Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

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Cover: "Herding cats"

Ben Crane
Pen and ink

SPW Graphics
Eckville, Alta.

The original drawing was presented to outgoing SRPC president Dr. Keith MacLellan
who spent a lot of time herding cats, with some success, into the SRPC organization.
More cats still needed. Pass the word.

Features • Articles

Editorials • Éditoriaux

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Executive Director of Rural Health: a leap into the unknown

John Wootton, MD, CM, CCFP, FCFP
Shawville, Que.

CJRM 1998;3(4):203

Your life can change in an instant. Mine did. One moment I was coming down a ladder confidently (if dangerously) from the deck of my sloop — the next moment I was airborne, then writhing on the ground with my calcaneus and the ladder in pieces. Boats should be in the water, not in parking lots, has been my "leitmotif" in the weeks since.

As I lay in a postsurgical doze several days later I got a call that changed my professional life almost as dramatically as the fracture has changed the day-to-day activity of my summer. Health Canada was offering me the newly created position of Executive Director of Rural Health. Admittedly this was a position for which I had applied and been interviewed, but it was not really until the moment of the offer that I actually examined in detail all the ramifications of this leap into the unknown.

Would I still be a rural doc? Would I lose all my skills? What lay in store for a greenhorn with no particular political experience in the maelstrom of the federal government bureaucracy? What about the quicksand of federal/provincial health care jurisdictional squabbles?

That the position has been offered to a rural doc, rather than a bureaucrat, is a hopeful sign. It means that Health Canada is truly interested in learning about the realities of health care in rural Canada, and that rural Canada now has a direct link on health matters to the federal ministry.

What can be accomplished in this new position? Clearly, by virtue of the Canada Health Act, the federal government has a stake in ensuring equitable access to care in the third of Canada that is rural. Not only can it help in defining the standards that should be met, but it can play a key role in identifying obstacles to progress, be they in training, manpower or resources, and act as the "rural lens" through which federal policy can be focused.

But the mandate extends beyond the federal government. Many players act on this stage, and

rural docs themselves have demonstrated their capacity for constructive dialogue, innovation and action. Bringing all parties together, the new players and the established organizations, to effect change will be no mean challenge.

By the time you read this, many of these questions will have tentative answers. The contract is for 2 years, and the challenges will be many, but clearly by the creation of this new position, Health Canada has joined the debate as a new and influential player, and this cannot help but be positive for the future of rural health care.

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Directeur général, santé rurale : un saut dans l'inconnu

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CJRM 1998;3(4):204

Votre vie peut changer en un instant. C'est ce qui m'est arrivé. À un moment donné, je descendais une échelle en toute confiance (même si c'était dangereusement) du pont de mon sloop — un instant plus tard, j'étais en plein vol pour m'écraser ensuite au sol, tordu de douleurs, le calcanéum en morceaux, et l'échelle aussi. Un bateau devrait être à l'eau et non sur un stationnement : ce fut mon «leitmotiv» pendant les semaines qui ont suivi.

Quelques jours plus tard, pendant que j'étais en pleine stupeur postchirurgicale, j'ai reçu un appel qui a changé ma vie professionnelle de façon presque aussi spectaculaire que la fracture a changé mes activités quotidiennes de l'été. Santé Canada m'offrait le nouveau poste de directeur général de la santé rurale. J'admets que j'avais postulé le poste et que j'avais été interviewé, mais je n'avais pas vraiment analysé en détail toutes les ramifications de ce saut dans l'inconnu avant de recevoir l'offre.

Est-ce que je serais toujours médecin rural? Est-ce que je perdrais toutes mes compétences spécialisées? Qu'est-ce qui attend un néophyte sans expérience politique dans la tourmente de l'appareil administratif fédéral? Que dire des sables mouvants que constituent les querelles de compétences fédérales-provinciales dans le domaine de la santé?

Qu'on ait offert le poste à un médecin rural plutôt qu'à un fonctionnaire, c'est une lueur d'espoir. Cela signifie que Santé Canada veut vraiment connaître la réalité des soins de santé en milieu rural au Canada, qui a maintenant liens directs avec le ministère fédéral dans le domaine de la santé.

Que pourra-t-on accomplir dans ce nouveau poste? En vertu de la Loi canadienne sur la santé, le gouvernement fédéral a clairement intérêt à assurer un accès équitable aux soins dans le tiers du Canada qui est rural. Il peut non seulement aider à définir les normes qu'il faudrait respecter, mais aussi jouer un rôle clé en repérant les obstacles qui nuisent au progrès, qu'il s'agisse de

formation, d'effectif ou de ressources, et présenter le «miroir rural» qui peut focaliser les politiques fédérales.

Le mandat du titulaire dépasse toutefois la sphère fédérale. Il y a de nombreux intervenants sur cette scène et les médecins ruraux eux-mêmes ont prouvé qu'ils peuvent dialoguer de façon constructive, innover et agir. Réunir toutes les parties, les nouveaux intervenants et les organisations établies, pour instaurer des changements, ce ne sera pas une mince tâche.

Lorsque vous lirez ceci, j'aurai obtenu une réponse provisoire à un grand nombre de ces questions. Il s'agit d'un contrat de deux ans qui présentera de nombreux défis, mais Santé Canada démontre clairement en créant ce nouveau poste que le ministère participe au débat comme nouvel intervenant influent, ce qui ne peut être que positif pour l'avenir des soins de santé ruraux.

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

President's message: training

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President, Society of Rural Physicians of Canada

CJRM 1998;3(4):205

The SRPC's Registry Group Committee of students, residents and rural practitioners is establishing a national registry of rural physicians wishing to take medical students for clinical or research electives. A recent student wrote to me that "my rural elective, among other things, gave me a glimpse into the background of the rural patients I have so often seen in major teaching hospitals." It gave him an appreciation of a rural community and its resources. He completed his elective not knowing if he would return to rural medicine but knowing that "I want to be like them. I want to be as good a doctor as they are." He stated that "fellow classmates, who were unable to experience a northern elective, missed a precious opportunity." It is through exposure such as this that future physicians gain insight into rural medicine as a career option and learn to appreciate the complexities of rural medicine should they choose to stay in a larger centre.

The College of Family Physicians of Canada (CFPC), with input from the SRPC, has formed a working group to look at rural family medicine curricula. The group, chaired by James Rourke, comprises both CFPC and SRPC members. Their mandate is to study the current training of family practice residents and to outline a core postgraduate curriculum. They will also explore the potential of advanced skills for rural physicians in postgraduate training and receive feedback from the SRPC.

Currently, general practice anesthesia, advanced obstetrics with cesarean-section training and general surgery have been learned informally. Now, the opportunity to obtain even these skills is diminishing as funding cuts occur. The SRPC would like formalized programs developed and would like to help find funding for these programs. This would include opportunities for continuing medical education, the maintenance of competence and support for graduates of these programs once they are in rural practice. Working groups have been established: surgery chaired by Nancy Humber, Lillooet, BC; anesthesia chaired by Brad Armstrong, Hinton, Alta.; obstetrics chaired by Stuart Iglesias, Hinton, Alta. and Peter Hutten-Czapski, Haileybury, Ont.

Our colleagues in rural British Columbia have banded together during their long battle with the government over compensation for call and continuing medical education. Stuart Johnston, Vanderhoof, BC, chair of our regional SRPC group, has done an incredible job of pulling everyone together. It is surprising that more rural doctors in British Columbia have not left rural practice, considering what they have been through. They are working in rural medicine despite the hardships because they care for their patients and for the communities in which they work. This is a skill that cannot be taught and is one that binds us together.

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale
Fall 1998 Contents • Automne 1998 Table des matières

Message de la présidente : perfectionnement

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Société de médecine rurale du Canada

CJRM 1998;3(4):206

Constitué d'étudiants, de résidents et de praticiens en milieu rural, le Comité du registre de la SMRC est en train d'établir un registre national des médecins ruraux désireux d'accepter des étudiants en médecine pour des stages facultatifs en médecine clinique ou en recherche. Un étudiant m'écrivait récemment que «mon stage facultatif en milieu rural m'a donné notamment un aperçu des antécédents des patients ruraux que j'ai vus si souvent dans de grands hôpitaux d'enseignement». Ce stage lui a permis d'apprécier une communauté rurale et ses ressources. Il a terminé son stage sans savoir s'il reviendrait à la médecine rurale, mais en sachant que : «Je veux être comme eux. Je veux être aussi bon médecin qu'eux». Il a déclaré que : «Mes collègues qui n'ont pu faire de stage facultatif dans le Nord ont raté une occasion précieuse». Ce sont de telles activités qui donnent aux futurs médecins une idée de la médecine rurale comme choix de carrière et leur permettent d'apprendre à comprendre la complexité de la médecine rurale s'ils décident de demeurer dans un grand centre urbain.

Avec la contribution de la SMRC, le Collège des médecins de famille du Canada (CMFC) a créé un groupe de travail qui se penchera sur les programmes d'études en médecine familiale rurale. Présidé par James Rourke et constitué de représentants du CMFC et de la SMRC, le groupe a pour mandat d'étudier la formation actuelle des résidents en médecine familiale et d'établir le squelette d'un programme d'études postdoctorales de base. Les membres du groupe exploreront aussi les possibilités de formation spécialisée poussée pour les médecins ruraux en formation postdoctorale et recevront de l'information de la SMRC.

À l'heure actuelle, l'anesthésie générale, l'obstétrique avancée avec formation en césarienne et la chirurgie générale ont été apprises de façon non structurée. Des compressions budgétaires réduisent actuellement la possibilité d'obtenir même ces connaissances spécialisées. La SMRC aimerait qu'on établisse un programme structuré et souhaiterait aider à trouver du financement

pour ces programmes, ce qui comporterait des possibilités d'éducation médicale continue, le maintien de la compétence et le soutien des diplômés de ces programmes qui ont commencé à exercer en milieu rural. On a créé les groupes de travail suivants : chirurgie, présidé par Nancy Humber, de Lillooet (C.-B.); anesthésie, présidé par Brad Armstrong, de Hinton (Alb.); obstétrique, présidé par Stuart Iglesias, de Hinton (Alb.) et Peter Hutten-Czapski, de Haileybury (Ont.).

Nos collègues des régions rurales de la Colombie-Britannique ont fait front commun pendant leur longue lutte contre le gouvernement au sujet de la rémunération des périodes de garde et de l'éducation médicale continue. Stuart Johnston, de Vanderhoof (C.-B.), qui préside notre groupe régional de la SMRC, a fait un travail incroyable de mobilisation. Il est étonnant qu'il n'y ait pas plus de médecins ruraux de la Colombie-Britannique qui ont cessé d'exercer en milieu rural, compte tenu de ce qu'ils ont vécu. Ils œuvrent en milieu rural en dépit des difficultés parce qu'ils aiment leurs patients et les communautés où ils travaillent. C'est une technique qui ne peut s'enseigner et une qualité qui nous lie tous.

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Retention of rural physicians: tipping the decision-making scales

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[résumé]

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Contents

Objectives: To provide an understanding of the decision-making process that rural physicians and their families undergo when they decide to relocate and to draw implications that might be useful for those facing similar relocation decisions.

Design: A qualitative study.

Method: The narrative responses of 121 rural physicians to a survey questionnaire on practice location were analysed using grounded theory to develop a theory for understanding the retention of rural physicians.

Results: The findings were organized around 3 major categories: community commitment, medical confidence and compensation. Throughout these categories a theme emerged — "tipping the decision-making scales" — which describes the delicate balance of issues that surround the rural physician's decision on practice location. From this theme, important patterns have emerged to explain what tips the balance that leads rural physicians to (1) make a rational decision to leave, (2) wait for the "last straw," (3) experience the "last straw" scenario and (4) make a decision to stay.

[Contents]

Objectifs : Aider à comprendre le processus décisionnel que suivent les médecins ruraux et les membres de leur famille lorsqu'ils décident de déménager et tirer des conclusions qui pourraient être utiles à ceux qui doivent prendre des décisions semblables.

Conception : Étude qualitative.

Méthode : On a analysé les réponses narratives de 121 médecins ruraux à un questionnaire sur le lieu d'exercice de la profession en se fondant sur une théorie à base empirique afin d'élaborer une théorie permettant de comprendre la rétention des médecins ruraux.

Résultats : Les constatations ont été réparties en trois grandes catégories : engagement communautaire, confiance médicale et rémunération. Dans toutes ces catégories, on a dégagé un thème «qui a fait pencher la balance décisionnelle» et qui décrit l'équilibre délicat entre les enjeux qui jouent sur la décision que prend un médecin rural au sujet du lieu d'exercice de sa profession. À partir de ce thème, on a dégagé d'importantes tendances pour expliquer ce qui fait pencher la balance et incite les médecins ruraux à 1) décider rationnellement de partir, 2) attendre la «dernière goutte d'eau», 3) vivre le scénario de la «dernière goutte d'eau» et 4) décider de rester.

[Contents]

Recruitment of physicians to rural practice continues to be a major concern to most rural communities. This problem has been extensively studied, and evidence now exists that physician characteristics,1-3 training environments,2,4-8 and a rural training curriculum8-10 are a few of the important factors related to attracting physicians to these practice locations. More recently, however, the concern has shifted and studies have begun to focus attention on retention and on understanding the factors that influence physicians to stay in their rural settings.11-16

A 1991 study by the Canadian Medical Association of 2400 rural physicians of whom 400 had moved from a rural to an urban location identified the professional and personal factors inherent in their decision to stay or to leave their rural practice.12 It was found that the decision was complicated by both personal and professional concerns. Professional factors for leaving rural practice included work hours, professional back-up, specialty services, additional training, hospital services, continuing medical education (CME) and earning potential. Personal concerns included children's education, spousal job opportunities, recreation, cultural opportunities and retirement. The most important factors related to physicians staying in a rural practice, in descending order, were: additional colleagues, locum tenens, an opportunity for group practice, specialist services, alternative compensation, CME, improved facilities and emergency transportation.

What is unclear from these studies is an understanding of what rural physicians go through in order to make the decision to stay or leave. In the past, the emphasis for physicians and communities has been recruitment, but improvements in retention would greatly alleviate physician imbalances. Understanding the decision-making process that rural physicians and their families undergo may serve as a useful guide to those facing similar relocation decisions.

[Contents]

Method

This study is based on a recruitment and retention survey conducted by the Centre for Health Services and Policy Research at the University of British Columbia in 1989.17 The survey comprised 40 close-ended questions and space for doctors' additional comments. The additional comments are the subject of this analysis.

Grounded theory and the constant comparative method of analysis18-20 provide a methodical and rigorous way to examine physicians' comments and to develop a theory for understanding the decision to stay or leave. According to the principles of grounded theory, the narrative data were manually analysed word by word and sentence by sentence, by 2 of the members of the research team (A.P., G.G.) to ensure that every idea was identified. All of the ideas that emerged from this process of analysis were named (open coding) using terms that, to us, best reflected the meaning

of the ideas identified. The data were then reviewed by another member of the research team (C.W.) to verify that no new conceptual ideas emerged (saturation) or had been missed. The code names were then organized into a theoretical framework (axial coding), which included 3 major categories, their respective properties, and the types, circumstances and conditions under which the properties exist. The ideas in this framework were then articulated into a theory that describes and illustrates the make-up of these different categories and how they relate to one another.20 Finally, a major theme was identified (G.D. Grams, Department of Family Practice, University of British Columbia, Vancouver. Rudiments in the process of conducting qualitative research: a working guide to the use of "grounded theory" [unpublished manuscript, 1997]), which speaks to those factors that appear to "tip the balance" in the decision-making process. The conceptual findings that make up this theme provide an overview of the theory of the decision to stay or leave and are presented and "grounded" in the words of the physicians.

