either rural or urban, returned the survey for a response rate of 39.2%. The breakdown by specialty was as follows: family practice ($n = 2378$),

obstetrics and gynecology ($n = 539$), pediatrics ($n = 1396$), psychiatry ($n = 851$) and midwifery ($n = 197$). Of the 2101 respondents, 1677 (79.8%) were urban providers and 424 (20.2%) were rural. Providers were similar with regard to practice patterns, sex and region. More providers were located in urban areas and more of those with urban practices had university appointments (Table 1).

There was no difference between urban and rural providers with regard to community awareness and attitudes toward managing health problems related to FAS (Table 2). Rural providers were significantly less likely ($p < 0.05$) to believe it was the physician's role to manage problems in the area of alcohol abuse (78.4% v. 82.8%); however, they were significantly more prepared to care for and access resources for pregnant women and birth mothers in regard to alcohol use and dependency (Table 2). Overall, about 55% of providers felt prepared to care for women in the area of alcohol use, and about 70% were prepared to access resources. Sources of information regarding FASD did not differ substantially between the groups and primarily included medical school, residency or fellowships. However, rural providers were significantly more likely to gain knowledge through parents or patients (29.7% v. 22.8%) (data not shown).

Among family physicians, obstetricians and midwives, there were few differences in practice between urban and rural providers related to pre-conception counselling. Almost 90% of providers frequently discussed birth control with women of childbearing age. Overall, less than 50% of providers frequently discussed issues related to folic acid, smoking, alcohol use or history of addictions and less than 15% obtained a detailed history of sexual or emotional abuse (Table 3).

Slightly over 60% of all providers agreed with the practice of "moderate alcohol consumption" among nonpregnant patients, although less than 50% defined "moderate" for their patients. Moderate consumption was defined by the majority of providers as less than 3 drinks per occasion and less than 4 occasions per week (Table 4).

The majority of providers (94%) asked all pregnant women if they were consuming alcohol, including frequency, quantity and consumption before knowledge of pregnancy. Overall, almost 90% of providers recommended that no alcohol be consumed during pregnancy (Table 4). Once women were pregnant, survey responses of midwives, family physicians and obstetricians indicated that rural providers were more likely than urban

providers to use a standard tool for alcohol screening (69.4% v. 60.6%), to ask all women if they were drinking alcohol (97.2% v. 91.9%) and to determine if there was a history of binge drinking (77.2% v. 70.9%). Over 85% of providers advised pregnant women who were binge drinking of the adverse effects and recommended abstinence during pregnancy. Less than 70% provided similar advice to those who reported moderate use of alcohol during pregnancy (data not shown). Barriers to discussions of alcohol use before conception/pregnancy included lack of time (58.4%), information not in a useful format (48.9%) and a belief that clients already had good information on alcohol use (31.4%). Rural providers were significantly more likely to agree that there were other sources of

information on alcohol to refer women to (31.9% v. 24.0%) (data not shown).

Rural providers were more likely to report caring for patients with FAS ($p = 0.003$) and to have referred a patient for a diagnosis ($p = 0.025$) (Table 5). Less than 15% of providers used a diagnostic schema; however, among those that did, urban providers preferred the American Academy of Pediatrics and rural providers preferred the 4-Digit Diagnostic Code. Level of diagnostic knowledge did not differ by rural/urban status; however, rural providers were significantly more likely to identify legal problems and inappropriate sexual behaviour as secondary outcomes associated with FAS (Table 5). Rural providers were significantly more likely ($p < 0.001$) than urban providers to report that time

Table 1. Sample description of survey participants

Variable	No. (%) of providers			<i>p</i> value*
	Overall	Urban	Rural	
Year graduated				
1959 or earlier	46 (2.3)	45 (2.8)	1 (0.3)	< 0.001
1960–1979	759 (38.5)	651 (41.0)	108 (28.1)	
1980–1989	617 (31.3)	494 (31.1)	123 (32.0)	
1990 or later	548 (27.8)	396 (25.0)	152 (39.6)	
Total	1970	1586	384	
Age, yr				
< 40	651 (31.3)	474 (28.6)	177 (41.9)	< 0.001
40–49	700 (33.7)	556 (33.6)	144 (34.1)	
50–57	519 (25.0)	436 (26.3)	83 (19.7)	
≥ 60	209 (10.0)	191 (11.5)	18 (4.3)	
Total	2079	1657	422	
University appointment				
Yes	1123 (53.8)	994 (59.7)	129 (30.6)	< 0.001
Primary mode of practice				
Solo	610 (30.4)	479 (30.0)	131 (31.9)	< 0.001
Group	1075 (53.6)	826 (51.8)	249 (60.6)	
Other	321 (16.0)	290 (18.2)	31 (7.5)	
Sex				
Male	1071 (51.0)	867 (51.8)	204 (48.1)	< 0.179
Female	1028 (49.0)	808 (48.2)	220 (51.9)	
Region				
West	309 (14.7)	229 (13.7)	80 (18.9)	< 0.001
Prairie	444 (21.1)	351 (20.9)	93 (21.9)	
Central (Ontario)	834 (39.7)	702 (41.9)	132 (31.1)	
Central (Quebec)	320 (15.2)	260 (15.5)	60 (14.2)	
East	194 (9.2)	135 (8.1)	59 (13.9)	
Provider group				
Pediatrician	698 (33.2)	636 (37.9)	62 (14.6)	< 0.001
Psychiatrist	365 (17.4)	324 (19.3)	41 (9.7)	
Midwife	109 (5.2)	79 (4.7)	30 (7.1)	
Family physician	716 (34.1)	486 (29.0)	230 (54.2)	
Obstetrician/gynecologist	213 (10.1)	152 (9.1)	61 (14.4)	
Total	2101	1677	424	

*Determined by the χ^2 test.

(31.9% v. 20.4%) and specific training (71.3% v. 61.6%) were barriers to diagnosis (Table 6).

The following supports were identified as most helpful by more than 60% of respondents: referral resources, registry of specialist for consultation and

clinical practice guidelines. Rural providers were significantly more likely to identify telehealth options as desirable, although less than 30% of rural providers selected this as a “very helpful” option (data not shown).

