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Barrie McCombs, MD

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Appel à mes collègues québécois

Maurice Lamarche, MD

CJRM 2000;5(1):5.

De 1993 à 1995, la Société de la médecine rurale du Canada a présenté son cours et colloque annuel à Montréal. Depuis ce temps, la Société a fondé des comités provinciaux, dont celui au Québec. Elle a aussi mis sur pied, pour le bénéfice de ses membres, le Journal canadien de la médecine rurale, un groupe de discussion (RuralMed) sur l'Internet, qui a son pendant francophone (medrurale@lists.mcgill.ca), et un site web (www.srpc.ca).

Déjà, quelques guides de pratique réalistes validant la pratique rurale ont été émis. La Société s'est dotée d'une structure lui permettant de se faire entendre par les organismes provinciaux et fédéraux. Le ministère de la Santé et des Services sociaux (MSSS) et la Fédération des médecins omnipraticiens du Québec (FMOQ) se sont intéressés à nos propos et demandes au cours des derniers douze mois. À notre demande, le Collège royal des médecins et chirurgiens du Canada a accepté de travailler de concert avec le Collège des médecins de famille du Canada (CMFC) pour améliorer l'exercice dans le contexte rural. Par ailleurs, nous avons aussi des liens avec les cours et les organisations internationales de médecine rurale.

Au Québec, nous aurions intérêt, je crois, à participer davantage à ce mouvement. Nous avons besoin de médecins ou qui soutiennent une organisation qui voit à leurs intérêts ou qui participent activement à défendre le point de vue de la médecine rurale. Il est malsain de laisser totalement le milieu urbain s'occuper de nos affaires. Quelle est notre représentativité (celle des médecins ruraux) au sein des comités importants qui impliquent le MSSS, la Régie de l'assurance-maladie du Québec, la Corporation des médecins du Québec et le CMFC, section Québec? Ce journal que vous lisez présentement pourrait avoir un visage francophone si les médecins francophones écrivaient plus d'articles au sujet de leur propre expérience en milieu rural.

Ceci est donc une invitation à tous les médecins francophones à s'intéresser davantage à un organisme comme le nôtre qui veut améliorer les conditions de travail des médecins des régions rurales ou éloignées. Le cours et colloque national qui aura lieu au début d'avril 2000 à Ottawa (parce que c'est au tour de l'Ontario d'être l'hôte de cet événement) s'interrogera justement sur nos

conditions de travail. Des fonds sont déjà disponibles pour étudier la médecine rurale et éloignée. Il n'est donc pas nécessaire d'attendre à avril 2000 pour venir humer les fleurs....

Je me sens toujours prêt à ma troisième année au comité québécois de la Société à travailler avec mes collègues francophones pour promouvoir la place de la médecine rurale dans la société québécoise.

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Rurally eclectic

Suzanne Kingsmill, BA, BSc, MSc

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Rural medicine is by its nature eclectic. Rural physicians must be flexible, imaginative and open to new ideas, such as working cooperatively with nurse practitioners, something that rural doctors have been more willing to champion than their urban counterparts. In this issue the Northwest Territories (NWT) Medical Association and the Northwest Territories Nurses Association have collaborated on a position paper on just how to deliver medical care cooperatively to rural residents in the NWT ([page 12](#)).

Without the back-up of big city hospitals and specialists, rural doctors must practise a type of medicine distinct from that of their urban colleagues and must deal with the constant threat of being unable to transfer a patient due to distance or weather. Often they must deal with patients who need specialized care immediately. An update on the SRPC's Rural Critical Care course takes a look at some of these issues ([page 30](#)). As well, a diverse working group of people, under the chairmanship of James Rourke, who put together the executive summary "Postgraduate education for rural family practice: vision and recommendations for the new millennium," have written 4 difficult case scenarios. The first one is described in this issue ([page 21](#)). Our regular Country Cardiogram column looks at 2 different patients and asks which one had the MI ([page 26](#)) and the "Occasional suprapubic catheter" ([page 24](#)) walks you through the procedure.

One of the issues of great difficulty to rural medicine is finding a definition of rural that works for everyone. More and more there are small cities and large towns calling themselves rural when, in reality, they have numerous doctors and specialists. Rumour has it that even some southwestern Ontario cities have been feeling remote as they face physician shortages. And there are many doctors out there living in the suburbs of big cities who feel they are rural when they are not. But exactly what is rural and thus what is the definition of a rural doctor? In the [summer 1997 issue](#) of this journal, Eugene Leduc attempted to come up with a rurality index to answer these questions, and in this issue George Magee gives it another shot ([page 18](#)).

Canada's rural docs are not alone in their fight to be recognized and have rural medicine be more than just a subcommittee or footnote on an urban medical board's agenda. Australia has been down this path, and Peter Hutten-Czapski, who took a 6-month locum there last year, speaks out on the road Australia took and the problems they encountered ([page 28](#)).

Our new column, by Barrie McCombs, "Out Behind the Barn," which first appeared in our last issue has lots of information on using the Internet and CD-ROMs for researching medical topics, something that can instantly bring medical information to the desks of rural docs ([page 38](#)).

May I remind our readers that we welcome submissions to the Canadian Journal of Rural Medicine be they original research papers, case studies, clinical procedures, off-call travel articles, artwork with a rural theme for our front cover, opinion pieces on any aspect of rural medicine and anything else you might want to suggest that our readers might find fascinating and rurally eclectic.

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Rural health care at the millennium — a time to celebrate

Patricia Vann, MD

CJRM 2000;5(1):10.

The concept of rural health care as an important part of Canada's medical menagerie has come a long way since 1992 when the Mount Forest physicians first took job action and subsequently formed the Society of Rural Physicians of Canada. Over the years, the message of compensation for call, frequency of call, sustainable working conditions for rural physicians and equitable health care for all rural Canadians has certainly come to the forefront. At every level of government and within medical organizations, training and accrediting bodies, the message that rural health care is important, that rural health and its providers are unique and that rural health care is in trouble has been heard over and over again. Now these facts have finally been acknowledged and progress is starting to be made.

The need for us to link rural physicians in order to give each other support and to realize that we do not stand alone, has been fostered through the RuralMed discussion group, the various regional and national committees that meet by teleconference to tackle problems, and through our annual and regional CME events. We have a first-class Canadian Journal of Rural Medicine of which we can be very proud. These venues have led to opportunities to develop and to promote solutions to our concerns that are appropriate to rural realities.

Our joint position papers on rural maternity care ([Can J Rural Med 1998;3\[2\]](#)) and on training for rural family physicians in advanced maternity skills and cesarean section ([Can J Rural Med 1999;4\[4\]](#)) have created national interest, and the recommendations are now widely accepted. Our work with the College of Family Physicians of Canada on the document "Postgraduate education for rural family practice"¹ is sending a clear rural message to the educators. Working papers on training family physicians for anesthesia and surgery in rural areas are moving ahead. The success of the Rural Critical Care Courses is another example of how we are succeeding in getting our message out and our needs better met.

The image of rural medicine has changed and will continue to change now that some of the challenges we have presented are being met.

As we enter the new millennium and face still new challenges, we have reached our goal of 1000 members by 2000. I think we all have something to celebrate.

Reference

1. Working Group on Postgraduate Education for Rural Family Practice. Postgraduate education for rural family practice. Vision and recommendations for the new millennium. *Can Fam Physician* 1999;45:2698-704.

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Les soins de santé en milieu rural au tournant du millénaire — C'est le moment de célébrer

Patricia Vann, MD

CJRM 2000;5(1):11.

Le concept des soins de santé en milieu rural comme élément important du tableau médical du Canada a beaucoup évolué depuis 1992, lorsque les médecins de Mount Forest ont été les premiers à agir et ont créé par la suite la Société de la médecine rurale du Canada. Au fil des ans, le message portant sur la rémunération et la fréquence des périodes de garde, des conditions de travail viables pour les médecins ruraux et des soins de santé équitables pour tous les Canadiens vivant en milieu rural est certainement passé à l'avant-scène. À tous les paliers de gouvernement, dans les organisations médicales et dans les organismes de formation et d'agrément, on a entendu répéter régulièrement le message selon lequel les soins de santé en milieu rural sont importants, la santé et les prestataires de soins en milieu rural sont sans pareils et les soins de santé en milieu rural sont en difficulté. Ces faits sont maintenant reconnus et des progrès commencent à prendre forme.

Le groupe de discussion RuralMed, les divers comités régionaux et nationaux qui se réunissent par téléconférence pour s'attaquer à des problèmes et nos activités annuelles et régionales d'EMC ont aidé à répondre au besoin d'établir des liens entre les médecins ruraux afin qu'ils puissent s'entraider et se rendre compte qu'ils ne sont pas seuls. Nous avons un Journal canadien de la médecine rurale de première classe, dont nous pouvons être très fiers. Ces activités ont permis d'élaborer et de promouvoir des solutions à nos problèmes qui conviennent aux réalités rurales.

Nos énoncés de principe conjoints sur les soins obstétricaux en milieu rural ([J Can Med Rural 1998;3\[2\]](#)) et sur la formation des médecins de famille ruraux dans les domaines de l'obstétrique avancée et des césariennes ([J Can Med Rural 1999;4\[4\]](#)) ont suscité un intérêt national et les recommandations qu'ils contenaient sont généralement acceptées maintenant. Le travail que nous avons effectué avec le Collège des médecins de famille du Canada au sujet du document intitulé «Formation postdoctorale pour la pratique familiale et rurale»¹ fait passer un message rural clair aux éducateurs. La production de documents de travail sur la formation des médecins de famille en anesthésie et en chirurgie en milieu rural avance. Le succès qu'ont connu les cours sur les soins critiques en milieu rural est un autre exemple de la façon dont nous réussissons à faire

passer notre message et à mieux répondre à nos besoins.

L'image de la médecine rurale a changé et continuera d'évoluer maintenant que l'on relève certains des défis que nous avons posés.

À l'aube du nouveau millénaire et face à d'autres nouveaux défis, nous avons atteint notre but qui était de compter 1000 membres en l'an 2000. Je pense que nous avons tous raison de célébrer.

Référence

1. Working Group on Postgraduate Education for Rural Family Practice. Postgraduate education for rural family practice. Vision and recommendations for the new millennium. Can Fam Physician 1999;45:2698-704.

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The provision of health care in the Northwest Territories (NWT): a joint statement on health care reform in the NWT, September 1998

Northwest Territories Medical Association* and Northwest Territories Registered Nurses Association†

CJRM 2000;5(1):12.

[[résumé](#)]

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Abstract

In this document, the Northwest Territories Registered Nurses Association and the Northwest Territories Medical Association outline their vision of health care reform in the province as a consistent, collaborative model of primary health care reform, collaborative practice and accountability. Next, the roles of the primary health care nurse practitioner and the physician in a collaborative practice model are defined. Finally, recommendations to help facilitate the development of a collaborative practice model under the broad headings of education, collaboration and governance are enunciated.

Résumé

L'Association des infirmières diplômées des Territoires du Nord-Ouest et l'Association médicale des Territoires du Nord-Ouest énoncent dans ce document leur vision d'une réforme du système de santé du territoire qui passerait par la réforme uniformisée des soins primaires, la pratique en collaboration et l'imputabilité. Le document définit aussi les rôles respectifs des infirmières de première ligne et des médecins dans un modèle de collaboration puis, pour favoriser l'élaboration d'un tel modèle, propose des recommandations en matière d'éducation, de collaboration et de gouvernance.

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The provision of quality primary health care in communities of the Northwest Territories (NWT) has always been a challenge of geography, finances and human resources. It requires a close collaboration among all health care providers.

The purpose of this paper is to describe a collaborative model for health care delivery in the NWT. Although this document is focussed specifically on collaborative primary health care delivery by physicians and nurses, we do recognize that there are health care providers in other disciplines (e.g., physiotherapy, occupational therapy, social work, pharmacy) whose involvement in a model of collaborative primary health care will be essential to that model's success.