Of the original 404 responses from rural physicians, 121 responded with some detailed comments concerning their recruitment and retention experiences that were used in this study.

For purposes of anonymity, the quotations used in reporting the findings of this study have been altered where necessary to conceal the identity of those involved. Ethical approval for the survey was granted by the Behavioural Screening Committee for Research, University of British Columbia.

[Contents]

Findings

Tipping the decision-making scales

The 3 major categories into which the conceptual analyses were organized were: community commitment, medical confidence and compensation. These categories and their properties describe the issues and the process involved in the decision to stay or leave. Although the theory provides us with a detailed and complex composite picture of the retention issues through the experiences of these physicians, emerging in more than one category is the more general theme, "tipping the decision-making scales." A review of this theme provides a brief overview of the theory and important implications for those struggling with issues of recruitment and retention.

This theme describes how 3 important circumstances interact to affect retention. Specifically, it is the experience the physician has with balancing his or her own lifestyle with commitment to the community, the confidence that s/he has to fulfil that responsibility, and the appropriateness of the compensation which s/he receives that influences the decision to stay or leave a rural community. An important part of the theme is the continual struggle involved in balancing the positive and negative aspects of rural practice, in addition to the subjective nature of satisfaction, all of which occur when practice-location decisions are made. For every factor judged positive by

one physician there is another who sees the same situation in a different light. Each of the 3 components of the theme are considered separately.

Community commitment

Rural medicine is more than a vocational commitment. The physician often develops a very close relationship with the community. This can be both a positive and a negative experience, as one physician explains.

> A very close bond develops between the small community and its physicians. This can be physically tiring and emotionally draining, but it is very satisfying professionally.

Rural practice is usually characterized by a very demanding work schedule, particularly with on-call responsibilities. Without access to emergency facilities and other physicians to assist with on-call schedules, a rural physician is called upon day and night:

> Living in the North or in an isolated community requires a great deal of devotion with respect to your work as you are known wherever you go and everyone knows your telephone number, consequently you will be called upon day and night.

Physicians frequently encounter demands for their service, even during their spare time or while grocery shopping, which one physician described as " 'meat counter' consultations with patients."

As another physician states:

> My greatest dissatisfaction with small town practice is the great difficulty in finding personal time without the likelihood of interruption. If I leave it will probably be to work somewhere I can shut the office door and not worry till the next day.

Aside from the direct medical responsibilities, a consequence of a rural practice is the physician's feeling that his or her lifestyle choices and personal life cannot be kept from the public eye:

> The only problem I find with living in a small community is the lack of anonymity. Like it or not we have a "high profile" in the community which can be good or bad or both. That takes a lot of getting used to. One cannot have a life-style which is too outrageous or eccentric — everybody knows you.

Other physicians focus more on the opportunities that rural medicine gives them to form close relationships with community members and patients. The commitment a rural doctor is required to make to community residents can bring greater meaning to the practice of medicine.

> I wanted to work where I was really needed. A small rural community fulfills this.

A rural physician benefits from being able to treat patients within the context of their social environment, although it also means that medical decisions can take on a very personal nature. Balancing family life with medical responsibilities can be very difficult when a physician has to be available constantly and can be found easily in a small community. Important family events can be missed:

> You can never guarantee your spouse or children that you'll be there for special events such as birthday parties, school concerts, etc.

In this regard, family holiday time can be difficult to arrange due to difficulties in finding locum coverage. Not surprisingly marriages can be affected by the constant demands of rural practice:

> The general number of hours I put in per week to run my practice and the responsibilities of the practice contributed largely to my marital breakdown.

The challenge, professional growth and the contibution one can make to the community may be the most appealing part of rural practice, but it comes with a heavy burden. The demanding work schedule and the responsibility to each patient and the community as a whole can begin to make you feel as though you are on an "unstoppable treadmill" as one physician wrote. Another physician noted that:

> My biggest frustration was burnout that is inevitable in a small town. Due to long hours, heavy call, and extra community responsibilities.

Personal circumstances and values determine how well a physician can balance the burdens and the benefits of living and working in a rural community.

Medical confidence

Practising rural medicine means practising without first-hand access to the latest medical technology and specialist consultation. In an isolated setting a physician carries much greater responsibility for quick decision-making and must use a wide variety of medical skills. This situation is a tremendous challenge given the responsibility of not knowing what they might encounter next, yet knowing that they will be required to manage the problem with the resources immediately available to them.

> I know what it means to have a patient with a bowel obstruction, a newborn with leukemia, a child with Friedlander's meningitis. The anxious hours of fear and worries of wrong diagnosis or of further wrong treatment. The having of not only the medical problem, but to be your own lab technician and radiologist.

Whether physicians see this environment as challenging or overwhelming will depend on their confidence in being able to meet the demands for service. In some cases, this high level of personal challenge is actually what maintains a doctor's interest in practising rural medicine:

> The practice of medicine involves making decisions, acting on them, and living with the consequences of those decisions / actions. The level at which I can do this is much higher in a rural setting and thus far continues to expand my skills and competence. Without a continued sense of professional growth I suspect I would lose interest in medicine.

The overall level of confidence that a physician has to cope with the demands of rural practice depends on both personal traits and medical preparedness. Back-up in terms of specialty support (including general practitioners with special skills training) and community health resources such as air evacuation and ambulance services, pharmacy, counselling, psychiatric care and physiotherapy are important contributing factors to the physician's level of confidence, as is the practice environment.

> The compatibility of the other GPs and the general morale of health care people is very good. We are all working together.

Doctors have concerns about their ability to offer certain services, which can be a deciding factor for practice location:

> There is a dire shortage of GP anesthetists and therefore a threat exists to our ability to offer surgery. I would not stay here if we could not offer at least general surgery.

Access to special skills training and CME, often limited in rural areas, is critical in maintaining a physician's educational competence, and therefore confidence, to function effectively in a rural environment.

> The main professional concern is lack of opportunity to upgrade skills in various areas such as obstetrics, cardiology, trauma care and neonatology.

Confidence to practise effectively in a rural environment is also affected by the expectations of patients and concerns over medical liability. A physician is confronted with questions of legal liability, which can seem overwhelming in an environment where back-up support and medical facilities are not comparable to an urban setting:

> If I move, the principal reason will be that the absence of specialist support has finally become too stressful — coupled with the increasingly pervasive concern

> regarding the perception of what is adequate care and medico-legal concerns.

Alternatively, some physicians feel that legal liability is less likely to be an important issue once a community comes to know and trust their doctor:

> Once a physician becomes established in a small town and shows himself to be caring and dedicated, he is most unlikely to be sued.

But treating patients in a rural area without the same access to the latest treatment technologies and diagnostic tests as urban colleagues can be frustrating:

> I worked as a rural GP for 4 years. I left because it seemed to me that patients expected the same type of care/consultations that were available in the city and this is hard to provide.

A medical situation where a physician must use quick decision-making without necessarily having access to appropriate diagnostic technology or specialist consultation can be seen as a challenging experience with potential for professional growth or as an overwhelming responsibility with unwelcome stress and anxiety. The confidence that a rural physician has in his or her ability to deal with the situation will determine how the situation is viewed. Confidence to perform effectively is so crucial to the everyday experience that this can be a critical decision scale-tipper: this issue alone can finalize the decision to leave.

Compensation
Compensation comes in a number of forms including financial, professional and personal.

Financial rewards can only be measured appropriately when viewed relative to a number of factors, including cost of living, running a practice in a rural location, trade-off in terms of personal time, and future financial security. For some, rural practice can be lucrative due to the "captive" nature of the patient population and the easy access to medical facilities:

> It is easy to do house call, it is easy for patients and doctors alike to park their cars. One can easily get to the emergency department in 3-4 minutes. This facility of patient-doctor contact accounts for the high incomes that are made in rural or semi-rural practice. The opposite holds true for city practice.

Although this is a benefit of practice, the positive elements of having a lucrative practice are often offset by a loss of personal time. Conversely, other physicians do not see their practice as lucrative and, instead, feel that financial compensation does not reflect the realities of rural medicine. Specifically, taking more time with patients due to added responsibilities, the high incidence of non-office-based work such as hospital work, house calls and evening visits means a lower income for physicians.

> As a rural GP, I feel I carry more responsibility for patient care and work-up than most city GPs. The paradox is that this takes up more time, allowing me to see fewer patients in a day. Therefore, I have more responsibility with less income.

In some cases there is no financial incentive for doctors to undergo additional training to enable them to perform a specialty medical skill. In many cases physicians receive greater compensation for their office-based visits than for operating room work:

> GP anesthesia is an example of specialty training where such practice has a negative impact on income. I make less in the OR than I do in the office, despite higher training, stress and malpractice risk while practising anesthesia.

Overall, this income must again be balanced against the costs of living in the community and running a medical practice, and with the potential opportunities the practice and community offer in terms of future financial security.

The professional experience in a rural area is greatly influenced by both community and provincial medical bureaucracy and politics:

> The benefits of working in these smaller communities include less red tape to struggle through to get things done for your patients.

Alternatively, the politics in a small town can be much more personal, and therefore, they can interfere in a greater or more significant way with the medical experience. Further, not only do rural doctors often feel isolated from back-up medical support, they also feel isolated from the powers that be who make important policy decisions affecting their life and practice. Without adequate representation at the British Columbia Medical Association or the College of Family Physicians of Canada, the interests of rural doctors may not be taken into account:

> . . . as rural physicians we are not close to politics and powers and as such are being shafted by Medicare, the BCMA, and even the College of Family Physicians of Canada are more influenced by urban doctors.

These professional concerns can be even greater for international medical graduates practising in a rural area. The balancing of professional benefits with professional and personal sacrifices depends on the nature of community politics and the satisfaction a physician has with provincial policy decisions.

Community attributes, opportunities for the physician and family, and sense of community are important personal compensatory factors. A rural environment appeals to those physicians who

love the outdoors:

> . . . socially our lot is superior [to urban practice] — I live in a clean, relatively pure environment where I can garden organically, hunt, hike, ski, etc.

A small town can offer a strong sense of community where friendships are strong and supportive, but for many it also means leaving behind close friends and family. Physicians can feel socially isolated given that all community residents are potential patients:

> . . . to move to this isolated location on a permanent basis would mean leaving friends and family with the loss of the pleasures of daily interaction. Assuredly with time other friendships will be established but that does not entirely compensate.

The quality of life in the community for a spouse and children are critical aspects of compensation:

> My children are healthy and strong and relatively safe. We don't lock our house and can leave the children alone at night.

Other physicians have concerns over the quality of services available such as child care, recreational and educational services, which are necessary for the upbringing of children:

> . . . I cannot bring up a young family here. There are inadequate resources and the schooling is poor. There are few cultural amenities and poor sporting facilities.

The age of children can be a critical factor in determining whether community facilities are adequate, and often, as children get older, parents become more dissatisfied with available services:

> I suspect that as my children grow older we will want to move to be closer to things like Colleges, music lessons, ballet, etc.

Spouses of rural physicians also have many concerns about community facilities, with additional concerns over employment issues:

> I feel very strongly that the number one factor in maintaining physicians in rural communities is ensuring that the spouse has a career if he or she wishes to work.

The distance that must be travelled to reach a larger centre in order to take advantage of the cultural, educational, and personal amenities can have a large effect on the level of satisfaction of

a physician.

The theme explained

The theme describes the interrelated nature of the various components of rural practice and the delicate balance among the 3 components of community commitment, medical confidence and compensation. Rural doctors are given the opportunity to practise front-line medicine where they feel they are truly helping people and where they come to know and care for their patients and community. To do this, a rural physician ends up not only taking on a new job, but also taking on a new way of life. The satisfaction physicians have with this experience will depend greatly on the confidence they have in their abilities to practise rural medicine effectively and the rewards for doing so.

Not only do the various elements of satisfaction weigh the decision in one direction or the other, but each factor comes with a particular "load factor." For example, with respect to community commitment, whether the rural physician views this commitment on the continuum between being a great asset to practising rural medicine at one extreme, or as an overwhelming responsibility at the other extreme will have a great impact on relocation decisions. The "load factor" on the decision scale is greatest for those physicians who see the issue of community commitment at one end of the spectrum. For physicians closer to the middle of the spectrum, a greater struggle will occur where the positive and negative aspects of this situation sway the decision back and forth.

Some important models have emerged from the data to explain the decision-making process of rural physicians with regard to practice location. Four particular decision-making scenarios have been identified.

Rational decision to leave

The first model falls into the "rational decision to leave" category. This describes physicians who have carefully balanced the positive and negative factors of continuing to practise in their current rural location; they have decided that the negative factors outweigh the positive ones, and they have chosen to leave. More specifically, the commitment made to the community and the responsibility involved does not balance with the subsequent compensation. The following physician explains how her practice partners made the decision to leave.

For rural doctors the effort/sacrifice does not measure up to urban financial reward/social/leisure and freedom. Therefore we do not have our 5 former partners.

Waiting for the "last straw"

The "waiting for the last straw" model describes what could be thought of as the "back and forth" category. For these physicians, their sacrifices and rewards are not in balance, which causes them dissatisfaction with their practice, but they have not yet made the decision to leave:

> I felt an economic deterioration to my lifestyle. To maintain my income with regards to inflation and increasing overhead costs, I have been forced to see patients in less time, and to work longer hours (both in my office and on call). This has had an eroding effect on my leisure as well as family time, and has been a detriment to my overall career satisfaction.

It is likely that these physicians will wait until a threshold event occurs that will finally cause them to change locations.

The "last straw"
In the "last straw" model, the final decision to leave is based on one precipitating event at the end of a period of balancing the positive and negative factors that finally causes the physician to decide to leave:

> Many doctors (myself included) greatly enjoy rural medicine. In the end, it was the isolation professionally and socially which made me go stale, and decide to head back to the big city.

> The move from a rural area to the present semi-urban area was motivated as much by a search for a geographic cure for chemical dependency as for other reasons cited. . . . All four of my practice moves had this as the main motivation, unspoken, to be sure.

Decide to stay
In the "decide to stay" model, the positive benefits of rural practice have outweighed the negative ones, and the physician decides to stay:

> Overall I greatly enjoy practising medicine in a rural community. The benefits are of professional freedom, challenge, opportunity to use skills, and a sense of responsibility towards the community.

[Contents]

Implications

For many physicians, the decision to stay or to leave a rural practice is not reached easily. Although this study has provided us with a better understanding of this complex process, we are reminded that the purpose of theory is to increase our understanding, and the findings, although true for those in the study group, can only be generalized to other populations in the form of hypotheses, which must be tested using other methods.

Implications for the literature

This study both supports the findings from previous studies[11-13,16,17] that personal, community and professional concerns are all important determinants of a physician's satisfaction for practising in a rural community and adds to those findings, providing a framework for understanding how these issues interact and influence each physician. Importantly, these conceptual findings demonstrate that the influence of various factors on individual physicians may best be measured in terms of the balance of efforts and rewards influenced by the personal resources of each practitioner in his or her community, rather than as a rank ordered list of factors. It is apparent that the issues raised in the data are relevant in other communities outside rural British Columbia and are still current. They have been replicated in a recent Australian qualitative study.[21] This study adds to the literature the finding that qualitative methods are useful to help us begin to identify and understand the decision-making behaviour of the different cohorts or subpopulations of physicians practising in a rural setting.

