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Fall 2003 / Automne 2003

Can J Rural Med 2003; 8(4)

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### Cover: "Peggy's Cove, Nova Scotia"

9.5"×14" watercolour on 300-lb d'Arches

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Signed, limited edition prints of this piece are planned for release in December 2003. For further details, contact the artist.

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12th Annual Rural/Remote Medicine Conference

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## The bigger picture

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Scientific editor, CJRM

CJRM 2003;8(4):231

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As a colleague of mine often suggests, it's a good idea sometimes to "look at the BIG picture." In rural matters this is particularly germane — the close-up picture being sometimes pretty difficult to understand!

The events of this past August 14 offer a particularly fruitful opportunity to look at this bigger perspective, particularly insofar as it relates to the robustness of rural and urban living. As Blackout 2003 proceeded in Ontario and the Northeast US, its unprecedented scope was defined by the size of the populous cities that were the hardest hit. In so doing, it exposed how vulnerable these places were to accidents, natural or otherwise. Everywhere, garbage piled up, old folks had to be carried out of high rises, cars meandered lawlessly through intersections, and all within a matter of hours! The wonderful view that comes with an exclusive address in a Toronto penthouse takes on a different meaning when it means negotiating 16 floors to get in or out of the building. The media coverage, such as it was, was exclusively urban in focus and frantic in tone, although I assume some rural folk noticed something was amiss when the cows ignored the electric fences.

Granted, in rural areas the lack of power eventually made its mark, but it was a measured concern, much like the pace of rural living itself. The fuel delivery trucks could not be filled at their home bases, so that even in rural Quebec (spared from the dark by an historical paranoia) the pumps eventually ran low. By then, across the Ottawa River in Renfrew county the generators were purring, candles were deployed, and cookstoves were borrowing from the winter's wood supply. There was no panic. There was no sense of apocalypse. No one ran out of food. Neighbours determined who might need some extra help, and got on with it.

Around here, even during the Ice Storm of 1998, when the federal government sent an army contingent to our town they ended up sitting around playing cards. Nobody

Showed up who needed rescuing.

All this to say that the natural balance of rural life (less people, more space, fewer complex systems) demonstrated its organic ability to buffer itself from the faustian bargains of modern urban living. Democratic society mandates that the lion's share of the resources go to the majority. Given what we've built with all that cash, maybe it's just as well.

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## Le tableau d'ensemble

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JCRM 2003;8(4) 232

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Comme le suggère souvent un de mes collègues, il est parfois bon de prendre du recul pour «jeter un coup d'œil au tableau d'ensemble». En ce qui concerne les questions rurales, voilà qui est particulièrement pertinent, car vu de trop près, l'image est parfois assez difficile à comprendre!

Les événements du 14 août dernier offrent une occasion particulièrement riche d'analyser ce tableau d'ensemble, surtout en ce qui a trait à la solidité de la vie en milieu rural et urbain. À mesure que la Grande panne de 2003 se propageait en Ontario et dans le nord-est des États-Unis, son envergure sans précédent a été définie par la taille des grandes villes frappées le plus durement. Ce faisant, la panne a exposé la vulnérabilité de ces villes aux accidents, naturels ou autres. Partout, en quelques heures à peine, le chaos s'est installé : les ordures se sont accumulées, il a fallu transporter des personnes âgées pour les sortir d'édifices en hauteur, des véhicules se faufilaient dans les intersections sans respecter la loi. Le panorama magnifique que permet d'admirer un penthouse de Toronto prend une signification différente lorsqu'on sait qu'il y a 16 étages entre l'appartement et le rez de chaussée. La couverture médiatique, du moins celle qu'il y avait, était axée exclusivement sur les milieux urbains et sa teneur était frénétique, même si je suppose que certains ruraux ont remarqué qu'il y avait quelque chose qui ne tournait pas rond lorsque les vaches ont oublié les clôtures électrifiées.

La panne d'électricité a fini par se faire sentir dans les régions rurales, je le reconnais, mais l'inquiétude était mesurée, un peu comme le rythme de la vie en milieu rural même. Les camions de distribution de carburant n'ont pu faire le plein à leur centre d'attache : c'est pourquoi les pompes ont fini par en manquer, même dans les régions rurales du Québec (auxquelles une paranoïa historique a épargné la noirceur). Lorsque c'est arrivé, de l'autre côté de la rivière des Outaouais, dans le comté de Renfrew, les génératrices se sont mises à ronronner, on a allumé des

chandelles et les poêles à bois ont commencé à engloutir les réserves de bois prévues pour l'hiver. Il n'y a pas eu de panique. Il n'y a eu aucun sentiment d'apocalypse. Personne n'a manqué de nourriture. Des voisins ont vu qui pourrait avoir besoin d'un peu d'aide et s'en sont chargés.

Dans notre région, même pendant la tempête de verglas de 1998, lorsque le gouvernement fédéral a envoyé un contingent de militaires dans notre ville, ils ont fini par jouer aux cartes pour passer le temps. Personne n'a eu besoin de secours.

Tout cela pour dire que l'équilibre naturel de la vie rurale (moins de personnes, plus d'espace, moins de systèmes complexes) a démontré sa capacité organique à se protéger contre les compromis faustiens de la vie moderne en milieu urbain. Une société démocratique oblige à consacrer à la majorité la part du lion des ressources. Compte tenu de ce que nous avons construit avec tout cet argent, c'est peut-être préférable.

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President's message: Making progress

Jill Konkin, MD  
Thunder Bay, Ont.

CJRM 2003;8(4):235

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While there is still much work to do, there are signs of improvement for some of our rural colleagues. Some communities have had increased success with recruitment and retention of physicians. There is evidence that alternative payment programs and changing the model of health care delivery may have contributed to this. A November 2002 survey of Northern Ontario communities, done by the ON-SRPC and funded by the Northern Group Funded Practices (NGFP) program of the Ontario government, indicates that all communities (e.g., Atikokan, Red Lake, Nipigon, Marathon) with NGFP funding were able to recruit new physicians after changing over to the program and that retention rates are improving in these communities. This may not be the panacea for everyone but it's important to acknowledge changes that have brought positive benefits. The SRPC policy paper on Primary Care Renewal ([www.srpc.ca](http://www.srpc.ca); click on Library) might be helpful for those who are considering some of the new models.

There have been fewer disruptive restructurings of provincial health care systems this year, allowing more communities to work in environments with some structural stability. However, changes in most provinces have continued to reduce access to care for rural Canadians.

There are signs that issues of importance to rural physicians are finding support with sister organizations. In August, the Canadian Medical Association's General Council passed a motion requesting that the CMA work toward a national locum licence. This has been a project of the SRPC for a number of years. The SRPC welcomes the CMA's commitment to it.

There are significant initiatives underway with several other organizations in the area of rural medical education. These include developing strategies for increasing the exposure of students to rural medicine, improving the support and faculty development opportunities for rural teachers, and increasing the numbers of

generalist teachers, including rural physicians, in medical schools. One of the predictors of medical students choosing rural practice is early and frequent exposure to rural medicine. These initiatives will help to do this.

Society Chapters are increasing their activities. The Atlantic region held a CME event in Moncton in June that attracted rural physicians from Nova Scotia, PEI and New Brunswick. The Ontario chapter is expanding its annual educational event, "CME in the Smog," and is holding it in Northern Ontario in October. While the pilot project for the CME locum program is over, the SRPC is still working on the means to continue this innovative program.

Welcome to our new student members. The SRPC's student committee is ably chaired by Todd Young at McMaster. Amongst other initiatives, there are plans afoot for sessions for students at our annual conference in Quebec City in April 2004. Check the SRPC Web site for details.

There is still much to be done. Too many of our colleagues work in situations where there are too few resources — not enough physicians or other health care workers, decreasing access to acute care, etc. Your Executive and Council continue to work to improve the working conditions for all rural physicians.

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Message de la présidente : Nous marquons des progrès

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JCRM 2003;8(4) 236

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Même s'il reste beaucoup de travail à accomplir, on aperçoit des signes d'amélioration pour certains de nos collègues ruraux. Certaines collectivités réussissent de mieux à mieux à recruter et conserver des médecins. Des données indiquent que de nouveaux modes de rémunération et le changement du modèle de prestation des soins peuvent avoir contribué à cette amélioration. Un sondage auprès des communautés du nord de l'Ontario, mené en novembre 2002 par la section de l'Ontario de la Société de la médecine rurale du Canada (SMRC) et financé par le programme Northern Group Funded Practices (NGFP) du gouvernement de l'Ontario, a révélé que toutes les communautés (p. ex., Atikokan, Red Lake, Nipigon, Marathon) qui ont touché des fonds du NGFP ont réussi à recruter de nouveaux médecins après avoir adopté le programme, et que les taux de maintien en poste se sont accrus dans ces communautés. Il se peut que cette solution ne convienne pas à tout le monde, mais il faut souligner que les changements ont entraîné des avantages. Ceux qui aimeraient se renseigner au sujet des nouveaux modèles peuvent consulter l'énoncé de politique de la SMRC sur le renouvellement des soins primaires ([www.srpc.ca](http://www.srpc.ca); cliquez l'onglet Bibliothèque).

Il y a eu moins de remaniements perturbateurs des systèmes provinciaux de soins de santé cette année, ce qui a permis à plus de communautés de réaliser leurs activités dans un environnement présentant une certaine stabilité structurale. Toutefois, les changements dans la majorité des provinces ont continué à réduire l'accessibilité des soins de santé pour les Canadiens ruraux.

Certaines indications dénotent que les organisations sœurs appuient les enjeux qui importent aux médecins ruraux. En août, le Conseil général de l'Association médicale canadienne a adopté une motion demandant à l'AMC d'établir une licence nationale de suppléance. Il s'agit d'un projet auquel la SMRC travaille depuis plusieurs années et la Société accueille favorablement l'engagement de l'AMC à cet égard.

En outre, des initiatives importantes ont été entreprises en collaboration avec plusieurs autres organisations dans le domaine de l'éducation médicale rurale, notamment l'élaboration de stratégies en vue de favoriser l'exposition des étudiants à la médecine rurale, l'accroissement des occasions de soutien et de perfectionnement des professeurs ruraux et l'accroissement du nombre de professeurs généralistes, et notamment de médecins ruraux, dans les facultés de médecine. L'un des facteurs prédictifs du choix d'une pratique en milieu rural par les étudiants en médecine est l'exposition hâtive et fréquente à la médecine rurale. Ces initiatives apporteront une contribution en ce sens.

En outre, les sections locales de la Société entreprennent davantage d'activités. La région de l'Atlantique a tenu un événement d'EMC à Moncton en juin, auquel des médecins ruraux de la Nouvelle-Écosse, de l'Île-du-Prince-Édouard et du Nouveau-Brunswick ont participé. La section locale de l'Ontario donne plus d'ampleur à sa manifestation annuelle d'éducation, «CME in the Smog», qu'elle prévoit tenir dans le nord de l'Ontario en octobre. Bien que le projet pilote sur le programme d'EMC et de suppléance soit terminé, la SMRC envisage des moyens de poursuivre ce programme novateur.