The need for this document arose from recent changes in the administration of primary health care delivery in the NWT. With regionalization and the loss of a central organizing structure to ensure uniformity of primary health care delivery and management in the NWT, it has become apparent that different regions have differing levels of experience in administering and managing primary health care to the members of their communities. If the Regional Health and Social Services Boards (RHSSBs) lack an experienced, consistent approach to the delivery of primary health care, then there is a risk that the care given to patients in the different regions will vary widely, and in some cases fall below nationally accepted standards. The division in April of 1999 of the NWT into NWT and Nunavut further supports the need for a proposal for a consistent approach to the problem of primary health care delivery.

Health care reform is upon us and the continued challenges to providing quality health care in the NWT make it apparent that the role of the nurse in all health centres needs to be clarified and that new models for health care delivery need to be proposed. As key providers of health services in the NWT, nurses and physicians have an active interest in ensuring that any changes maintain the appropriate quality of care and ensure that care is provided by competent practitioners. This document is a joint project by the NWT Medical Association (NWTMA) and the NWT Registered Nurses Association (NWTRNA). Its intent is to positively influence the direction of

health care reform. The recommendations of this document are directed toward all of the groups that are intimately involved in health care reform in the North. These groups include the NWTRNA, the NWTMA, the Department of Health and Social Services (DoHSS) and the RHSSBs.

In this document, the NWTRNA and the NWTMA outline their vision of health care reform in the NWT as a consistent, collaborative model of primary health care reform, collaborative practice and accountability. The roles of the primary health care nurse practitioner (PHCNP) and the physician in a collaborative practice model are defined. A series of recommendations to help facilitate the development of a collaborative practice model under the broad headings of education, collaboration and governance is also defined.

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A vision of health care reform

The NWTRNA and the NWTMA believe that community-based primary health care is the most appropriate and economical model for delivering health services. Health care should be delivered by the most appropriate provider based on the level of competency of the individual practitioner. This supports the vision of the government of the NWT for health care delivery.

In smaller communities, nurses work in an ex-panded role, using advanced skills and knowledge to provide primary health care. In larger communities, physicians working in private clinics or hospital- based clinics provide access to the system. The NWTRNA and the NWTMA believe quality care could be enhanced by implementing a collaborative model of primary health care in all communities.

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Principles

The World Health Organization, in its Alma-Ata declaration of 1978, defines primary health care as follows:

Essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.... It is the first level of contact of the individual, the family and the community with the national health

system, bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.¹

Health Care delivery in the NWT is guided by primary health care principles that ensure safe, competent, effective and ethical client/patient care by the most appropriate health care provider. The goal is to ensure quality care by the most appropriate caregiver, in the most appropriate setting, at the appropriate time and in the most cost-effective and economical manner.

Primary health care

Primary health care is the first level of contact with the health care system and should form the basis of any comprehensive health care system. It

- ensures accessibility to health and health services to all populations
- maximizes individual and community involvement in the planning and operation of health care services
- emphasizes services that are preventive and promotive rather than curative only
- encourages health, social and economic development.

Health care reform

- Health care reform must be driven by the desire to meet patient and client needs in the safest, most effective way possible and must contribute to quality care.
- Clients/patients have a right to be informed of, and to participate in, decisions that will affect their care.
- Health care reform must recognize the unique and shared competencies of PHCNPs and physicians and promote optimal use of these competencies in the interest of client/patient care.
- Physicians and PHCNPs are guided by ethical practice and professional standards. The decision-making process in health care reform must support the practitioner's accountability as a member of a self-governing profession.
- Physicians and PHCNPs are accountable for acquiring and maintaining the level of competence required in the provision of safe and effective care.
- Health care professionals, in this instance physicians and nurses, should collaborate at all levels of decision-making.

Collaborative practice

A joint Canadian Nurses Association and Canadian Medical Association working group developed the following set of principles for collaborative practice. They are general in nature and are intended to guide and support the ongoing development of collaborative practice models in a variety of settings. Collaborative practice involves the following:

- patient centred care with a minimum of 2 caregivers from different disciplines working together with the care recipient to meet assessed health care needs
- development of a shared or common vision, values and philosophy focussed on meeting care needs
- clear definition and understanding of team member roles and responsibilities by all stakeholders
- a climate of respect, trust, mutual support and shared decision-making
- effective communication among all team members
- empowerment of all team members
- respect for autonomous professional judgement
- respect for autonomous choices and decisions of the care recipient.

Accountability

Accountability for the decisions of health care reform is shared by agencies, physicians and PHCNPs. Safeguards must be in place to protect clients/patients from incompetent and unethical practice.

- There must be mutual agreement among employing agencies, physicians and PHCNPs for the delegation of medical functions.
- Agencies are accountable for establishing a formal mechanism for decision-making and an approval process for delegated medical functions, and for setting standards of care that are consistent with professional competencies and legislated scopes of practice.
- Agencies are accountable for monitoring and implementing quality improvement measures that address the competent performance of delegated medical functions.
- Physicians are accountable for the decision to delegate, whereas PHCNPs accepting delegation are accountable for accepting and performing the delegated functions. The parameters and clinical guidelines for such delegation must be established and well understood by PHCNPs and physicians.

Within the limits of the system, patients should have a choice of, and qualified access to, their preferred primary health care provider.

PHCNPs' role

The PHCNP is a health service provider who works autonomously as well as collaboratively within an interdisciplinary team. The role of the PHCNP includes 2 major functions: those within the scope of nursing practice (community health services), and those that have been traditionally restricted to the scope of practice of physicians (primary medical care).

Community health services

Coordinating and implementing programs to provide the following:

- community development
- health promotion
- health protection
- disease and injury prevention
- support services
- treatment
- rehabilitation
- population-based research.

Primary medical care

Primary medical care comprises the provision of acute, chronic and emergency care services including the following:

- assessment/diagnosis
- autonomous intervention/treatment/management, including the limited prescription of pharmacologic and non-pharmacologic agents within the context of collaborative practice
- follow-up/referral.

Physicians' role

In a collaborative care model, family physicians have an expanded role from the one that they traditionally have occupied as primary medical care providers. Primary medical care consists of first-contact assessment of a patient and the provision of continuing care for a wide range of health concerns. The scope of primary medical care includes the diagnosis, treatment and management of health problems; disease prevention and health promotion; and ongoing support, with family and community intervention where needed.

Given the unique challenges of providing primary health care in the NWT, a collaborative model of patient care requires physicians to increase the portion of their role, which includes the following:

- determining appropriate delegated medical functions and shared competencies
- aiding in education of primary health care practitioners and other allied health workers
- coordination and supervision of collaborative primary medical care
- development of clinical guidelines and protocols
- program development and implementation with mental health, substance abuse and social services workers
- public education

- quality assurance audits
- population-based research.

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Recommendations

Education

1. All nurses providing primary health care in the NWT should have completed a formal, standardized, nurse practitioner training program.
2. An accredited PHCNP program should be established in the NWT.
3. The Advanced Nursing Skills Education Program (ANSEP) currently exists² and should be developed into an accredited nurse practitioner training program.
4. An accredited nurse practitioner training program in the NWT must incorporate the trans-cultural aspects of health care.
5. The above program needs to include prior learning assessment mechanisms to determine equivalencies for course credits. Prior learning assessments provide recognition for knowledge and skills acquired through experience.
6. Until recommendations (1) through (3) can be implemented, all new PHCNPs should be provided with ANSEP training at the time of employment.
7. A program for continuing education based on context of practice should be developed. This could include certifications and/or module learning for advanced nursing practice.
8. Designated teaching health centres should be established to provide a practicum component of PHCNP training as well as a training venue for community physicians.
9. Physicians in the North, particularly those just starting practice in the NWT, should receive orientation with respect to their expanded role in a collaborative system.
10. A coordinated and standardized continuing education program with appropriate resources should be developed to enhance the education component of community visits by physicians.
11. Standardized guidelines for preceptorship of PHCNPs need to be developed.
12. Physicians and PHCNPs should have the opportunity to acquire managerial skills both to support collaborative care and to offer meaningful input into future health system change.
13. A PHCNP registry should be developed.

Collaboration

1. Communities should have a designated physician who provides comprehensive and continuous medical care for the residents of that community in collaboration with the PHCNPs in that community.
2. Physicians should increase their time and expand their role within communities to

encompass increasing teaching needs, case planning and community advocacy in a collaborative care model.

3. Between community visits, the designated physician should review all clinical patient data that originates from the community (e.g., laboratory and x-ray results). The physician should also be involved in the in-hospital care of patients from their designated community.
4. Advanced telemedicine technology should be used to facilitate collaboration among physicians and nurses.
5. Given the expanding roles of physicians and PHNCPs in collaborative care, the NWTMA, the NWTRNA and RHSSBs should review physician and nurse resource requirements on an on-going basis.
6. Retention issues must be addressed. General supports for PHCNP that have been present in the past, such as housing subsidies and travel allowances, and new initiatives, such as funded, regular, remote nursing conferences in a centre like Yellowknife, should be implemented to increase job satisfaction and improve retention of PHCNPs.
7. A pilot project(s) to assess and evaluate the patient outcomes of a collaborative primary care model should be developed. The pilot project(s) should include at least one PHCNP and at least one physician. Evaluation should be ongoing and a final evaluation should be carried out within a defined time frame to provide feedback for future initiatives of a similar nature.

Governance

1. The DoHSS should establish a Joint Primary Health Care Steering Committee. Minimum representation should include the NWTRNA, the NWTMA, the RHSSBs, DoHSS and public representation. This committee could provide guidance and recommendations regarding the following issues:
 - curriculum requirements for a PHCNP training program
 - evaluation tools for PHCNPs within this program
 - standardization of guidelines for joint primary health care
 - recruitment and retention issues for all primary health care professionals
 - guidelines for clinical supervision and patient referral for PHCNPs
 - development of appropriate audit mechanisms
 - evaluation of administrative and legislative barriers to collaborative practice
 - ways to promote the role of the PHCNP.

Other stakeholders should be brought in as issues relevant to them are addressed.

2. A medical director should be appointed to each RHSSB.
3. Physicians and nurses should attend RHSSB meetings to assist in education of the Board regarding collaborative practice, to monitor and evaluate the RHSSB and to have meaningful input with regard to RHSSB decision-making.
4. The RHSSBs and the NWTMA should explore alternative funding mechanisms to support

collaborative primary health care activities by physicians.

5. A standardized exit interview should be given to all physicians and nurses leaving primary health care practice in the NWT.
6. The DoHSS should provide regular review and assessment of RHSSB functions in providing collaborative primary health care.
7. The expectations that the community has of its health centres and community nurses should be explored.
8. The infrastructure of the health centres across the NWT needs to be standardized.
9. An appropriate standard of accreditation should be developed and should be applied to all health centres in the NWT.
10. Individuals providing primary health care in health centres should be credentialled, based on training and experience, by the RHSSB before employment.

We recognize that all of the above recommendations will, to differing degrees, require the provision of funding on the part of the RHSSBs and the DoHSS. The feasibility of each recommendation, and their financial implications will have to be determined.

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Definitions

Expanded role

An expanded role is one where the registered nurse is required, as part of his or her job description, to provide services or perform functions beyond those that are routinely done as part of nursing practice by the general nursing population. Often these services or functions require advanced knowledge or skills.³

Primary health care

Essential health care, based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.... It forms an integral part of both the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.¹

PHCNP

A working title for the purposes of this document for registered nurses whose role and functions in providing primary health care services require advanced nursing knowledge and skills. The focus of the PHCNP is community health nursing with particular emphasis on community development and health promotion as well as knowledge and skills in assessment, diagnosis, intervention, treatment management, drug therapy and referral functions, which are shared with physicians, pharmacists and other service providers.⁴

Scope of practice

A profession's scope of practice encompasses the activities for which the professional is educated and authorized to perform and is influenced by the setting in which they practice, the requirement of the employer and the needs of the patients or clients.⁵

Contexts of practice

The conditions in which nursing and medicine are practised encompassing: type of agency (institution, community, home); client/patient population (age, health needs, health status); availability of resources; independence and autonomy of practice.⁶

Participants were: Jodi Brennan, RN†; David Butcher, MD*; Angela Carruthers, MD, CCFP*; Karen Graham, RN†; Jo-Anne Hubert, Executive Director†; Phyllis Joy, RN†; Peter Kuhnert, MD, CCFP*; Karen Leidl, RN†; Paula Lessard, Executive Director*; Celine Pelletier, RN†

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A procedural skills rurality index for the medical community

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[[résumé](#)]

Abstract

When a rural acute-care hospital loses physicians with advanced skills (GP anesthesia, GP surgery and operative obstetrics), it may be downgraded to a diagnostic centre or clinic. In this paper a rurality index is described that is a measure of the skills and requirements of individual rural communities. It applies to communities with fewer than 20 fulltime family physicians, awarding points for level of training and involvement in the medical community. The total number of points divided by the ideal number of physicians gives the Rurality Index for that community. The common denominator is an intuitive estimate of the ideal number of physicians required for the community. The aim of the index is to provide an internal guide for planning by rural physicians, educators and government.