Implications for practice

For those physicians who ask themselves whether they are satisfied practising in their rural community or if they want to move to a larger centre, the findings from this study imply that the many factors involved in the decision-making process will be similar. The way these factors are weighted, however, and which ones ultimately influence the decision to leave a rural practice, will be unique to each physician. The findings from this study suggest that it is unwise to discuss one element of satisfaction in isolation from others. For example, physicians may feel that the demands by the community are great and the risks of practising medicine without the benefit of consultants and equipment is an extreme challenge. However, they may feel adequately compensated, both financially and professionally. Others may feel that the financial rewards are not sufficient to offset the strain, stress and risks. At the community level, better financial compensation or incentives may influence physicians to stay in one community, while better back-up, educational opportunities or increased locum assistance may be more critical in another.

Implications for policy

These findings also have implications for policies concerning the need for collaboration among rural physicians, their community, the College of Family Physicians of Canada, the Society of Rural Physicians of Canada and the appropriate government department to ensure that physicians receive fair and adequate compensation for their efforts. In some communities, policies do exist, but there seems to be little collaboration among the parties involved. Policy might ensure that communities, physicians and postgraduate training personnel collaborate to provide adequate support and relief to physicians working in rural communities in order to reduce the risk of "burn-out."

Implications for further research

Our findings suggest the need for further research in several areas, especially of those physicians who constitute our "last straw" model. Such a study would increase our understanding of the different factors involved in deciding to stay or to leave. It would give us some insight into what

might be done to reduce the likelihood that the decision to leave will be made as a result of frustration or emotional turmoil. It seems clear that we might benefit by a longitudinal prospective study of the recruitment retention phenomenon. Such a study might give us a better understanding of what could be done at the recruitment stage that will lead to physicians who are more satisfied with rural practice and, as a result, stay longer in their rural communities. We are reminded that the findings from these data came from asking physicians to "tell their story," so future researchers might consider the benefits of using qualitative methods and participatory action research models.

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Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Shared skill sets: a model for the training and accreditation of rural advanced skills

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[résumé]

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This article has been peer reviewed.

See also:

- Rural medicine NEEDS advanced skills

A model of shared skill sets for the teaching and evaluation of rural generalist physicians with advanced skills is proposed. Generalists delivering advanced skills should be trained and assessed to meet national standards for a defined low-risk rural population, standards that do not differ from those expected for care by specialists. This model of shared skill sets stands in contrast to historical models of exclusive skill sets in anesthesia and surgery, which purport that optimum patient care requires specialist care and that rural generalists should be trained and licensed to deliver these skills as a second-best solution when specialist care is not available. A preliminary review of published evidence clearly supports the shared skill-sets model. Outcome studies in obstetrics, cesarean section, colposcopy, colonoscopy, cardiac stress testing and gastroscopy demonstrate an identical standard of care for both rural generalists and urban specialists. There is no evidence to support the model of exclusive skill sets. The authors speculate that the lack of a professional home for these physicians has served them and rural Canada poorly. They raise the question of whether a place can be found for rural generalist physicians within existing institutional arrangements or whether the time has come for a "College of Rural Medicine of Canada."

On propose un modèle d'ensemble de connaissances spécialisées communes pour la formation et l'évaluation des omnipraticiens ruraux qui ont des compétences spécialisées avancées. Les omnipraticiens qui utilisent des techniques avancées devraient être formés et évalués de façon à satisfaire à des normes nationales relatives à une population rurale à faible risque définie, des normes qui ne diffèrent pas de celles qu'on attend des soins dispensés par des spécialistes. Ce modèle de compétences spécialisées communes représente un contraste par rapport aux modèles historiques de compétences spécialisées exclusives en anesthésie et en chirurgie, où l'on suppose que le soin optimal des patients nécessite l'intervention de spécialistes et que les omnipraticiens ruraux devraient recevoir une formation et être autorisés à pratiquer ces techniques spécialisées comme solution de repli seulement lorsqu'un spécialiste n'est pas disponible. Un examen préliminaire des données probantes publiées appuie clairement le modèle des ensembles de compétences spécialisées communes. Les études de résultats d'interventions obstétriques, de césariennes, de colposcopies, de colônoscopies, d'épreuves cardiaques à l'effort et de gastroscopies démontrent que la norme de soin est la même chez les omnipraticiens ruraux et les spécialistes urbains. Il n'y a pas de données probantes qui appuient le modèle des ensembles de compétences spécialisées exclusives. Les auteurs posent comme hypothèse que le manque de foyers professionnels pour ces médecins a mal servi ceux-ci et le Canada rural. Ils demandent si l'on peut trouver une place pour les omnipraticiens ruraux dans les structures institutionnelles existantes ou si le moment est venu de créer un «Collège de la médecine rurale du Canada».

Rural medicine appears to be emerging as one of the newest specialties in medicine. Rural physicians tend to perform procedures more frequently than urban family physicians, yet models for training physicians to practise rural medicine are still new and not well developed.1-3 The World Organisation of Family Doctors (WONCA) produced a policy on rural training in 1995 that called for the development of appropriate training programs in advanced skills.4 The WONCA policy was adopted at a Society of Rural Physicians of Canada (SRPC) consensus conference on retention and recruitment in 1996, during which the need to develop advanced skills training programs for rural medicine in this country was emphasized.5

One of the difficulties in developing advanced skills training programs has been controversy from observers who feel that advanced procedures should be performed by specialists rather than generalists. In this paper we propose a solution based on a model we call "shared skill sets," which we believe better reflects the reality of rural clinical practice than the historical model of exclusive skill sets. We review the evidence supporting both models and speculate on ways to evolve advanced skills programs for rural Canada.

History

Historically, physicians with advanced skills have always provided procedural medical and surgical care in rural Canada. Although trained and practising as generalists, these physicians

have supplemented their training programs to include skill sets from the fields of anesthesia, obstetrics, general surgery and emergency medicine, plus a variety of miscellaneous skills: endoscopy, ultrasonography, cardiac stress testing and colposcopy.

How were these skill sets acquired? Some were acquired in rotating internships before the new family medicine residencies replaced them. Some were acquired by physicians who trained overseas and brought the skills with them when they immigrated to rural Canada. Others were acquired by rural physicians standing "shoulder to shoulder" in the operating room or delivery room with a specialist colleague. More recently, a few family medicine departments have initiated a third year (PGY3) for advanced skills for rural physicians.

The problem

Access

For very complicated reasons, rural Canada has less access to the skills of foreign-trained physicians than urban areas. The rotating internship no longer exists, and the 2-year family medicine graduates feel unprepared to practise many of the most basic procedures required in rural medicine. Specialty departments, constrained by funding and burdened with their own residency programs, are reluctant to support the "re-entry" applications of rural physicians seeking advanced skills. In addition, some of the reluctance by specialty groups to share the skill set with rural generalists is motivated by their concerns that optimum patient care can only be assured through specialty care. Consequently, as the present population of rural physicians with advanced skills ages and leaves practice, their communities face a crisis in how to replace these generalists with others having advanced skills.

Accountability

The informal ad hoc training programs that have served rural Canada well seem out of date and inappropriate today. Critics have suggested, quite correctly, that formal programs are required to provide formal accreditation and promote continuing education, maintenance of competence and quality improvement. These specialty groups have a legitimate concern that they are asked to provide training and certify competence without due regard for the maintenance of rural practice standards, peer review and audit. Advanced skills programs do need to become more accountable.

Shared skill sets

The generalists in rural practice have a historical claim to a range of skill sets in anesthesia, obstetrics, general surgery and emergency medicine. With appropriate training standards and in a screened low-risk uncomplicated population, they believe they deliver a standard of care that is identical to the one provided by a specialty group to the same population. The skill set is shared; standards of care are identical. The rural generalist, properly trained, becomes an expert in recognizing the boundaries for those procedures and patient selection beyond which s/he will transfer care. What distinguishes the specialty group is their ability to extend the skill set to

include more complicated procedures in a population at higher risk.

The most visible example of a shared skill set is maternity care. It is formally recognized by both the Society of Obstetricians and Gynaecologists of Canada (SOGC) and the College of Family Physicians of Canada (CFPC) that for a carefully-defined low-risk parturient an identical standard of care is provided whether the woman is attended by a specialist or a rural generalist.6

Exclusive skill sets

This model of a shared skill set with an identical standard of care has not been accepted by all of the specialty organizations. An alternative view is one of exclusive skill sets. This view is that the skill set is indivisible. Proponents believe that those procedures now performed by rural generalists could only be performed safely by those with a broader training base in an extended specialty residency training program. Within this model the only acceptable justification for supporting generalists to acquire the skill set would be as a second-best option because transport to a qualified specialist would be impractical or inappropriate.

The most visible example of an exclusive skill set is anesthesia. Although GP anesthetists have staffed rural operating rooms for years, the official view of their role is that of a second-best solution: "Anesthetic services should be provided by certified anesthetists when possible."7

What does the evidence say?

We performed a MEDLINE search from 1978 to 1998 inclusive, using the key words procedures, outcomes, family physicians. The search was supplemented by Dr. James Rourke's bibliography.8,9 We found 102 relevant references. Although this was a preliminary literature search, evidence clearly exists that outcomes of procedures performed by family practice physicians with advanced skills meet or exceed national standards. We found evidence supporting this claim for cesarean sections,10,11 colposcopy,12 colonoscopy,13 cardiac stress testing,14 fracture reduction15 and gastroscopy,16,17 to name a few. There is no published peer-reviewed evidence that measures outcomes of GP anesthesia or GP surgery. However, there is no evidence at all to support the belief that outcomes of advanced procedures by rural generalists are inferior to those achieved by specialists.

There is good evidence that the obligation to travel for medical care is more than an inconvenience.18,19 Studies from the United States have shown that women who live in communities with poor local access to maternity care programs (what Nesbitt and colleagues called high outflow communities18) are more likely to bear premature infants or have prolonged hospitalization with higher costs, or both.18 Larimore and Davis19 showed a quantifiable increase in infant mortality due to a lack of maternity caregivers in rural Florida.

Does the obligation to travel for surgical care adversely affect outcomes in similar high outflow communities without local surgical or anesthesia services? The research has not been done.

However, we must appreciate that the loss of advanced skills for rural communities may well be associated with worse health outcomes for the population served, even when patients travel to obstetrical and surgical centres with an excellent standard of care.

In addition, lack of surgical service leads to potential isolation and compromise of rural citizens who do not have the financial means to travel to other communities. Local physicians might be less qualified or confident to handle emergencies. Without a continuing surgical and anesthesia program, communities might experience diminished competence in the anticipation, diagnosis, stabilization and subsequent postoperative patient care.

Faced with similar issues of rural health care, in 1991 the Royal Australasian College of Surgeons (RACS) made the following statement to all specialist colleges:

Evidence exists that the diminution of GP procedural skills in rural areas has in fact reached the point where critical care in surgery and obstetrics has begun to decline in quality and the balance of well-trained emergency surgery versus resuscitation has swung the wrong way. Emergency surgical skills cannot be expected to be maintained without the constant practice of elective surgery. This vital practical rule applies to emergency care in all core services in a town big enough to need a hospital.20

Clearly, additional research is needed, especially on outcomes of GP anesthesia, GP surgery and GP emergency medicine and on the consequences for communities that lose these services. We anticipate that, as we move toward training programs that include audit and continuous quality improvement (CQI), at least some of this research data should become available. Until this research is done, and with all of the existing studies confirming the appropriateness of a shared skill set/identical standards of care model, it would be regrettable not to continue with training programs in all of the advanced skills that have belonged to the scope of rural practice, including anesthesia, general surgery and advanced emergency skills.

What needs to be done?

Define the skill set
It is time for us as rural physicians to formally define the skill sets that belong to our scope of practice. In doing so, we need to listen to the counsel of those with whom we share the skill set. We need to consult with those in the universities who must continue to teach us. We also need to hear the views of the registrars who will grant us our privileges. But it is foremost the responsibility of rural physicians to identify and lay formal claim to our historical scope of practice.

This was accomplished some time ago in Canada for anesthesia. The results can be found within the core content of the GP anesthesia curriculum. More recently in Canada, this has also been accomplished in obstetrics. The document, a position paper on training family physicians in

cesarean section and other advanced maternity care skills was produced by the SRPC and the Maternity Care Committee of the CFPC in consultation with representatives of the SOGC (see Can J Rural Med 1998;3[2]:75-80). It delivers the skill set, provides the evidence to support the outcomes and proposes a formal accreditation, maintenance of competence and CQI program for the practitioners of these advanced skills. Similar cooperative efforts in Australia produced results for a rural curriculum design for surgery, anesthesia and obstetrics.21

As we have shown, the evidence needed to support a shared skill set for endoscopy, colposcopy, colonoscopy, fracture management and cardiac stress testing exists in the literature. A more thorough review of published evidence is needed.

The most work needs to be done in the field of general surgery. Historically the delivery system for appendectomy, tonsillectomy, herniorrhaphy, and the management of testicular torsion, ectopic pregnancy, miscarriage, abscesses and breast lumps has always been through the rural GP surgeon. There is no research to document how well this has worked. However, there is no cultural memory of problems.22 Clearly, there is a historical scope of practice claim for GP surgery. Rural physicians need to define that skill set and put in place the audit mechanisms to demonstrate that outcomes meet or exceed national standards.

How to teach advanced skills to a generalist?

A generalist seeking training in an advanced skill has educational needs that are significantly different from those of a resident in a specialty program. Issues of risk management, patient selection and scope of practice clearly need special attention.

Many rural family physicians are very well trained in the knowledge base and the indications for the use of advanced skills. What is required, for some, is training in these procedures, which can be performed by rural generalists with good outcomes. This can only be achieved through appropriate and accredited training programs available to those family physicians who wish to practise in a rural setting and provide these expanded roles of practice to the community that they serve. The knowledge base taught in any such program should be of the same rigour as currently exists within the training programs of the family medicine and the relevant specialty departments.

With family practice physicians trained through these accredited programs, privileges allowing them to practise their expanded roles in the rural setting should be granted without question. This position that privileging is competency-based is supported by the American Academy of Family Physicians and the American College of Obstetricians and Gynecologists who have advocated that "privileges should be granted on the basis of education, experience, and documented competence, not solely on the basis of board certification, fellowship in ACOG, membership in other organizations, or the physicians rank or tenure."23

University tertiary care hospitals with their historical commitment to specialty training and their

patient selection anomalies might not be the most appropriate teaching centres for all advanced skills training. Physicians leaving their homes and families need to be able to access training within some reasonable geographic proximity to their own communities. Mentorship with a colleague already providing the skills should be encouraged.

Accreditation of advanced skills

It is clear that family physicians will be required to seek their education from specialists outside family medicine. It follows that the accreditation of these educational programs requires collaboration between the CFPC and the appropriate specialty committee of the Royal College of Physicians and Surgeons of Canada (RCPSC). Applicants to these programs would be assessed on issues of previous training, concurrent skills, experience and community support. In particular, membership in either the RCPSC or the CFPC should not be a factor in the assessment of an application for training.

The universities — keepers of the skill sets

The universities have been the keepers of the skill sets. Their training programs for these skill sets have served the specialty groups well. So well that there is a perception, however erroneous, that the interests of the two — the universities and the specialty groups — are identical. This view is simply wrong. The universities exist to serve a much broader clientele. They have an obligation to rural Canada, which depends on access to the safe practice of these skill sets. The rural generalist has the same rights to university-based teaching and certification programs for an established scope-of-practice skill set as does the urban specialist.

In fairness, the universities require that the advanced skill sets that belong to the scope of rural practice be defined and that the evidence base to support this definition be demonstrated. Once done, however, the university has an obligation to become a driving force to develop the formal accredited programs to deliver these skills. In particular, although consensus among those who share the skill set is the preferred model, no individual claim to exclusive ownership of a skill set should ever be allowed to block access by others without good evidence to support an exclusive skill set claim.