J'aimerais souhaiter la bienvenue aux nouveaux membres étudiants. Todd Young, de l'Université McMaster, préside avec compétence le comité étudiant de la SMRC. Entre autres initiatives, il est prévu que des séances à l'intention des étudiants se tiennent à notre conférence annuelle qui aura lieu à Québec en avril 2004. Veuillez consulter le site web de la SMRC pour obtenir plus de détails.

Il nous reste du pain sur la planche. Beaucoup trop de nos collègues travaillent dans des situations où ils doivent compter sur des ressources restreintes, c.-à-d. une pénurie de médecins ou d'autres travailleurs de la santé, l'accès réduit aux soins actifs, etc. Le Comité exécutif et le Conseil continuent de déployer des efforts pour améliorer les conditions de travail de tous les médecins ruraux.

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Health concerns of male and female farmers: implications for health promotion planning

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CJRM 2003;8(4):239-6

[ [résumé](#) ]

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See related article, [page 247](#).

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Farming is a dangerous occupation, and the need for effective health promotion programs for farmers has long been recognized. Canadian policymakers have also recognized the imperative for a better understanding of rural health needs. This article presents data from a non-clinical random survey conducted as a needs assessment in south central Alberta. The study was designed to gain a better understanding of farmers' views regarding agricultural health and safety issues. The results indicate that while farmers report generally good health, they experience a number of farm-related injuries and illnesses. In many cases, they worry more about the effects of farming on the health of family members than on their own health. Farmers vary in age, education, income and off-farm employment. Male and female farmers differ in important ways. The variation among farmers and in the types and sizes of farms, and the different needs farmers may have from their other rural neighbours or those who live in rural towns, points to the need for health promotion processes that incorporate this diversity.

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L'agriculture est une occupation dangereuse et on reconnaît depuis longtemps le besoin de programmes efficaces de promotion de la santé à l'intention des agriculteurs. Les responsables des politiques au Canada reconnaissent aussi qu'il est impératif de mieux comprendre les besoins reliés à la santé rurale. Cet article présente des données tirées d'un sondage aléatoire et non clinique d'évaluation des besoins dans le centre-sud de l'Alberta. L'étude visait à aider à mieux comprendre les opinions des agriculteurs au sujet des questions de santé et de sécurité en agriculture. Les résultats indiquent que même si les agriculteurs se disent en général en bonne santé, ils sont victimes de nombreux traumatismes et maladies reliés à l'agriculture. Dans nombre de cas, ils s'inquiètent bien plus des effets de l'agriculture sur la santé des membres de leur famille que sur la leur. Les

agriculteurs varient selon l'âge, l'éducation, le revenu et l'emploi non agricole. Les agriculteurs et les agricultrices présentent des différences importantes. La variation entre agriculteurs ainsi que type et grosseur des fermes, ainsi que leurs différents besoins par rapport à leurs voisins ruraux ou aux habitants des villes rurales, indiquent que les mécanismes de promotion de la santé doivent tenir compte de cette diversité.

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## Introduction

There is a lack of data on health needs of rural residents.<sup>1,2</sup> Farmers make up one sub-population of the rural population; a group that faces high rates of occupationally related injuries and illnesses. Farming as an occupation is one of the most dangerous in terms of injury and death.<sup>3-6</sup> In addition to health consequences of injury, there are health risks associated with farming, such as respiratory problems,<sup>7</sup> skin cancer,<sup>8</sup> depression<sup>9</sup> and suicide.<sup>6</sup> These risks extend beyond the person designated as the farmer to farm hands and family members.<sup>10,11</sup> In fact, the farm is usually both a workplace and a home. Hence, programs to prevent injury and ill health among members of farm families, particularly farm children, are common.<sup>12</sup> However, programs for health promotion are needed not only to prevent illness and injury but also to maintain wellness and quality of life.

The 1990s brought a renewed interest in programs to prevent injuries that occur on farms.<sup>12</sup> Assessment of the dangers inherent in farm work is usually based on data concerning mortality or injuries requiring medical attention and/or hospitalization. However, in most countries agriculture is not covered by occupational health and safety or workers' compensation legislation,<sup>3,4,13</sup> and therefore data are difficult to obtain. Further, both farmers and health professionals tend to under-report farm-related injuries and illnesses in health settings.<sup>4</sup>

Racher<sup>14</sup> reports that access to health care services is a priority for the residents of rural communities:<sup>15-17</sup> "... rural residents experience decreased availability of health professionals;<sup>18,19</sup> [there is] limited proximity to hospitals and emergency services;<sup>20</sup> [including] challenges in receiving public health<sup>21</sup> and mental health services,<sup>22,23</sup> difficulty in acquiring home care and long-term care,<sup>24-26</sup> and problems in ensuring that rural services provide quality care.<sup>27</sup>" Under these circumstances, the need for health promotion programs, in addition to those that prevent injury and disease, is evident.

In this article we present the results of a needs assessment conducted in South Central Alberta that was designed to gain a better understanding of farmers' views regarding agricultural health and safety issues. We collected data on the health status, behaviours and concerns of a representative sample of farmers. Here, we discuss the data concerning individuals; data describing the farms is as yet unpublished.

## Method

A cross-sectional survey using mailed questionnaires was conducted between January and March 1994. The sampling frame of 3834 self-identified farmers was drawn from the Farm Business Communications List Service Group, a business that compiles names of people from magazine subscription lists for marketing purposes. These farmers resided in 1 of 4 municipalities or 3 counties in South Central Alberta surrounding the city of Calgary. A random sample of 600 farms was drawn from this frame using random number tables. Because 88.1% of farms in Alberta were reported to have joint male and female operators,<sup>28</sup> two identical surveys with the same identifying code, marked Participant A and Participant B, were sent to each address.

A 78-item self-administered questionnaire was developed using the Farm Family Survey,<sup>29,30</sup> the Canadian Health Promotion Survey,<sup>31</sup> the Western Canada Melanoma Study<sup>32</sup> and a survey of the Alberta Cancer Board.<sup>33</sup> Questions regarding demographics, farm characteristics, personal health habits and concerns, and sources of assistance were also included. The questionnaire was pre-tested on 6 farmers from another region of the province and then reviewed by a group of stakeholders.\* These questionnaires were not included in the final analysis. This group commented on relevance, face validity and clarity. Finally, the questionnaire was edited to include interesting graphics and words of encouragement.† The initial mail-out was followed one week later by a reminder postcard, and at 4 and 8 weeks by two subsequent mail-outs to non-respondents. The timing of the survey was selected to avoid known peak production periods (e.g., seeding, harvest, calving).

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[\*Health unit personnel and board members, farmers, Alberta Agriculture Farm Safety personnel, Unifarm, Women in Support of Agriculture, United Farmers of Alberta.]

[†For example: "O.K. You are now three quarters of the way through. Congratulations. Keep going."]

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The Conjoint Health Research Ethics Board of the Faculty of Medicine, University of Calgary, Calgary, Alta., approved the study.

Analysis was conducted using SPSS Version 10. Cronbach alpha inter-item reliability coefficients were calculated for 6 sections of the questionnaire: personal health habits (11 items); concerns about health and safety (5); chemical use (3); handling machinery (6); handling grain, feed or bedding (6); and agricultural services (4). The coefficients ranged from 0.66 to 0.96, all considered

acceptable.<sup>34</sup>

## Results

### Sample

Twelve addresses were dropped from the sample of 600 because they were outside the survey area, duplicates, or on a Hutterite colony. Sixty-two pairs of questionnaires were returned because the address was no longer valid or the addressee was deceased, retired, or not a farmer. From the eligible 526 farms we received 1 or more questionnaires from 375 farms for a return rate of 71.3%. Of these, 28 were refusals, leaving 347 farms and a response rate from farms of 66.0%. We cannot calculate an individual response rate for the 563 individual questionnaires received in total because we have no way of knowing the denominator or how many individual adult farmers were on these farms. There was a tendency for men (81.6%) to complete the Participant A questionnaire.

The participants were 332 men (59%), average age 49.9 years, and 231 women (41%) with an average age of 45.8 years. Ninety-one percent of participants were married. The women tended to be better educated than the men ([Fig. 1](#)). There were 451 children reported to be living on the farms, of which 80 (17.7%) were over the age of nineteen. Of the remaining 371, 76.4% were under the age of 15 years.

The majority of farms were beef (30.0%) or grain (26.6%) farms, with mixed grain and cattle operations the next most common (10.9%). More than half of the farmers (57.4%) reported that between 76% and 100% of their family income was from their farm operation. The most frequently report-ed income range was between \$50 000 and \$99 000 per year (31.9% of respondents) followed by \$25 000 and \$49 000 (24.7%), and then \$100 000 and \$249 000 (25.7%).

### Employment on and off the farm

Among the men, 71.5% labelled themselves as primary managers on these farms, compared to 45.1% of the women. Among women, another 40.5% considered themselves to be co-equal managers and 3.6% assistant managers. Only 20.9% of men labelled themselves co-equal managers.

Women (40.1%) were more likely than men to be employed off the farm (31.7%) and were more likely than men to work in the health and education sectors when they did ([Table 1](#)). Among those who reported off-farm employment, 36.5% of men and 17.8% of women were self-employed; 23.3% of women and 1.0% of men were employed in health care; and 18.3% of men and 7.8% of women were employed in the agricultural industry. Among the women 15.6% had clerical jobs,

but no men did this type of work. Charlebois reported that, although the extra income reduced the financial concerns, off-farm work was a source of stress for farm families where both the man and woman were employed (Maya Charlebois, Faculty of Nursing, University of Calgary, Calgary, Alta: unpublished paper, MN program, 1994).

### Health status

When asked to compare their health to that of others the same age, 66.8% of participants rated their health as very good to excellent. Women (69.0%) were only slightly more likely than men (65.4%) to rate their health as Very good or Excellent, and men were more likely than women to choose Good as their health rating (27.7% compared to 24.9% of women); however, there was no statistically significant difference in self-reported health ratings between sexes. When asked to report how many days they were away from work in the last year due to illness, injury or disability, 56.7% of men and 47.5% of women reported no days. The mean number of days off work due to illness, injury or disability was 3.1 for men and 2.5 for women.

With the relatively good health status of the participants, use of medications was also not common, except for over-the-counter pain relievers that were consumed by 83.3% of participants in the past 12 months. Women were significantly more likely than men to report use of antidepressants (women 10.2%; men 2.6%;  $p = 0.001$ ); codeine, morphine or Demerol (women 8.7%; men 4.0%;  $p = 0.039$ ); and over-the-counter pain relievers (women 87.3%; men 80.5%;  $p = 0.035$ ). There was little difference by sex in the use of tranquilizers (women 2.2%; men 1.5%), diet pills or stimulants (women 1.7%; men 1.1%) or sleeping pills (women 6.0%; men 5.2%).