Table 2. Fetal alcohol syndrome awareness and attitudes about prevention*

Awareness and attitudes	No. (%) of providers			p value†
	Overall	Urban	Rural	
Agree alcohol's effects on fetus are clear‡	1578 (76.6)	1266 (76.9)	312 (75.5)	0.056
Agree prenatal alcohol exposure is a risk for permanent brain damage	1953 (95.8)	1561 (95.9)	392 (95.4)	0.647
Agree FAS is an identifiable syndrome	1965 (95.9)	1565 (95.6)	400 (95.9)	0.979
Agree FAS occurs in all strata of society	2000 (96.0)	1588 (95.5)	412 (98.1)	0.015
Agree diagnosis of FAS changes things for the child	1909 (94.2)	1535 (94.3)	374 (93.5)	0.518
Agree it is the physician's role to manage problems in the area of alcohol use	1597 (81.9)	1292 (82.8)	305 (78.4)	0.043
Agree discussing alcohol use <i>will not</i> deter from treatment	1803 (89.0)	1446 (89.1)	357 (88.6)	0.746
Agree discussing alcohol use <i>will not</i> frighten/anger patients	1962 (95.0)	1568 (94.7)	394 (96.1)	0.259
Prepared to care for pregnant women in area of alcohol abuse or dependency	790 (54.0)	584 (52.5)	206 (58.7)	0.042
Prepared to care for birth mothers in area of alcohol abuse or dependency	832 (55.2)	616 (53.2)	216 (61.9)	0.004
Prepared to access resources for pregnant women in area of alcohol abuse or dependency	1113 (70.9)	837 (69.3)	276 (76.2)	0.011
Prepared to access resources for birth mothers in area of alcohol abuse or dependency	1136 (70.8)	858 (69.2)	278 (76.2)	0.010

FAS = fetal alcohol syndrome.

*Responses provided by pediatricians ($n = 689$), psychiatrists ($n = 365$), midwives ($n = 109$), family physicians ($n = 716$) and obstetricians ($n = 213$); denominator varies due to number of responses received.

†Determined by the χ^2 test.

‡Agreement defined as “agree” and “strongly agree.”

Table 3. Prevention issues related to preconception counselling*

Prevention issues	No. (%) of providers			p value†
	Overall	Urban	Rural	
Frequently discuss folic acid in decreasing neural tube defects among all women of childbearing age	437 (49.4)	316 (52.8)	121 (42.3)	0.001
Frequently discuss risk of smoking during pregnancy among all women of childbearing age	431 (48.7)	295 (49.5)	136 (47.1)	0.133
Frequently discuss risks of alcohol use during pregnancy among all women of childbearing age	352 (39.7)	234 (39.2)	118 (40.8)	0.072
Frequently discuss risks of drug use during pregnancy among all women of childbearing age	339 (38.3)	229 (38.4)	110 (38.1)	0.917
Frequently discuss birth control among all women of childbearing age	763 (86.1)	517 (86.5)	246 (85.4)	0.609
Frequently obtain a detailed history of sexual abuse among all women of childbearing age	118 (13.3)	79 (13.2)	39 (13.5)	0.952
Frequently obtain a detailed history of emotional abuse among all women of childbearing age	119 (13.4)	77 (12.9)	42 (14.6)	0.744
Frequently obtain a detailed history of alcohol use among all women of childbearing age	510 (57.8)	351 (59.0)	159 (55.4)	0.676
Frequently obtain a detailed history of addictions among all women of childbearing age	407 (45.9)	283 (47.3)	124 (43.1)	0.589
Frequently obtain a detailed history of family history of addictions among all women of childbearing age	214 (24.2)	148 (24.8)	66 (23.0)	0.353

*Responses provided by midwives ($n = 109$), family physicians ($n = 716$) and obstetricians ($n = 213$).

†Determined by the χ^2 test.

DISCUSSION

Our study represents the first national survey of providers from rural and urban areas across Canada in the area of knowledge, attitudes and practices related to alcohol use during pregnancy, preconception counselling and risk factors for FASD. Rural and remote health care providers face a unique set of challenges, and there have been many reported differences in both the population health status and medical practice patterns between urban and rural areas.¹³ Rural and remote regions are often underserved, both in terms of numbers of professionals and access to appropriate modern medical technology.^{14,15} Residents in rural communities often have limited access to support services and fewer service alternatives, and often must travel farther than urban residents to receive health services.²² Rural and remote areas are serviced by half as many physicians per 1000 population compared with urban centres.²³ For example, about 7% of Canadians live more than 25 km from the nearest physician, but two-thirds of the northern remote population live more than 100 km from a physician.²³ A lower proportion of rural and remote Canadians rated their health as “excellent” when compared with the national average. This rating may be attrib-

uted to numerous factors, including a higher prevalence of health risk factors such as physical inactivity, obesity and smoking, a lower self-reported degree of functional health (based on vision, hearing, speech, mobility, dexterity, feelings, cognition and pain), higher rates of certain chronic diseases and mental health issues, as well as a higher report of unmet health needs.^{11,13,24}

In our study, rural health care providers were more likely than their urban colleagues to be younger, to be more recent medical school graduates (39.6%) and to practise in a group setting (60.6%). The majority of rural professional respondents in our study were family physicians (54.2%), and rural areas were less likely to have care provided by specialists such as pediatricians or obstetricians. Previous surveys have suggested family physicians are in greater supply in rural areas than are specialists, with nearly 16% of family physicians and slightly more than 2% of specialists providing care in rural areas. In Canada, for example, 1% of pediatricians, 3% of obstetricians and gynecologists, 2% of emergency medicine specialists and 3% of psychiatrists are located in small-town or rural areas servicing 21.1% of Canada’s population.²⁵ This indicates that there is an opportunity for improvements to rural health care provision through the development

Table 4. Routinely included in patient interviews regarding alcohol use during pregnancy*