A professional home for rural physicians

The rural physician who acquires advanced skills, from a professional point of view, is homeless. Although specialty departments provide the training, graduates have no base in the department or in their professional societies or in the RCPSC. Once trained, they are "orphaned." Continuing medical education is improvised. Maintenance of competence and CQI programming doesn't exist. Although trained in family medicine, their practice profiles set them outside the scope of the departments of family medicine. When professional issues related to training standards or competence are on the table, there is no professional or academic group to which these

physicians with advanced skills belong. Equally important, no one has the responsibility to stand up for the rural communities served by these physicians.

Where might these rural physicians find a professional home? Either of the 2 colleges — CFPC and RCPSC — could expand its mandate to include rural physicians with advanced skills. For the CFPC to bring us into their home would require that the College broaden its focus to include procedural medicine and to assert the historical scope of practice right of rural family medicine to advanced skill sets. In previous years, when faced with the challenge of defending rural medicine's scope of practice rights, first with the specialty anesthetists7 and then with the general surgeons,24 the CFPC has not been successful. Should we trust that the future would be any different?

For the RCPSC to include us would require an accommodation with the specialty groups on our rights to a shared skill set. This will not be easy to achieve.

A third possibility is the creation of a separate "College of Rural Medicine of Canada" responsible for the teaching and accreditation of all rural physicians, including those with advanced skills. Although it is beyond the scope of this paper, rural physicians are concerned that existing 2-year training programs fail to prepare the graduates for rural practice. They lack the basic elementary procedural skills and, consequently, the confidence and disposition to work in rural Canada. Would a "College of Rural Medicine," freed from the obligation to also train the larger majority of physicians destined to be office-based nonprocedural urban physicians, be more successful training rural physicians in both basic and advanced skills? The concept of a third college in Canada will remain a potential alternative unless existing organizations change significantly.

The way forward

At the annual general meeting of the SRPC in St. John's in May 1998, the Society adopted resolutions to develop national curricula for surgical and anesthetic advanced skills (see news item on page 229 of this issue for resolutions). A multidisciplinary consensus conference on advanced skills held during that conference produced a strong sense of cooperation among Canadian medical institutions with leadership roles in medical education and practice standards. To be effective, the colleges and universities must now collaborate effectively to produce programs for advanced skills for rural Canada. Our model of shared skill sets can assist that process.

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Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

The occasional burr hole

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CJRM 1998;3(4):223-2

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Acknowledgements: Thanks to Dr. William Feindel of the Montreal Neurological Institute for all his sage advice and to the personnel at the McGill Anatomy Laboratory, who point out that this type of article would not be possible without true cadaver specimens (CD-ROMs just would not cut it). Photographs courtesy of Donna Ager.

This paper has been peer reviewed.

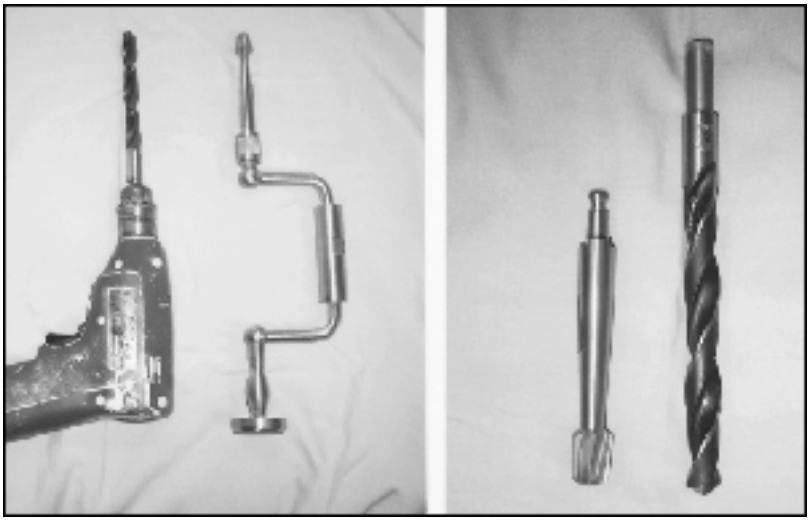
Every now and again word comes of some doctor in the hinterland who has drilled a hole in a patient's skull to relieve an epidural bleed. One published account by an SRPC member in rural Alberta1 described the evacuation of 400 mL of blood from the cranium of an 8-year-old child after the neurosurgeon in a tertiary centre faxed the instructions. The child had suffered a temporal bone fracture, lacerating the middle meningeal artery and was comatose, with a unilateral dilated pupil which "blew" at the time of admission to the emergency department. The child is now completely normal but would surely have died without the immediate intervention.

This report got me thinking about how lucky the child was that a neurosurgeon was not only located quickly but also had the time to fax a set of instructions promptly. What would I have done in a similar situation if I had been unable to contact someone knowledgeable? Did our hospital have the proper equipment? If not, what could be found in hospital maintenance or at local hardware stores that could be used in a pinch? Here are the results. Post this in your emergency room. If you are in a hurry just read the bold type.

Equipment

There are 2 clear possibilities: either you have the stuff or you don't. The first lesson I learned was that drilling a hole in the cranium is usually a 2- stage procedure. You use a sharp pointed drill (penetrator) to make a hole in the outer table of the cranium. Once the hole is large enough, you then switch to a blunt-ended burr hole bit to complete the drilling through the skull and minimize the chance of penetrating the dura. As it turns out our hospital had a burr hole bit and drill but did not have a penetrator.

I went to the local hardware stores looking for a penetrator bit with as blunt an end as possible that would drill the initial hole. The best I could find was a Canadian Tire 1/2-inch high-speed steel drill bit (part #54-3032-8, cost $8.49). When I compared this bit (now called an "instrument") with those at the Montreal Neurological Institute, the difference was minimal, except that their instruments were sterile and made of stainless steel. However, the new bit did not fit the brace supplied with the hospital's burr hole drill. Another carpenter's brace (hard to find these days) or a regular carpenter's electric drill were needed. Illustrated in Fig. 1 are the electric drill and the penetrator and the burr hole bit and hand brace beside it. Detail of the 2 bits is shown on the right.



If you do not have a burr hole bit then use the 1/2 -inch penetrator or hardware store bit to drill carefully all the way through the cranium. You are, after all, presuming that there will be a large lake of blood in front of the dura, ensuring some leeway when you go through the cranium. Everything should be sterilized to the best of your abilities, but if you can't use sterilized instruments go ahead anyway and change gloves at each step.

Use your hospital's properly sterilized penetrator and burr hole bits and braces for a formal 2-stage entry through the cranium. If these are not available, use a 1/2-inch steel drill bit for an adult (slightly smaller for a child) and sterilize it as well as possible.

Location

You want to avoid drilling into the orbit or into the temporal artery. One rule for an adult is to drill 2 fingerbreadths above the top of the ear and 2 fingerbreadths anterior to the auditory canal (Fig. 2). Some people will even go 3 fingerbreadths above the ear. Adjust the distances for children. You want to be just above the roof of the zygoma. Plain skull x-ray films in the setting of an epidural hematoma will often show a temporal bone fracture. If it is a depressed fracture, then care must be taken in putting pressure on the drill point.

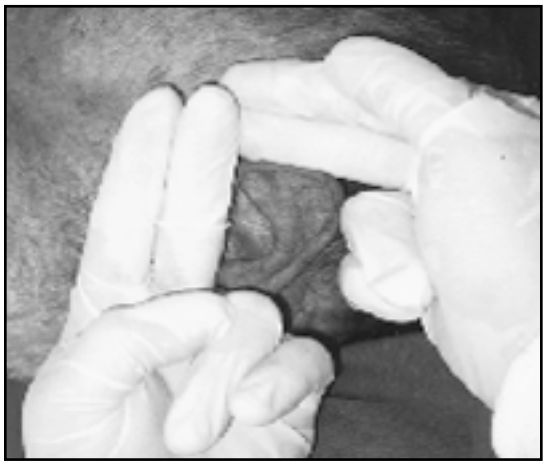


Fig. 2:
Choose a point just above the zygoma or, in an adult, 2 fingerbreadths above the top of the ear, and 1 to 2 fingerbreadths anterior to the auditory canal.

Procedure

You need:

(1) A sense of historical proportion. Drilling a hole in the head is just the boring (sorry) start to most neurosurgical days. Trephination was practised safely in the Stone Age. So relax.
(2) Good light, good suction, good cautery.
(3) A "prep" and suture tray.
(4) A good set of small self-retractors or rakes.
(5) A hemostatic agent such as Gelfroam or Avitene.
(6) Possibly some bone rongeurs if transport is delayed.
(7) A Penrose drain.

- Shave and "prep" the side of the skull.
- Select your point of entry (see Fig. 2).
- Make a vertical incision approximately 3 cm long, centred over the entry point.
- Carry the incision down to the temporalis muscle and divide the fibres of the muscle vertically. Cut the periosteum in the same manner.
- Use cautery to coagulate bleeders, although if the incision is done quickly and extended to the periosteum and the retractors or rakes are immediately placed under the periosteum with tension on the wound, cautery is usually unnecessary (Fig. 3).

- Drill the outer table of the skull with the penetrator (in the illustrated case, the carpenter's tools) (Fig. 4).
- Follow with the burr hole bit and brace (Fig. 5). If this is not available, carry through with the penetrator, taking it slowly to prevent abrupt inward movement of the bit after complete skull penetration. Change gloves if using contaminated equipment.
- Evacuate the hematoma (it can be surprisingly voluminous). Use a soft suction tip. Suture in a Penrose drain (Fig. 6).

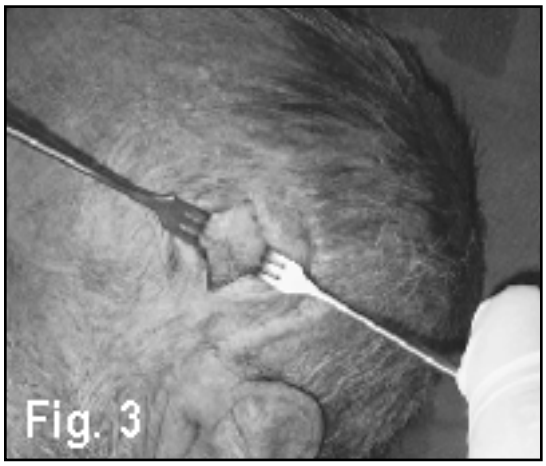


Fig. 3

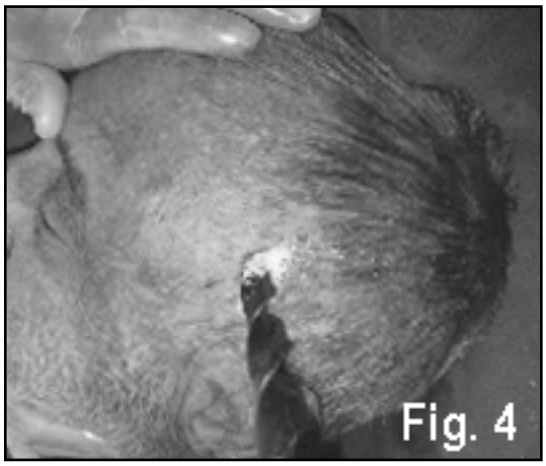


Fig. 4

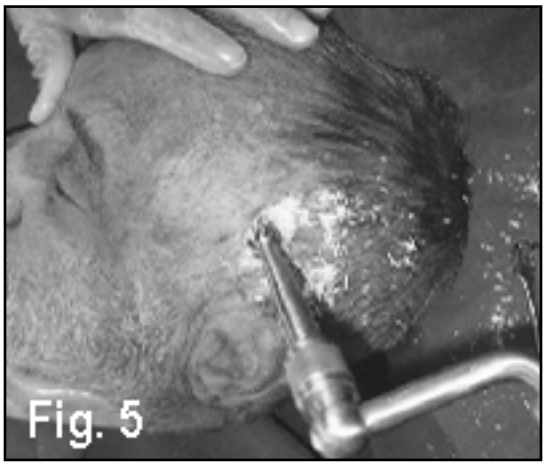


Fig. 5

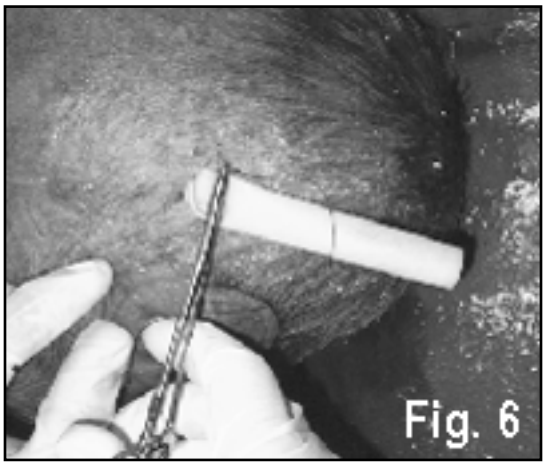


Fig. 6

If there continues to be excessive bleeding through the hole, try packing the wound with a hemostatic agent like Gelfoam. Muscle is a wonderful blood clotter and was used extensively in earlier neurosurgery. In a pinch, cut off a piece of temporalis muscle and stuff it into the hole. If all else fails and transport is delayed, use a bone rongeur and a good light to eat away at the bone until the bleeding branch of the meningeal artery can be found and cauterized. That is probably all the neurosurgeon would do anyway.

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Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Country cardiograms case 10

Jim Thompson, MD, CCFP(EM), FCFP
Charlottetown, PEI

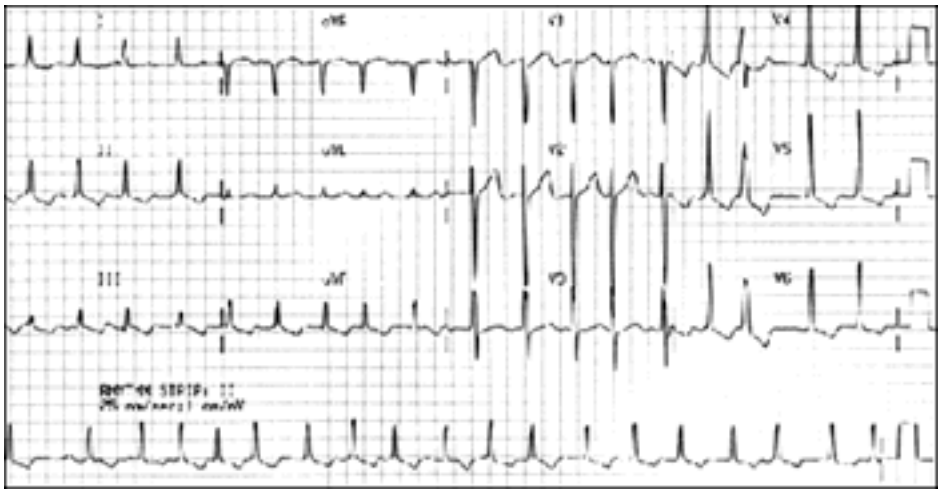
CJRM 1998;3(4):228

"Country cardiograms" is a regular feature of the Canadian Journal of Rural Medicine. In each issue we will present an electrocardiogram and discuss the case in a rural context. Submit cases to Ms Suzanne Kingsmill, Canadian Journal of Rural Medicine, Box 1086, Shawville QC J0X 2Y0

Editor's note: This is Dr. Thompson's last country cardiogram for CJRM as a rural doctor. He is leaving rural medicine for a post in Prince Edward Island. We want to thank him for all his contributions and wish him luck in his new endeavour.

Case presentation

An 81-year-old woman who had a history of both bradycardia, which was controlled with a pacemaker, and atrial fibrillation was admitted to a small rural hospital feeling unwell. Her electrocardiogram is shown below.