### Exercise and smoking

Exercise was defined as vigorous activity not including work activity, and participants were asked how many times a week they exercised on average. Male and female exercise patterns varied, with the majority being infrequent exercisers ([Fig. 2](#)).

Smoking was reported by only 13.6% of men and 14.4% of women, a surprising finding given rates of smoking among Albertans, reported at 29.6% in 1994-95.<sup>35</sup> No women over 65 reported smoking; however, more women than men in the 18-34 age group smoked (20% v. 15%). This is a concern because these are critical child-bearing years. In the 35-64 age group 14% of each sex reported smoking.

### Concern over the effects of farming on health

Participants were asked to indicate on a 5-point scale how concerned they were for

themselves about several health problems that the literature identified as arising from farming. They were then asked to rate, on the same scale, how concerned they were that farming might contribute to these health problems in their farm family. Women were more likely to report concern over the effect of farming on family health than their own health for all problems except joint problems, although differences were sometimes small ([Table 2](#)). Men were more likely to report being concerned about the potential for hearing loss, eye problems, back trouble and joint problems for themselves than for other family members. This was especially true for back trouble. A significantly greater percentage of women than men reported concern over accident or injury, stress-related problems, and back trouble for their family. Women were generally more likely to report being concerned over the impact of farming on stress-related problems for themselves and their family.

With regard to other concerns about their own health, men and women were similar; however, men were more likely to be concerned about breathing problems and eye problems, and women more likely to be concerned about hearing loss.

Farther on in the questionnaire, participants were asked to indicate if they had experienced a variety of farm-related health problems in the last 2 years and whether medical treatment was sought for the problem. The 3 problems reported most often by men were back injuries, muscle/joint injuries and emotional problems or stress. Among women, the top 3 problems reported were emotional problems or stress, muscle or joint injury, and breathing problems ([Table 3](#)). Men were significantly more likely to report having had eye injuries, severe cuts or bruises, and back injuries than women ([Table 3](#)). The difference in injury rates is more obvious when the rate of specific injuries or illness is examined as a percent of total number for men and women over the previous 2 years ([Fig. 3](#)). About one-quarter of the problems reported by women were emotional problems or stress, and about one-quarter of the problems among men were back injuries.

Men and women reported seeking medical attention for their injuries or illnesses in about equal proportions ([Fig. 4](#)). The top 3 more frequently reported problems for which men sought treatment were eye injuries, back injuries and skin problems. The top 3 problems for which women sought medical treatment were eye injuries, back injuries and muscle or joint injuries. Men were least likely to seek medical attention for emotional problems or stress, and women for severe cuts and bruises. More than twice as many men than women sought medical attention for their severe cuts or bruises. While more men had back injuries, women were twice as likely to report that they had ongoing disability from their back injuries (men 21.2%; women 42.8%;  $p = 0.04$ ). We calculated a relative risk of 2.09 for back injury, which indicated that women who reported having sustained a back injury were twice as likely as men to report ongoing disability from that injury. About 30% of participants reported ongoing disability as a result of having developed breathing problems, and about 15% as a result of emotional problems or stress.

## Discussion

These data were originally collected and analyzed in 1994, with secondary analysis completed in 2002; however, the results remain relevant today. If anything, the economic status of Canadian family farms is more precarious than it was 9 years ago, accentuating the concerns that were expressed by farmers at that time. While the data were collected in South Central Alberta, similarities in issues faced by farmers across Canada and the sampling strategies used in this study give us confidence that the results could be applied to other Canadian farmers. The farmers in this survey reported themselves to be in good general health. Their reports were similar to the Health Promotion Survey for Alberta.<sup>31</sup> Yet, their reported experiences of farm-related health problems in the previous 2 years supports the contention that injury and health problems are frequent and often serious enough to require medical attention.<sup>3-6</sup> Most of these farmers were aware of the risks of farming, a first step in being ready for preventive action. These farmers were worried about respiratory problems<sup>7</sup> and mental health issues<sup>6,9</sup> for themselves and the family.<sup>10,11</sup> The data, however, present other challenges to planners of health promotion interventions for farmers.

Firstly, farmers overall were more worried about the effects of farming on the health of family members than on their own health. There were many young children living on these farms. In addition, a large number of family members, including children, worked on the farms (Thurston WE, Blundell-Gosselin HJ: unpublished observations, 2002). Occupational health and safety messages aimed at the farmer, therefore, may not be addressing the focus of their concern. On the other hand, we were not able to identify in the published literature a program logic model or a planning model for combining occupational and family health. A challenge for health promotion practitioners is to combine theoretical models of the family as setting<sup>36</sup> and the workplace as setting.<sup>37</sup>

The second challenge is gender differences in roles on the farm, experiences of injury and concerns about the effects of farming on health. Some women thought they played a co-equal role but their male partners believed management rested primarily with them. Workplace decision-making is a factor in work satisfaction.<sup>37</sup> Women tended to be better educated and were more likely to also work off the farm, a fact that can explain some men's perceptions of the woman's lesser role in farm management. Disagreement over roles can add to family conflict and increase stress levels. It is important from a program planning perspective that key stakeholders be involved and that planners not overlook the role of women as farmers.<sup>38</sup>

There were important similarities and differences between women and men in their experiences of injuries and health problems. Equal proportions of men and women

experienced breathing problems and they were equally likely to report ongoing disability. Although more men reported back injuries, more women reported ongoing disability as a result of their back injuries. Men and women were equally likely to report emotional problems or stress. This points to the advisability of using sex disaggregated data in needs assessments and planning as a minimum strategy. Gender analysis<sup>39</sup> would be a more comprehensive approach to understanding the needs of male and female farmers.

The stress and mental health concerns of farmers raises a larger issue. The fact that 10% of the women reported using antidepressants in the previous year compared to 2.6% of men points to the importance of mental health promotion for farmers, particularly farm women<sup>40</sup> with attention to orientation of health services and prescribing practices. In fact, the predictors of stress for men and women were found to differ in this study population (see [page 247](#)).<sup>41</sup> The stress that farmers report suggests that health promotion practitioners must have realistic expectations of how much time and other resources farmers can contribute to the planning and delivery of health promotion initiatives<sup>42</sup> because their input is considered critical.<sup>1</sup> Gerrard's<sup>40</sup> approach to capacity building addresses this dilemma. She identifies the strengths among the people in a community as well as the challenges they face. The process is iterative and includes needs assessment and developing interest in an issue among community people until cooperation and collaboration in action are achieved.

Finally, the data in this study challenge the major disease prevention agencies to partner with other programs and to shape their health promotion to respond to the concerns of farmers. Specifically, cancer and heart disease were not among the top 5 problems most likely to be a concern for farmers for either their own or their family's health. This is not to say that cancer and heart disease are not rural health problems, but rather that engaging farmers in health promotion may require designing a back injury prevention program that builds the capacity of farmers to prevent cancer or heart disease, rather than starting with those diseases as the focus.

## Conclusion

Farms vary greatly in size of operation, type of commodity, income generated, number of employees, and so on. Because of this, we recommend a comprehensive approach to farm health promotion rather than one that treats farms as though the setting itself implies greater homogeneity (Thurston WE, Blundell-Gosselin HJ: unpublished observations, 2002). Similarly, the people on farms vary in many ways, not the least of which may be gendered roles and expectations. While rural living has much to offer in terms of geographical and social benefits to health,<sup>43</sup> for farmers there are also ever present threats to health associated with the work. One added stress for farmers is that these threats extend to other family members. The participation of farmers in recommending and designing programs<sup>1,40</sup> is

essential because their needs may differ greatly from those of other rural neighbours or from those who live in rural towns.

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This article has been peer reviewed.

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Competing interests: None declared.

Acknowledgements: We thank the health unit personnel and board members, farmers, Alberta Agriculture Farm Safety personnel, and representatives of Unifarm, Women in Support of Agriculture, and United Farmers of Alberta for their assistance with questionnaire development and support of this project. Michael Vine of Olds College Extension Service, Red Deer, Alta., did an exemplary job in questionnaire layout and design. Kathy Dirk provided copy editing. We also thank the reviewers for their feedback.

Research was partially funded by the Southern Occupational Health Service, Department of Community Health Sciences, University of Calgary; the Regional Centre for Health Promotion and Community Studies at the University of Lethbridge; and the Alberta Association of Registered Nurses.

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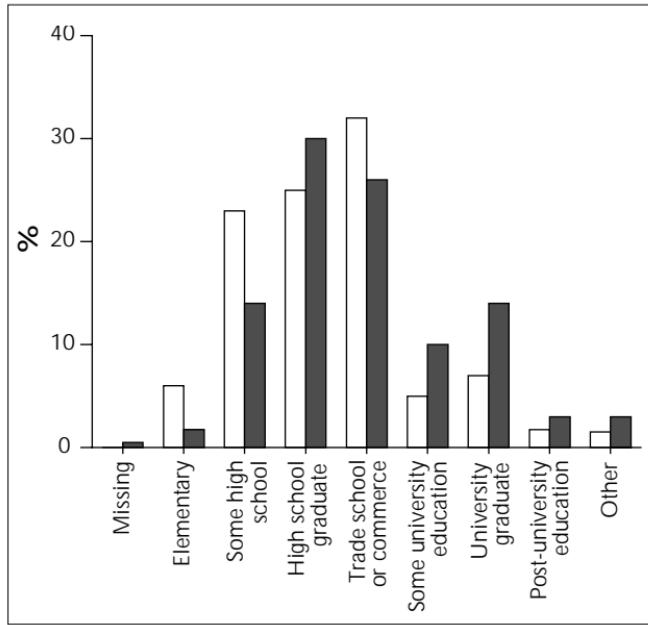


Fig. 1. Education of respondents. White bars = men; grey bars = women.