Interview points	No. (%) of providers			p value†
	Overall	Urban	Rural	
Agree with telling patients to drink in moderation‡	1234 (60.7)	994 (61.3)	240 (58.3)	0.261
Moderate drinks per occasion ≤ 2	1736 (90.9)	1388 (91.6)	348 (88.5)	0.044
Moderate occasions per week ≤ 3	1401 (74.3)	1122 (75.0)	279 (71.4)	0.160
Frequently discuss what patient thinks “in moderation” means	496 (48.8)	338 (48.1)	158 (50.2)	0.494
Recommend no alcohol during pregnancy	861 (87.3)	584 (86.8)	277 (88.5)	0.790
Ask all women who are pregnant if they are currently drinking alcohol	956 (93.5)	647 (91.9)	309 (97.2)	0.002
Use a standard tool to screen all prenatal patients for alcohol use	612 (63.4)	403 (60.6)	209 (69.4)	0.008
Drinking history of partner	210 (20.8)	137 (19.7)	73 (23.1)	0.214
Family history of alcohol abuse or dependency	536 (52.8)	365 (52.1)	171 (54.3)	0.527
Personal history of sexual abuse	336 (33.3)	233 (33.5)	103 (32.8)	0.822
History of addictions treatment	637 (63.4)	429 (62.1)	208 (66.5)	0.183
Quantity of alcohol intake	991 (97.3)	681 (97.0)	310 (98.1)	0.315
Frequency of alcohol intake	987 (97.3)	678 (97.0)	309 (98.1)	0.314
Personal history of binge drinking	739 (72.9)	495 (70.9)	244 (77.2)	0.037
Type of alcohol consumed	784 (77.3)	538 (76.9)	246 (78.3)	0.601
History of drinking prior to knowing about pregnancy	870 (85.9)	592 (84.9)	278 (88.0)	0.198
Evidence of alcohol-related birth defects in other children	399 (39.7)	264 (38.2)	135 (43.0)	0.146

*Responses provided by midwives (*n* = 109), family physicians (*n* = 716) and obstetricians (*n* = 213).

†Determined by the χ^2 test.

‡Dichotomous yes/no variable.

of alternative options, such as specialist outreach clinics or specialist telehealth sessions, which may alleviate the burden felt by family physicians in rural practice.²² Telehealth sessions can range from a telephone call to a specialist to a session in which a specialist or specialist team joins a rural physician and patient by video conference.

Rural providers were less likely than urban providers to agree that it is the physician's role to manage alcohol-related health problems; however, they were more prepared to care for and manage client issues associated with alcohol misuse. Surveys

from Canada, the United States and Australia have shown that rural family doctors offer a wider range of clinical procedures to meet the needs of rural populations.^{25,26} Rural family physicians are significantly more likely to practise obstetrics, have intensive care unit privileges, care for patients in the emergency department and perform specialized procedures (e.g., sigmoidoscopy, colposcopy) than their urban colleagues.²⁷ This suggests that rural general practitioners may be more likely to believe that, although certain services may not be their primary role, they are among the few professionals in

Table 5. Practice patterns and knowledge about diagnosis and long-term outcomes associated with fetal alcohol syndrome*

Practice patterns and knowledge	No. (%) of provider†			p value‡
	Overall	Urban	Rural	
Practice patterns				
Have diagnosed FAS	658 (35.3)	54 (35.9)	118 (32.9)	0.280
Have cared for patient with FAS	939 (50.0)	736 (48.8)	203 (56.7)	0.003
Have suspected but not diagnosed FAS	905 (48.8)	734 (49.1)	171 (47.8)	0.659
Referred a patient to confirm diagnosis of FAS	638 (34.4)	497 (33.2)	141 (39.5)	0.025
Use a diagnostic schema	266 (14.4)	212 (14.3)	54 (15.1)	0.678
Used 4-Digit Diagnostic Code (of those using a schema)	63 (25.9)	44 (23.5)	19 (40.4)	0.020
Used American Academy of Pediatrics (of those using a schema)	107 (45.7)	90 (48.1)	17 (36.2)	0.143
Identified as characteristic features of FAS				
Flat philtrum	1346 (74.3)	1093 (74.5)	253 (73.5)	0.929
Thin upper lip	1252 (69.4)	1017 (69.8)	235 (67.7)	0.402
Short palpebral fissures	1155 (64.2)	944 (64.8)	211 (61.5)	0.255
CNS dysfunction	1602 (87.9)	1295 (87.6)	307 (89.0)	0.769
Prenatal growth deficiency	1463 (80.3)	1180 (80.1)	283 (81.3)	0.404
Agree combination of growth, brain and facial abnormalities provide the most accurate info about diagnosis of FAS	1032 (59.5)	831 (59.7)	201 (59.1)	0.481
Long-term secondary disabilities associated with FAS				
Long-term emotional disorders	1284 (70.9)	1025 (70.4)	259 (72.5)	0.448
Disrupted school experience	1239 (67.3)	999 (67.3)	240 (66.7)	0.732
Addictions	1133 (61.6)	898 (60.7)	235 (65.6)	0.110
Legal problems	1274 (69.3)	1012 (68.4)	262 (73.2)	0.028
Inappropriate sexual behaviour	647 (35.2)	499 (33.6)	148 (41.8)	0.003

CNS = central nervous system; FAS = fetal alcohol syndrome.

*Numbers may not add to total as some questions may not have been answered by all participants. Responses provided by pediatricians (*n* = 698), psychiatrists (*n* = 365), midwives (*n* = 109), and family physicians (*n* = 716).

†*n* = 1901.

‡Determined by the χ^2 test.

Table 6: Identified barriers to diagnosis and helpful supports*

Barriers to diagnosis	No. (%) of providers			p value
	Overall	Urban	Rural	
Making a diagnosis of FAS was within scope of practice	475 (25.2)	398 (26.1)	77 (21.2)	0.054
Agree many doctors do not make a diagnosis of FAS in their practice because of lack of time	419 (22.6)	306 (20.4)	113 (31.9)	0.001
Agree many doctors do not make a diagnosis of FAS in their practice because of lack of specific training	1181 (63.4)	927 (61.6)	254 (71.3)	0.001

FAS = fetal alcohol syndrome.

*Numbers may not add to total as some questions may not have been answered by all participants. Responses provided by pediatricians (*n* = 698), psychiatrists (*n* = 365), midwives (*n* = 109) and family physicians (*n* = 716).

the community, in cooperation with psychologists, social workers and substance abuse workers, qualified to perform those services, such as management of alcohol misuse and alcohol-related health problems. Rural providers may also feel more prepared to manage alcohol issues through accessing resources for women in the area of alcohol abuse or dependency. Rural providers were more likely than their urban counterparts to perceive literature, FAS training, improved access to referral resources or a registry of specialists, and improved clinical practice guidelines for diagnosis of FAS to be useful and helpful in their management of patients.²⁸ By developing clinical guidelines for the diagnosis of FAS, incorporating these guidelines into physician education and training, and developing and referring patients to standardized preconception counselling websites (30% of both rural and urban physicians never refer patients to relevant medical websites), health care providers may be better equipped to convey information to women of childbearing age.²⁹