What is her diagnosis, and how would you manage her problem in your rural setting?

See answer and discussion on page 248.

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Rural medicine NEEDS advanced skills

CJRM 1998;3(4):229-32

See also:

- Shared skill sets: a model for the training and accreditation of rural advanced skills

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For generations rural doctors have used advanced skills in obstetrics, anesthesia, surgery and other areas to provide the best possible care for their patients. However, with the trend toward more specialized medicine, the role of rural doctors with advanced skills has come under intense pressure, and many are worried that these skills will be lost. In the past, governments, universities and professional associations have failed to recognize the need to train and support rural physicians with advanced skills. The Society of Rural Physicians of Canada (SRPC), at its National Conference in St. John's in May 1998 tackled the issue, focusing in particular on advanced skills as they relate to obstetrics in rural areas.

The evening panel was organized by Dr. Stuart Iglesias to bring together Canadian experts from the Society of Obstetricians and Gynaecologists of Canada (SOGC), the Royal College of Physicians and Surgeons of Canada (RCPSC), the College of Physicians and Surgeons of Saskatchewan (CPSS), the SRPC, the College of Family Physicians of Canada (CFPC), the Association of Canadian Medical Colleges (ACMC) and the Federation of Medical Licensing Authorities of Canada (FMLAC). The goal of the panel was to gain some insight into the major issues that need to be resolved in order to find a productive way to move forward on the issue of providing advanced skills to rural Canada.

Panel members who attended did so at their own expense. They included:

Ian Bowmer, MD, FRCPC (Dean, Faculty of Medicine, Memorial University of Newfoundland, representing the RCPSC). ° George Carson, MD, FACOG, FSOGC, FRCSC (Director, Maternal-Fetal Medicine, Regina General Hospital, speaking for the CPSS), a member of the CPSS project to develop a curriculum to train Saskatchewan family physicians in advanced maternity care skills, including cesarean sections. ° Don Gelhorn, MD, CCFP, FCFP (Board Member, CFPC)

who has been a rural physician in Saskatchewan for 17 years. ° George Goldsand, MD, FACP, FRCPC (Associate Dean of Postgraduate Medical Education, University of Alberta, representing the ACMC). ° Peter Hutten-Czapksi, MD (rural physician, member of the Obstetrics Committee, SRPC). ° Stuart Iglesias, MD (rural physician, chair, Obstetrics Committee, SRPC). ° Michael Kline, MD, ABFP, CCFP FCFP (chair, CFPC Committee on Maternity Care [British Columbia Children's Hospital and British Columbia Women's Hospital & Health Centre]). ° Ken Milne, FRCSC (Associate Executive Director, SOGC). His presentation was delivered by Dr. George Carson. ° Larry Ohlhauser, MD (Registrar, College of Physicians and Surgeons of Alberta, representing the FMLAC).

Dr. Peter Hutten-Czapski said that rural doctors have always felt that they deliver high quality obstetrical care. After all, only 38 of Canada's obstetricians are rural based. FPs perform 12% of cesarean sections in the cities but do 60% of cesarean sections in rural areas. Hutten-Czapski said evidence shows that GP/FPs who do cesarean sections have outcomes that meet or exceed national standards. However, there are no national training standards for rural physicians. Although some training in cesarean sections is available or is being developed in some medical schools, there are significant barriers to the access of this training.

Dr. George Carson stated, "We are trying to provide high quality care to women in or near their home town." He asked, "How do we teach rural generalists to be part time obstetricians?" He noted that there are benefits to training doctors in high volume areas [i.e., urban], where there are enough patients to learn the skills. However, he wondered how many procedures would be needed before a professor could say, "OK, this doctor can do such and such a procedure anytime, or he can do it if there is an emergency."

"Who owns this skill set?" asked Dr. Michael Kline. He stressed that "The CFPC and SOGC come to this meeting in violent agreement that the skill set is a family practice skill set and should be handled in the same way as other skill sets. The CFPC accredits programs and develops and administers exams and they are prepared to do that for this new skill set." He feels that training should be developed at a few key medical schools where the commitment is there and where obstetricians and gynecologists will work collaboratively to help rural physicians obtain the training they need. He added, "We must stabilize an unstable situation. If we don't do something about this women are going to suffer."

Dr. Don Gelhorn, said that rural GP/FPs share the same clinical work in office practice as urban GP/FPs. "In hospital we do some procedures they don't do. We need to identify core curriculum common to all FPs, common to all rural FPs and identify areas where additional training is required." A working group has been established with this in mind but he said it will only occur if governments and universities recognize the need to support training programs with additional resources. He underlined the need to work collaboratively and pointed to the joint position paper published simultaneously in Canadian Journal of Rural Medicine, the Journal of the Society of Obstetricians and Gynaecologists of Canada and the Canadian Family Physician (Can J Rural

Med 1998;3:75-80).

Dr. George Carson, standing in for Dr. Ken Milne, said that "The SOGC has an ongoing commitment to enhance the health care of women, babies and their families." Although the SOGC was at first reluctant to come on board said Dr. Stuart Iglesias, chair of the session, "The SOGC has been unique as a group that would talk to us [the SRPC]. We needed at least one special group to come on side to help us extend the principles."

The SOGC is committed to supporting rural doctors, nurses and midwives for special skills said Dr. Carson. "We recognize that except for 38 these are not obstetricians/gynecologists providing this and that rural doctors will have to learn from Royal College members." Dr. Carson noted that there is convincing evidence that communities lose a great deal if they lose obstetrics and that such skills are indeed important to the maintenance of communities. Training rural doctors is not an easy undertaking. There are problems in training FPs that need to be addressed. Some say it is specialists' work, period. Others worry about money, the "if YOU do it I don't get paid" mentality. Specialists also worry about the definition of rural. "Rural will have to be far away so it won't impinge on urban doctors," said Carson. He added that specialists won't be happy if FPs take business away from them, but he also noted that some deliveries will always take place where obstetricians and gynecologists won't go because there is not enough work for them to sustain a business in most rural areas.

"Specialists," he said, "believe they have special knowledge and so there is some reluctance to let someone do it with less training. You need to understand the emotion behind this and must understand it if this [special skills training] is to go forward. I think we can get over it but we won't get over it if we don't acknowledge it."

He stressed that accreditation of teachers and the quality of education at a rural site must be assured in any training that is done and that it must be evaluated nationally for acceptability. He added that funds could come from government and rural health districts for training rural doctors, and he stressed the need to maintain skills: "Initial education is the first shot and we will need periodic boosters. We need a plan for periodic refreshment and renewal of skills and we have a commitment to do this."

Dr. Iglesias stated that although specialists get more experience in a smaller skill set, rural doctors and specialists share the SAME skill set. Rural doctors assume their performance will be judged by the same criteria as those used for a specialist. The essential difference he said isn't the quality of care. It is that the rural GP/FP knows how to select low-risk patients for advanced skill procedures and knows when to refer. In other words the GP/FP with an advanced skill learns to become an "expert in boundaries" and despite the shared skill set, does not do a lot of what a specialist does.

Obstetrics is just the beginning and we have come a long way with the SOGC but "we have light

years to go with anesthetists, surgeons etc.," said Dr. Iglesias (see his article on page 217 of this issue). "Why are we stuck and spinning our wheels with nowhere to go?" he asked. "I started thinking about where doctors with special skills belong. We are 'orphaned' with no CME, no CQI. Where do we belong? CFPC? RCPSC? College of Rural Medicine of Canada? I think the first two will be challenged to offer us a place." He noted that most doctors are attached to the current system and not to a third college. "The only way it will happen is by default if the colleges are not ready to take us in."

Dr. Goldsand said that in Alberta the profession is not doing a good job of training rural doctors and that generally universities have been slow to realize the needs of rural areas. He said universities are tugged at by rural physicians who want some skills training; they are tugged at by specialists and subspecialist groups who are not inclined to provide that training for reasons ranging from turf protection to economic concerns; they are tugged at by the licensing authorities who want fail-safe assessment of individuals who are placed in rural Alberta. He said it is tough to get a quick answer about someone's level of competence. They are also tugged at by regional authorities in rural communities that need rural physicians, but 2 regional authorities side by side may want totally different skill sets. "There are a lot of players in this game and we have to interact and answer to them all. Who speaks for rural physicians?" he asked. "We're not always sure because we hear different voices speaking for them. CFPC's message isn't the same message we hear from the rank and file. The SRPC are newcomers but they are an important voice and we hear you."

Dr. Goldsand said that "One of our problems is that we have 2 accreditation authorities and that is one too many. My initial reaction to the idea to add yet a third would be to discourage it and to seek solutions through the two authorities and other stakeholders." He was quick to point out that rural doctors must give the medical schools information about content, location, duration and evaluation of the training needed for special skills.

"We recognize that we need to ensure that individual clinical departments give residents a high quality learning experience to residents in programs other than their own and the largest group is family physicians." He added that "the 2 accrediting colleges have an obligation to go back to the drawing board and review existing training requirements if we are to avoid a third college."

As for solutions, he challenged the medical associations to come up with more equitable remuneration, the CFPC and the RCPSC to review and reform their existing training requirements, the faculties of medicine to go back to the drawing board at the undergraduate and graduate levels and include specialist skills for rural doctors, rural doctors to propose the skills that are needed, the licensing authorities to make the practice of medicine more portable and "to the SRPC I encourage you to continue your initiative and avoid being a small group with one opinion. The SRPC must accommodate all players and I think you are doing that."

Dr. Larry Ohlhauser stated that the role of licensing authorities is "to protect the public and guide

the profession and ensure that we have competent physicians." He added, "We love it when we have doctors trained in a recognized training program." It makes it difficult otherwise to assess a physician's level of competence. He says he supports, in principle, skills being provided to GP/FPs and would encourage accreditation through the CFPC and not a third college. "Let's plan what we do, do what we plan and measure it."

Dr. Ian Bowmer noted that, "I am a member of the ubiquitous 'they'." Concerning special skills he said that "The Royal College has been said to move at glacial speed but we are moving . . . . Continued professional development is a major challenge for the College and we wonder if we have too many specialties." He suggested that perhaps the way to go would be to narrow the number of specialties and add skill sets as needed for those who are certified. The big question of course is who defines the skill sets, who sets the training and who assures the public that the skills are appropriate.

He agreed with other speakers that rural doctors must define the skill sets they need and tell (not ask, he said) the universities what to do. He added that "specialist committees of the Royal College have to work with rural doctors to develop these programs." The RCPSC and the CFPC are trying to work together to join their accreditation, which already overlaps in many areas, and the "SRPC has been very effective in focusing the needs of rural physicians and have been good at pushing the glacier along and even speeding it up." As for a rural college, he said, "I happen to be a lumper not a splitter and I think that is the success of this country in the future."

The evening session made it clear that there is an urgent need to reform the system, before rural Canada finds itself without physicians capable of providing the level of service Canadians have come to expect and deserve. The evening concluded with a presentation by Dr. Iglesias of the following resolutions which were adopted by the SRPC National Council and supported by the majority of forum participants.

SRPC resolutions on advanced skills for rural physicians

1. Whereas it is time for rural physicians to define formally the advanced skill sets which belong to the scope of rural general practice, we move that the SRPC commission the research and publication of curriculum papers (CPs) that will define the skill sets for anesthesia, general surgery, advanced maternity care, and emergency medicine. Each of the CPs will:
    - review the evidence to support the scope of practice claim
    - identify the research required to complete the evidence base
    - propose a generic curriculum for the training and evaluation of the skill set
    - propose programs for CME and CQI.
2. Whereas it is foremost the responsibility of rural physicians to identify and lay formal claim to our historic scope of practice, we move that the SRPC strike working groups (WGs) to write the CPs. Membership should include representatives from other

professionals bodies with whom we share the skill set — universities, colleges and registrars. The Council of the SRPC, in consultation with the relevant committees, will have the authority to appoint the WGs.

3. Whereas the preservation of rural special skills is an urgent issue, we move that the WGs be charged with the completion of these papers within 12 months.
4. Whereas the future of rural special skills requires the collaboration and support of a large number of stakeholders, we move that the SRPC convene a national consensus conference on rural special skills sometime in 1999, with a view to resolving the problems and overcoming the barriers to implementation of the solutions by that time.

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Little known Ladakh

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CJRM 1998;3(4):235-8

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Virginia Robinson is a family doctor; her partner, Allain Baldo, is an internal medicine resident. Their next climbing trip will be to Aconcagua, Argentina, to raise funds for a medical charity.

Acknowledgement: All photographs are reproduced courtesy of Allain Baldo, 1998.

Young monks, clothed in burgundy and yellow with their bare arms exposed to the cold morning air, energetically make their way down the busy main street full of happy, weather-beaten faces. The background ring of hand-held chortens spinning prayers is heard while Tibetans chant beneath their breath: "Om mani padmi om." Above the street, restaurant patrons peer down through the wooden slatted windows, pausing between bites of honey-drizzled pancakes and cups of chai to peruse the throngs below. This is the hidden Shangri-La.

More Tibetan than Tibet, Ladakh, or "Little Tibet," lies virtually unattainable for 9 months of the year. Whereas Hollywood has embraced all things Tibetan, few people have discovered this region of dotted communities 800 km north of Delhi. Leh, the capital city of Ladakh, was once a major stop on the busy trade route between Kashmir and China. Its inhabitants have trickled in from a variety of cultures, including the Dards, an Aryan race of peoples claiming descendence from Alexander the Great. Most recently a large flux of Tibetan refugees, exiled from their country in 1957, have made Ladakh their home. Battered by war since the 6th century, Ladakh's borders are still contested among China, Pakistan and India. Although the area around Leh sees no active fighting, the presence of the Indian military does not go unnoticed.

My partner and I flew to Leh to trek. We also had guarded ambitions to climb the 6153-m (20 188 ft) mountain, Stok Kangri, which towers above the ancient city. What we discovered was a culture that has existed for centuries without monetary exchange, existing relatively harmoniously in a harsh and bitter climate.

Our flight in late May was one of the first to successfully touch down between the snow covered peaks in many days. Consequently, we had the luxury of touring a few hotels before settling on a modest, impeccably clean (a welcome change from Delhi) single-storey lodging with huge bay windows facing Stok Kangri. After flying directly to an altitude of 3500 m (11 500 ft) we were suffering from headache and nagging shortness of breath. For 2 days, we lay in our very comfortable accommodations. There was little we could do but gaze out at the peak, its summit piercing the cloud stream.

Every morning we ambled down to a local cafe. At exactly 0815, fresh baked chocolate croissants would arrive in a large wicker basket, precariously balanced behind the seat of a 3-wheeled bicycle. The excellent Tibetan restaurants served up momos (steamed dumplings) and kottay (pan-fried dumplings) stuffed with vegetables or mutton and fragrant lemon grass. Restaurants were bustling during the lunch hour with gnarly old men and teenage monks trying to guzzle down bowls of soup before hurrying off to some other calling. From a faded photograph on the wall, his holiness the Dalai Lama presided contentedly over us all.

Ladakhi children (left).
Tibetan guide, Muttoop, with his ponies, Dick and Frank (right).

After a few days we could no longer use altitude sickness as an excuse not to begin our trek. Trading croissants for a loaf of "hiker's bread" we set off with our Tibetan guide, Muttoop, and his 2 ponies, Dick and Frank, to do the Markha Valley trek.

In early June our only trail companions were a couple from Basques. Their eyes lit up when they discovered we came from Quebec. "Two Basques, two Québeçoise and a Tibetan, all freedom fighters!" one of them exclaimed. My partner and I exchanged glances but said nothing. We had travelled half-way around the world and still could not escape the exhaustive issue of separation.