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**Table 1. Types of non-farm employment, no. (and percentage) of men and women who worked off-farm**

Job description	Men	Women
Teaching	2 (1.9)	12 (13.3)
Clerical	–	14 (15.6)
Agricultural industry	19 (18.3)	7 (7.8)
Non-agricultural/ Managerial	12 (11.5)	1 (1.1)
Health related	1 (1.0)	21 (23.3)
Other professional	5 (4.8)	3 (3.3)
Other blue collar	17 (16.3)	5 (5.6)
Self-employment	38 (36.5)	16 (17.8)
Service	10 (9.6)	11 (12.2)
Missing values	–	1 (1.1)

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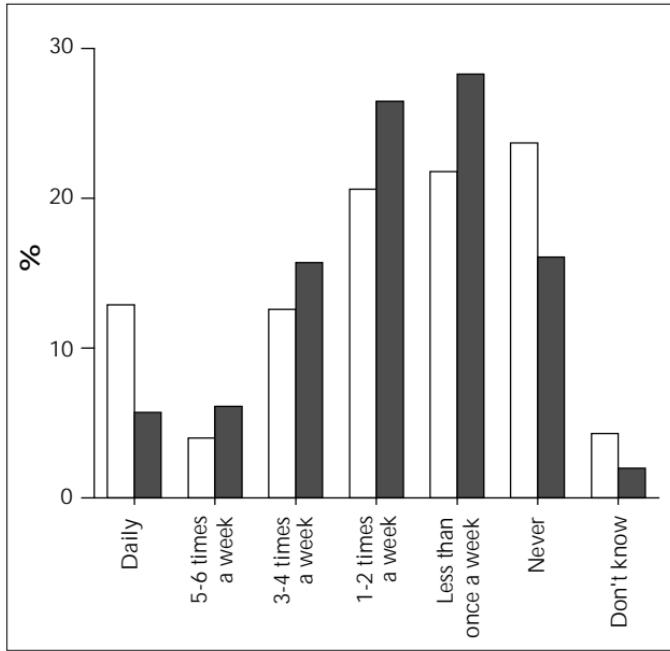


Fig. 2. Average no. of times per week that respondents exercised. White bars = men; grey bars = women.

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**Table 2. Percentage of respondents concerned about the effects of farming on their own or their family's health**

Concern	Men, % concerned		Women, % concerned	
	Own health	Family health	Own health	Family health
Breathing problems	56.6	58.1	48.5	61.0
Accident / Injury	63.0	70.5	63.2	80.1
Chemical exposure	64.1	65.7	59.3	70.6
Skin disease	35.9	40.4	38.1	45.8
Hearing loss	56.9	52.7	47.2	57.6
Stress-related problems	41.3	41.6	50.2	53.7
Eye problems	47.6	43.4	35.1	38.5
Cancer	39.5	39.8	40.7	42.9
Heart disease	34.6	35.5	36.8	38.5
Back trouble	55.4	47.9	56.7	61.0
Joint problems	37.1	35.0	40.7	40.7

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**Table 3. No. and type of injuries / illnesses experienced by respondents during the 2 years prior to survey**

Type of injury / illness	Men; no. (and %)	Women; no. (and %)	$\chi^2$	p value
Skin problems	27 (8.2)	14 (6.3)	0.76	0.383
Breathing problems	44 (13.4)	28 (12.5)	0.10	0.754
Eye injuries	18 (5.5)	4 (1.8)	4.92	0.026
Severe cuts / bruises	41 (12.7)	13 (5.7)	7.28	0.007
Back injuries	66 (20.4)	21 (9.3)	12.23	0.0005
Muscle / joint injuries	61 (18.7)	31 (13.8)	2.33	0.127
Emotional problems or stress	52 (16.0)	40 (17.9)	0.31	0.578

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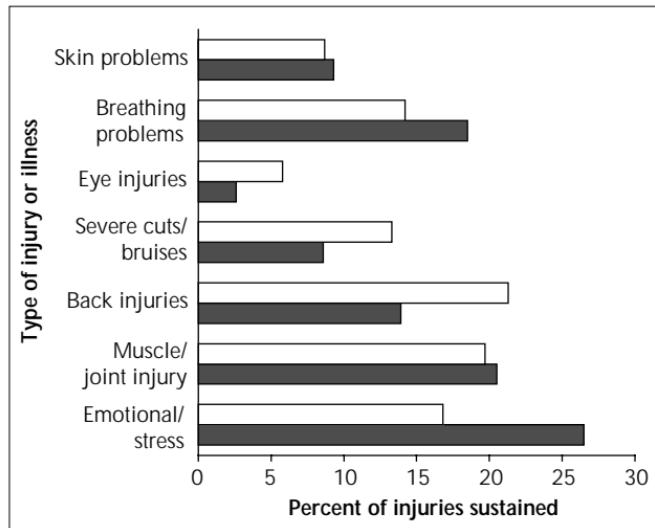


Fig. 3. Rate of injuries or illness as percent of total number.  
White bars = men; grey bars = women.

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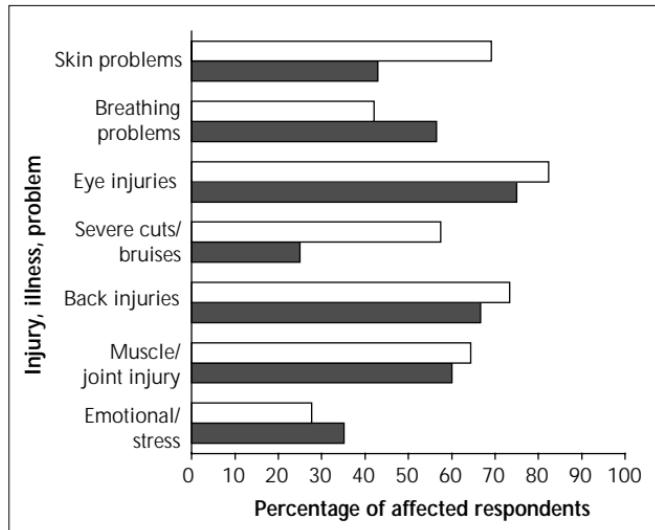


Fig. 4. Percentage of respondents who sought medical treatment. White bars = men; grey bars = women.

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Stress in male and female farmers: an ecological rather than an individual problem

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CJRM 2003;8(4):247-54

[ [résumé](#) ]

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See related article, [page 239](#).

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A study of the health concerns of male and female farmers found that emotional problems and stress were among the top 3 problems mentioned by both sexes. In this paper we present results from this non-clinical random survey of farmers in South Central Alberta. The participants were 332 men and 231 women representing 347 farms in South Central Alberta. Multivariate analysis reported in this article reveals that the predictors of stress for male and female farmers differed.

Remembering past events or accidents, having only 2 family members working the farm and having a larger farming operation predicted stress for women when age, health status and worrying about the effects of farming on their health were in the model. For men, believing farming was more dangerous than other occupations and having no employees predicted stress when age, health status and worrying about the effects of farming on their health were included in the model. These findings support a recent call for an ecological model of mental health promotion; that is, a model that acknowledges that social, economic, physical and environmental factors interact to influence health.

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Une étude sur les problèmes de santé des agriculteurs et agricultrices a démontré que les troubles émotifs et le stress se classaient parmi les trois principaux problèmes signalés par les personnes des deux sexes. Cet article présente les résultats de ce sondage aléatoire non clinique mené auprès de 332 agriculteurs et de 231 agricultrices représentant 347 fermes du centre-sud de l'Alberta. L'analyse multidimensionnelle mentionnée dans l'article a révélé que les prédicteurs de stress différaient chez les hommes et les femmes. Le fait de se souvenir d'événements ou d'accidents passés, celui de n'avoir que deux membres de la famille travaillant sur la ferme et celui d'avoir une grosse exploitation agricole représentaient des prédicteurs de stress chez les femmes lorsque l'âge, l'état de santé et le fait de s'inquiéter des effets de l'agriculture sur leur santé étaient incorporés au modèle.

Pour les hommes, c'était plutôt le fait de croire que l'agriculture était un emploi plus dangereux que d'autres et celui de n'avoir aucun employé qui représentaient des prédicteurs de stress lorsque l'âge, l'état de santé et le fait de s'inquiéter des effets de l'agriculture sur leur santé étaient incorporés au modèle. Ces constatations appuient l'appel lancé récemment en faveur d'un modèle écologique de promotion de la santé mentale, c'est-à-dire un modèle qui tienne compte de l'influence des facteurs sociaux, économiques, physiques et environnementaux sur la santé.

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## Introduction

The public health significance of mental health problems and disorders is considerable, and yet there is limited literature that documents the extent and experience of mental health problems in rural and remote communities.<sup>1,2</sup> Much of the existing literature is based on large, population-level studies that treat rural areas as homogenous and fail to account for the influence of different social, economic, historical and geographic contexts on mental health.<sup>3</sup> In this paper we examine the findings related to mental health from a cross-sectional survey that explored health status, behaviours and concerns of farmers from South Central Alberta.

Our focus on mental health is prompted by the overall results of the study in which "emotional problems or stress" was 1 of the top 3 reported farm-related health problems for male and female farmers.<sup>4</sup> This finding supports the work of others<sup>1,3</sup> and adds to a growing body of literature focusing on mental health issues in rural and remote areas. In our study (see [page 239](#)),<sup>4</sup> approximately one-quarter of the health problems reported by women were emotional problems or stress, whereas men were more likely to report back injuries. Both men and women were least likely to seek medical attention for emotional problems or stress than other problems, but "Women were significantly more likely than men to report use of antidepressants (women 10.2%; men 2.6%; p = 0.001); codeine, morphine or Demerol (women 8.7%; men 4.0%; p = 0.039); and over-the-counter pain relievers (women 87.3%; men 80.5%; p = 0.035)." About 15% of participants reported ongoing disability as a result of having developed emotional problems or stress. Female farmers were generally more likely to report being concerned over the impact of farming on stress-related problems.<sup>4</sup> In this article we specifically explore the predictors of stress in male and female farmers with the intent of providing information of use to clinicians who provide care in similar rural and remote areas.

## Method

The cross-sectional mail survey was conducted between January and March 1994. A 78-item self-administered questionnaire was developed using the Farm Family Survey,<sup>5</sup> the Canadian Health Promotion Survey,<sup>6</sup> the Western Canada Melanoma

Study,<sup>7</sup> and a survey of the Alberta Cancer Board.<sup>8</sup> A sample of 600 farms was drawn from a sampling frame of 3834 self-identified farmers compiled by the Farm Business Communications List Service Group. Because 88.1% of farms in Alberta are reported to have joint male and female operators,<sup>9</sup> 2 identical surveys with the same identifying code were sent to the same address but labelled Participant A and Participant B. Further details regarding the sampling methods and the demographics of the participants can be found in Boutiller and colleagues<sup>10</sup> and Hope and coworkers.<sup>11</sup>

Stress was assessed using the question, "Would you describe your life as: very, somewhat, not very, or not at all stressful." Responses were dichotomized as very/somewhat and not very/not at all. Independent variables were selected for analysis based on a review of the literature and the availability in the current study. These included: demographics (sex, marital status, age, education, years on current farm, years living on a farm, family income, percent of income from farming, number of children on farm); self-reported health status; farm operation variables (role on the farm, number of employees, percent of total family income from farming, off-farm employment, principle commodity); and farm health and safety concerns (view of safety of farming, relative concern over safety, concerns over own or family's health, events or accidents). Respondents were also presented with 38 possible responses to the question, "What, if anything, caused you excess worry, 'nerves' or stress in the last six months?"