Résumé

Lorsqu'un hôpital rural de soins actifs perd des médecins ayant des compétences avancées (OP-anesthésie, OP-chirurgie et chirurgie obstétricale), il risque d'être rétrogradé au statut de centre de diagnostic ou de clinique. Dans cette communication, on décrit un indice de ruralité qui constitue une mesure des compétences spécialisées et des besoins des communautés rurales. L'indice s'applique aux communautés qui comptent moins de 20 médecins de famille à plein temps : on attribue des points pour la formation et la participation à la communauté médicale. Le nombre total de points divisé par le nombre idéal de médecins produit l'indice de ruralité de la communauté en question. Le dénominateur commun représente une estimation intuitive du nombre idéal de médecins dont la communauté a besoin. L'indice vise à produire un guide interne de planification pour les médecins ruraux, les éducateurs et le gouvernement.

Several thoughtful indexes have been devised to categorize degrees of rurality for communities on the basis of their isolation.¹⁻³ I wanted to devise a rurality index that came from within the medical community, reflected its composition and needs and was comparable to the indexes of other, similar communities. The shortage of physicians in rural Canada is not just a shortage in numbers but a shortage of specific additional skills, which, for the purpose of this paper, I will call "advanced skills," defined as: GP anesthesia, GP surgery and operative obstetrics (cesarean-section capability). My focus is on rural communities with 20 or fewer full-time equivalent (FTE) family practitioners who work in communities with an acute-care hospital.

The value of the small acute-care hospital has been well outlined.⁴ The existence of the acute-care rural hospital depends on the availability of advanced skills. When a medical community loses these advanced skills, the acute-care facility may be downgraded to a diagnostic and treatment centre or an outpost clinic. Many rural communities in Canada have had fully functioning acute-care hospitals for over 50 years. Today almost all of them are threatened by a shortage of physicians who can provide advanced skills.

The Rurality Index I propose comes from within the medical community and is a measure of its milieu interieur.* It is also a measure of the composite skills of the medical community relative to the availability of the advanced skills and subsequently the ability of the acute-care hospital to provide care. The index will apply to communities with 20 or fewer FTE family physicians. It awards points to individual physicians for the level of training and involvement that they bring to the medical community, using a scale of 1 to 10 as shown in [Table 1](#). Physicians who share practices or work part time would multiply their point scores by the percentage of the year that they worked.

The common denominator for the index is the intuitive estimate of the ideal number of physicians for the medical community. The estimate is intuitive because it is readily known to the physicians practising in the community. I use the intuitive ideal number here to replace the term "permanent requirements" used by health care planners, as the latter term is arrived at in a much more complicated way. Intuitive utilizes the savoir faire of the physicians who actually work in the facility. Few medical communities in rural Canada operate with an intuitive ideal number of physicians. Using the actual number of physicians as the common denominator would skew the numbers into a false comfort zone.

I have selected 3 medical communities to demonstrate the use of the Rurality Index. Community A in 1999 has 4 FPs with an ideal number of 6 ([Table 2](#)). In 1997, Community A had 5 family physicians, 5 with basic obstetrical skills, 4 with advanced skills, giving it a Rurality Index of 7.5 ($10 + 15 + 20 = 45/6 = 7.5$). In 1998, community A lost 1 family physician with basic obstetrical skills and operative obstetrical skills who was replaced by 1 family physician without basic obstetrical skills and no advanced skills, giving it a Rurality Index of 6.1 ($10 + 12 + 15 = 37/6 = 6.1$). These figures show a significant change in the Rurality Index as physicians leave and are

replaced by physicians without the same skills.

Community B has 6.5 FTE family physicians with an intuitive ideal number of 8 family physicians ([Table 3](#)). Community B has visiting specialists: 2 plastic surgeons, 1 radiologist and an otolaryngologist. Anesthesia is crucial to Community B, and they have 2 anesthetists now, so presumably they would be looking for a third family physician with anesthesia skills as their eighth family physician. The community is also a participant in the University of British Columbia Rural Residency Training Program.

Community C has 17 family physicians, 2 surgeons, 1 urologist, 1 otolaryngologist, 1 internist, a visiting obstetrician/gynecologist, a visiting radiologist, and a visiting pathologist. I have given 10 points to each specialist-surgery or specialist-obstetrics/gynecology in a community and no points to the other specialties or to itinerant specialty services. Two family physicians are older than 60 years and are exempt from call. Five family physicians do anesthesia, 3 do anesthesia call only. I have assumed for this index that "any call is call." One family physician does cesarean sections ([Table 4](#)).

The questions now remaining are: What does the Rurality Index measure? and What is the norm? The Rurality Index measures everything from the fragility to the stability of a rural medical community. I would like to refer to it as the comfort zone. It is purely coincidental that the numerical range of the comfort zone resembles a range for the pH of blood. It is a nice metaphor for the Rurality Index. Either a community is tending toward acidosis, like community C or alkalosis like community A in 1997. Anything below 6.5 suggests that a medical community is in danger of losing its operating room and its ability to provide a safe comfortable level of obstetrical care and a reasonable slate of emergency and elective general surgery. Levels above 7.5 raise the question, Is there enough work for the physicians to maintain their advanced skills? I have not included the effect of placing nurse practitioners or midwives into the calculation of the Rurality Index, but I think their effect would be to lower the comfort zone for the rural medical community. This index does not adequately reflect the interdependent relationship between the family physicians with advanced skills or their relationship with specialists except to show that specialists do not raise the Rurality Index when family physicians give up their advanced skills. The "solo specialist syndrome"† of geographic isolation, peer isolation and peer dependency produces excessive workloads and frequent burnout. Medical communities in this situation can be shocked at the loss of a service overnight, like operative obstetrics. The adage and its corollary, "no anesthesia, no surgery," holds true, emphasizing a need to have a full complement of the advanced skills in the medical community. The smaller the medical community the greater the commitment is for the physicians with advanced skills, and this needs to be recognized and addressed within the medical community itself.

Many things flow from a community having a high Rurality Index (e.g., geriatric services, aboriginal medicine, family and individual counselling, working closely with other health care providers and visiting specialists and related services). These communities make ideal sites for

teaching rural medicine.

The Rurality Index presented here is a simple concept with some built-in subtleties, which will be very apparent to those who know the rural medical community. I hope it will provide an internal guide for future research and planning for rural physicians, educators and government.

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This article has been peer reviewed.

*milieu interieur, a term coined by the physiologist Claude Bernard in his book published in 1865 entitled *An Introduction to the Study of Experimental Medicine*. He theorized that the condition of the body's internal environment could be measured by a few observations on the composition of the blood and that its constancy was a measure of free and independent existence.

†"Solo specialist syndrome" arises from the antipathetic symbiotic relationship between the family physicians and the specialists in the rural community. These dedicated physicians find themselves isolated from their specialist colleagues and their fellow physicians in small rural communities. Family physicians easily transfer all responsibility to the solo specialist who as easily accepts the responsibility, thereby producing a vulnerable dependency.

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Rural patient stories/rural physician management narratives

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In developing the report, "Postgraduate education for rural family practice: vision and recommendations for the new millennium"^{1,2} the Working Group† felt it was important to illustrate rural family practice with a series of rural patient stories/physician management narratives.¹⁻³ These demonstrate the broad range of knowledge, skills and attitudes used by rural family physicians in responding to the needs of their patients. They provide examples of rural maternity care, mental health care, long-term pediatric genetic disease care and trauma care. They are based on real-life dramas from diverse rural locations across the country. Certain details of these patient stories/physician management narratives have been altered or based on composite examples to protect the identity of the individuals involved. The first on rural maternity care appears here.

Rural maternity care

Setting

A 20-bed hospital with anesthesia backup, but the GP surgeon is away. The nearest referral centre is 2 hours away by road and 45 minutes by air (total transfer arrangement time is 1.75 hours).

Patient's history

A 33-year-old woman, a one-pack-per-day smoker, gravida 3, para 1, aborta 1, presents at 41 weeks and 5 days' gestation with regular contractions. The contractions are strong and every 4 minutes, lasting 45 to 60 seconds each and have been ongoing for 2 hours.

Obstetrical history

Normal pregnancy to date. Dates are accurate and there have been no complications. There were

no complications in her prior delivery (stage 1 was 10 hours, stage 2 was 1.5 hours and stage 3 was normal with no postpartum hemorrhage).

Examination findings

Vertex presentation, 4 cm dilatation, a small bulge in the membranes, station -2. The baseline fetal heart beat was 125 beats/min, with good variability, no accelerations and occasional variables.

Decisions: The following decisions need to be made:

- Should she be kept in this setting or transferred (no cesarean-section backup)?
- Should she have an artificial rupture of membranes (ARM)?
- Should she be sent home?
- Should she have continuous or intermittent fetal monitoring?

Knowledge: The progress of labour, antenatal risk factors, monitoring fetal well-being in labour can be identified.

Skills: Pelvic examination, interpretation of fetal heart status, management of labour, ability to communicate with the patient.

Attitude: Awareness of surroundings and of limitations of the hospital setting with no cesarean-section backup; awareness of the principles of risk management in rural obstetrics.

Plan: Because of the woman's history of smoking, and because she is past her due date, the doctor recognizes the risks for possible placental post maturity. There are no other risk factors, so a decision is made to intermittently monitor with one-on-one nursing care (an extra nurse has to be called in). The doctor communicates well with the patient to make her aware that there is no cesarean-section backup and to give her the option of transfer at this time or to stay in the community and continue to labour. The doctor also offers the option of ARM. A decision is made for her to stay in hospital locally and not to do ARM at present, as the stage of labour is early.

Labour progresses slowly. She is at 5-cm dilatation 2.5 hours later. No late decelerations are noted with intermittent monitoring and the fetal heart baseline rate is 120 to 125 beats/min. The membranes are still intact.

Decision: The following decision must be made:

- Should her labour be augmented? If so, what is the best way to do this?

Knowledge: Active management of labour.

Skills: ARM.

Attitude: Risk management.

Plan: ARM is performed because of ease of manoeuvre, evidence to support is the same as the technique for augmentation, and because the doctor would like the labouring mother to be able to continue to walk.

When ARM is performed, meconium is noted. Continuous fetal monitoring is initiated because of concern about fetal well-being. The fetal heart demonstrates a baseline rate of 120 beats/min with variable decelerations, which are slow to recover.

Decisions: The following decisions are required:

- Should the patient be allowed to continue to labour in the present setting?
- Should another doctor be consulted?

Knowledge: Indicators of fetal well-being, and nonreassuring signs.

Skills: The ability to interpret the fetal heart tracing and possibly to do a fetal scalp pH.

Attitude: Clinical courage, knowledge of surroundings and local resources and awareness of transfer options and difficulties.

Plan: Another local doctor is consulted and asked to remain "on standby" for neonatal resuscitation if delivery occurs before transfer is arranged. Transfer to the referral centre is discussed with the ambulance base and consulting obstetrician. Weather conditions preclude air transfer. The decision is made to reassess progress in 30 minutes and if there is no progress, or if fetal well-being appears to be endangered, to transfer by road with a doctor in attendance. Thirty minutes later, the woman is 8 cm dilated, the fetal heart rate is 115 beats/min with variable decelerations with every contraction, with slow onset and slow recovery. The scalp pH is 7.23. A decision is made to keep her in the local hospital because of rapid progress since ARM. A second doctor is notified of the patient's progress thus far and of the pH results.

Fifteen minutes later, she is fully dilated with the urge to push.