Rural providers in this study were also more likely to use a standard screening tool to screen prenatal patients for alcohol use. This is consistent with data from a recent US survey of obstetricians and gynecologists which found that those who use screening tools are more likely to be recent graduates and more likely to state that they are very prepared to assess alcohol use with their patients,¹⁶ both of which were true of rural physicians. Standardized questionnaires, such as the CAGE, AUDIT, TWEAK, SMAST and T-ACE, have been developed to overcome the biases inherent in self-reporting and physician interview.³⁰ These 5-minute tools are easy to use and score. Each of the scales has been validated in different populations and has varying sensitivity and specificity.³¹ When comparing AUDIT, SMAST and T-ACE, the latter was the most sensitive screen for lifetime alcohol diagnosis, risk drinking and current alcohol consumption.^{31,32}

Although the majority of both urban and rural providers (93.5% overall) ask pregnant women about current alcohol consumption, there are missed opportunities for identification of women potentially at risk by not screening for a history of abuse (now a standard practice in all emergency departments for all patients in the Calgary Health Region) or for a family history of addictions. It is important to address alcohol prevention strategies within the broader prevention/promotion framework advocated by Health Canada.³³ Of note, although 86% of urban and rural providers dis-

cussed birth control with all women of child bearing age, less than one-half frequently discussed the role of folic acid, smoking, alcohol, drug use or addictions history. Less than 15% of urban or rural providers frequently obtained a detailed history of sexual and emotional abuse, an important determinant of alcohol use in general and a risk factor for gynecologic problems.^{34,35}

Although both urban and rural providers identified barriers to the diagnosis of FAS, rural providers were significantly more likely than urban providers to identify both a lack of time and a lack of specific training as barriers to the diagnosis of FAS and implementation of subsequent early intervention strategies. Rural physicians may be more likely to identify lack of time as a barrier because although they work about the same number of non-call hours per week as their urban counterparts, rural physicians spend more time on call, see more patients while on call and spend more of their on-call time providing medical services than do their urban counterparts.²⁵ Rural physicians in this study also cited lack of specific training as a barrier, which is consistent with data from a recent US survey that found rural physicians are often recent medical graduates and are more likely to indicate that more training in both the areas of pediatric care and high-risk obstetrics would be beneficial.²⁷ This has implications for the prenatal and perinatal care of alcohol-abusing women, as well as for the care and management of the affected child.

Limitations

Although every effort was undertaken to increase the response rate, including incentives, repeat mailing, Web-based survey completion and telephone follow-up, we achieved a final response rate of 41.5%.³⁶⁻³⁹ Studies of physician responses to surveys have suggested that questionnaires with relatively low response rates (e.g., 40%) and for which systematic differences between responders and nonresponders are limited could be considered valid.⁴⁰ Indeed, comparisons of late responders, as a proxy for nonresponders, to early responders in physician surveys have revealed few differences with respect to demographics and practice characteristics such that nonresponse bias may be less of a concern in physician surveys than in surveys of the general public.³⁶ Indeed, with the exception of family physicians, a response rate greater than 40% was achieved across provider groups, which may be acceptable for physician surveys.^{40,41}

CONCLUSION

Our study found that although many differences exist in the practice of urban and rural physicians in relation to FAS, strong similarities and appropriate practice standards were consistent regardless of setting. Although both urban and rural providers were acutely aware of the detrimental effects of alcohol on fetal development, there are opportunities for improvement in preconception counselling and screening, as well as for the diagnosis and care of patients affected by alcohol misuse and FAS, including additional physician training, increased use of screening questionnaires and improvements to telehealth and other additional supports for physicians practising in rural areas.

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THE PRACTITIONER LE PRACTICIEN

The occasional eye removal for corneal transplantation

*William McCready,
MD
Professor of Medicine, Associate
Dean, Faculty Affairs,
Northern Ontario School of
Medicine, Thunder Bay, Ont.*

*Correspondence to:
Dr. William McCready,
Northern Ontario School of
Medicine, ATAC Building,
6th floor, 955 Oliver Rd.,
Thunder Bay ON P7B 5E1;
William.McCready@
NorMed.ca*

*This article has been peer
reviewed.*

INTRODUCTION

Organ retrieval provides a service to both recipients and donor families. Many patients and their families wish to donate organs at the time of death and eye donation is rarely contraindicated. Corneal transplantation is a commonly performed procedure in Canada and is done either to restore sight or eye integrity. Corneal scarring, degeneration and dystrophy, keratoconus and keratoglobus are conditions that may require corneal transplantation. In 2006, 7065 eyes were donated and 2447 corneal transplantation procedures were performed in Canada.¹ More than 40 000 corneal transplantations are performed annually in the United States.² There is always a demand for donor corneas, and Canadian corneal transplantation surgeons report having an average waiting list of 50 patients and performing 33 procedures per year.³ The cornea is an avascular structure, thus allowing postmortem eye retrieval, which is a relatively simple procedure. Donor enucleation presents a unique opportunity for Canada's rural physicians to become involved in this important process.

Eyes should be removed within 12 hours for donors who have been refrigerated or within 4 hours if the donor has been kept at room temperature.

Following retrieval, the eyes are stored in a container of ice and must be received by the eye bank within 12 hours. Thus it is important to ensure that there is a local mechanism in place which allows these timelines to be met. In Ontario, the eye bank will pick up donated eyes at the Toronto airport. The list of resources at the end

of this article provides contact information that could be used to set up logistics for a local program, and the eye bank would be able to supply containers and insulated vessels for transport purposes.

INDICATIONS

Donors may be from 2 to 100 years of age.

CONTRAINDICATIONS

- hepatitis B or C
- HIV
- Creutzfeldt–Jakob disease
- septicemia
- encephalitis
- Reye syndrome
- rabies
- congenital rubella syndrome
- endocarditis
- Alzheimer disease
- multiple sclerosis
- amyotrophic lateral sclerosis
- intravenous drug use or other risky social behaviour

EQUIPMENT

The following equipment is required (Fig. 1):

- eyelid retractor;
- small-toothed forceps;
- muscle hook;
- sharp dissecting scissors;
- large curved scissors (non-pointed);
- 4 × 4 gauze;
- Kelly clamp.

These items can be obtained from any instrument supply company for about \$350. They may also be supplied by the Eye Bank of Canada.

PROCEDURE

Before proceeding, check that the consent form has been signed.



Fig. 1. Equipment required for enucleation.