Descriptive analyses revealed significant differences in response by sex in this study; therefore, two multivariate models were constructed to examine predictors of stress in men and women. This also ensured statistical independence on farm variables, since 81.6% of Participant A respondents were male and 76% of Participant B respondents were female (Thurston WE, Blundell-Gosselin HJ: unpublished observations, 2002).

The relationships between stress and independent variables were first assessed in separate bivariate analyses. Variables that were not significant at this level were excluded from further analysis for that sex. When coefficients for ordinal variables were statistically similar and combinations were logical, categories were collapsed. Logistic regression was used to assess the variables in multivariate analyses for each sex. The causes of stress were analyzed as separate groups to determine which remained as significant predictors of reporting stress when others were in the model. Stepwise analysis was used to assess interactions and "confounding." Causes that were no longer significant were no longer included.

## Results

Of the 526 eligible farms (i.e., a current address within the survey area, not duplicates and not Hutterite colonies), completed questionnaires were received

from 347 farms for a response rate of 66.0%. The participants were 332 men and 231 women. The farmers resided in one of 4 municipalities or 3 counties in South Central Alberta. The participants were primarily beef and grain farmers.

The majority of farmers reported their lives to be very or somewhat stressful ([Fig. 1](#)). There was no difference between men or women in this regard. Ninety-one percent of respondents were married; however, 11.5% of men and 5.6% of women were single. As [Table 1](#) indicates, men and women differed in age and educational attainment. The range in ages was 23 to 81 years. Both men and women had on average spent most of their lives as a member of a farm household, but men had been on the current farm longer than women and more men appeared to have grown up on farms. About 30% of farmers reported their family income to be between \$50 000 and \$100 000 a year. More than half of the farmers (57.8%), whether men or women, reported that between 76% to 100% of their income came from the farm operation. As Table 1 indicates, men and women did not differ significantly in either the number of children under or over the age of 20 living on the farm. The majority of both men and women considered themselves to be in excellent or very good health ([Table 1](#)).

Men and women differed in their self-reported perceived role on the farm. More women than men had off-farm employment. Similarly, men and women differed in their opinions as to how many family members worked on the farm; however, they agreed on the number of employees ([Table 2](#)). When asked how dangerous they thought farming was compared to other occupations, the majority of farmers said "More dangerous." More men than women thought farming was the same as other occupations in terms of danger; the women were more likely to be unsure. However, these differences were not statistically significant. When asked if they were more concerned about health and safety than their child's education, quality of the environment, farm product prices, crop yields or soil erosion, the majority of both men and women placed health and safety above at least one of these things; very few placed this above their child's education ([Table 3](#)).

Men and women were as likely overall to report having experienced a farm-related injury or illness in the previous 2 years ([Table 3](#)); however, when broken down by type of injury, men and women did not differ in animal-related (men 8.8%; women 7.9%) or pesticide-related (men 2.1% men; women 1.7%) incidents but only men (5.4%) had machinery-related accidents. Given this, it is not surprising that men were significantly more likely to have experienced eye injuries, severe cuts or bruises, and back injuries than women ([Table 4](#)).

#### Predicting stress in men and women

Apart from age, health rating and concerns about the effects of farming on health,

the variables that remained in logistic regression models to predict stress differed for men and women ([Table 5](#)). Given the sample size, we have not presented odds ratios as the confidence intervals are very wide indicating a lack of precision in the estimate of the odds ratio.

Remembering past events or accidents, having only two family members working the farm and having a larger farming operation\* predicted stress for women when age, health status and worrying about the effects of farming on their health were included in the model. For men, believing farming was more dangerous than other occupations and having no employees predicted stress when age, health status and worrying about the effects of farming on their health were in the model. Age and health had confounding effects on stress in both sexes. Women aged 30 to 59 reported more stress, with the peak being in the 30-39 age group. Men aged 18-59 also reported more stress, and the peak age group was the same as for women. Being in excellent or very good health was associated with less stress in both sexes.

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\*Having a small number of family members working on the farm was correlated with having employees and with having a larger farming operation.

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For women, reporting no concerns about the effects of farming on their health predicted less stress when family income was controlled. Our analysis indicates that having concerns about the effect of farming on their health is stressful for women when in combination with having a larger farm operation (i.e., having employees or a larger family income). Having an event or accident that changed their attitudes, awareness or practices of farm safety was associated with reporting stress. Also, having less than 3 family members working on the farm was more stressful than having 3 or more.

For men, having 1 to 5 concerns about the effects of farming on their health was significantly predictive of stress. Having no concerns appeared to be associated with less stress, but the results were not statistically significant. Thinking farming was more dangerous than other occupations was associated with reporting stress, but a smaller operation, indicated by having no employees, was protective.

## Discussion

Gerrard<sup>12</sup> highlights the importance of conceptualizing mental health issues, such as farm stress, from an ecological as opposed to an individual perspective; that is, from a perspective that acknowledges that social, economic, physical and environmental factors interact to influence health. One of the major stressors appears to be that the farm is simultaneously the home setting<sup>13</sup> and the workplace setting,<sup>14</sup> 2 important places for health promotion. Farm occupational health and safety practitioners and rural health promoters describe farm work as one of the

most dangerous occupations.<sup>11,15-17</sup> A recent review of their programs, however, found little evidence of success in modifying risk or preventing injury.<sup>18</sup> Hearing about and observing the dangers of farming while seeing little change may be iatrogenic for farmers and their stress. On the one hand, their homes, which are their workplaces as well, are being characterized as risky; our results show they accept this. On the other hand, there have been few successes in stopping the incidents of injury and illness that farmers in this study report as having a lasting affect on their reports of stress.

The majority of farmers in this study report their lives to be stressful, yet their health is reported as excellent or very good. Despite their reports of good health, emotional health was a major concern for farmers in this study. This may be a paradox of rural living and farming. It may be that farmers enjoy the benefits of rural living, while suffering the stress related to farming as an occupation.

The results of this study point to the importance of gender in understanding physical and mental health concerns of farmers.<sup>19,20</sup> Both farm women and farm men report stress from role conflict; however, the source of this role conflict differs between the sexes. The major source of stress for farm women has been identified as role overload: too many responsibilities and too little time to accomplish everything. "Farm women report significantly high levels of stress as they struggle to balance their domestic duties, keep farm records, care for the family, keep the yard and garden, and act as a workhand when hired help is no longer affordable. A significant proportion of farm women have off-farm employment as well."<sup>19,21</sup> Men report stress from competing demands of off-farm and farm work and not meeting their personal standards for success of the farm.<sup>22</sup>

Our findings suggest that men may find the situation where there are no employees less stressful. Bultena and colleagues<sup>23</sup> found that those persons with large operations, as measured by acreage and gross farm sales, were the most financially distressed according to debt-to-asset ratios. Walker and Walker,<sup>20</sup> however, found that among farm women those involved in the farm business had higher stress symptom scores compared to those not involved in the business. A small operation with your wife by your side may be less stressful for the male farmer, therefore, but more stressful for the female farmer. Given our findings that there is also often disagreement over the role that each partner plays in farm management, the combination of home and workplace may also be a source of tension that farm couples have to resolve. Others have reported that the most frequently reported cause of stress for the female farmer is conflict with her spouse.<sup>24</sup> Berkowitz and Perkins<sup>25</sup> found that farm women who are able to reach agreement with their husbands about their farm roles, who feel supported by their husbands, or who are happy with their marriages were less likely to report stress-related health symptoms.

Numerous studies have shown that younger farmers report more stress than older farmers.<sup>20,23,26,27</sup> Some of the factors proposed to explain this include equity levels and debt loads resulting in greater feelings of economic hardship<sup>23,26,27</sup> and vulnerability to displacement and capitalization.<sup>26,28</sup> While these economic issues are clearly important, our data suggest that their impact cannot be understood outside of a broader framework that includes home factors. In addition to these economic and farm management issues, farmers in the age group that reported the most stress (aged 30-39) are also most likely to have both young children and children capable of working on the farm (i.e., in their teen years). The mothers are more likely than the fathers to be working off the farm when they are in the 30-39 age range. We also know that people in this age group are also likely to have parents who are increasingly experiencing health problems.<sup>29</sup> If caring for these parents is also part of the "as needed" work on the farm, such as provision of child care or direct farming activity, this may be another source of stress for the farmers.

## Conclusion

A variety of factors, some of which are both uncontrollable and unpredictable, has been found to contribute to farmers' stress.<sup>24,27</sup> In this study we have identified very different experiences of farming for men and women. Farming operations vary considerably, making the farm-as-workplace settings model largely inappropriate for planning farm health promotion (Thurston WE, Blundell-Gosselin HJ: unpublished observations, 2002).

Fuller and colleagues<sup>1</sup> found that residents of rural and remote communities in South Australia preferred seeking treatment for mental health problems from generalist mental health workers or general practitioners with backup support from mental health specialists. The findings from our study suggest that predictors of stress are different for male and female farmers; it is therefore important that practitioners who deal with mental health issues among farmers use an ecological approach to care. Awareness of the social, economic, environmental, as well as the physical context of male and female farmers will assist in providing appropriate support for their mental health needs. This article underscores that treating stress among farmers as if it stems from any single issue (e.g., the individual, work, home or global economics) will result in missing major contributing factors.

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This article has been peer reviewed.

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Competing interests: None declared.

Acknowledgements: We thank the health unit personnel and board members, farmers, Alberta Agriculture Farm Safety personnel, and representatives of Unifarm, Women in Support of Agriculture, and United Farmers of Alberta for their assistance with questionnaire development and support of this project.

Michael Vine of Olds College Extension Service, Red Deer, Alta., did an exemplary job in questionnaire layout and design. Kathy Dirk provided copy editing.

The research was partially funded by the Southern Occupational Health Service, Department of Community Health Sciences, University of Calgary; the Regional Centre for Health Promotion and Community Studies at the University of Lethbridge; and the Alberta Association of Registered Nurses.