Stage 2 is 40 minutes in duration with reasonable progress. Deep variable decelerations with slow recovery to a new baseline fetal heart rate of 90 beats/min.

Decisions: The following decisions are required:

- When should the second doctor be called in?
- Should a vacuum extraction be attempted?

Knowledge: A normal pattern of second-stage labour, fetal heart interpretation.

Skills: Operative delivery (vacuum or forceps), pudendal block.

Attitude: Clinical courage, commitment to optimize health of both baby and mother, and willingness to use local resources.

Plan: A second doctor is called to ensure neonatal resuscitation tools are in working order, and appropriate medications are drawn up. The decision to perform vacuum extraction is discussed with the second doctor and the decision is made to expedite delivery because of the observation of meconium, and deep variables of fetal heart beat with slow recovery and new baseline bradycardia. Vacuum extraction is performed with easy delivery and intact perineum. The neonate is suctioned on the perineum but is limp and does not cry upon delivery. The neonate is given to the second family doctor who uses a laryngoscope to view the cords and suction the oropharynx for a small amount of meconium. No meconium is visualized below the cords. With 100% oxygen and stimulation, the neonate breathes spontaneously, and the heart rate remains more than 100 beats/min.

Knowledge: Management of stage 2.

Skills: vacuum extraction, neonatal resuscitation.

Attitude: Cooperation of both doctors with one another, good communication between doctors and registered nurses and with the neonate's parents.

Decisions: Three decisions must be made:

- How can complications now be prevented for the mother?
- How can complications be prevented for the neonate?
- How can the health care team be debriefed after this delivery?

Knowledge: Prevention of complications in mother (i.e., with use of syntocinon at the time of delivery), appropriate management of stage 3, evidence for ophthalmic antibiotics, and vitamin K for the neonate.

Skills: Examination of the newborn, postpartum examination of vagina, perineum, etc.; ability to communicate with the health care team to debrief.

Attitude: The importance of prevention, recognition of the importance of communication with the health care team, dedication to the continuity of care for the new family.

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*The Working Group for the report "Postgraduate education for rural family practice: vision and

recommendations for the new millennium" prepared for the College of Family Physicians of Canada

†A diverse group, comprising members of the College of Family Physicians of Canada (CFPC), the Society of Rural Physicians of Canada (SRPC), and a representative from the Royal College of Physicians and Surgeons of Canada. The group included practising physicians from rural and remote communities across Canada whose practice profiles included special skills and interests in such areas as anesthesia, obstetrics and emergency work. It includes physicians involved in teaching both students and residents for rural practice, family medicine residents, rural program coordinators, a postgraduate family medicine program director, and an associate dean of postgraduate medical education. The group was directed to review the current state of postgraduate education for rural practice in Canada and to outline an appropriate curriculum to prepare new family physicians for the challenges of rural practice. The report was endorsed by the SRPC in April 1999 and approved by the CFPC Board in May 1999.

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The occasional suprapubic catheter

Keith MacLellan, MD

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Every now and again a patient will present to a rural emergency room with urinary obstruction, usually because of a prostate problem. The immediate treatment is to pass a Foley catheter of some sort through the urethra, past the obstruction and into the bladder. Rarely this cannot be done, and the level of frustration for the physician and patient increases with each try of successively smaller calibre catheters, with or without a variety of potentially harmful rigid shapes. Instead of the gratifying sight of urine, blood may begin issuing from the urethra as the trauma adds to the worsening discomfort of a distending bladder. Permanent damage may ensue.

There are, of course, few rural urologists to call upon. However, a urologist would install a suprapubic catheter fairly early in this process, before significant trauma happens and when it becomes clear that nothing will get through the urethra past the obstruction. Insertion of a suprapubic catheter is not considered an advanced urologic skill. It can be mastered easily by rural physicians and needs no maintenance of competence. Here is what we do at our hospital:

Requirements

- A patient with bladder obstruction, in distress, with no history of extensive surgery or cancer (adhesions).
- An obviously palpable bladder above the symphysis pubis.
- Failure of transurethral catheterization, short of causing major trauma.
- One of 2 suprapubic catheter kits (see below).
- As much informed consent as is possible.

Kits

We use either the urinary drainage kit from Zimmer with Snyder Hemovac (cat. no. 2587-001-10; Zimmer Inc., Dover, Ohio) (Fig. 1) or the Lawrence Add-A-Cath suprapubic catheter introducer (Femcare Ltd., St. Peter's St., Nottingham NG7 3EN, UK) (Fig. 2).



Fig. 1



Fig. 2

The Zimmer kit has a smaller needle, ending up with a catheter so thin that a spring loaded Hemovac suction receptacle must be attached to drain the bladder effectively. The advantage is that a smaller needle can be used for initial bladder puncture. The disadvantage is that it takes time to drain the bladder, and the skinny catheter must be sutured to the skin to achieve any sort of stability. Even if the suturing is effective, there is a risk of infection.

The Lawrence system involves a rather dauntingly large trocar, but will allow the introduction of a no. 10 Foley catheter, with its accompanying larger diameter and more rapid drainage. Since the Foley catheter has an inflatable balloon, there is inherent stability, without the need for sutures and attendant risk of infection.

In either case, the introduction site and preparation are the same:

- Ensure the above requirements are met.
- Prepare and drape in a sterile manner
- Choose a spot 3 cm above the symphysis pubis in the midline. Alternatively, the junction of the lower one-third from the upper two-thirds of the distance from the umbilicus to the symphysis would be satisfactory (Fig. 3).



Fig. 3

- Infiltrate the chosen area with local anesthetic, using a 22-gauge needle, going through the rectus sheath at the midline. Aspirate until the bladder is punctured and urine returns into the syringe. The needle and the subsequent instruments should be angled approximately 60°.
- Using either the Zimmer needle or the Lawrence trocar, follow the path used for local anesthesia (Fig. 4).



Fig. 4

If the Zimmer kit is used, the soft end of the catheter is threaded through the needle once the bladder has been punctured. The needle is withdrawn and the metal end of the catheter is inserted into the Hemovac (Fig. 1). The receptacle's springs are primed according to the instructions on the front of the Hemovac.

If the Lawrence kit is used, follow the same preparation and anesthetizing steps. Since the trocar is much larger, it helps to make an incision through the rectus sheath with a scalpel (Figs. 5, 6 and 7). The peel-away sheath works well.



Fig. 5



Fig. 6



Fig. 7

Either of these methods will safely give your patient who has urinary obstruction, recalcitrant to the usual approaches, a large measure of relief and will buy you time when trying to find a urologist to carry out definitive therapy. Other methods may be available, and we would appreciate hearing of them.

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Country cardiograms case 15: Who's had the MI? A tale of two patients

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Case presentation

Keeping patients with chest pain for observation is a frequent scenario for us rural docs. We use follow-up electrocardiograms and serial enzyme levels when looking for the changes -- sometimes very subtle -- of infarction. In such a vein (no pun intended) this month we present the initial and follow-up electrocardiograms of 2 patients, a 70-year-old woman we'll call Karen and a 56-year-old man we'll call Gilbert.

Both of these patients presented within 24 hours of each other to our Emergency Department with atypical chest pain of about an hour's duration. Neither had known heart disease, and both had mild hypertension. Each had an initial electrocardiogram that did not differ from ones done several years previously. During the next day in hospital, one went on to suffer an acute myocardial infarction. The other was discharged after 1 day with no signs of infarction or ischemic heart disease.

Review carefully their admission ([Fig. 1](#) and [Fig. 2](#)) and follow-up ([Fig. 3](#) and [Fig. 4](#)) electrocardiograms taken a couple of hours later. Any changes on their admission electrocardiograms are old ones.

Who's had the MI? Karen or Gilbert?

For the answer see [page 40](#).



Letter from Australia

Peter Hutten-Czapski, MD

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Rural physicians throughout the world share the same problems, such as inadequate resources and high workloads. As Canada's rural doctors struggle to improve matters, it is nice to know that we are not alone. Learning how others are dealing with rural medical problems is informative, and at times rings a familiar note.

Australia is quite similar to Canada ([Table 1](#)). Its population and territory is about two-thirds that of Canada's. It, too, is highly urbanized, with most of the population huddled in the 5 largest cities. The average rural population density is 1/km², similar to that in Canada, and in remote areas (the outback), the population density approaches 1/1000 km².

Australian physicians are paid a fee-for-service, the majority of their income being generated through Australia's medicare system. Because that system has historically paid the same regardless of location, it is perhaps not surprising that Australian physicians generally prefer the less-demanding lifestyle of the urban office practice.

In the late 1980s, many of these urban physicians found that after-hours high-volume walk-in work was quite lucrative because of the after-hours premiums involved. In an effort to crack down on increases in utilization of the premium codes, the state of New South Wales (NSW), early in 1988, proposed to reduce drastically the after-hours premiums. This effectively kick-started the rural doctors' movement. Rural doctors, who need after-hours premiums to make low-volume hospital work viable, resigned from hospitals en-masse in protest.

By July 1988 the brand new Rural Doctors Association (RDA) of NSW negotiated an on-call allowance and appropriate after-hours consultation rates that have been indexed to the consumer price index ever since. Rural doctors' movements emerged in the other Australian states within months, and the national Rural Doctors Association of Australia (RDAA) was founded in 1990.

Leaving rural "industrial relations" and contract work to the various state RDAs, the RDAA set

to work on national issues of rural manpower and advocacy.

It was clear early on that the existing training programs of the Royal Australian College of General Practitioners (RACGP) were inadequate in providing graduates with the skills and attitudes required to practise in rural and remote settings. Despite, or perversely because of, an extensive 3-year training program, fellows of the RACGP were much less likely to "go bush" than GPs with other types of training.

Negotiations between the RDAA and the RACGP resulted in the formation of the Faculty of Rural Medicine (FRM) in April 1992. The FRM developed a rural program with provision for late entry, basic and advanced training, standards and accreditation. Contemporaneous papers on the standard curriculum¹ and some advanced curricula² detailed the content of the program. This pioneering work set the standards that the Society of Rural Physicians of Canada and the College of Family Physicians of Canada have referenced in the bibliographies of their own training papers that were published in Canada last year.³

Initially, the Australian venture was quite successful, with development of a rural training stream of the RACGP residency program. However, things quickly deteriorated for reasons that are hidden in partisan smoke. Some say that it was a reactionary tide in the RACGP countering the rural revolutionary forces. Others point to the personalities involved. But whatever the case, evidence mounted that the initial enthusiasm for rural training shown by the RACGP was waning.

Tension rose gradually at first, but matters came to a head when the FRM and the president of the RACGP (Col Owen) were at odds with Council over the nature of the qualification to be given to the graduates of the program. Members of the FRM wanted a separate rural fellowship as a reward for all the training involved, and the College was only prepared to provide a diploma. Col Owen accurately predicted in a press release on July 26, 1995, that this would lead to a schism within the profession. In August 1995 Council withdrew the responsibility for the rural curriculum from the FRM.

In October 1995 the RDAA announced a plebiscite of the rural and remote constituency regarding custody of rural GP training. The overwhelming response favoured a new and independent college. The Australian College of Rural and Remote Medicine (ACRRM) was established on Mar. 13, 1996.^{4,5} The federal minister of health was sympathetic, but to prevent the two rural training programs from competing insisted that the two Colleges work together.

How to manage approximately \$20 million of training funding was contentious, but a joint agreement was hammered out in February 1999 between the ACRRM and the RACGP.⁶

Existing rural doctors with 5 years training are allowed to apply for fellowship of the ACRRM under grandfather provisions and 550 have already done so. This will serve as the basis of the

faculty and will be added to as registrars finish their training.

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SRPC's rural critical care update

Keith MacLellan, MD

CJRM 2000;5(1):30-31.

But Daniel was hot, he drew fast and shot
And Rocky collapsed in the corner
Now the doctor came in, stinking of gin
And proceeded to lie on the table
He said Rocky you met your match
And Rocky said, Doc it's only a scratch
And I'll be better, I'll be better, Doc,
as soon as I'm able.
— Rocky Raccoon, Lennon/McCartney

Rural critical care, with apologies to all rural doctors who, after all, have been doing it for thousands of years, is still an evolving concept. Rocky's doctor seemed to have a distinctive (some may say spiritual) way of practising critical care, but it was probably no worse than what is sometimes practised today, either in urban or rural centres.