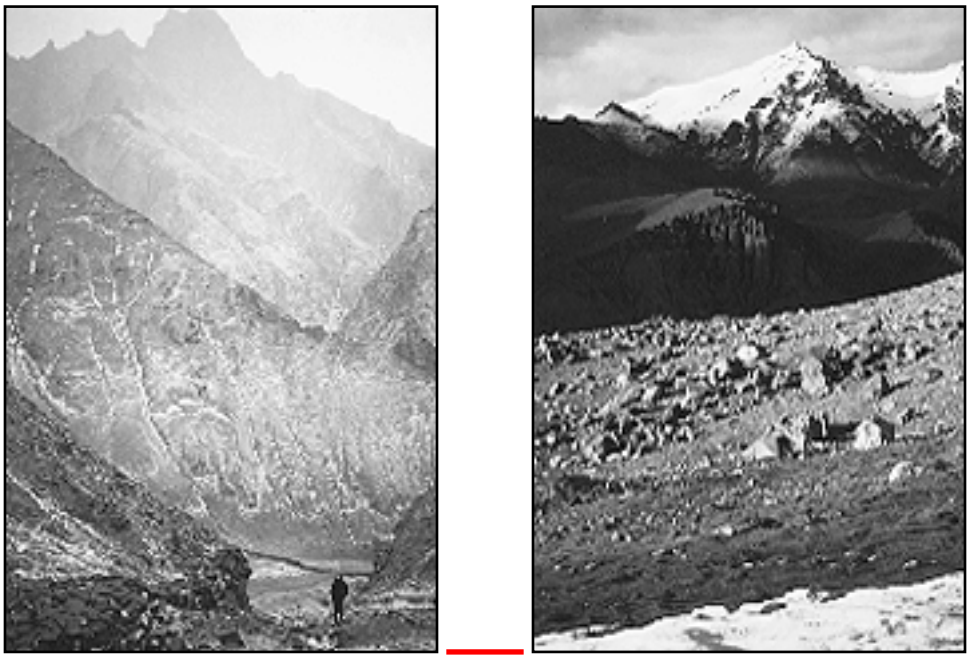
The first day was reminiscent of the Grand Canyon, with the Indus River winding its way, like the Colorado, through the majestic landscape. The scenery quickly changed as we veered away from the river toward the mountains, beyond which lay the Markha Valley. Sunny skies gave way to rain, then hail, then snow, and back to sunshine again. Our poorly equipped guide weathered the river crossings in icy waters in the same manner in which he trudged up the glacier of the first pass; chanting his mantra continuously. The cling-clang-cling of the horses' jingle bells was at first delightful and exotic, but the incessant noise at every meal, at every rest stop and throughout the night, led us to dreams of sabotage. Muttoop, on the other hand, was not the least perturbed. Eventually we too adapted to the rhythm of the chimes, hiking mindlessly for many hours.

A mani wall, decorated with several hundred stones carved with prayers and icons, would emerge from the earth every few miles; like an old ship wreck, a reminder that others had passed through this barren land. The silence would occasionally be broken by the sudden sound of a human voice calling out from behind a wall, or down in a field: "Ju-lay." This Tibetan greeting is the first word learned by visitors to Ladakh. Out of seeming nothingness, small villages have sprouted on rocky plateaus.

In the passing centuries, the Ladakhi have learned how to create soil from stone, eking out an existence in a land whose only source of water is 3 mm of yearly rainfall and the summer glacier melt. But even the glaciers and thin air have not spared these people from the winds of change. A volunteer of the Ladakh Ecological Development Group (LEDEG) spoke of the devastating effect rapid westernization has had on this community-based culture. Ten years ago had you asked a Ladakhi where the poorest house in the village could be located he would have replied with a quizzical look, informing you that no poor houses existed. Now, that same man will plead with you "to help we Ladakhis who are so poor." All that has changed is tourism; and with this acquired sense of poverty, the culture has begun to show signs of dissolution.

Now several days into our trip, our guide made frequent stops to chat with local herdsmen and gather news of the conditions of the high mountain pass that lay a day's walk ahead. The chances for success via the regular route seemed bleak because of the recent snowfall but perhaps we could cross through by an alternate route with the help of an extra man. We hired a small wiry character masked beneath a cloak of sheep's wool. His dark and wrinkled face was hidden by an ancient pair of sturdy glacier glasses. His boots of wool and sheepskin came up to his knees, the oval soles creating a large surface area over which to distribute his weight. He looked to us like something out of a 1960s Star Trek show. As we climbed, he danced upon the thin crust of frozen snow while we postholed up to our thighs. The horses were drowning under the weight of the

packs, their bellies flush with the snow. Exhausted, we arrived at the top of the pass just as the wind picked up and it began to storm.



Hail in the Markha Valley (left)
Nimaling in the Markha Valley (right).

"Well," Muttoop said. "Horses can go no further. Either you return with me via the same route or you go ahead and do it alone." We had no intention of returning the way we had come, surviving on tsampa (toasted barley flour) for 5 days. Then again, we had exchanged our packs for duffel bags which were easier for the horses to carry. We elected to go on alone, our sleeping bags and what food we could carry stuffed into our day packs, agreeing to meet our guide 5 days hence back in Leh. It was a long scramble down the pass; a path carved into the mountain edge with large boulders and blocks of ice pêle-mêle on the steep trail. As we descended, the gorge began to widen into a large green valley. After 16 hours of hiking we arrived at a small farm house whose occupants agreed to sell us 2 cups of chai. We were invited into their 2-storey white mud brick home while it was prepared. After spending the day trekking in the bright snow, I was astounded at the darkness. There were windows in the house but they were all tightly closed. It took me several minutes before I noticed the 5 people sitting in the room, which served as kitchen, living room and eating area. The floor was bare earth but the walls were lined with shining copper pots of all shapes and sizes and the stove was decorated with ornate silver panel.

Thirty-six hours after we had left Muttoop and the horses in a snow storm we arrived back in Leh. By the time he returned with our gear, the summit of Stok Kangri was clearly visible against the blue sky. Following the hardships of our trek we felt very strong. Our initially feeble bodies had adjusted to the thin air and, with a little prodding, I was coaxed into making the transition from hiker to mountaineer. Over the next 3 days we walked, climbed, scrambled and crawled 3000 vertical metres (10 000 ft), spent little more than 2 minutes on the summit, and then threw our ice axes over our shoulders and attacked the snowy slope with feet and buttocks in the air.

Fifty-six hours of freezing, whimpering, sweltering, vomiting, crying, and "I will never do this again" oxygen-sucking hard work, plus a-better-than-Disney-glacier-slide-of-our-lives, and we were back in Leh.

The next day, before our departure to Delhi, we sat in our favourite cafe. A new group of trekkers had arrived in town and were scouring through their travel bibles over coffee. In a series of sideward glances they noted our tattered hiking boots, the windburn on our faces, and our trademark Canadian gear.

"Hey are you the Canadians who just returned from Stok?"
"Yeah."
"How was it?
"Great."

It was difficult not to leap in and recount our tales of adventure, to tell them how Ladakh is a wonderful place to hike, or mountaineer, or just soak in the culture. However, with only a few hours left there seemed little point in rambling on about things that they would discover in the fullness of time. We preferred to sit back and let the magic of Ladakh, quietly existing at the top of the world, engulf us.

If you go: Depending on when you go, a trip to Ladakh can include a leisurely tour of the unique gompas (Buddhist monasteries) and their festivals, a moderate hiking adventure, or an all out sojourn to the roof of the world. No matter what your intent, if you plan to fly to Leh, it will take a few days to acclimatize to the altitude. It is possible to reach the remote town of Leh by road from Manali but the 500 km journey over 4 high-altitude passes, is only open July through September. There are several touring companies that now make the trip to Leh. If your primary objective is temple hopping and you appreciate the creature comforts (like a shower with hot water instead of just a bucket of hot water) then you are probably better off with an organized tour. Most guides can highlight the meaning of many of the festival characters. However, if trekking and climbing are your main objective, go off season and hire a guide when you get there.

We preferred to sit back and let the magic of Ladakh, quietly existing at the top of the world, engulf us.

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Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Rural incentive programs: a failing report card

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This paper has been peer reviewed.

The "rural problem" is not new. The method of servicing rural Canada's medical needs by using "excess" urban physicians has led to great inequalities in physician distribution. There can be as much as a fourfold difference in physician-to-patient ratios between urban (1:193) and rural centres (1:797) in Canada.1 What is new is that the problem is rapidly getting worse. Reduced enrolments in medical schools, which began in the early 1990s, have reduced the flow of family medicine residents to rural Canada. Physician net emigration of 503 in 19962 is adding to the drain.

Many factors are at work. Doctors are becoming more militant as worsening working conditions accelerate tensions. Some small hospitals are at risk of closing because of a lack of physicians. In 1995, 88 doctors were being recruited by designated Ontario underserviced areas; in 1997, 116 physicians were being sought (Underserviced Area Program Ontario, sponsored by the Ministry of Health). Places that previously had never had trouble attracting physicians are learning the new reality: the competition is tough. Towns that are within commuting distance from teaching centres are feeling the pinch. Whereas in the 1970s, building a medical clinic was enough, in the late 1990s houses, turn-key offices, income guarantees and overhead subsidies are being offered by desperate communities.

Compounding this problem is that census numbers indicate a growing rural population; many are retirees moving to the country. The increase in population and the increased health care needs of the elderly are stressing limited resources.

The provinces have a social responsibility to ensure equitable access to health care for all Canadians and have generated an impressive array of rural incentives (Table 1). What is surprising is the paucity of work done in evaluating the programs and determining trends in medical manpower, both urban and rural.

Existing data

The Canadian Medical Association (CMA) keeps a list of all the doctors in Canada. It is updated using data from licensing bodies and from mailings and surveys (CMA Masterfile). For years the CMA has taken the simple expedient of defining "rural" by the Canada Post definition: simplified it reads that if you get door-to-door delivery of mail your postal code is urban. This eliminates communities with a population of approximately 10 000 or more that get home mail delivery. Other definitions of rurality exist that may be more appropriate when discussing physicians. However, the CMA is unique in keeping a national database.

When the data are analysed for generalists, the breath-taking drop in rural GP/FP numbers is appreciated. In 1994 there were long-standing shortages. In January 1998, 15% fewer doctors were working in rural Canada than in 1994. Not a single province has maintained its numbers, and it appears that some provinces have undergone a physician attrition rate that spells rural extinction by 2006 if the rate continues unabated (Table 2, Fig. 1 [not available online, please refer to print copy], CMA Masterfile).

Whatever the limitations of a population-based definition of rurality, there are further limitations imposed by "definition drift" as the post office changes postal codes. The CMA has recently checked the validity of the postal code definition against a Statistics Canada definition of rural based on population density. Fifty-four physicians did not match. Thirty-six of those physicians were GP/FPs practising in New Brunswick who had had their postal codes reassigned, although they did not physically relocate. Factoring these 36 physicians into the New Brunswick numbers does not alter the overall rural and urban trends in that province.

Obstacles to rural recruitment

The uniform ineffectiveness of incentive programs is not because they are bad ideas. It is simply that they are not comprehensive and lack sufficient resources to have an impact on those practising in the hinterland. Implementing a successful program is inhibited by 4 obstacles: fee for service, organized medicine, governments and universities.

Fee for service

Whereas fee for service is particularly attractive to physicians who can limit their practice to high volume and low intensity, it is not well suited to the rural doctor. The rural doctor has to deal

with inefficiencies arising from working in both the hospital and the office, as well as dealing with the very poorly paid work of looking after those who are truly sick. Fee for service encourages a treadmill work ethic which, combined with high community needs, leads to an unsustainable lifestyle. Paradoxically, if there were adequate personnel to service the community, fee for service would not be as big a problem.

Organized medicine

Because most doctors practise in urban areas, inevitably the power structure of most medical organizations (with the obvious exception of the SRPC) will be based in the cities. This doesn't make them unsympathetic to the plight of rural physicians, but it renders it difficult for them to fully support measures that inject more fiscal and physician resources into rural areas that might have been applied to urban areas, especially if urban physicians have bought into the divisive government concept that the size of the budget is fixed.

Governments

Current fiscal and political constraints make substantial rural programs difficult to enact. If a third of our population is significantly underserviced, how can one imagine that a token program, with even as much as 1% of the budget, will do the job?

Universities

Although many teaching programs claim to turn out a "stem cell" physician, most of the time they tend to put the stem cell in a broth modelled after big city medicine. Rural GP/FPs constitute about 14.3% of all GP/FPs (CMA Masterfile) but, using the same definition, only 8.8% of members of the College of Family Physicians of Canada (CFPC) are rural (CFPC membership database, 1998). With the demise of procedure-orientated, generalist training programs such as rotating internships and the decline in others such as GP-anesthesia programs, this trend will worsen unless family medicine training programs are further improved to address the needs of rural practice.

Clearly a solution to the "rural issue" is complex and will require significant resources applied at various levels of the infrastructure. However it can be done.

Positive examples

Some lessons can be taken from Manitoba. Although it, too, lost rural doctors between 1994 and 1998, its attrition rate was limited to 6% by a comprehensive rural package (CMA Masterfile).

Guidance counsellors promote rural medicine as a career choice to rural high school students.

Several "rural experience" programs for medical students start in the first year. A medical student bursary of $15 000/yr is available for 3rd and 4th year students. It requires a return of service in rural areas. Rural family medicine rotations are supported financially, as is the Parklands second-year rural residency program. Six to 12 months of anesthesia or obstetrics training (including cesarean section training) is available. Additional residency slots for specialty training in psychiatry are also available for physicians prepared to serve in rural and northern communities. Recruitment grants of $30 000 to $44 000 tax free over 4 years are available for setting up practice in designated areas (Table 1). The Northern Medical Unit, as an example, places physicians in remote areas. They are paid a salary of $150 000 (Table 1). The same organization provides a rural locum program for communities with 4 or fewer physicians.

This is not to say that the Manitoba model is perfect. After all, that province has also had rural attrition, and the health minister admits that there are at least 20 physicians required to help relieve chronic rural and northern shortages. The numbers have had to be propped up by the recruitment of rural doctors from overseas who are "ghettoized" into underserviced areas by restrictions imposed on their licensure.

Quebec's programs have been almost as successful as Manitoba's, with only 7% rural attrition since 1994 (CMA Masterfile). The province has not relied on importing physicians. The Quebec system sponsors both fee-for-service and salary models (the latter usually at the CLSC [community health centres]) with La Régie de l'assurance maladie being the payer in both cases (provincial Ministry of Health). Quebec's basic fee-for-service schedule tends to pay better than does Ontario's for office work but not as well for hospital work. However, in Quebec, doctors in rural areas receive a premium of 15%, and emergency fees are supplemented by a sessional component (Table 1). In Quebec's emergency rooms, rural doctors get paid 50% of the schedule plus $140 from 2000 to midnight and 75% of the schedule plus $402 from midnight on (Table 1). If the night happens to be very busy, doctors can choose to bill straight fee for service instead.

Even the disincentive of being paid less than 100% of the fee schedule for urban practice appears to be a little better designed in Quebec. If a physician sets up practice near Montreal and wishes to do just office work, the Régie will pay only 70% of the standard fee-for-service rate. The physician's rate can be bumped up to 100% if s/he :

- Has worked there long enough. Initially the time period was 3 years, now it may take 10.
- Does enough designated community work, for example, work a shift a week at the CLSC, work in the (underpaid) emergency room, work at the home for the aged, do a rural locum (say in Val D'or).
- Sets up practice just on the outskirts of the designated urban centre (provincial Ministry of Health).