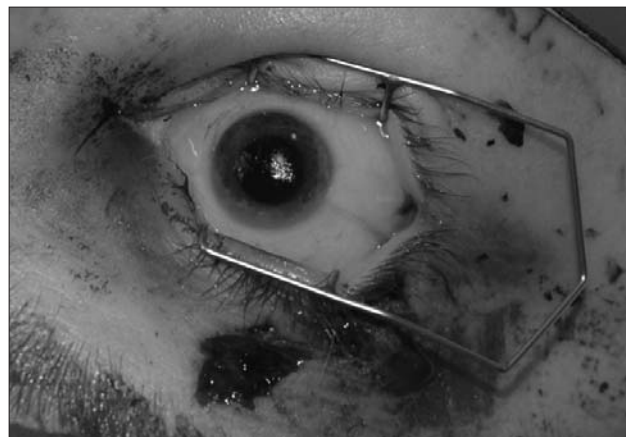


Fig. 2. Eyelid retractor in place.



Fig. 3. Incision of the conjunctiva.

1. The most convenient place to stand is behind the head.
2. Place the eyelid retractor to allow access to the eye (Fig. 2).
3. Using the toothed forceps pick up the conjunctiva just outside the margin of the iris (Fig. 3) and with the sharp dissecting scissors make a circular incision circumferentially around the iris.
4. Use the muscle hook to snare either the lateral or medial rectus muscle. This can be best achieved by running the hook along the surface of the globe deeper than the anticipated insertion point of the muscle and then sliding it back until the muscle body is hooked. If you are right-handed it is more convenient to hook the medial rectus of the right eye and the lateral rectus of the left eye, as this will allow easier use of the dominant hand when dividing the optic nerve.
5. Place the clamp on the muscle (Fig. 4) and divide the muscle distal to the clamp with the sharp scissors. This will result in the clamp being attached to the divided muscle and will allow you to use it to control movement of the globe.

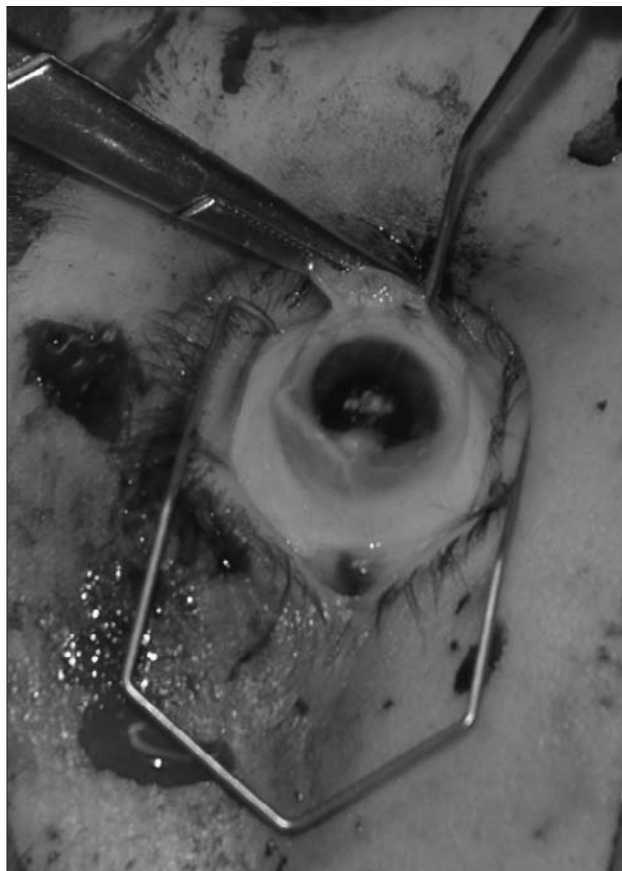


Fig. 4. Clamp in place on the rectus muscle.

6. Next use the muscle hook to snare the superior, inferior, and lateral or medial recti muscles and divide them with the sharp scissors. Often the inferior and superior oblique muscles are so



Fig. 5. Division of the lateral rectus muscle.

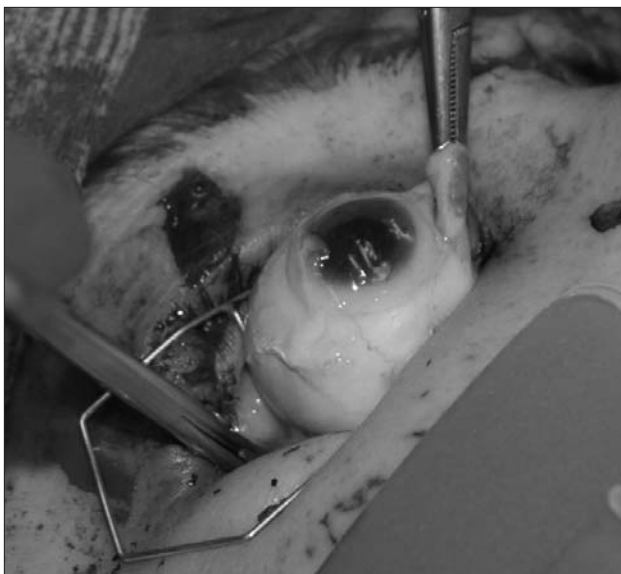


Fig. 6. Division of the optic nerve.

small as to be unidentifiable but failure to identify these muscles will not interfere with the procedure (Fig. 5). Once the extraocular muscles have been divided the optic nerve must be divided. This part of the procedure is critical as it is the only time when it is possible to penetrate the globe, hence releasing vitreous humour and collapsing the cornea.