The problem for rural areas, of course, is that severely ill patients present to the small country hospital at the same statistically predictable rates as they do to urban tertiary centres, albeit with less frequency. The standards of care for even fairly common but serious conditions, such as myocardial infarction, overdose, seizing children, respiratory arrest, trauma and shock, have now evolved to the point where shortcomings in rural technology and knowledge are increasingly making transfer to an urban centre mandatory.

Transport, however, brings its own problems. The myth of an all-weather, 24-hour transport system grew out of the American Army's experiences in Vietnam, where the time from wounding to definitive surgery averaged 33 minutes. However, it took a corps of 50 000 to support the evacuating helicopter teams, which, while willing to land in a hail of bullets, would not be able to manage in some of the weather conditions that afflict much of Canada from time to time.

Even if, as is urged by some US-style medical organizations in Canada, one were able to afford a sexy transport system that worked most of the time, there are further problems. One is the increasingly common fact, in these budget-conscious days, that the tertiary care intensive care unit is full or unwilling to accept all but the ideal patient (i.e., no "cardiogenic shocks," no elderly people, no matter how wonderful, no patients with cancer, no matter how remote...). This is compounded by the problem that a rough helicopter or ambulance ride is not the ideal treatment for critically ill patients such as those with a fresh large myocardial infarction in heart block. Furthermore, how easy is it to find a rested physician to accompany the patient in transport, and can the patient be properly monitored during transport?

Finally, there is the question of a small rural hospital's capabilities being eroded to the point where it functions only as a triage and public health centre if all critically ill patients are transported. If there is no way to put a chest tube in, then what about care for the patient who is dying of lung cancer and a large pleural effusion? What about the chronically ill child who has a seizure or lung/airway disorder and is living at home? What about the stroke patient who has heart failure?

The answer to all of this, of course, is not to have fully functional tertiary intensive care units in every small rural hospital while scrapping all transport systems. Nor is the answer to transport all critically ill patients, although we do need better transport systems than exist in many parts of Canada. The answer also is not to insist that all rural doctors take ATLS/ACLS/PALS/ANLS/NRP/ALSO/ALARM courses. These are excellent, but even if it were possible for all rural physicians to take them all and keep certified in each one (a wistful notion), these courses do not cover more than the initial treatment of the disease. Most do not even teach proper transport methods, never mind day-2 care. Reliance on these courses alone, combined with a transport system, will usually accelerate degradation of the hospital's capabilities.

The SRPC's Rural Critical Care Program takes the view that the best way to proceed is by fostering slow, organic growth of the local hospital's capabilities. We cannot solve these problems in one fell swoop, but by encouraging tailored, progressive skill maintenance and upgrading, specific to each rural hospital's current situation, determined and controlled by the needs of those working in the local hospital, we hope to bring about realistic change. There are several prerequisites for our program:

- It must be fun, relaxed, and focussed but without the pressure that often accompanies franchised "merit badge" courses. Modules are 2 to 4 hours long, allowing lots of time for wandering in and out, chatting, exchanging experiences. All modules have fewer than 10 registrants.
- It is taught by rural doctors on the principle that "if a jerk like me, who does a broad range of medicine, can do this well, then so can you. Here's how I went about learning and putting it into practice." This is much more likely to be of long-lasting use to the rural

community than if the super specialist does the teaching. We still use specialists for some modules but only those with a close knowledge of working conditions in rural medicine. Most were rural doctors themselves at one time. All faculty are very good at delivering their topics but consider it a success only if they have learned something themselves after giving the workshop.

- A pre-course knowledge questionnaire is sent to all registrants a few weeks before the course, and the results are transmitted to the faculty so that the module can be tailored to the needs of the registrants. This means we can also measure retained skills by sending the same questionnaire a few months later to all registrants.

The SRPC's first Rural Critical Care Workshop was given in Banff, Alta., in 1996. It was overcrowded (many people sneaked in), chaotic, but a great success. Since then, we have given one all-day course per year for the last 3 years at the SRPC's annual meetings, and a 4-day course in Cuba in February 1999. The Rural Critical Care manual is in its third edition and continues to improve. The feedback has been overwhelmingly positive. All courses have been oversubscribed, proving the need for such a course and, we like to think, the good job we are doing. Some of the modules have also been given as part of the SRPC's regional meetings. We also sent 3 of the modules to a continuing medical education (CME) event in northern Newfoundland in 1998.

Current modules, which are proven, field tested and many of which can be given by 3 or more faculty, are:

- Central arterial lines and pacemakers (4 hours)
- Respirators(4 hours)
- Hand injuries (2 hours, should be 4 hours)
- Airways, rapid sequence induction, and when intubation fails (2 hours)
- Head injuries and burr holes (2 hours)
- Trauma radiology (2 hours)
- General radiology (2 hours)
- Transport (2 hours)
- ECG arrhythmias (2 hours)
- Pediatric crises (2 hours)
- Chest tubes, paracentesis and peritoneal lavage (2 hours)
- Orthopedic injuries (2 hours)

In the development stages are "Urologic emergencies" and "Psychiatric emergencies."

The courses are run without support or advertising from the pharmaceutical industry. This type of home grown CME has not only a certain charm but is proving very effective as well. It is the flexibility and the enthusiasm of the rural doctors who make up the faculty and the registrants that make for the success of the program. Let us know if you want to participate as faculty.

The future? More subjects, more faculty (on the basis of "learn one, teach one"); sophisticated administration, housed completely in the SRPC; full workshops at least 3 times a year; many partial workshops scattered around the country; possible involvement of the College of Family Physicians of Canada, Section of Teachers, so that the modules can be taught to residents in the various faculties of medicine; keep having fun; and integration with the SRPC CME/Locum Program, where a few of the faculty will come to your community, give the workshops, then stay and do a locum.... But that's another story.

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Cryptic Crossword

David Howe, MD

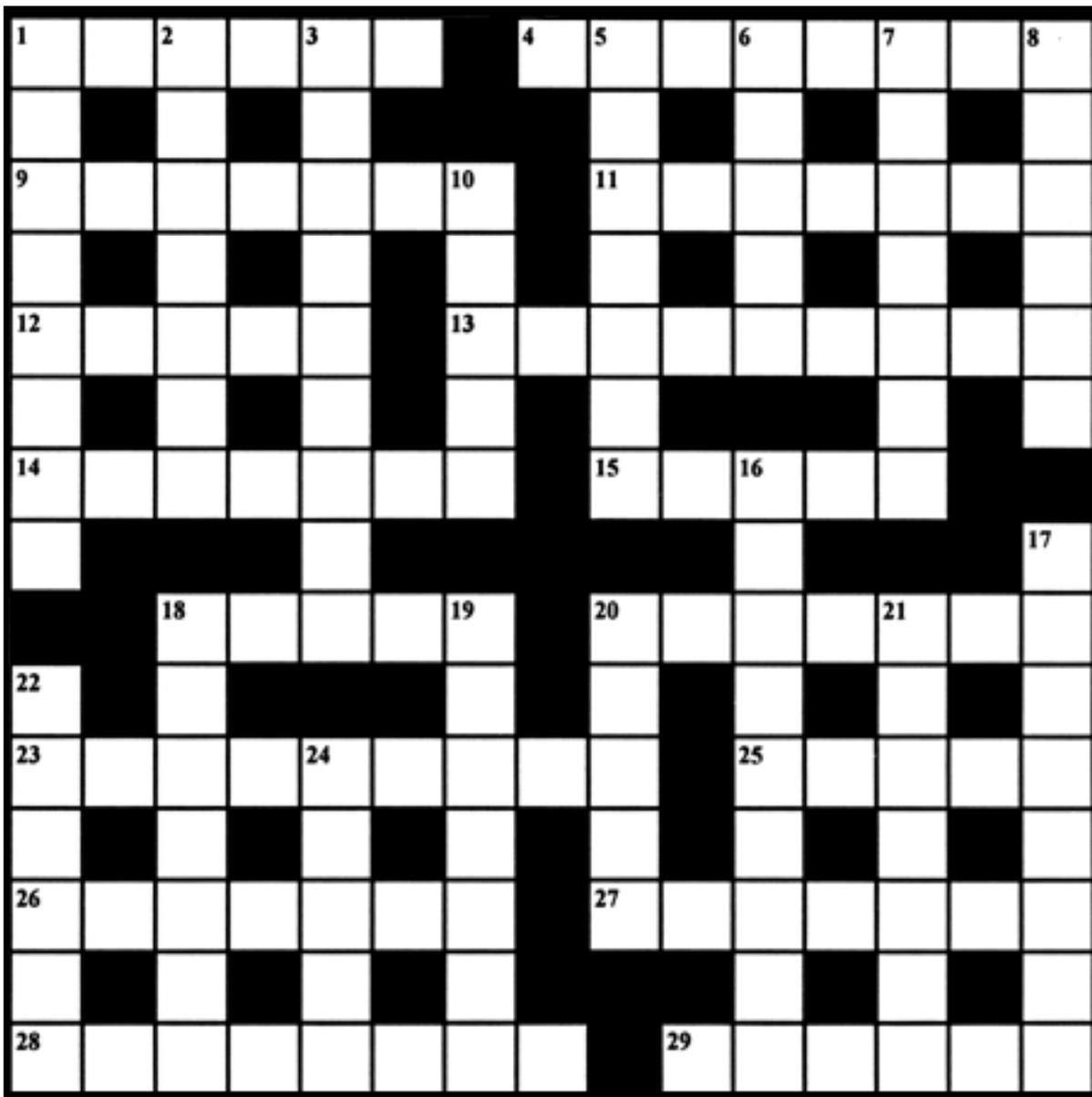
CJRM 2000;5(1):5.

Cryptic crossword # 15

Answers to Cryptic Crossword # 15 appear on [page 40](#). Answers to Cryptic Crossword #14 can be found on [page 35](#).

For instructions on how to tackle a cryptic crossword, please see the first issue of the CJRM ([1996;1:34-5](#)) or correspond with Lee Teperman, RR 5, Shawville QC J0X 2Y0; 819 647-3971 (tel and fax), bullhits@infonet.ca

1 down and 4 across is a cardinal principle that should be followed by all 23 acrosses, 15 across or otherwise. Each across clue (except 4) contains a superfluous letter, which, in clue order, spells out the same axiom in the original latin (6,3,6). Downs are normal.



Across

- 1. Ax sport of clue (6)
- 4. See introduction and 1 down
- 9. Month of work for typer of sea life (7)
- 11. I point to two animals in pithy saying (7)
- 12. Go in, Tom: two hospital departments (5)
- 13. Gout pain? Medication is a glance away (9)
- 14. Fifty snakes and mother in game (7)

Down

- 1 & 4. See introduction (5,3,2,2,4)
- 2. Edward followed schedule and turned (7)
- 3. Replace the start of a supergrass, we hear (9)
- 5. Start tune outdoors (4-3)
- 6. Due to fly after the first of October (5)
- 7. A loser, loser spray (7)
- 8. Opera heroine with cold hands gas to apes (6)
- 10. Looks over small containers (5)
- 16. Sounds like regret of mother over

15. River, mountains and their arena (5)
18. The sweet smell and sound of money (5)
20. What 23 did and nattered distractedly (7)
23. He nor she prescribes medicine for Fleming (9)
25. Ion in west state (5)
26. One cot in circle of activity of unruly crowd (7)
27. Tire made from broken tree, dear (7)
28. Look after yourself -- create ark, perhaps (4,4)
29. Shout, "There's a note in the cone"! (6)
- types of spasm and fever (9)
17. Afterthought of the French in damned mix-up (8)
18. Bashful nameless locksmith became Shakespearian Jew (7)
19. Sort of bar construction worker would set in action (7)
20. Singer made wrong note at first rehearsal (5)
21. Sound attempt to core out row-boat (7)
22. Scotch ghost? (6)
24. Forty-nine members of the CIA have a hippie crest (5)

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Answers to cryptic crossword # 14

CJRM 2000;5(1):35.

The clues to [Cryptic Crossword # 14](#) can be found in the Fall 1999 issue, volume 4, no. 4, page 264.