There are some problems however.

A signing bonus of $40 000 over 4 years and moving expenses are paid for rural relocation by the regional authorities (Table 1). However, at least one doctor found out later that this was understood by his region to mean paid as funds permit. In his case he was told by the region that the budget had run out, 4 years in a row, and he only got partial payment of his bonus!

Nonetheless Quebec's graduated fee schedule of 70%, 100% and 115% of payments, sessional emergency room work premiums and other programs have been partially successful in both rural and urban areas in providing medical care.

Less positive examples

The other end of the spectrum is Alberta. Although it has touted its Rural Physician Action Plan3 extensively, by 1998 the number of rural GP/FPs had dropped 34% from the 1994 baseline figure (CMA Masterfile).

The Rural Physician Action Plan (RPAP) in Alberta is poorly understood by many rural doctors. This might be because most of the money goes to the universities (approximately $2 million)3 and is never seen by most rural doctors. Although training doctors to practise and offering information services and continuing medical information has been a traditional role of the university, these programs now have dedicated rural funding. Looking at the type and size of the programs being offered, I am surprised that there is such a huge demand for full time CCFP(EM) doctors in 3-doctor towns rather than for GP-anesthetists, GP-"cesareanists" or GP-surgeons. I am sure that the universities were similarly surprised by the 1996 review of the program,4 which pointed out that most of the emergency room doctors who were trained ended up practising in the cities.

Unless serious attempts are made to make rural medicine attractive, even the best-trained rural physicians may end up in urban practice. On the other hand, the rural locum program that was established in Alberta has been viewed as helpful. It has been copied by many other Canadian jurisdictions (Table 1). The program is administered by the Alberta Medical Association and has a budget of $0.6 million.3

A more typical example is New Brunswick. It had the worst attrition rate of all the provinces: 39% since 1994 (CMA Masterfile). Allowing for postal code "definition drift," the attrition is only 21%, a rate that is in keeping with that of many other provinces.

New Brunswick has taken the novel approach of requiring doctors to obtain privileges at the hospital in order to get a billing number. The province tells the hospitals how many physicians and of which type they need. Government officials quickly tell me that this is "charter proof" and that provision is made to cover rural areas that lack hospitals, but other sources don't believe them and we will hear from the courts soon. Despite 2 weeks of vacation pay (supply your own locum) after 3 years' service, rural work has not been made more attractive than in the city. In

fact other than British Columbia (0.1% growth), New Brunswick is the only province where urban GP/FP numbers rose (by 26% gross, 18% after allowing for "definition drift") since 1994 (Table 2). British Columbia at least has had significant immigration in that time.

Other factors

Factors other than the incentive programs also come into play. One interesting comparison involves fee schedules. Newfoundland has the lowest rate for fee-for-service payments of all the provinces: typically 20% or more below the national average.5 Ignoring arguments over definitions of rural it has had the greatest attrition of FPs, both urban and rural, of any region. In comparison, the North West Territories and Yukon Territory have depended on a fee schedule over 50% higher than the provincial average to attract and retain doctors.5

The microenvironment also affects the ability of communities to attract and retain physicians. For really small, isolated rural communities standard fee for service often can support only one physician. Then there is the onerous burden of being on call. Community-sponsored contract positions in Ontario serve as another interesting approach to deal with the problem of communities too small to sustain physicians in the usual fashion. Interested communities first had to get themselves on the list for these contract positions. They then interviewed dozens of candidates for each position and paid the overhead. The fact that there were dozens of candidates for each position is because these towns, at most, were used to seeing one doctor. With this new arrangement the workload was usually split between 2 physicians. Furthermore the contract was for $174 000 to $194 000 plus benefits and other incentives, as applicable (Underserviced Areas Program $40 000 for 4 years plus remuneration as per the Scott Report if there was an emergency room6).

This did fulfil the need of these small communities for medical care and in a sustainable fashion. However, since the manoeuvre was made in isolation it had the effect of drawing other rural physicians from less attractive settings. In some instances the incumbent physician stopped commuting to clinics that served adjacent communities because there was no incentive to continue doing that in the package. In the typical Toronto fashion it was assumed that all politically active small communities had to be treated similarly. Community-sponsored contracts offered the same money for physicians within commuting distance from Sudbury or North Bay as those in, say, Pickle Lake a full day's drive from Thunder Bay. The Ontario Ministry of Health is also surprised that almost nobody wants to sign the latest version of contracts for larger towns that are based on the northern Ontario GP average of $169 000 gross fee for service. The ministry still expects doctors to pay overhead and maintain the high "rural patients per physician ratio" that was not sustainable under fee for service.

What is needed

The solution in simple terms is to make the entire spectrum of rural practice attractive. Although

numerous suggestions have been made,6-8 all that is needed is money and people.

From Canada-wide experience we should recognize that a substantial additional capital involvement of 5% to 10% of the physicians' services budget is required. More will be required for provinces that are further behind. Much of this money will need to be used as direct incentives for rural physicians.

Special efforts will have to be made to mitigate the ongoing costs that rural generalists incur when taking on required, but low-volume work such as obstetrics, inpatients, casualty work, anesthesia call, and when they cannot be as efficient as they would be in larger centres with more resources. Recently it has been recommended in British Columbia that doctors who provide services, such as GP-anesthesia, be rewarded a token amount for being on call — a first for Canada. These accommodations need to be extended to rural specialists as well, who share the high-call and low-volume problems. There are also substantial costs for continuing medical education where 2 days of travel are typically required.

It should be recognized that direct incentives are only part of the solution. The burnout issue will only be solved by an adequate source of appropriately trained rural physicians. Additional monies of at least 10% of medical school and residency budgets need to be brought to bear on physician training: current monies are insufficient to train enough physicians to sustain even existing services, with the exception of some urban specialties. The fact that provinces are recruiting over 75 physicians from abroad (data supplied by provincial ministries of health) indicates that we are not training enough doctors.

Of course simply training more doctors won't help if they train to become urban specialists or urban family physicians: the bias of the current educational system. Getting around this bias requires proactive selection of medical students with rural origins, and rural modelling to students and residents in their training. Unless a physician is comfortable practising in a rural environment s/he won't choose rural medicine regardless of financial incentives or disincentives.

Finally, these programs will need to be evaluated to ensure that the public good is being served. This will require accurate definitions of rural and careful monitoring of population-to-physician ratios to ensure equitable distribution of this important resource across the rural-urban spectrum.

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Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

RuralMed: The SRPC Listserv
RuralMed : La liste postale de la SMRC

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Our coverage of RuralMed is undergoing an experiment and we would appreciate feedback. It has become apparent that trying to synthesize 3 months' worth of RuralMed (minimum 150 pages of text) into 2 journal pages removes the spontaneity and liveliness of the interactive medium that is RuralMed. We are therefore publishing, with the author's permission, one RuralMed message posted July 3, 1998, to give readers a sampling of what RuralMed really is. This particular posting resulted in a string of interesting comments.

A rural doctor's review
(by Peter Hutten-Czapski)

The rural reviewer is at it again. In January of this year many rural physicians in BC withdrew "on call" services and resigned hospital privileges in numerous rural communities. Lucy C. Dobbin, an independent consultant from Newfoundland, was asked by the MOH of BC to report on physician services in rural areas of the province. A review of the report lies below.

. . . the health human resource planning activities of the Ministry (of Health) have tended to be reactive, responding to topical issues and concerns. They have tended not to take a long term focus and they have generally lacked a comprehensive perspective. . . . (Price Waterhouse Health Human Resources Planning Project 1990)

The Dobbin Report, May 31, 1998

Background

Rural medical practitioners, nationally, have long identified the issues that set them apart from urban service provision:

1. "Long working hours" . . . "the issue is the value attached to having the expertise of the physician available to the community."

2. "Rural physicians are generally faced with a more frequent, often unrewarding on call system than are urban doctors."
3. "Rural physicians have greater difficulty in obtaining locums."
4. "The population of most rural areas is sufficient to support only so many practitioners and life style issues, such as time off, which would require additional numbers of physicians, cannot be supported by the population base."

Central issues & recommendations

A. Being on call without payment for same — A system of recompense for family physicians in NIA communities be introduced which gives them a choice between an on call stipend without fee for service billings or a lower stipend with $30/h outside of clinic hours, $40/h if < 6 MDs for 1800 Fri to 0800 Monday OR $20/h + FFS outside of clinic hours, $30/h + FFS if < 6 MDs for W/E and stat holidays PROVISO That MDs on call the weekend should be off the next day to 1400 — GP-surgeons and GP-anesthetists be paid $5/h + FFS for evenings and nights on call in that capacity — pending other support that in 1 to 2 MD towns without hospitals doctors be offered a bonus of $20 000.

B. Locum coverage — "In communities with fewer than 5 fulltime physicians, the need for locum coverage becomes critical." However, no recommendation about this problem was forthcoming except for a hope that the reimbursement recommendations would help.

C. CME — NIA support for CME to be graded by experience 1-2 years in rural community $1800/yr, 3-4 $4000, 5-10 $6000. Note: $1100 is already available to all physicians in BC.

— Basic requirements (ACLS, ATLS perhaps) be set for practice in rural communities and that a plan be formulated to allow for maintenance of these requirements without excessive hardship to the participants, either physicians or nurses.

Dobbin also comments that "Young graduates, with a heavy debt load, have clearly stated to me that they can earn more and still have a good life style if they take positions in urban, walk-in clinics rather than in rural practices where the volume does not allow for high earnings and the unpaid on call is so frequent that they have little time for social and family interaction." She recommends that the current reimbursement scheme for walk-in clinics be reviewed.

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Letters / Corresondance

CJRM 1998;3(4):255-7

Please send us your comments and opinions.

Letters to the editor should be addressed to: Canadian Journal of Rural Medicine, Box 1086, Shawville, QC J0X 2Y0; cjrm@fox.nstn.ca; fax 819 647-2845

Why I don't and do want to be a doctor

I am going to make a list of the cons and pros.

Cons

1. Patients complain.
2. Patients come when they aren't even sick.
3. You have to sacrifice your lunch.
4. You're busy almost every day.
5. You're up late in the night.
6. You have to eat hospital lunches.
7. When people die and you know them really well.
8. You have to stay inside a great deal of the time.
9. You have to go to school for even longer times.

Pros

1. You get to see and deliver tiny, cute babies.
2. You get to meet new people.
3. You get to meet many other doctors.
4. You do mitzvahs (Jewish for "good deeds") almost every day.
5. You get to travel to conferences.

My conclusions

I guess I wouldn't want to be a doctor because there are many more ideas under cons than pros. The hard things about being a doctor are being on call, staying at the hospital, making people feel better, being away from your family.

I used to know this lady. She was very nice. Whenever I was at the hospital my mom and I would visit her. She died a few years ago. I was very sad; she was one of the nicest people I have known.

Lauren Robinson
[9 years old]
[First appeared in Rural Med.
Reproduced here with permission.]

The Scott Report

It was with considerable care and some degree of interest that I read the letter to the Editor by Dr. Dawes in the summer issue of the Journal (pages 178-9) pertaining to my critique of the Scott Report, which appeared in the winter issue on pages 27 to 32. To a certain extent Dr. Dawes's criticisms were predictable, but I was surprised by some of his comments, and in the interest of honest debate I would like to respond.

The legacy of the Emergency Services System that Dr. Dawes and Mr. Scott are so anxious to preserve by maintaining the status quo is one of substantially increased traumatic death rates for residents of rural Ontario. It has been estimated that a rural victim of trauma is 5 to 7 times more likely than his urban counterpart to die from similar injuries. Although this estimation may be in the realm of folklore, Rowe and colleagues1 demonstrated that the death rate from trauma in northeastern Ontario is certainly at least twice that of areas with a greater population density.

It is estimated that one-half of this excess rural mortality is due to external crash characteristics;2 unfortunately, the other half may well be due to the medical care provided in both the prehospital and emergency department phases.3-5 Several American studies6-9 have suggested that there is a preventable death rate of 10% to 15% in rural emergency departments. These deaths are largely a result of a failure to adequately manage the airway, failure to recognize and aggressively treat hypovolemic shock and failure to place chest tubes in situations where there are life-threatening chest injuries. Although these studies may be somewhat flawed in their methodology, having committed every one of these sins at some point in my clinical life, I believe they have the ring of truth. This, of course, relates only to the issues of trauma. God only knows how well we are faring with adult and pediatric emergencies.

Surely, the only thing that should be "sacred" to rural physicians should be our solemn commitment, indeed duty, to address this disparity and to strive for excellence in meeting the emergency health care needs of the people and communities we serve.

This task will certainly be made more difficult by the maintenance of the status quo of Ontario's Emergency Health Services System. In a 1991 survey, 50% of emergency departments, both rural and urban, failed to meet a defined minimum standard of care. The "lofty standards" that were not attained did not include the absence of capnometers and bedside ultrasonography but the more mundane issues of absence of laryngoscopes and life-saving drugs. Furthermore, the standards were not developed by "insulated academics" but by a group of emergency health care professionals with 3 practising emergency physicians, including 1 from the booming metropolis of Wawa, Ont.

This concept of emergency department standards seems to concern Dr. Dawes. I believe it should be viewed not as a mechanism to close small rural departments but rather as an important tool to force reluctant hospitals, regional health administrations and governments to "ante up" and provide the necessary resources to adequately support rural emergency departments. The Guidelines to the Practice of Anaesthesia, as recommended by the Canadian Anaesthetists' Society (CAS),10 are a case in point and provide a useful historical analogy of the benefits of such an approach. When the CAS recommended the use of pulse oximetry as a mandatory monitor for the safe practice of anesthesia, reluctant hospital administrators begrudgingly came up with the $8000 cost for such equipment rather than be found in an untenable medicolegal predicament. Similarly, this was the case for capnography. It could also be the case for necessary equipment for emergency departments.

In regard to the issue of guidelines and emergency department closures, Dr. Dawes purports to understand my position. I believe he does not. My letter published in the Canadian Medical Association Journal11 clearly states my views on this subject.

I would like also to respond to the last 2 points raised in Dr. Dawes's letter. He notes that he is dismayed by my recommendation to review the $70/h stipend. I don't understand why. First, I reiterate my point that this is wonderful compensation for a low-volume emergency department of 5000 patient visits per year. However, as medical director of 2 rural emergency departments, each with patient volumes just shy of 25 000 per year, I can assure him that this has hardly proven to be an attractive component for physician recruitment and retention. Hospital administrations and boards and even the government have come to expect that the emergency physician on Scott sessional payment will provide care not only for the patients registered in the emergency department but also hospital in-patients, resuscitation calls for labour and delivery suites and serve as the after-hours primary care resource to numerous community agencies and extended care institutions. That is a lot to ask for $70/h. Indeed, a group from Hanover are attempting, through a provincial letter-writing campaign, to have this arbitrarily derived figure renegotiated.

Second, I think it is reasonable to expect, in these times of fiscal restraint and evidence-based medicine, that any new health care initiative should be monitored for its effect on health care delivery and patient outcomes. I am unaware of any published data that supports Dr. Dawes's statement that the Scott Report has "functioned well as a successful recruitment and retention initiative." If he has such information I would urge him to share it with us. I would be much more impressed, however, if the measurement parameter was an improvement in the level and not mere quantity of care.

I am also surprised by Dr. Dawes's statement that I "bemoan the lack of input from representatives of organized emergency medicine." I do indeed believe that those involved in the discipline of emergency medicine must provide a leadership role in meeting the challenge of providing emergency care in rural environments and should be formally consulted in any attempts at reforming the system. Emergency services, after all, represent a continuum of care, and initiatives aimed at one locus ultimately will have an impact on the others. By restricting the solution to rural family physicians in isolation, I believe we risk not developing a workable, comprehensive solution; better that as a team of equals we strive to improve and strengthen the various links of this chain of care for the acutely ill and injured.