7. Take the curved scissors and slide them behind the eye on the side opposite to the clamp. Open the scissors and push back against the posterior wall of the orbit while pulling up slightly with the clamp attached to the rectus muscle. Divide the optic nerve, which is quite tough and gritty feeling. It may be necessary to make several attempts before the nerve falls between the 2 blades of the scissors (Fig. 6).
8. The eye should now lift free of the orbit although it may be necessary to trim some extraneous tissue with the scissors to free it entirely.
9. The eye must now be placed in the container supplied by the eye bank. First soak the cotton in the bottom with sterile saline. This can conveniently be done by pouring in a generous amount of saline and then pouring off the excess. Ensure that the rolled gauze in the bottom of the container forms a ring around the gauze to provide some support for the eye. The eye should be placed cornea up in the container, which is then closed and placed on ice in the container provided (Fig. 7).
10. Roll up a single piece of gauze 4×4 by folding it lengthwise in 4, then rolling it up (Fig. 8). Push this gauze into the empty orbit and close the eyelids. It may take several attempts to close the lids over the gauze but this will help to

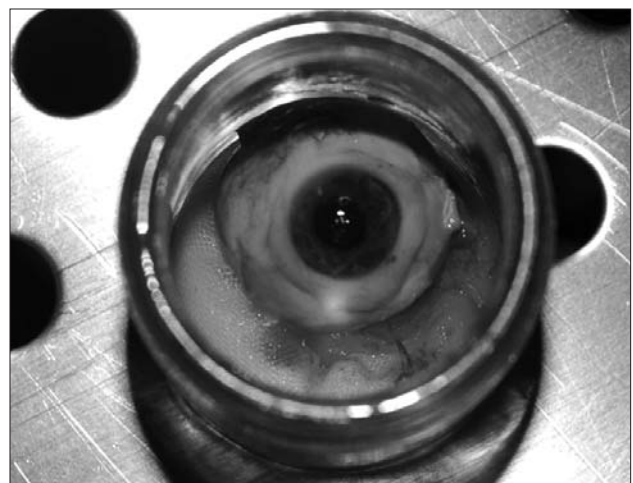


Fig. 7. Eye placed in transport container.

prevent collapse of the upper lids making the funeral director's work easier (Fig. 9). Try to ensure the eyelashes are not pushed back into the eye socket. Do not be tempted to use more than a single piece of gauze as it will prove impossible to close the lids under this circumstance.

11. Repeat the procedure for the second eye, remembering to start the process with the appropriate rectus muscle to allow use of the dominant hand to divide the optic nerve.
12. The eye bank will require 10 mL of clotted blood for HIV and hepatitis B serology. Depending on the time since death this can be something of a challenge but can usually be obtained from either the femoral or internal jugular vein.
13. A form with the donor demographics, brief medical history and enucleating physician information must be filled in and sent with the eyes to the eye bank.

Many rural physicians work in settings that make it difficult for them and their patients to participate in organ donation. However, all but the most isolated can participate in eye bank programs. Although removal of donor eyes may seem an intrusion into an already busy clinical day, families are generally most grateful for the opportunity to have their relatives' last wishes fulfilled, and such a donation can restore sight for up to 2 people.

Corneal transplantation is usually either sight preserving or restoring and is truly appreciated by recipients, as illustrated by this quote from Dr. Bill Ulakovic (personal communication, 2007):

As an optometrist in private practice for 20 years I have seen several patients that have undergone successful corneal transplants. Although a number of these patients have received a

corneal transplant as a result of a corneal injury or corneal dystrophy, the largest group of patients that I see is healthy young adults with keratoconus. Fortunately, most patients with keratoconus can be fitted with rigid gas-permeable contact lenses and achieve excellent visual acuity. However, if their disease progresses and they are unable to tolerate wearing contact lenses they have no other option for visual rehabilitation but to have their name placed on the waiting list for a corneal graft. These patients, many of whom are in the prime of their educational years or beginning a career, are often unable to carry on with their daily activities. As their vision deteriorates they wait indefinitely for a cornea to be donated. Receiving a corneal transplant truly does give these patients the gift of sight that so many of us take for granted.

USEFUL RESOURCES

- Eye Bank of Canada, Ontario Division, Toronto, Ont.; 416 480-7465; www.eyebank.utoronto.ca; eye.bank@utoronto.ca
- Eye Bank of British Columbia, Vancouver, BC; 604 875-4567; www.eyebankofbc.ca; eyebankofbc@vch.ca
- Lions Eye Bank (Alberta) Society, Calgary, Alta.; 403 943-3406; www.act4sight.com; info@act4sight.com
- Lions Eye Bank of Saskatchewan, Saskatoon, Sask.; 306 655-8002; www.medicine.usask.ca/ophthalmology/lions-eye-bank
- Lions Eye Bank of Manitoba and Northwest Ontario, Winnipeg, Man.; 204 788-8419; www.eyebankmanitoba.com; eyebank@miserc.winnipeg.mb.ca
- Quebec Eye Bank, Montréal, Que.; 514 252-3886
- New Brunswick Eye Bank, Saint John, NB; 506 632-5541
- Regional Tissue Bank, Halifax, NS; 902 473-4171
- Organ Procurement and Exchange Program of Newfoundland and Labrador, St. John's, NL; 709 737-6600

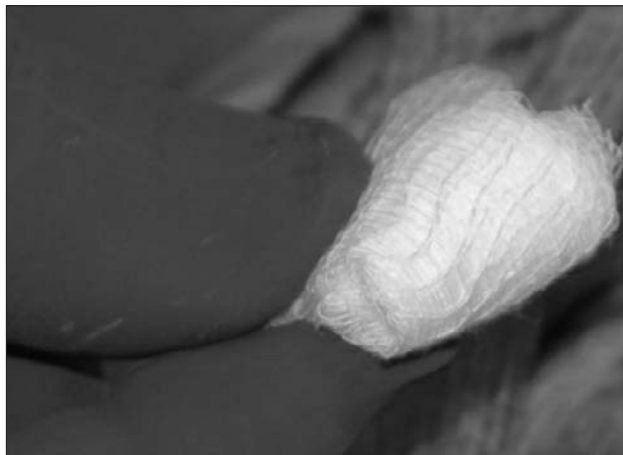


Fig. 8. Rolled up gauze.

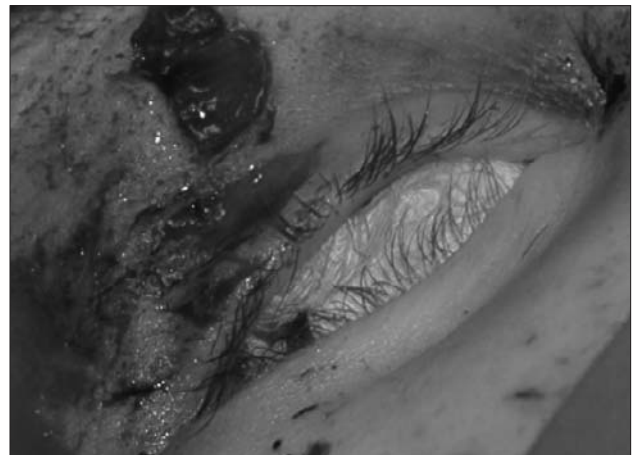


Fig. 9. Orbit packed with gauze.