One wilderness, two viewpoints

Suzanne Kingsmill, BA, MSc

CJRM 2000;5(1):33-4.

He shoots! He scores! The Habs have just defeated the Rangers in overtime. The four of us watch as the players leave the ice. The fire crackles, beer bottle caps pop and we finally sit back and relax to a good hearty meal. Nothing unusual about the situation except that we are outside on a cold winter night, lounging in front of a fire, on logs propped up in snowbanks. We have spent the day ice fishing deep within the boreal forest of northwestern Ontario, 70 km from the nearest human habitation.

As a naturalist and professed conservationist I feel out of my element, yet I am completely immersed within it. Out there, beyond the light of the fire, is just how I like my wilderness -- quiet, mysterious, and in the ideal world protected in perpetuity from development, hunting and trapping.

In my wilderness there is no place for the noisy ski-doo that brought me here or for the screaming whine of the chainsaw that cut the wood that keeps me warm. God forbid that there should be a TV to intrude upon my reverie. Cross-country skis, wood chopped with an axe and a lean-to at the edge of a warming fire are my idea of how to use and enjoy wilderness. Just how, then, do I come to be here with my rural doctor husband, experiencing wilderness in a new way and from someone else's point of view?

It all began when we arrived in northwestern Ontario and met Mary and Walter.

Nov. 3: John and I are off to meet two trappers tonight. When we arrive, Mary is laying out yesterday's take on her kitchen table. Walter is lounging in a chair, a beer ready at hand. As we small-talk our way into what will become a lasting friendship, Mary skins the animals with the skill and speed honed by many years of practice, having been raised on a trapline by her Ojibwa parents. Walter is no stranger to the bush himself, having hunted, fished and trapped his way through half a century, often for sport, usually by necessity. They ask us out hunting; we accept.

We have never been part of a hunting party before. We are not hunters. We prefer the lens of a camera to the barrel of a gun.

Nov. 12: It's 20C outside. John and I realize we are seriously underdressed for hunting. All our hiking experience does not prepare us for the numbing cold that is often the hunter's lot. Hunting is a waiting game, and we are not used to standing still on a raw day. Fortunately, it is warm in the cab of the pickup as the four of us cram in, Mary and Walter taking up the lion's share of the space with their ample girth. We spend all the daylight hours cruising the logging roads looking for moose. To me, it seems a strange way to pass a day, but Mary and Walter do this for weeks every year. The amount of patience involved is daunting. By day's end I am seeing moose antlers in every tree stump we pass. As the light fades we see moose tracks intermingled with human tracks and blood. Mary is out of the truck in a flash, speeding ahead of me through the jumble of a burn area, never once missing her footing despite a dislocated hip and the many kilos she carries over me. I, the fit and hardy hiker-skier, stumble after her as if I had never left behind the concrete of the city where I was raised.

She reads the story to me from the tracks in the snow. He had been shot from the top of a hillock and had stumbled through the charred stumps of the burn area, slamming into the trunk of a fallen tree and shearing off one of his antlers before staggering into the quiet glade that would be his grave. I wonder how I would have felt to have been there at the kill. In truth I do not really know. But to Mary and Walter it is a missed opportunity. They have just three days left to bag their moose before the hunting season closes.

We start our hike back to the truck. I am cold and it is beginning to snow. Freeze-up should happen any day now, and with it the beginning of winter in the north.

Nov. 15: Winter has arrived. There is an air of excitement in town. Who has predicted the actual day? When will the ice be thick enough to use? To me, freeze-up is something to be marvelled at. To Mary and Walter and other northerners it is there to be used. Freeze-up opens the north, allowing entry to places that are inaccessible at any other time. Soon, the temporary winter roads will snake their way north to remote communities, bearing the weight of the trucks that will deliver merchandise too heavy, too bulky or too expensive to be flown in. Ski-doo trails will criss-cross through the woods and over the lakes, as pleasure seekers, ice fishermen and trappers head into the bush. I feel a little lonely as I resurface my cross-country skis and eye all the ski-doo's being revved up for the winter.

Dec. 7: We are going trapping with Walter and Mary and are crammed once again into the cab of the pickup. I secretly hope we find nothing and grapple silently with the dilemma of my gut reaction against trapping and my growing friendship with these two trappers.

On foot we check the traps. I follow Mary. She stops and I hear the rattle of a chain. It is a fox, alive, defiant and straining at the trap, trying to free itself. I can sense the excitement in the air.

Walter moves in with the rifle and takes aim. I feel awful, wishing I were somewhere else.

Later, in the cab the silence is telling. They do not brag. They do not apologize or make excuses. They just do it for a living, in an area where for them there are few other options. Later, Walter tells us that when he first started to trap with Mary, they would shoot even the smaller game caught in their traps because it distanced them from the killing. However, they had to start using a club when it became obvious that the bullet holes were affecting the price paid for the pelts. As I am faced for the first time with trappers who are not just statistics on paper but actual people trying to make a living, the trapping controversy takes on new shades of meaning. Mary and Walter's perception of the wild may be different from mine, but in a world of unfairness how do you rank your priorities? We talk of other, safer things.

Jan. 10: We are ice fishing for the first time. Mary and Walter tell us what to wear. We feel overdressed, wearing more clothes than we have ever worn before. It is -30oC. When we arrive, Mary and Walter get the two ski-doo's and sleds ready. We try to help but feel superfluous. They are a team. They've done this a thousand times before. They drive the ski-doo's down a nicely packed trail, dragging us behind in sleds. After half an hour the journey into wilderness turns into a battle with the cold, the noise and fumes of the ski-doo's, and trying to stay on the bouncing sleds. Finally we get there. By the time Mary has the fire going, Walter has cut nearly all the holes in the ice with a hand auger. They work so well together and make it look so easy that we are not to know what greenhorns we are until half a dozen ice fishing trips are under our belts.

Mar. 19: We are ice fishing on a new lake and must bushwhack in with ski-doo's. We are impressed. It's harder than bushwhacking on skis. The ski-doo's keep getting bogged down in the deep snow, yet Walter manhandles them back on track with an ease that startles us. Mary and Walter may not ski or hike, play a sport or indulge in any structured exercise, but the effort involved in running a trapline or bushwhacking into a new lake to ice fish is exercise enough and their stamina proves it.

Out on the lake Walter chooses the route with care, worried about running into slush. Mary follows at a safe distance. I think they are crazy. It is 40 below. Slush? Suddenly, like a soufflé gently falling, the lake appears to sink around the lead ski-doo with an almost imperceptible sigh. Slush. The heavy snows had cracked the ice, and water had seeped out under the insulating blanket of snow. It takes a lot of time and sweat to get the ski-doo clear and the ice cleaned off its track. Finally we move on. Coming around a blind corner on a frozen river we startle two moose. Mary and Walter stop the ski-doo's and we watch in silence as the animals plough through the snow into the woods. Although one of these two moose may fall to their guns in the fall, right now Mary and Walter watch and marvel at them in the same way we do.

On the way to our fishing site, Mary takes note of a dead standing tree, and when we get there Walter and John go back with the chainsaw to cut it for firewood. Meanwhile, Mary instinctively chooses an overgrown jumble of trees that I wouldn't have looked at twice and within minutes has

made it into a cosy campsite, protected from the cold, coffee already brewing on the fire. John and I start on the holes with the hand auger. It soon becomes obvious that there is more to it than meets the eye. Walter makes it look so easy. He cuts three holes to our one. With bare hands Mary baits the hooks and Walter sets them in the holes. We help, but already my hands are numb and I can't even zip up my own jacket. After all our wilderness skiing, camping and canoeing trips, only now do I catch a glimpse of what survival is all about and I shudder.

The landscape surrounding us is unbelievably desolate and hostile, with no discernible landmarks or tracks. No one has been here before us. All the lakes and forests look the same to me. Out here on Mary and Walter's terms I realize that my lifeline is securely tied to them. They know the area cold. Their love for the land is evident; they live it and breath it. They have an overriding respect for it, using it only within their means and the law, and surviving because they know what they are doing. For Mary and Walter the wilderness is part and parcel of their daily lives, both for working and for pleasure. They are out there every day under all kinds of weather conditions. Wilderness is second nature to them. By contrast, my love of wilderness and my skiing and hiking are a distinct part of my life, separate from my work. After all is said and done, I, the self-professed wilderness buff, am only a visitor.

The TV is quiet now. In the stillness, the excitement of the hockey game quickly subsides. With bellies full, we sit and watch the fire die down, paled by the full moon above. Far to the north the plaintive howl of a wolf splits the night. It is time to pack up and go, yet we linger, each reluctant to leave for reasons that are probably not all that different, despite the many contrasting ways in which the four of us view, and choose to use, this northern wilderness of ours.

© 2000 Suzanne Kingsmill. In memory of Walter and Mary



Letters / Correspondance

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

CJRM 2000;5(1):36.

Correction

I wish to draw your attention to an error in the authorship of the "Joint position paper on training for rural family practitioners in advanced maternity skills and cesarean section" ([Can J Rural Med 1999;4\(4\):209-16](#)). The principal author is Dr. Peter Hutten-Czapski. It was his insight, leadership and perseverance that produced a consensus among the 3 organizations on an issue that is critical to the future of rural maternity care. My own role was considerably smaller.

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Try rural remote

I recently had the pleasure of doing a locum as the only doctor for the town of Churchill Falls, Labrador. For those of you who are tired of the long lists of patients in a big city practice, try a town of 750 population mid-way along the Trans-Labrador Highway.

My usual day would start at 0830 and end at supper time with an hour to go home for lunch. The average of 10 patients to see per day would include prenatal patients and middle-aged workers with diabetes and hypertension who would need their prescriptions filled. I would act as the pharmacist.

We had a spattering of patients with cuts and bruises to see but no casts to put on for the month that I was there. There is no x-ray machine in the town so any patient needing an x-ray could choose between going to Labrador City to the west or Happy Valley-Goose Bay to the east, each one about 480 km away. Blood tests are done twice a week by the nurses, and the samples are sent on the twice weekly scheduled flight to Goose Bay.

Obstetrical, intensive care and surgical problems are dealt with in the 2 larger communities of Labrador City and Happy Valley-Goose Bay on either end of the Trans-Labrador Highway. Health centres such as Churchill Falls Health Centre are equipped to stabilize patients in emergencies and then transfer them to one of the larger centres.

It was not all work. I went fishing on my weekend off just up the road at Lobstick Lodge and reeled in a dozen lake trout, including 10, 12 and 17 pounders.

Continuing medical education was included on the agenda during my time in Churchill Falls. We took two 2-hour sessions on the topics of trauma and cardiac care. The nurses demonstrated the automatic defibrillator that the townspeople had purchased.

For accommodation, a completely furnished townhouse is provided. Television channels included HBO and Showtime so I was able to catch up on my movies.

Hiking on the weekend was a delight. There is a 6-km cross-country ski trail at the edge of town. There is an adjoining downhill ski trail which continues on to the Churchill River. There were a few bear droppings on the trail so I sported an oversized walking stick. Along the trail there was an abundance of blueberries and frost-nipped cranberries, which were delicious.

I saw where the formerly awesome 75-m high Churchill Falls was reduced to a shadow of its former self when the mighty Churchill River was diverted through the mountain rock to turn the turbines. The project was done in the late 1960s. At that time it was the largest construction project ever undertaken in Canada. Today it generates 7 million horsepower, sending 735 kV to the Quebec grid as well as electricity to Labrador City and Goose Bay.

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Literature / Littérature scientifique

CJRM 2000;5(1):37.

In September 1999 the Health Services Utilization and Research Commission released a report that reviewed the experience of 52 rural communities in Saskatchewan that had seen their hospitals closed or reoriented in 1993.

Assessing the impact of the 1993 acute care funding cuts to rural Saskatchewan hospitals. Health Services Utilization and Research Commission. Summary report no. 13, September 1999.
www.sdh.sk.ca/hsurc/

The study reports that between 1990 and 1996 health status, access to services and hospital use patterns were not affected by the change (in fact, by measures of mortality, they appeared to improve), although negative perceptions about the changes persisted. "Rural residents are not satisfied with current health services and are concerned about the availability of physician and emergency response services in their communities."

Published in the literature almost at the same time was another article that examined the same closures from another perspective.