Last, I would like to commend Dr. Dawes for his many, well-recognized efforts in improving the lot of rural physicians. I would also like to thank him for encouraging debate on the difficult issue of emergency service provision in rural environments. I would be more than happy to join him in any initiative aimed at improving the standard of emergency care for rural Ontarians.

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Ontario region of the Society of Rural Physicians of Canada

You are invited to the Annual Meeting of the Ontario Region of the Society of Rural Physicians of Canada to be held in conjunction with the meeting of the Ontario College of Family Physicians

Where: Eaton Marriott Hotel, Bay St., Toronto, Ont.
When: Nov. 19, 1998.
What: Agenda.

1. Review of priorities
2. Hosting the annual policy and scientific conference of the SRPC in 2000
3. Election of officers
4. Other business.

Why: Because it matters.

Dear Friends:
Despite relatively quiet politics this last year, the Ontario section has been quite active in promoting rural medicine. Our efforts to support rural physicians can be characterized as direct support with research and advice, general media relations and policy development.

We have also been approached by rural doctors for advice on issues ranging from rural midwifery, to rural primary care reform pilots. Rural doctors can no longer be singled out and isolated.

Many media have been informed about rural health care needs. We helped organize a "day in the life" piece on ON-TV. There have been several spots on radio including CBC. We even got a word in in MacLean's. We released a joint press release with the OMA decrying the raise in medical school tuition, which will make it even harder for poor country kids to get trained as physicians. This had extensive coverage in many regional newspapers.

The new media also have heard our message. We have an Ontario regional page on the SRPC Web site (home.nstn.ca/~cjrm).

Our collaboration with the residents union PAIRO continues. We are hammering out yet another draft of the upcoming "Rural Blueprint" that will form an integrated template to deal with rural recruitment and retention that has been lacking to date.

Is that enough to get you intrigued?

Peter Hutten-Czapski, MD
Rural physician
Ontario Regional Chair
Haileybury, Ont.

Come and find out what's going on

Join us in Newfoundland in 1999 for the 7th annual Society of Rural Physicians of Canada's Policy Meeting and Rural and Remote Area Conference to be held once again at the Delta Hotel in St. John's, Nfld., from Tuesday, Apr. 13 to Saturday, Apr. 17, 1999. The ALARM Course will once again be offered for those interested, as well as a full slate of other specialized programs and Rural Critical Care workshops. We are taking all the great feedback received from previous conference attendees and plan to make the 1999 program better than ever. We look forward to entertaining you in true Newfoundland style and hope to see you here in 1999. More information in the next issue of CJRM. Meanwhile, MARK YOUR CALENDARS!!

Contact:
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Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Reviews / Recensions

CJRM 1998;3(4):260

Please send us your comments and opinions.

Letters to the editor should be addressed to: Canadian Journal of Rural Medicine, Box 1086, Shawville, QC J0X 2Y0; cjrm@fox.nstn.ca; fax 819 647-2845

Gadget review

The PalmPilot / WorkPad Personal Data Assistant for Rural Physicians. Approx. $500 plus tax. Available at most office supply and computer stores.

I think small computers called personal data assistants (PDAs) will become as essential to rural physicians as stethoscopes. There are many varieties of PDA. Buyers can choose among the original and recently discontinued large Apple Newton, the adolescent Microsoft WinCE machines, the new, small, untried Microsoft PalmPC, and the very successful 3Com PalmPilot. The newest version from 3Com is called the "PalmIII." IBM's version of the PalmPilot is called the WorkPad.

The PalmPilot is a 5.7 ounce pen-based PDA smaller than a cigarette box. Originally designed for personal information functions like address and phone lists, memos, and to-do lists, the PalmPilot can do much more.

The PalmPilot is a tiny computer with a central processing unit comparable to the early Macintosh computers. It sits compactly on my belt beside my pager. Accessories include a modem and a keyboard. There are several ways to enter text. Simply writing on the screen in the PalmPilot's own script, called Graffiti, is the most convenient, although Graffiti is slower than natural handwriting. The user can also tap on the screen's virtual keyboard, or plug in a small accessory keyboard. PalmPilot seamlessly synchronizes with desktop computers by dropping it in a cradle and pressing a button, so that information you enter on one device can be synchronized to the other.

Think of a problem that bugs you and the PalmPilot is likely to offer a solution.

Contacts and scheduling: Martin Reedyk in Three Hills, Alta., wrote me that "I find it very helpful to have my full personalized telephone directory with me in my little PalmPilot at all times. I am never at a loss for the names and numbers of consultants. I make up lists for referral physicians by specialty. My main use is scheduling — my PalmPilot keeps me from double booking my time. I can schedule a year in advance, something I could never do with my paper scheduler."

Reminders: Like many PalmPilot physicians, Keith Phillips in Nanaimo, BC, stores in his PalmPilot reminders about how to investigate and treat a variety of conditions. Examples are diagnostic criteria for diabetes and an approach to sleep disorders.

Lists: Karl Stobbe in Beamsville, Ont., keeps all his personal identification numbers handy on his PalmPilot. I have all 15 000 ICD-9 diagnostic codes on mine.

Billing: Eugene Leduc in Creston, BC, uses a PalmPilot program called Pendragon Forms to track his anesthesia billings. When he synchronizes to his desktop computer, the data go into a Microsoft Access form that he prints for his billing clerk. His system includes look-ups for billing fees and diagnostic codes. Karl Stobbe wrote, "I use the memopad program to track hospital inpatients so I can bill properly."

Maternity care: Karl Stobbe uses a handy program called PregCalc to calculate the expected date of confinement, last menstrual period and expected weight gain. He can also use it to check dates against the ultrasound report. I use a program called Jfile to record maternity patients' home phone numbers, due date and a short reminder about special problems. At sign-out rounds on Friday I can update the docs on call about my maternity patients due on the weekend, or jot down notes about theirs.

Continuing education: During lectures I hook my PalmPilot up to a keyboard and type in information. Back at home I e-mail the files to friends, and the lessons learned are always on my belt for the next patient encounter.

Group solutions: Residency programs can easily build PalmPilot systems to collect data from residents on the procedures they use during rural rotations. Or a call-group could build sophisticated applications for synchronizing all the hospital inpatients among all of their physicians' PalmPilots and the clinic computer, fully automating the billing process. The group's doctors can use the same data during patient care.

Jim Thompson MD, CCFP(EM), FCFP
Charlottetown, PEI

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Literature / Littérature scientifique

CJRM 1998;3(4):261

Obstetrical tidbits

Evaluating the thirty minute interval in emergency cesarean sections. Schauberger CW, Rooney BL, Beguin EA, Shaper AM,
Spindler J. J Am Coll Surg 1994;179(2):151-5.

In spite of the date of publication of this reference (1994), it is included because of the paucity of literature on this issue and the currency of the subject. Nostrums tend to creep into the literature and are seldom tested. The "30-minute rule" is one such nostrum, much promoted in theory but often unattainable in practice, particularly in rural areas. Does it matter? This study revisited this accepted tenet and yielded some interesting results.

In a retrospective study, 75 emergency cesarean section cases were compared to 2 control groups: intrapartum nonemergent cesarean sections and elective cesarean sections. The goals of the study were to compare outcomes (using the proxy measure of Apgar scores in the case of neonatal outcomes) and to determine the attainability of the standard.

Delivery within 30 minutes was attained in 63% of emergency cases. The "decision to incision" interval was 29.1 ± 17.6 minutes, with a median time of 23 minutes and a range from 6 to 96 minutes. Significantly more infants of mothers delivered within 30 minutes had Apgar scores of less than 6 at 5 minutes than did those delivered after 30 minutes (23% v. 3.6%). However, there were no significant differences in admissions to the neonatal intensive care unit, the length of stay or number of deaths, or for that matter were there significant differences with respect to these parameters between the emergency cesarean section group and the 2 control groups.

The authors state that although emergency preparedness is a worthwhile goal and that "the 30-minute interval is obtainable in a large number of patients," this "did not have a beneficial effect on neonatal morbidity." This finding suggested to the authors that "other measurements of emergency preparedness should be considered other than the 30-minute rule."

Remote umbilical arterial blood pH analysis: accuracy, utility, and limitations. Chauhan SP, Meydrech EF, Morrison JC, Magann EF,
Rock WA, Martin JN Jr. Am J Perinatol 1997;14(1):39- 43.

One increasingly used test to document fetal wellbeing (or distress) retrospectively is the umbilical artery blood gas measurement. Although technically simple, the resources required to analyse the sample immediately are often unavailable in rural areas. This paper usefully documents a strategy to correctly calculate the pH at birth even when samples are kept on ice for up to 72 hours post partum.

The authors drew paired samples after 1007 deliveries. One sample was processed immediately and the other was "placed on ice and later analysed at variable time intervals up to 180 hours post partum." The result of the remote analysis (pHr) was inserted into the following equation to derive the birth pH (pHa): pHa = 0.917 – (0.001 × time [(in hours]) – (0.9716 × pHr).

The 2 results were then compared. The authors found that "remote umbilical arterial samples analysed within 72 hours of delivery correctly identified newborns with an original pH < 7.00, 7.10 or < 7.20 with (1) a sensitivity of 100, 82, and 84% respectively; (2) positive predictive values of 100, 93, and 66% respectively; and (3) a test efficiency of 100, 99, and 89% respectively." Even for a Friday night delivery, a sample that reaches the laboratory on Monday morning will still yield useful information. They concluded that "It is clearly feasible to assess whether a newborn was acidotic at birth if the refrigerated arterial sample is analysed within 72 hours after delivery."

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Country cardiograms case 10: Answer

CJRM 1998;3(4):248-9

The electrocardiogram shows atrial fibrillation with a ventricular rate of about 120 beats/min. There is no evidence of pacemaker activity, but at the faster rate a demand pacemaker might not activate anyway. There is one premature ventricular contraction.

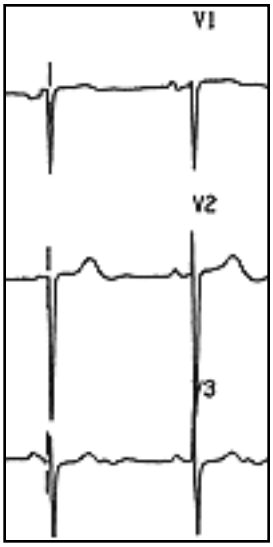
Discussion

Atrial fibrillation is a common, often frustrating, rhythm for the physician to manage. When the patient is not hemodynamically compromised, then rate control with an appropriate medication (diltiazem, beta-blocker, verapamil, digoxin or procainamide) is appropriate.1 This elderly patient with chronic atrial fibrillation was already anticoagulated. She was admitted to the local hospital for investigation, general physiologic stabilization and cardiac monitoring.

The following day she remained in atrial fibrillation at the same slightly high ventricular rate. She complained of transient angina-like symptoms and continued to feel unwell. No other abnormality was found. Following a discussion with her cardiologist, the decision was made to cardiovert electrically.

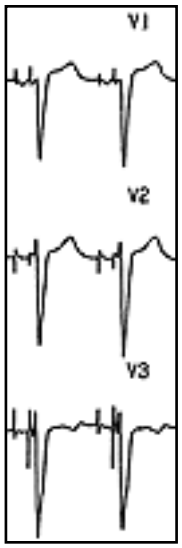
One rural physician administered intravenous sedation while the other prepared for the cardioversion. Standard advanced cardiac life support guidelines were followed.1 The patient was placed in a resuscitation bed. An intravenous line was already in place. She was given intravenous fentanyl and midazolam, which produced effective drowsiness. A single dose of 100 J of synchronized electricity converted the atrial fibrillation promptly to sinus bradycardia at a rate of 50 beats/min (Fig. 1). She awoke within 30 minutes and asked when we would be doing the procedure, indicating that she had no recollection of the shock.

Fig. 1:
Leads V1 to V3 immediately after cardioversion.



At that point we realized that her pacemaker was not working. A baseline ECG taken a few months earlier showed pacing spikes from a dual chamber pacemaker (Fig. 2) that were absent after the cardioversion (Fig. 1). The pacemaker was failing to sense the slower rate and thus was not producing any electrical activity. This was probably a primary failure of the pacemaker and not due to the cardioversion procedure.

Fig. 2:
Leads V1 to V3 in a baseline electrocardiogram showing pacer activity.



The patient was transferred, in a semiurgent fashion, in an advanced life support ground ambulance to a cardiology centre to have the pacemaker fixed. She subsequently did very well.

Reference

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Canadian Journal of Rural Medicine
Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Rural incentive programs: a failing report card

CJRM 1998;3(4):242-7

Table 1. Rural incentive plans across Canada, 1998

	Retention			Recruitment			
Province	Emergency room call, $	Locum	Remote pay	Signing bonus	Urban disincentives	Re-entry training	Contract
British Columbia	Bonus $20/h after hours	Limited	5% to 20% FFS				Some
Yukon Territory					Paid at 50% FFS		
North West Territories				Upcoming			
Alberta	Bonus $17/h after hours	<5 MD towns		$20 000 ($10 000 + $10 000 from region)		$76 000/yr pro rata	
Saskatchewan	Bonus $10/h weeknights, $25/h weekends	4 MD towns		$25 000/18 mo		$80 000/yr	$121 000—$140 000 starting
Manitoba		<5 MD towns		$44 000/yr			$150 000
Ontario	$70/h flat rate nights, holidays and weekends	Limited	$5000 CME/yr	$40 000/yr	Paid at 70% FFS	Yes	$174 000—$194 000 + emergency room sessional
Quebec	$140 + 50% FFS 2000 to midnight $402 + 75% FFS midnight to 0800	Limited	15% FFS	$40 000/4 yr from region + moving	Paid at 70% FFS		CLSC
New Brunswick			3.8%/yr at 3 yr 5.7%/yr at 5 yr	$10 000 moving	Billing no. restrictions	At 50% of gross	
Prince Edward Island					Billing no. restrictions		
Nova Scotia	$50/h and up annual volume dependent			$50 000/5 yr + $5000 moving	Billing no. restrictions		$138 000 minimum FFS guarantee
Newfoundland			$30 000		Billing no. restrictions + global cap		

FFS = fee for service, CME = continuing medical education, CLSC = community health centres
Sources: provincial ministries of health

[Return to text]

Canadian Journal of Rural Medicine | Journal canadien de la médecine rurale

Fall 1998 Contents • Automne 1998 Table des matières

Rural incentive programs: a failing report card

CJRM 1998;3(4):242-7

Table 2. Numbers of rural and urban general practitioners/family practitioners by province

Location	Year	NF	PEI	NS	NB	QC	ON	MB	SK	AB	BC	NWT	YT
Rural	1994	328	39	293	200	1294	1168	227	271	442	576	23	7
	1995	304	37	272	170	1264	1129	223	273	398	527	19	7
	1996	297	32	258	174	1233	1042	218	249	357	484	6	17
	1997	288	35	251	156	1226	1030	212	224	329	496	19	7
	1998	221	33	254	122	1202	1060	213	227	292	490	13	8
Urban	1994	463	75	859	453	6769	9495	918	729	2172	3902	55	NA
	1995	448	72	732	494	6175	9742	841	753	2232	3618	26	32
	1996	406	71	694	506	6292	9406	847	700	2129	3747	35	26
	1997	418	67	689	528	6274	9105	859	660	2108	3817	23	35
	1998	358	60	702	570	6377	9155	851	645	2161	3906	28	35

NA = not available
Source: Canadian Medical Association Masterfile

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