- Eye Bank Association of America, Washington, DC; 202 775-4999; www.restoresight.org; info@restoresight.org

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Country Cardiograms

Have you encountered a challenging ECG lately?

In most issues of *CJRM* an ECG is presented and questions are asked.

On another page, the case is discussed and the answer is provided.

Please submit cases, including a copy of the ECG, to Suzanne Kingsmill, Managing Editor, *CJRM*, P.O. Box 4, Station R, Toronto ON M4G 3Z3; cjrm@lino.com

Cardiogrammes ruraux

Avez-vous eu à décrypter un ECG particulièrement difficile récemment?

Dans la plupart des numéros du *JCMR*, nous présentons un ECG assorti de questions.

Les réponses et une discussion du cas sont affichées sur une autre page.

Veuillez présenter les cas, accompagnés d'une copy de l'ECG, à Suzanne Kingsmill, rédactrice administrative, *JCMR*, C. P. 4, succ. R, Toronto (Ontario) M4G 3Z3; cjrm@lino.com



PODIUM: DOCTORS SPEAK OUT LA PAROLE AUX MÉDICINS

Developing a rural research project

*Len Kelly, MD, MClIn
Sci, CCFP, FCFP
Associate Professor, Clinical
Sciences Division, Northern
Ontario School of Medicine,
Sioux Lookout, Ont.*

*Correspondence:
Dr. Len Kelly; lkelly@
univmail.cis.mcmaster.ca*

For a chosen few, a facility and interest in research accompanies them into and out of medical school and beyond. For the rest of us it is a developmental process. The first 5–7 years of our professional lives are spent establishing a practice, a workable continuing medical education strategy and a balance with our selves, family and friends. By then we are in a rural practice. We have questions that arise from our patients, their treatment and what the medical literature does and does not tell us. How can we move these questions forward into a research project?

We may not develop into full-fledged researchers (i.e., don't give up your day and night job) but we are likely capable of very worthwhile contributions. After a career in rural medicine, most observers would consider us experts at being generalists. Some of us may take further training in research or simply partner with those who have.

Though not cast in stone, below are: the 1 undivided truth involved in developing a successful rural research project, the 2 paths to enlightenment, the 3 virtues, the 10 commandments and the 7 deadly sins.

THE 1 UNDIVIDED TRUTH

Research defines a discipline.¹ Highlighting specific rural issues that have an impact on patient care and outcomes is invaluable. Rural research can shed light on how patient care is provided in circumstances beyond urban centres, where most research presently originates.

THE 2 PATHS TO ENLIGHTENMENT

1. *Quantitative research*

Surveys, small trials, case reports, chart reviews, data set analysis. The scope need not be large for many office-based inquiries. Or one may initiate or participate in a larger, multivillage trial.

2. *Qualitative research*

Interviews, focus groups. This type of research has more to it than it appears, but with appropriate collaboration it is a good fit for family physicians. It often tries to get at patients' experiential thoughts and feelings.

THE 3 VIRTUES

1. *Increased confidence*

You are a scientist as well as a teacher and clinician. Why else do you think the way you do? Working on this aspect of your career broadens your sense of your professionalism.

2. *Increased professional/academic standing*

There are many ways of contributing to the profession; research is one way. This may be an area for you to explore.

3. *Less untilled fertile ground*

If medical writing or research is something you always wanted to do, then take some steps to accomplish it. Like

those many other things we want to see harvested in our life, this may be worth pursuing.

THE 10 COMMANDMENTS

1. *Curiosity*

Trust your gut. A question arises. You generally keep up with the relevant literature for your practice. If you do not know the answer, it likely hasn't been answered. So go ahead. Trust that instinct, as your type of practice may not be reflected in the general literature.

2. *Topic/question*

The type of question you ask determines the methodology needed to answer it. Many questions can be answered with relatively small sample sizes ($n = 100$); interesting case reports need only 1 patient. Try to define the question most succinctly. Talk to colleagues about it.

3. *Literature search*

A simple search may tell you if the question has already been answered. Medical librarians can often do that for you; if you continue, they can do a thorough search for relevant articles and send them to you. You may do a quick Medline search or even Google the question.

4. *Write the title*

This is harder than you might think. It is best to kick it around with several colleagues to get the correct wording. From this exercise you can clarify exactly what it is you want to zero in on. Since brevity is required in a title, it forces you to hone down the question of interest.

5. *Collaborate appropriately*

We are asked at times for access to our data or patient population, but are not really a part of a research team — this is not collaboration. If this occurs, consider asking for full participation in the project, if you want it. Otherwise, when deciding on how to proceed with your own project, find colleagues you trust who can bring energy, skills and perspectives you do not possess. Involving a medical student or other learner adds a lot of energy and can be a great boon to getting a project started — it

also gives you some incentive to complete it, as you will not want to see their labour go for naught. Always offer participation in authorship to colleagues who are willing to help you out. See the “Vancouver rules” for correct authorship attribution.² Collaboration may even take the form of joining or creating a network of similar-minded colleagues to address the question.

6. *Ethics*

You need to have ethics approval for almost all research projects. You may apply to ethics/research committees at hospitals, universities and even provincial colleges. Ethics approval needs to be in place before gathering any data. This is not a bad place to get help from someone who has gone through this before. Consider it a necessary evil and get it done. Research in Aboriginal topics has additional parameters outlined by the National Aboriginal Health Organization (NAHO) and the Canadian Institute for Health Research (CIHR).^{3,4}

7. *Data gathering*

Sounds like gardening, but much less colourful. In a small town, there is a power differential involving the physician and patient which may preclude certain topics or patients from research involvement. Your clinic staff can be invaluable in handing out surveys or collecting chart data for you. Electronic medical records open new doors.

8. *Analysis*

Using the correct statistics will require help from a professional who will be best served by being offered a participation in authorship. Always consult the chosen statistician before collecting data. If you collect data in widgets and their computer program counts digits, there will be issues, big issues. If statistical analysis will be needed, always find out what data will be required and in what form it needs to be collected and recorded.

9. *Write-up*

Always begin by choosing the journal you think is most appropriate and going to their website and downloading their instructions for authors. Do not write a “tome” in the Russian tradition and expect yourself, a friend or a busy journal editor to chop it down to size for you. Stick to the length and headings

they suggest. It will help to keep the paper organized, even if you ultimately submit it elsewhere.