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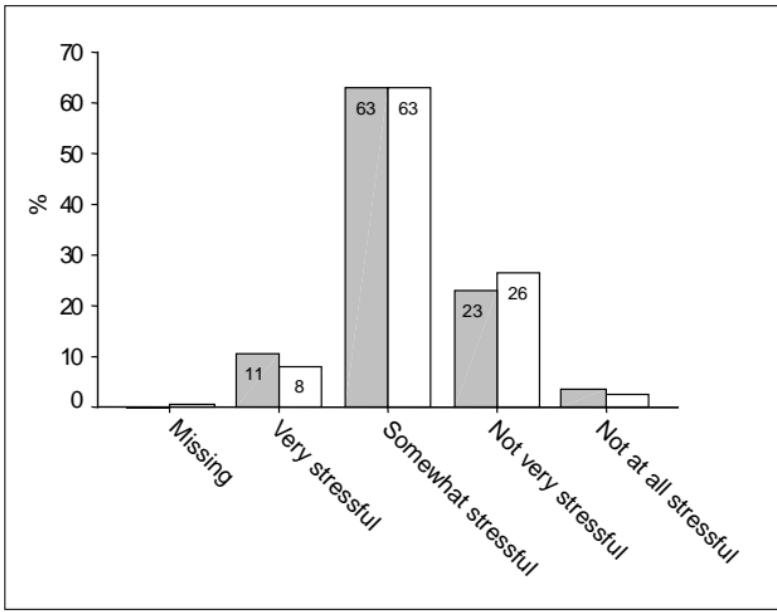


Fig. 1. Subjective experience of stress

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**Table 1. Demographics of 332 men and 231 women representing 347 farms in South Central Alberta**

Variable	No. of men,* (and %)	No. of women,* (and %)	Total	Statistical values
Average age, yr	49.9	45.8	48.2	$t = 3.64; p = 0.000$
Marital status	<b>n = 330</b>	<b>n = 231</b>	<b>n = 561</b>	$\chi^2 = 5.69; df = 1; p = 0.017$
Single	38 (11.5)	13 (5.6)	51 (9.1)	
Married	292 (88.5)	218 (94.4)	510 (90.9)	
Education	<b>n = 199</b>	<b>n = 137</b>	<b>n = 336</b>	
< High school	95 (28.6)	36 (15.6)	131 (23.3)	
High school	82 (24.6)	69 (30.0)	151 (26.9)	
University	22 (6.6)	32 (13.9)	54 (9.6)	
Mean no. of years on present farm	<b>n = 329</b>	<b>n = 225</b>	<b>n = 554</b>	$t = 7.39; p = 0.000$
	30.2	20.1	26.1	
Mean no. of years on farms	<b>n = 331</b>	<b>n = 228</b>	<b>n = 559</b>	$t = 7.58; p = 0.000$
	43.7	33.3	39.5	
Family income, \$	<b>n = 317</b>	<b>n = 209</b>	<b>n = 526</b>	$\chi^2 = 5.052; df = 4; p = 0.282$
< 25 000	(6.0)	(9.6)	(7.4)	
25–49 000	(26.5)	(22.0)	(24.7)	
50–99 000	(30.3)	(34.4)	(31.9)	
100–249 000	(27.4)	(23.0)	(25.7)	
≥ 250 000	(9.7)	(11.0)	(10.3)	
≥ 75% income from farming	57.8	57.7	57.8	$t = -0.41; p = 0.684$
No. of children under age of 20	<b>n = 162</b>	<b>n = 128</b>	<b>n = 290</b>	$\chi^2 = 2.32; df = 4; p = 0.677$
1	36 (22.2)	23 (18.0)	59 (20.3)	
2	67 (41.1)	53 (41.4)	120 (41.4)	
3	41 (25.3)	34 (26.6)	75 (25.9)	
4	15 (9.3)	17 (13.3)	32 (11.0)	
5	3 (1.9)	1 (.8)	4 (1.4)	
No. of adult children	<b>n = 332</b>	<b>n = 231</b>	<b>n = 563</b>	$\chi^2 = 0.4277; df = 3; p = 0.935$
0	285 (85.5)	198 (85.7)	483 (85.8)	
1	33 (9.9)	21 (9.1)	54 (9.6)	
2	10 (3.0)	9 (3.9)	19 (3.4)	
3	4 (1.2)	3 (1.3)	7 (1.2)	
Health status	<b>n = 332</b>	<b>n = 229</b>	<b>n = 561</b>	$\chi^2 = 1.32; df = 4; p = 0.859$
Excellent	79 (23.8)	54 (23.6)	133 (23.7)	
Very good	138 (41.6)	104 (45.4)	242 (43.1)	
Good	92 (27.7)	57 (24.9)	149 (26.6)	
Fair	20 (6.0)	13 (5.7)	33 (5.9)	
Poor	3 (.9)	1 (.4)	4 (.7)	

\*Unless otherwise indicated.

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**Table 2. Farm operation variables for the 332 men and 231 women representing 347 farms in South Central Alberta**

Variable	No. of men (and %)	No. of women (and %)	Total	Statistical values
<b>Role on farm</b>	<b>n = 330</b>	<b>n = 215</b>	<b>n = 545</b>	$\chi^2 = 257.59; df = 4; p = 0.000$
Primary manager	(71.5)	(4.7)	(71.5)	
Co-equal manager	(20.9)	(40.5)	(28.6)	
Assistant manager	(3.6)	(24.2)	(11.7)	
Part time	(2.7)	(23.3)	(10.8)	
Manager	(1.2)	(7.4)	(3.7)	
None				
<b>No. of family working</b>	<b>n = 304</b>	<b>n = 210</b>	<b>n = 514</b>	$\chi^2 = 7.31; df = 2, p = 0.26$
As needed	(28.9)	(18.6)	(24.7)	
1or 2 members	(39.5)	(46.7)	(42.4)	
>2	(31.6)	(34.8)	(32.9)	
<b>No. of employees</b>	<b>n = 332</b>	<b>n = 231</b>	<b>n = 563</b>	$\chi^2 = 0.150; df = 2; p = 0.928$
None	(57.5)	(56.7)	(57.2)	
As needed	(22.6)	(22.1)	(22.4)	
Part and/or full time	(19.9)	(21.2)	(20.4)	
<b>Off-farm work</b>	<b>(31.7)</b>	<b>(40.1)</b>	<b>(35.1)</b>	$\chi^2 = 4.13; df = 1; p = 0.042$

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**Table 3. Health and safety concerns of the 332 men and 231 women representing 347 farms in South Central Alberta**

Variable	No. of men (and %)	No. of women (and %)	Total	Statistical values
<b>Compared to other occupations, farming is:</b>	<b>n = 328</b>	<b>n = 227</b>	<b>n = 555</b>	$\chi^2 = 10.79; df = 3; p = 0.013$
Safer	(4.3)	(3.5)	(4.0)	
More dangerous	(54.3)	(56.8)	(55.3)	
Not sure / Don't know	(4.6)	(11.0)	(7.2)	
The same	(36.9)	(28.6)	(33.5)	
<b>More concerned about other issues than about farm health and safety</b>	<b>n = 332</b>	<b>n = 231</b>	<b>n = 563</b>	$\chi^2 = 1.50; df = 2; p = 0.471$
0 other issues	(25.6)	(22.9)	(24.5)	
1–2 other issues	(32.8)	(30.3)	(31.8)	
3–4 other issues	(14.6)	(46.8)	(43.7)	
<b>No. of concerns for own health</b>	<b>n = 329</b>	<b>n = 231</b>	<b>n = 560</b>	$\chi^2 = 8.41; df = 2; p = 0.15$
0	(5.5)	(12.1)	(8.2)	
1–5	(47.1)	(41.1)	(44.6)	
> 5	(47.4)	(46.8)	(47.1)	
<b>No. of concerns for family health</b>	<b>n = 320</b>	<b>n = 226</b>	<b>n = 56</b>	$\chi^2 = 1.91; df = 2; p = 0.386$
0	(7.5)	(7.5)	(7.5)	
1–5	(47.8)	(42.0)	(45.4)	
> 5	(44.7)	(50.4)	(47.1)	
<b>Events or accidents in previous 2 years</b>	<b>n = 307</b>	<b>n = 213</b>	<b>n = 520</b>	$\chi^2 = 7.96; df = 1; p = 0.005$
Yes	(53.4)	(40.8)	(48.3)	
No	(46.6)	(59.2)	(51.7)	

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**Table 4. No. and type of injuries / illnesses experienced by study respondents during the 2 years preceding the survey**

Type of injury / illness	No. of men (and %)	No. of women (and %)	Chi-squared	p value
Skin problems	27 (8.2)	14 (6.3)	0.76	0.383
Breathing problems	44 (13.4)	28 (12.5)	0.10	0.754
Eye injuries	18 (5.5)	4 (1.8)	4.92	0.26
Severe cuts / bruises	41 (12.7)	13 (5.7)	7.28	0.007
Back injuries	66 (20.4)	21 (9.3)	12.23	0.0005
Muscle / Joint injuries	71 (18.7)	31 (13.8)	2.33	0.127
Emotional problems or stress	52 (16.0)	40 (17.9)	0.31	0.578

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**Table 5. Logistic regression models for stress in 332 men and 231 women representing 347 farms in South Central Alberta**

Variables	Men		Women	
	Coefficient (and SE)	p value	Coefficient (and SE)	p value
<b>Variables common to both models</b>				
<b>Age</b>				
< 30	2.02 (0.88)	0.022	2.28 (1.43)	0.110
30–39	2.78 (0.64)	0.000	3.42 (1.36)	0.012
40–49	2.46 (0.58)	0.000	2.67 (1.32)	0.043
50–59	1.23 (0.54)	0.025	2.56 (1.32)	0.053
60–69	0.64 (0.53)	0.230	1.50 (1.41)	0.287
70–94	1.00		1.00	
<b>Health rating</b>				
Excellent / Very good	-1.60 (0.69)	0.020	-1.36 (1.06)	0.229
Good	-0.85 (0.69)	0.221	0.33 (1.15)	0.776
Fair to poor	1.00		1.00	
<b>No. of concerns about effects of farming on own health</b>				
0	-0.83 (0.65)	0.202	-1.08 (0.62)	0.080
1–5	-1.15 (0.33)	0.000	0.24 (0.44)	0.574
> 5	1.00		1.00	
<b>Variables unique to each model</b>				
Compared to other occupations, farming is:				
Safer	-0.79 (0.51)	0.126		
More dangerous	0.62 (0.30)	0.041		
Not sure	0.40 (0.57)	0.488	(not in model)	
Same	1.00			
<b>No. of employees</b>				
0	-0.85 (0.22)	0.000		
As needed	-0.13 (0.28)	0.645	(not in model)	
Part / Full time	1.00			
<b>Any events or accidents that changed attitudes, awareness or practices</b>				
No			-1.11 (0.44)	0.011
Yes	(not in model)		1.00	
<b>No. of family working on farm</b>				
0			1.11 (0.57)	0.051
1–3			1.15 (0.44)	0.009
3+	(not in model)		1.00	
<b>Family income</b>				
< 100 000			-0.08 (0.41)	0.852
≥ 100 000	(not in model)		1.00	
<b>Constant</b>	<b>1.76 (0.4019)</b>	<b>0.000</b>	<b>1.09 (0.44)</b>	<b>0.014</b>
SE = standard error				

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The issues shared by professionals living and working in rural communities in British Columbia

James C. Montgomery, PhD

CJRM 2003;8(4):255-60

[ [résumé](#) ]

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This presentation is a summary of a study looking at the issues faced by teachers, nurses, social workers and police officers in 8 rurally different communities in British Columbia. A triangulation study, it features a review of the literature to identify issues shared across the disciplines, a Delphi probe to verify the issues, the creation of a rurality index in the selection of research sites, and an analysis of interviews revealing a lack of agreement between the experts' views of the issues and that of the practitioners living and working in rural communities. This dissonance results in an identification of two views of rurality; a rural-as-deficient approach that dominates the literature and an approach that sees rurality as something that is different. Findings include the identification of 20 issues shared by rural professionals in British Columbia and a list of 18 inferences about the relationships between the issues and the professionals, between the professionals and their communities, and between the rurality of the communities and the issues; with implications for rural policy-makers, pro-service teacher-educators, and potential rural teachers.