Closing rural hospitals in Saskatchewan: On the road to wellness? James AM. Soc Sci Med 1999;49(8):1021-34.

In this article the author suggests that the closure and conversion of 52 small rural hospitals into "wellness centres," "may have unrealized health and social costs because of the psychological and community importance of hospitals to the meaning of place." The article reviews the "community importance of local institutions for communities" and suggests that the debate over cost-benefit must be broadened to include the impact on health as a whole, "irrespective of the medical impact."

Central to the discussion of the role of rural hospitals is the discussion of what rural hospitals do and the evaluations of the outcomes they achieve. In the past, a limited number of studies has looked at cardiac care outcomes and obstetrical outcomes, but this literature is still

underdeveloped. One recent study out of Tennessee looked at adjusted in-hospital death rates.

Risk-adjusted in-hospital death rates for peer hospitals in rural and urban regions. Glenn LL, Jijon CR. *J Rural Health* 1999;15(1):94-107.

The authors surveyed 43 000 patients across 166 hospitals. Small rural hospitals were compared to "peer" urban hospitals of the "same size and type." They found that, "after mortality rates were risk adjusted...non-metropolitan areas had a lower than average adjusted mortality rate." Although the difference was not statistically significant, the authors suggest that "the data are consistent with the view that small rural hospitals generally make appropriate transfer decisions for severely ill patients and provide quality care for retained patients."

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Correction

In the Fall 1999 issue of the Journal there is an error in one of the Web sites listed on page 246. Web site no. 6 should read Medical Matrix: <http://www.medmatrix.org>

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Medical textbooks: Would you like paper or plastic?

Barrie McCombs, MD, CCFP, CCFP(EM)

CJRM 2000;5(1):38-39.

I got my education out behind the barn, I ain't a-fooling, no-o-o sir-ee-ee. Passed each examination, out behind the barn, but it almost made a wreck out of me. —
As sung by Little Jimmy Dickens, circa 1950

Medical texts are available in 3 flavours: paper, CD-ROM and Internet. This article discusses each format, focussing on Internal Medicine (IM) texts, since they are the core of a physician's personal library.

How up-to-date is your current IM textbook? If your text is more than one edition older than the current one, consider replacing it.

Paper textbooks

This traditional format is popular but is losing ground as more physicians become familiar with the advantages of the electronic formats. To find information, the reader must take the time to search through the table of contents or the index. But indexes are limited, often containing only 5% of the important words in the book. Paper texts are expensive to produce, so new editions are only published about every 5 years.

Textbooks on CD-ROM

A CD can hold 650 000 pages of text. This capacity is used to provide an expanded index containing every important word in the book, and "search engine" software that allows the reader to conduct quick and efficient searches. Selected contents can be saved to a file or printed for further reading. Other useful features include the ability to create a personal quick reference

index by attaching electronic bookmarks to important information or by adding personal notes to items in the text. Some texts are sold as a package containing both paper and CD-ROM versions. Others include a series of prepaid updates. Although a CD is cheaper to produce than a paper version, this is not yet reflected in the retail price!

CDs for rural hospitals

Several rural Alberta hospitals have installed a personal computer in the doctors' lounge or Emergency Department. As I mentioned in the first article of this series, the most popular CD-ROM products in this setting are Harrison's Principles of Internal Medicine (www.mcgrawhill.ca), Tintinalli's Emergency Medicine (www.mcgrawhill.ca) and the ACLS simulators from SimBioSys (www.simbiosys.com) or Mad Scientist (www.madsci.com). Would this be a worthwhile idea in your hospital?

Textbooks on the Internet

The newest types of textbook are those available on fee-based Internet Web sites. These sites typically offer a free trial subscription or an opportunity to preview selected information before purchase. As new information becomes available, it is changed on the Web site and is then immediately available to the user. The sites are slower to respond than the CD-ROM versions, because information must be transferred to the reader's computer. This format is the way of the future because the distribution costs are much lower than for the paper or CD-ROM formats.

Internet databases

Several Internet sites, such as the Virtual Hospital, provide free access to textbook-like clinical information. Use the bookmark (or "favourites") feature of your Internet browser so that you can return to such Web sites quickly. Web site copyright rules may permit you to download a copy of a file to your own computer for personal study. You can then use your Internet browser program to read this "local" file quickly, without even connecting to the Internet.

"Tempus fugitsu"

Unless you have a high-speed cable modem, your computer takes several minutes to download large files. I often use these spare moments to read from my cache of ripped journal articles. All personal computers are capable of "multi-tasking," so you can also use this time to work with another program while your browser program finishes the download.

Recommended textbooks and Web sites

The remainder of this article describes some IM textbooks that are bestsellers at the University of Calgary Medical Bookstore, some textbook Web sites and other sites where you can find information about textbooks. The prices quoted are included for comparison purposes only.

- Harrison's Principles of Internal Medicine
www.harrisononline.com

This was the first major IM textbook to be published on the Internet. The online version contains updated chapters that have not yet appeared in the paper or CD-ROM versions.

Publisher: McGraw-Hill

Edition: 14th, 1998

Paper: Can\$178.25

CD-ROM: Can\$272.25 (includes updates)

Web site: US\$89 per year, free trial available

- Cecil's Textbook of Internal Medicine

This textbook is available online at the MD Consult Web site (see below). Consider obtaining a free trial of both textbooks at the same time and reading the equivalent chapters in both products.

Publisher: WB Saunders

Edition: 21st, 1999

Paper: Can\$159.50

CD-ROM: price pending (20th edition cost Can\$252.65)

- Davidson's Principles and Practice of Medicine

This British text is popular with students because of its low price. There is no CD-ROM version.

Publisher: Churchill Livingstone

Edition: 18th, 1999

Paper: Can\$81.95

- MD Consult
www.mdconsult.com

We use this Web site as the core of our "Virtual Library" for rural physicians in Alberta. It provides 35 textbooks, covering most specialties, including Cecil's IM text.

Web site: US\$200 per year, 10-day free trial.

- Scientific American Medicine
www.samed.com

This loose-leafed textbook is updated monthly. The CD-ROM version is updated every 3 months. The annual version is more cost-effective, but the company does not advertise on its Web site.

Loose-leaf: US\$279 per year
Quarterly CD: US\$245 per year
Annual CD: Can\$161.50
Web site: US\$159 per year

- Current Diagnosis & Treatment

This popular review of IM is published yearly. It does not have a CD-ROM version.

Publisher: Appleton-Lange
Edition: 39th, 2000
Paper: Can\$77.45

- Multiple textbooks on a single CD-ROM.

Stat!-Ref, www.tetondata.com, 1999, US\$199 (and up)

Maxx: Publisher: Little-Brown, 1997, US\$612.50

These products contain a whole series of textbooks on one disk. Because of their high cost, they are more cost-effective for shared use in a clinic or hospital library.

- Virtual Hospital Family Practice Handbook
www.vh.org/Providers/ClinRef/FPHandbook/FPCContents.html

This free Web site provides information in a textbook-like format. The main VH Web site (www.vh.org) contains other useful resources in the "for healthcare providers" section.

- Medical Matrix
www.medmatrix.org

This excellent physician-oriented index Web site contains 2 textbook indexes, one dealing with online "hypertextbooks"

- Login Brothers
www.lb.com

This company is a major supplier to Canadian medical book stores. Their Web site provides a searchable database.

- Medical Information Service (University of Calgary)
www.ruralnet.ab.ca/medinfo/textbooks/

It includes direct links to the Web sites mentioned in this article.

Correspondence to: Dr. Barrie McCombs, Director, Medical Information Service, University of Calgary, 3330 Hospital Dr NW, Calgary AB T2N 3Z9; fax 403 270-7285,
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A procedural skills rurality index for the medical community

Skill	No. of points
Graduation and medical licensure	2
Basic obstetrical skills	3
General practitioner — surgery	5
General practitioner — cesarean section	5
General practitioner — anesthesia	5
Specialist — surgery	10
Specialist — obstetrics/gynecology	10
Exempt from call	-1

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A procedural skills rurality index for the medical community

Skill	No. of physicians	No. of points
FTE family physicians	4	8
Basic obstetrical skills	4	12
"Advanced skills"	2	10
Specialist — surgery	0	0
Specialist — obstetrics/gynecology	0	0
Call-exempt family physicians	0	0
Total		30
Ideal no. of family physicians = 6, ideal Rurality Index = total/ideal no. = 30/6 = 5.		

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A procedural skills rurality index for the medical community

Table 3. Points and Rurality Index for community B

Skill	No. of physicians	No. of points
FTE family physicians	6.5	13
Basic obstetrical skills	5.5	16.5
"Advanced skills"	5	25
Specialist — surgery	0	0
Specialist — obstetrics/gynecology	0	0
Call-exempt family physicians	0	0
Total		54.5
Ideal no. of family physicians = 8, ideal Rurality Index = total/ideal no. = 54.5/8 = 6.8. FTE = full time equivalent.		

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A procedural skills rurality index for the medical community

Table 4. Points and Rurality Index for community C

Skill	No. of physicians	No. of points
FTE family physicians	17	34
Basic obstetrical skills	15	45
"Advanced skills"	6	30
Specialist — surgery	2	20
Specialist — obstetrics/gynecology	0	0
Call-exempt family physicians	2	-2
Total		127
Ideal no. of family physicians = 22, ideal Rurality Index = total/ideal no. = 127/22 = 5.7.		

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Country cardiograms case 15: Who's had the MI? A tale of two patients

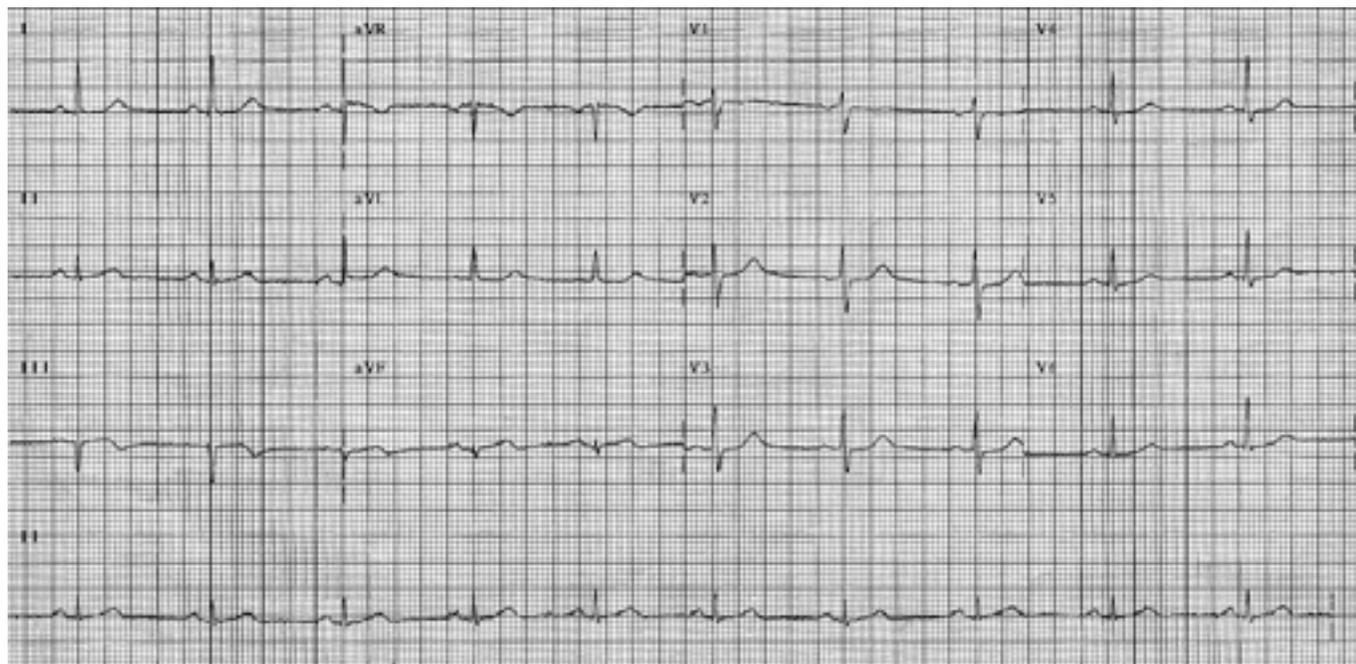


Fig. 1. Karen's initial electrocardiogram.