10. Rewrite, resubmit

It got rejected by the journal. This is where collaborators are useful. You are disappointed and somewhat sick of the topic by now. Let others help to edit and change the paper. Every rejection will contain valuable suggestions from editors and reviewers who are experts in medical writing. Use that to improve on the work, even if you decide to submit the revision to another journal.

THE 7 DEADLY SINS

1. Not protecting time

You just have to choose an afternoon or morning that you will protect. No one will do this for you. Also, try working a bit when on call, if it is not too hectic. If you cannot put aside any protected time, then put the research off until later. Paid time off? Unlikely, but get it if you can.

2. Not asking for help

Ask for assistance, where you need it, early on, before you start hitting your head against the wall. Research is like any skill; you may come by it naturally, or more likely you will need some help along the way.

3. Not listening

More experienced researchers will often point out that you have bitten off more than you can chew and that the scope needs to be reduced. Listen to them. There may also be limitations imposed by the proposed methodology, patient access or geography. This may be a bit deflating, but being realistic early on is good.

4. Thinking the research is not important

Stay the course. If you thought it was a good project, it still is, even though you have met some hurdles.

You may decide that the project is worthwhile but not for you once you have a sense of what it involves, or you may find you need assistance.

5. Thinking you are not up to it

With a busy practice and a busy life, expect the project to sit and gather dust at times. This is unfortunate, but common; it is harder to get back into it once you have left it for a while. Major roadblocks may be not having enough time or needing more collaboration.

6. Trying to cover too much

What will it take to prove or elaborate your point? Would a well-written letter to the editor suffice where a research project may not be feasible?

7. NOT FINISHING

Dust it off, get help. Choose some time when you can take another run at it. Pare it down, go into salvage mode if you have to: does the literature review component have enough interest to stand alone as a submission?

If you follow these 10 commandments, avoid these 7 deadly sins, profit from these 3 virtues and wisely choose your path to enlightenment, we may all reap the benefits of the undivided truth.

Competing interests: None declared.

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OUT BEHIND THE BARN DANS LE FEU DE L'ACTION

Create a practice website on www.mydoctor.ca

*Barrie McCombs, MD,
FCFP
Medical Information Service
Coordinator, Alberta Rural
Physician Action Plan,
Calgary, Alta.*

*Correspondence to:
Dr. Barrie McCombs,
5111 Utab Dr. NW,
Calgary AB T2N 5Z9;
bmccombs@ucalgary.ca;
www.ruralnet.ab.ca/medinfo*

Whether you are a family physician or a specialist, your office staff often have to answer the same routine questions over and over again, such as “Where is your office located?” or “Is the flu vaccine available yet?” You can reduce that workload by creating an Internet website that answers such questions about your practice. You can also use the website to provide patient education materials, links to approved websites, instructions for visit preparation and a description of your office policies.

WWW.MYDOCTOR.CA

The Canadian Medical Association's (CMA's) free “mydoctor.ca” website-hosting service allows members to create a basic practice website in as little as half an hour, using only basic computer skills. It does this by asking you to fill in a series of 9 forms with information about your practice. It then uses that information to build the website for you. You can review and update your information at any time.

WWW.PRACTICESOLUTIONS.CA

To obtain more information about the program, visit the “eHealth” section of the CMA's “Practice solutions” website. The “Practice website” page provides links to articles about using and optimizing your website. The obscure “Brief overview” link in the middle of the page is a useful slide show tour of a typical website and gives practical information about creating and maintaining your own site.

SAMPLE WEBSITES

If you are thinking of creating your own website, visit several of the demonstration websites listed on the “Practice website” page. Find one that matches your own practice and print off each of the pages. These will be a guide to the information that will be requested when you create your own site. Review these pages with your staff to determine which information is relevant to your particular practice.

BUILD YOUR WEBSITE

When you are ready to create your website, return to the “Practice website” page, then select the “Build your website” link. You will be prompted to enter your CMA user name and password. If you have forgotten your password or have not yet registered to use the cma.ca website, options are provided. This page also contains a link to the slide show mentioned earlier.

WEBSITE LAYOUT

The first task is to pick one of the available colour schemes and layout options for your site. These and other options can be changed at any time. You can also select a Web address for the site. If desired, you can create a French language version.

YOUR HOME PAGE

When creating your home page, you can use the sample welcome message or create your own using the built-in text editor. If you use the editor, check carefully

for typographical errors, as there is no spell-checking function. You can add “Special alerts” that patients see as soon as they visit the site. Options are available to include your address, directions, a map and your office hours.

PRACTICE INFORMATION

The “About me” section describes you personally. Options are available to list your personal office hours, special interests, the languages you speak and whether you accept new patients. Other sections list information about what patients should do to prepare for a visit and what patient services you offer.

PATIENT HEALTH INFORMATION

The system provides an extensive list of patient-oriented health and community resource links. You can select the ones that are relevant to your practice or add your own. I recommend previewing links first, as the address may have changed since it was added to the list of options.

HEALTH PORTAL

A new feature of the mydoctor.ca system is the ability to add features to manage patients with chronic diseases. There is an annual fee for this extra service, but a 30-day free trial is available.

PROMOTION

Once you create the website, you will need to encourage your patients to use it. Create a handout that gives the website address and describes what information is available. Have your staff mention the website whenever they get a phone call requesting information that is available on the site.

MAINTENANCE

It is important to keep your website up to date. Set up a system for regularly reviewing all content. Also test all external links to ensure that they are still active. To maintain and improve your website, log into the cma.ca website, click on “My profile” in the upper menu, then select the “My practice website” link. This page provides an option to allow your clinic manager to maintain your website for you.

SAMPLE WEBSITE

www.mydoctor.ca/drbarriemccombs

While writing this article, I created a basic website using the features described above. Feel free to pay it a visit.

Competing interests: None declared.

RURALMED: THE SRPC LISTSERV

MEDRURALE : LA LISTE DE DIFFUSION DE LA SMRC

RURALMED

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MEDRURALE

Pour vous abonner au serveur de liste francophone, MedRurale, veuillez envoyer un courriel à l'adresse suivante : lamarche@comnet.ca.

Donner votre nom au complet et votre adresse de courriel. Si vous ajoutez aussi une courte biographie, elle pourra être affichée sur la liste en guise de présentation. Vous pouvez aussi accéder aux archives de MedRurale et à un formulaire d'inscription au serveur de liste anglophone sur la page d'accueil du site de la SCMR, www.srpc.ca.