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Cet article résume une étude portant sur les problèmes qu'affrontent les enseignants, les infirmières, les travailleurs sociaux et les agents de police dans huit communautés rurales de Colombie-Britannique présentant des caractéristiques différentes. Effectuée par triangulation, cette étude comprend une étude bibliographique qui cherche à déterminer les problèmes communs aux différentes disciplines, une étude Delphi visant à vérifier les enjeux, la création d'un indice de ruralité afin de choisir les communautés visées par l'étude et l'analyse d'entrevues révélant la divergence entre les points de vue des experts et ceux des praticiens vivant et travaillant dans les communautés rurales. Ce désaccord entraîne l'établissement de deux perceptions de la ruralité : l'une considérant le milieu rural comme déficient, qui prédomine dans la documentation, et l'autre le considérant comme un milieu différent. Les résultats décrivent 20 problèmes communs aux professionnels établis en milieu rural en Colombie-Britannique et une liste de 18 inférences sur la relation entre les problèmes et les professionnels, les

professionnels et leurs communautés, et le niveau de ruralité des communautés et les problèmes. Ces constatations ont toutes des répercussions pour les décideurs, les enseignants et éducateurs en service et les enseignants songeant à s'établir en milieu rural.

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## Introduction

This is a triangulation study<sup>1</sup> collecting different kinds of data to examine community, workplace and social issues faced by professional people living and working in rural communities. This study had its roots in my experiences as a teacher and principal of a K-12 school in a rural community in northern Canada. As a professional person interacting on a regular basis with such other rural professionals as social workers, doctors, nurses, teachers, civil servants and Royal Canadian Mounted Police (RCMP) members it seemed that we shared fundamental concerns with respect to living and working in a small and isolated community. This research is an investigation into those concerns and into the relationships surrounding them.

The fundamental purpose of this research, to investigate and make sense of the issues experienced by professionals living and working in rural communities in British Columbia, was developed into 4 researchable questions and sub-questions addressing:

- a) the issues;
- b) the relationships between the issues and the rural professionals;
- c) the relationships between the rural professionals and the rurality of their communities; and
- d) the relationships between rurality and the issues.

## The literature

I conducted a review of the literature relevant to the 3 principal foci of this study: rural issues, rural professionals, and rural communities. An investigation into rural communities with a view to comparing different aspects of them readily revealed the necessity to define rurality in a measurable sense. The Griffith Service Access Frame,<sup>2</sup> an Australian quantification model, offered the ability to calculate the rurality of a community. It featured an algorithm that combined isolation, community size, and access to services in a transparent and objective manner. This model was additionally attractive with the literature revealing<sup>3</sup> that rural teachers in British Columbia generally felt that the main components of rurality were community size, isolation and access to services.

A search in the literature for what is currently known about such rural professionals

as teachers, nurses, social workers and police officers identified 6 themes: age, gender, background, training, why they move into a rural community, and why they stay or leave that community. There was a suggestion<sup>4</sup> that rural professionals: a) are younger than their urban counterparts, b) suffer from a gender bias in the workplace, c) have a rural background, d) are not rurally trained, e) move to a rural community for work, and f) leave rural communities because of work-related issues.

An exploration into what is currently known about rural issues in the fields of education, health, human services and law enforcement revealed a set of issues faced by those professionals. These issues were grouped into the 3 broad categories of: a) community and culturally related issues, b) professional and work-related issues, and c) personal and social issues.

## A theoretical framework

An adaptation ([Fig. 1](#)) of a 3-dimensional rurality model used by Helge<sup>5</sup> enabled this study to examine the issues relevant to rural professionals in rurally different communities. One dimension, the rurality of a community, is based on work done by Griffith<sup>2</sup> in creating an index of rurality. A second dimension, the nature of a rural professional, is based on work done by Ankrah-Dove<sup>6</sup> in describing the various factors affecting rural teachers' attitudes toward living and working in rural communities. The third dimension, the nature of rural issues, is derived from a literature review synthesis looking at the types of issues faced by rural professionals in each of the 4 disciplines.

I used the theoretical framework organizationally to develop strategies to collect data (in general) about the issues within each profession, about the professionals, and about rural communities. A synthesis of the set of issues identified in a review of the literature in each discipline created a set of 50 issues shared across the professions.<sup>7</sup> A modification of the Delphi research technique<sup>8</sup> applied to an international panel of experts from each of the disciplines enabled me to check for concurrence across the professions that the list of shared issues was accurate.

An application of a modification of the Griffith Service Access Frame,<sup>2</sup> created an index of rurality for rural communities in British Columbia.<sup>9</sup> This model used a principal component analysis technique to calculate the weightings needed to combine population, distance, and economic ability statistics into one overall access to services score (rurality index) for each community. A graph of the index of rurality for the communities identified<sup>8</sup> that were "evenly" spread out by the index and contained a school, a hospital, a social service office and an RCMP detachment office. I sought prospective interviewees from each of the 8 communities, based on the criteria of membership in the education, health, humans services or law enforcement professions.

Initial generalized data gathered from a review of the literature guided the development of an interview instrument designed to collect data specific to British Columbia. The interviews explored perceptions of rurality, arrival into a rural community, starting a new job, and living and working in that community for a period of time. Data from the interviews revealed a specific set of shared issues. Merging this set with the one previously identified in the literature enabled an identification of 20 issues specific to rural professionals in British Columbia. Further coding of the data by these issues, by the attributes of the interviewees, and by the levels of rurality of their communities enabled cross-referencing of these variables in a search for the relationships between them.

## Results

The Delphi probe with an international panel of 55 "experts" verified that the list of 50 shared issues was appropriate and represented issues faced by rural professionals. Two rounds of Likert-type responses provided this consensus. Surprisingly, when I presented the issues to practitioners as a follow-up to each interview, there was only weak agreement with the experts as to the appropriateness of the issues.

While some interviewees found responding to the issues a straightforward task, most seemed to find the issues confusing (as judged by the blank statements and notes written to me on the survey form). Others did not complete the survey form. Comments from non-returnees shared the sentiment that many of the issues they were asked to respond to were not germane to them and there was no room to indicate satisfaction or pleasure with a topic since "everything was slanted" toward a negative view of the issues. When queried, two non-respondents (13%) assured me that they "would get around to it," and added that the issues didn't really apply to them anyway.

The survey form, intended to provide data on the agreement of the issues between practitioners and experts, instead highlighted a lack of agreement as an area of focus. Although the resistance to completing the survey form remained puzzling, it tied in with some comments received in the first round of the Delphi probe and with my experiences in piloting the interview instrument. It seemed (in my opinion) that those professionals who were happy and comfortable with their jobs and their communities were the ones who were reluctant to complete the survey or who indicated confusion responding to some of the issues. Other interviewees, such as those in the process of leaving their communities, commented that the survey form covered every single concern of theirs. This dissonance between the experts and the practitioners compelled me to return to the literature, as it was the source of the data that was the basis of my interview instrument.

A re-analysis of the literature revealed the pervasiveness of a rural-as-deficient perception compared to a rural-as-different point of view. Whereas authors writing from a deficiency or pathological view described what was wrong or was missing with rural situations; others described the positive aspects of rurality or the rural-urban differences, offering that rurality represented life-style choices. A graph ([Fig. 2](#)) of these approaches by 90 authors illustrates a distinct and increasing trend to write about rurality from a deficiency perspective with an almost hidden body of literature written from an opposite position.

As the literature was my initial source of data in identifying the issues faced by rural professionals, it is clear to me how the pathological point of view of rurality had such an influence on the description of those issues, and why the practitioners in the field were so uncomfortable with an instrument derived from that point of view.

This "new insight" made it possible to revisit the data from the interviews, revealing a smaller and seemingly different set of issues. This analysis enabled me to condense the original list of 50 shared issues to a manageable list of 20. The 20 issues represent those issues identified in the interviews and cross-referenced with both the Delphi survey and the partial survey of the interviewees. The issues faced by rural professionals, in this study, are the following.

#### Community and culturally related issues

- closeness/linkages with the community physical geography (climate, scenery, nature);
- closeness to life-threatening situations (medical, motor vehicle, fatalities, suicides);
- cultural differences and attitudes;
- geographic isolation; and
- anti-social behaviours (crime, drugs, alcohol abuse).

#### Professional and work-related issues

- professional positives (job satisfaction, autonomy, experiences, people, variety);
- professional frustrations (professional isolation, bureaucracy, never-ending job);
- colleagues (support, teamwork, turnover, competency);
- rural preparation; and
- background inequities (work, community, family).

#### Personal and social issues

- access to family and friends;
- access to services (work , community , family);
- recreational and social activities;
- space (indoors, outdoors, & personal);
- family happiness (self, spouse, children);
- community size (anonymity, privacy, confidentiality);
- living conditions;
- quality of local schools; and
- compensation (allowances, salaries, cost of living).

Data from over 70 hours of tape-recorded interviews with 36 rural professionals over a 7-month time span were transcribed and sorted into categories. Responses in these categories were collected into naturally occurring clusters.<sup>10</sup> Frequency counts enabled a measure of prominence to be placed on each cluster. Some of the stronger inferences suggested by the data in these clusters are that, in this study:

1. most rural professionals are married;
2. there is a gender bias in rural policing, nursing, and teaching;
3. rural professionals typically grow up rurally and do not feel professionally prepared for their rural work;
4. the main reason for moving to a rural community is because of work;
5. the ages of rural professionals and their longevity in a community are indirectly related to the rurality of a community; and
6. rural professionals in the middle levels of rurality tend to have more children than professionals at higher and lower levels.

The emergence from the data of these inferences were a verification of findings previously described in the literature within specific disciplines. Viewing these findings across the disciplines of rural education, health, human services and law enforcement is new. The following inferences, without previous mention in the literature, appear to offer new insights into the lives of rural professionals as the data also suggest that, in this study:

1. short-term rural professionals are more likely to be males, whereas longer-term professionals are more likely to be female;
2. longevity in a community is indirectly related to family size;
3. longevity in a rural community is directly related to a professional's age;
4. middle-aged professionals have more children than younger and older professionals;
5. rural teachers, as a group, are younger than rural police officers, who are younger than rural nurses, who are younger than rural social workers;
6. rural police officers and rural teachers do not, in general, tend to stay for extended periods of time in their rural communities, whereas rural nurses and rural human services workers do;

7. rural teachers, as a group, have more children than other professional groups;
8. rural professionals agree on the same set of issues, regardless of profession, gender, age, ethnicity, longevity in a particular community, and number of dependents;
9. concerns with professional satisfaction, community size, and rural preparation are universal to all levels of rurality;
10. concerns with colleagues, family happiness, and anti-social behaviours are generally indirectly related to rurality;
11. concerns with access to family and friends, professional frustrations, access to services, recreational activities, access to space, closeness to life-threatening situations, cultural differences and attitudes, living conditions, rural-urban inequities, financial compensation and quality of local schools are generally directly related to rurality; and
12. there is a positive correlation between concerns with rural issues generally and the rurality of rural communities (correlation coefficient 0.553).