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Country cardiograms case 15: Who's had the MI? A tale of two patients

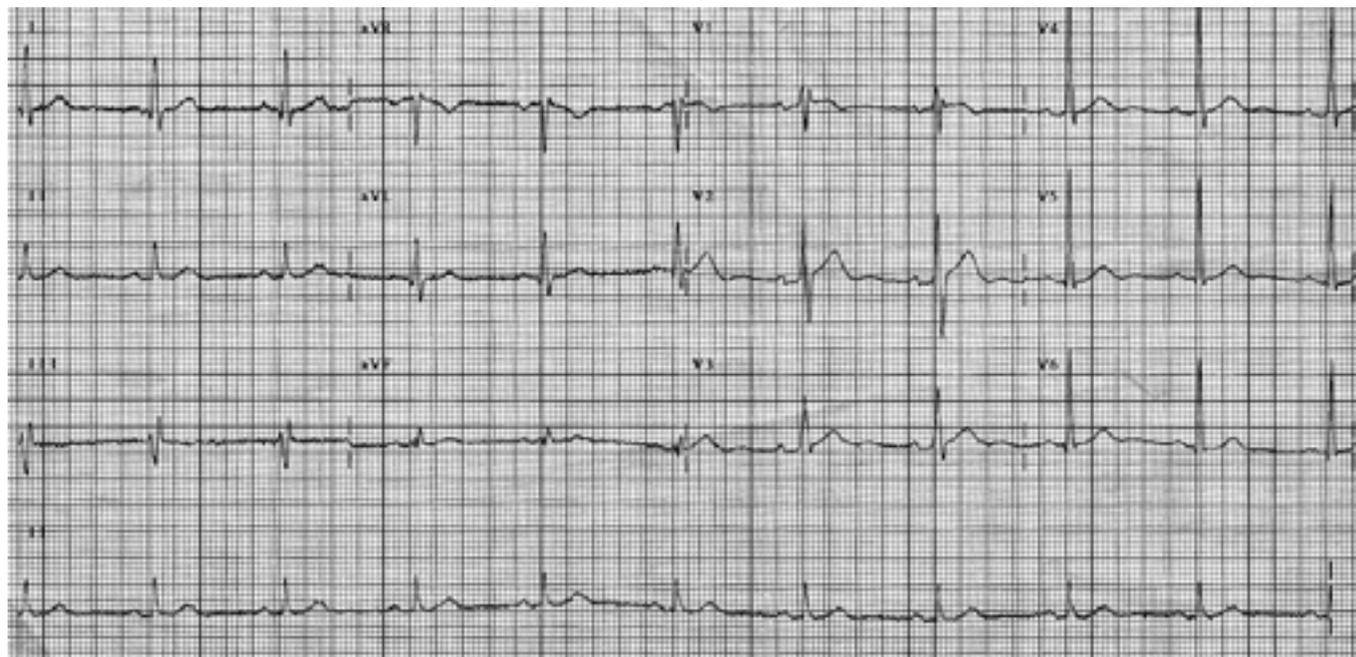


Fig. 2. Gilbert's initial electrocardiogram.

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Country cardiograms case 15: Who's had the MI? A tale of two patients

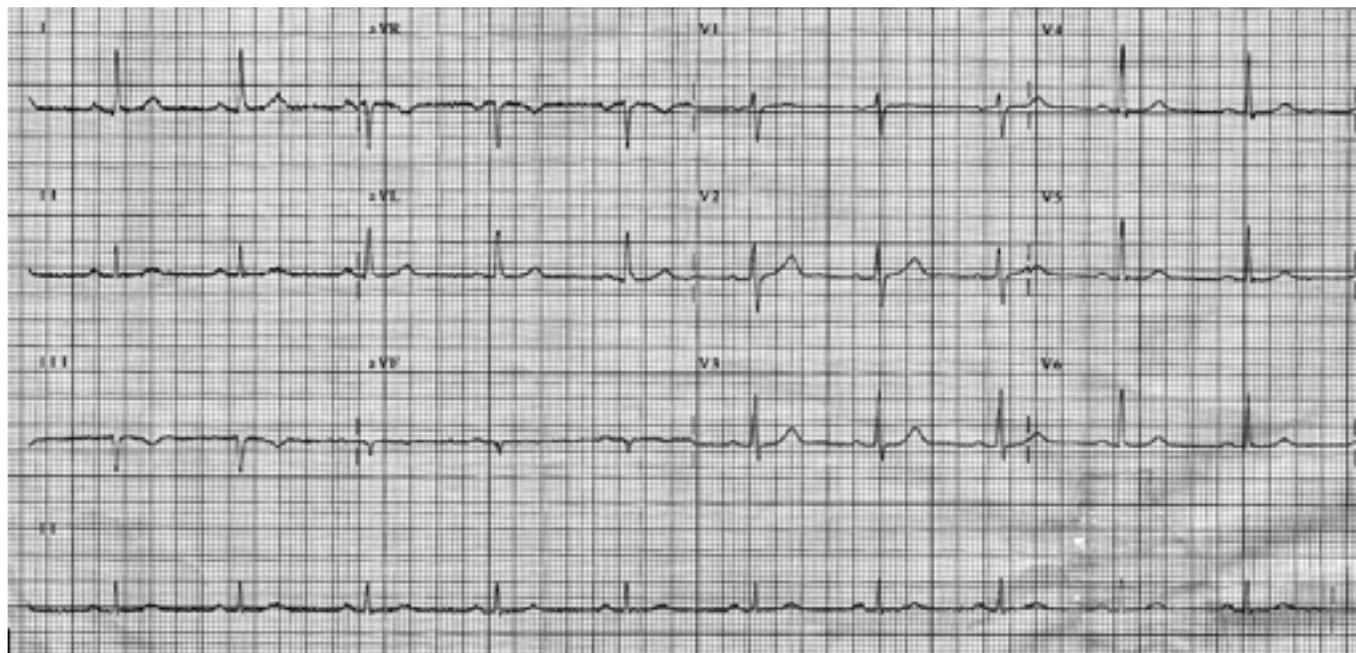


Fig. 3. Karen's follow-up electrocardiogram.

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Country cardiograms case 15: Who's had the MI? A tale of two patients

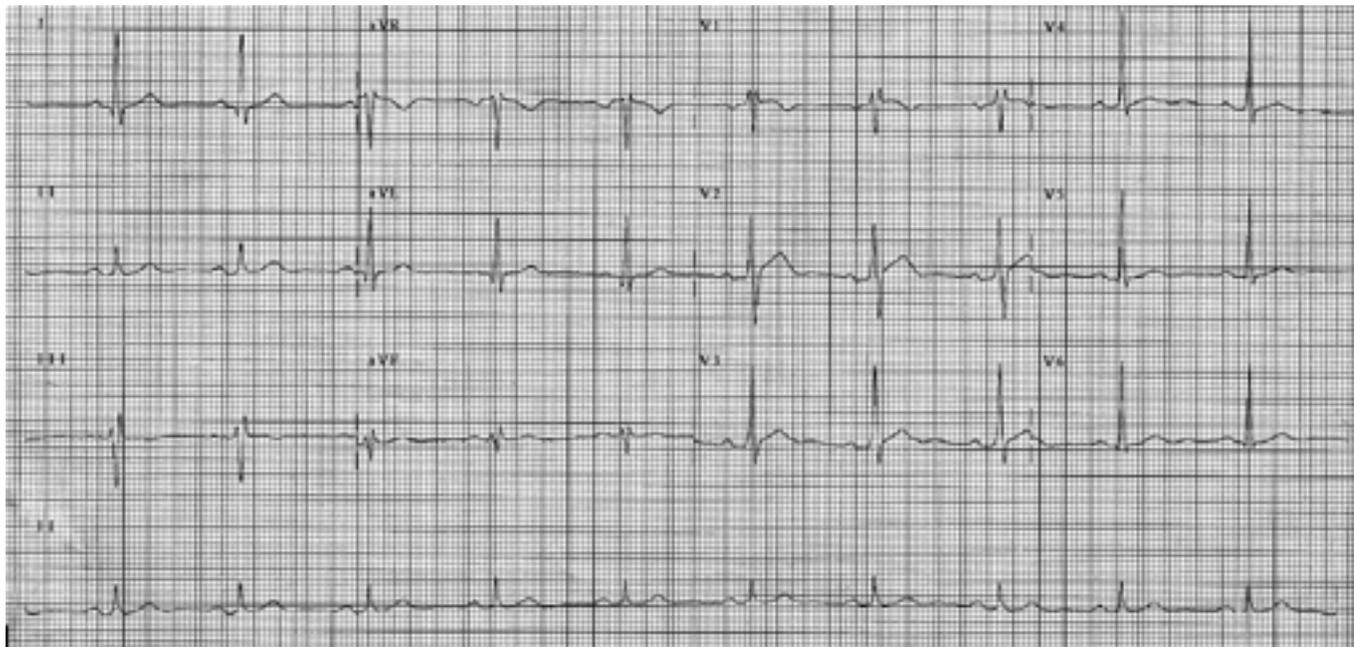


Fig. 4. Gilbert's follow-up electrocardiogram.

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Country cardiograms case 15: Who's had the MI? A tale of two patients

Gordon Brock, MD, CCFP; Vydas Gurekas, MD, CCFP

CJRM 2000;5(1):40.

We are all familiar with the classic electrocardiographic signs of infarction (T-wave inversion, ST-segment elevation, Q-wave development) and the localizing patterns (changes in leads II, III, IV and AVF in inferior infarction, leads AVL and I in lateral infarction, etc.). Less well known is that loss of the R wave is a subtle form of Q-wave change¹ and even localized loss of an R wave may be regarded as a Q-wave equivalent.² Equally, initially one may see only fragments or parts of these changes — one T-wave change, one Q wave or loss of an R wave.² The initial electrocardiogram may be abnormal in as few as 25% to 50% of patients later shown to have suffered acute myocardial infarction, so it behooves us in these cases to examine carefully serial electrocardiograms for even subtle changes from previous ones.³

Don't overread the electrocardiogram. It is true that the more abnormal the initial electrocardiogram is, the statistically greater is the likelihood of life-threatening complications. Your patient can still go into cardiogenic shock with even one inverted T-wave or recover completely with widespread precordial ST elevations.^{2,4}

Karen suffered a full MI, as confirmed by typical increases and decreases in enzyme levels and by subsequent cardiac ultrasonography that showed an inferior wall-motion defect with a grade 2 ventricle.

Compare her follow-up electrocardiogram lead by lead with her initial one, looking especially at the inferior leads II, III and AVF. In lead II the T-wave flattens and in AVF the R wave of the admission electrocardiogram is lost. These changes remained and indeed became more prominent, and the T wave actually inverted over the next few days. Although the Q wave in lead III on Karen's admission was not new, it suggested an old inferior myocardial infarction. By contrast, Gilbert's pain soon passed and his subsequent electrocardiograms showed little change. He remained well and was discharged the following day.

References

1. Braunwald E. Heart disease. Philadelphia: WB Saunders; 1980. p. 198-252.
2. Phipps B. Advanced EKG: boards and beyond. Boston: Little, Brown and Company; 1997.
3. Hedges JR, Kobernick SK. Detection of myocardial infarction in the emergency department patient with chest pain. Clin Emerg Med 1988;6(2):317-40.
4. Zalenski RJ, Shamsa F, Pede KJ. Evaluation and risk stratification of patients with chest pain in the emergency department. Predictors of life-threatening events [review]. Emerg Med Clin North Am 1998;16(3):495-517,vii.

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Letter from Australia

Population/distribution	Canada	Australia
Total population ($\times 10^6$)	30.2	18.3
Rural population, %	22.2	29
Total GPs and FPs, no.	28 983	24 500
Rural GP/FPs, %	16.5	22
Rural specialists, %	2.8	12.6
Population per rural GP/FP, no.	1 340	985
Population per urban GP/FP, no.	927	680

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Answers to cryptic crossword # 15

CJRM 2000;5(1):40.