## Discussion

In addition to the identification of a set of issues shared by rural professionals in 8 rurally different communities in British Columbia, and the development of a set of inferences about the relationships between the professionals and their issues, between the professionals and their rurality, and between rurality and the issues, some general conclusions to this research are possible. These conclusions include a recognition that: a) there is a positive correlation between levels of rurality and rural issues, b) indexing of rurality works, c) rural professionals are a homogenous group, and d) rurality is something that is valued in this group.

Rural issues are directly correlated to rurality. A correlation between the frequency of concerns with rural issues at each of the 8 levels of rurality was compared to the 8 levels of rurality. With a calculated average correlation coefficient of 0.553 as support, it is reasonable to conclude that concerns with rural issues share a positive correlation with levels of rurality.

Indexing of rurality works. The "match" in the preceding paragraph also indicated a second conclusion: that indexing rurality makes sense in that there was such a strong resemblance to the end of this research with its beginnings. The frequency of concerns with rural issues closely matched the levels of rurality index of rurality developed to determine those concerns.

Rural professionals are a homogenous group. Every possible avenue was explored to determine if the 4 professions differed in their responses to the shared issues. Part of the literature review featured a comparison of researchers' views on retention issues and concluded that the professions agreed. The Delphi probe

revealed strong agreement from an international cross-disciplinary panel looking at identified shared issues, and each profession in the sample indicated strong agreement on the shared issues.

Although there were demographic differences involving ages, dependents and longevity in communities, the professions shared similar sentiments in every discussion of rural preparation, recruiting, retention, and living and working in a rural community. These similarities were evident in the data reduction technique of forming naturally occurring clusters from interview data. At no point did any one profession stand apart from the others in these clusters.

Rurality is valued. My first hint at the value placed on rural living and working came from my experiences piloting the interview instrument. The 7 professionals each stated at the beginning of the interview that their experiences weren't interesting, but each claimed by the end of the interview that telling their stories was fun, enjoyable and worthwhile. Similar sentiments were voiced with the 36 interviewees. Listening to their stories was an exhilarating experience for me personally, and telling their stories was an enjoyable experience for them. Comments about keeping transcripts of their interviews, and some keeping a copy of the tape recordings were routine.

Some of the happiest people I have ever met were in the group interviewed. The first person I interviewed, a nurse, told me that she had "the best job in the world." Later, another nurse advised me that "for the right person, there is no finer job." A Mountie in a very rural community felt that he should be paying the government for the privilege of doing his job, he was enjoying it so much. Typical post-interview comments invariably included references to how much fun people have in rural communities, and how much they have laughed when they look back on their rural lives.

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This article has been peer reviewed.

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Competing interests: None declared.

This paper is reprinted from: Montgomery JC. The issues shared by professionals living and working in rural communities in British Columbia. In: Montgomery JC, Kitchenham A, editors. *Issues affecting rural communities II*. Nanaimo (BC): Malaspina University-College; 1999. p. 316-20. Copyright rests with the author.

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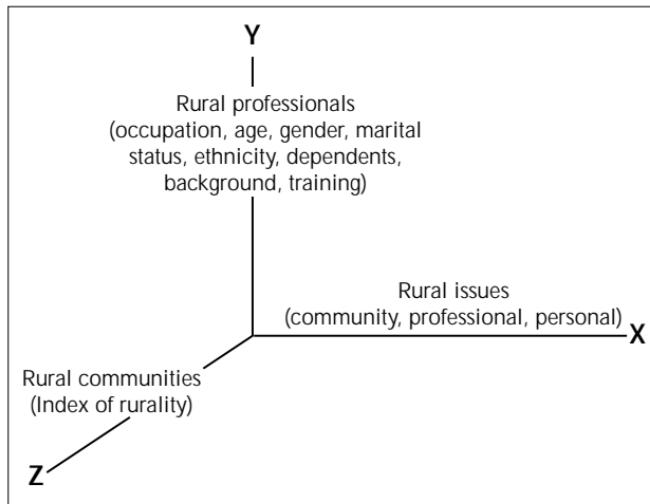


Fig. 1. The three dimensions examined in the study.

[Return to text]

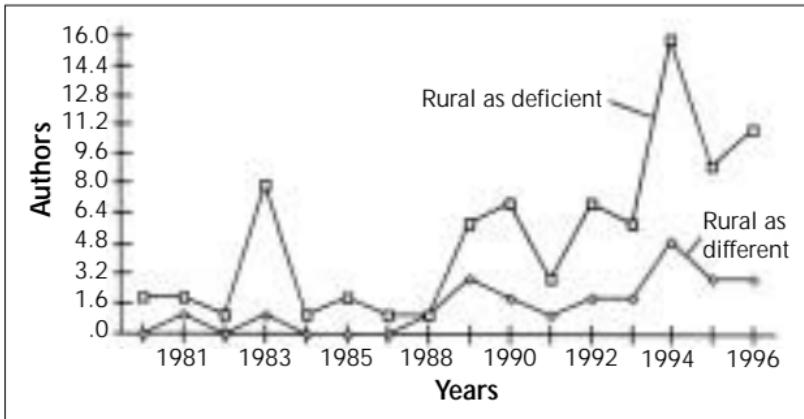


Fig. 2. A comparison of two perceptions of rurality as seen in the literature.

[Return to text]

## The occasional scaphoid cast

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CJRM 2003;8(4):263-6

The common cause of a scaphoid fracture is a fall onto the outstretched hand, involving a forced dorsiflexion and radial deviation. A scaphoid fracture is usually treated with a carefully molded, short-arm cast that includes the proximal phalanx of the thumb, worn for 6 to 12 weeks. As is well known to most rural physicians, this fracture is prone to complications, including avascular necrosis, non-union and post-traumatic osteoarthritis.

### Step 1

Set aside the materials you'll need (Fig. 1): a) 1 piece of 5-cm Stockinette, b) 1 piece of 2-2.5-cm Stockinette or Surgi-gauze for the thumb, c) 1 roll of 7.5-10-cm Soft-roll, d) 3 rolls of 7.5 cm Gypsona plaster, and e) a pail of lukewarm (20°C-25°C) water.



Fig. 1

### Step 2



Fig. 2

Position the patient: elbow flexed to 90°, arm in the neutral position between pronation and supination, fingers and thumb in the "pincer position" — imagine that the patient is holding a glass in his or her hand (Fig. 2). It is easiest to work facing the patient.

### Step 3

Apply the Stockinette, (Fig. 3) extending from just below the elbow to a point 4-5 cm distal to the fingertips. Make a slit in the Stockinette for the thumb.



Fig. 3



Fig. 4

### Step 4

Apply the Stockinette/Surgi-gauze to the thumb. Let it extend from the base of the thumb to a point 2.5 cm distal to the tip of the thumb (Fig. 4). (Make a small slit at the base, if necessary.)

### Step 5

Apply the first roll of Soft-roll, starting at the wrist. Apply 2 turns around the wrist, then 1 turn across the hand (Fig. 5), then another turn around the wrist and thumb. Next, make a small vertical cut in the Soft-roll (Fig. 6), then wrap around the thumb twice (Fig. 7). Work the Soft-roll up toward the elbow, each turn overlapping by half the previous turn (Fig. 8).



Fig. 5



Fig. 6



Fig. 7



Fig. 8

## Step 6

You may wish to tear off a small strip of Soft-roll and apply a small circular flange around the elbow for added comfort (Fig. 9).



Fig. 9

## Step 7

You are now ready to begin applying the plaster. Dip the first roll of plaster into the water for 3 to 5 seconds until the bubbling has ceased. Remove from the water and squeeze the roll gently twice. Begin the application of plaster by applying 2 turns around the wrist, then go around the thumb twice (Fig. 10), then around the wrist once again, then twice around the "crease" of the hand. Be sure that the MCP joints are well exposed: a common error is to extend the plaster too far distally. Ensure that the IP joint of the thumb, in the flexed "pincer" position, is incorporated into the cast, but leave the tip of the thumb well exposed. Next, carry the plaster up towards the elbow, to a point 5 to 7 cm below the flexed elbow joint, each turn overlapping by half the previous turn (Fig. 11).



Fig. 10



Fig. 11

## Step 8

Fold the Stockinette over the plaster at the distal end, making 2 separate folds (Fig. 12), then fold over the proximal Stockinette and the thumb Stockinette/Surgi-gauze (Fig. 13).



Fig. 12



Fig. 13

## Step 9

Begin to apply the second roll of plaster at the elbow, spiraling downward toward the wrist, each turn again overlapping the previous turn by 50%, one turn through the "crease" (Fig. 14), then twice around the thumb (Fig. 15).



Fig. 14



Fig. 15

### Step 10

Mold the cast carefully, paying special attention to the snuffbox area, then mold the remainder of the cast (Fig. 16).



Fig. 16

### Step 11

Begin to apply the third roll of plaster, starting again at the elbow spiraling downward to the "crease" of the hand then again 2 turns around the thumb (Fig. 17). A second common error is to make the cast too thick over the "crease" between the thumb and the fingers. You do not need a lot of strength here.

### Step 12

Smooth out the cast well (Fig. 18). Step back and admire.



Fig. 17



Fig. 18

We note that some physicians do not include the interphalangeal joint of the thumb. We feel that this joint should be included, otherwise there may be movement of the cast, creation of friction, then ulceration between the thumb and the index finger.

Encourage the patient to exercise his or her non-immobilized fingers. Inspect the cast every 2 weeks or so; if it is loose, apply a new cast. Normally the cast is removed at 8 weeks. At that time, if the patient has a comfortable wrist, a good range of motion, and is able to grip with little or no local tenderness, the cast may be discarded, regardless of the x-ray appearance. Treat the patient, not the x-ray. Protect the wrist with a splint and prohibit contact sports until there is evidence of union on x-ray. If the patient still has discomfort, tenderness, weakness or pain, reapply a new cast for 4 to 6 more weeks.<sup>1</sup>

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This article has been peer reviewed.

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Country cardiograms case 23

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Tumbler Ridge, BC

CJRM 2003;8(4):267

A 48-year-old man presented to the emergency department of a rural British Columbia hospital with a history of vague chest pain over the preceding 2 days. The following ECG (Fig. 1) was recorded as part of the work-up.

What is your interpretation?

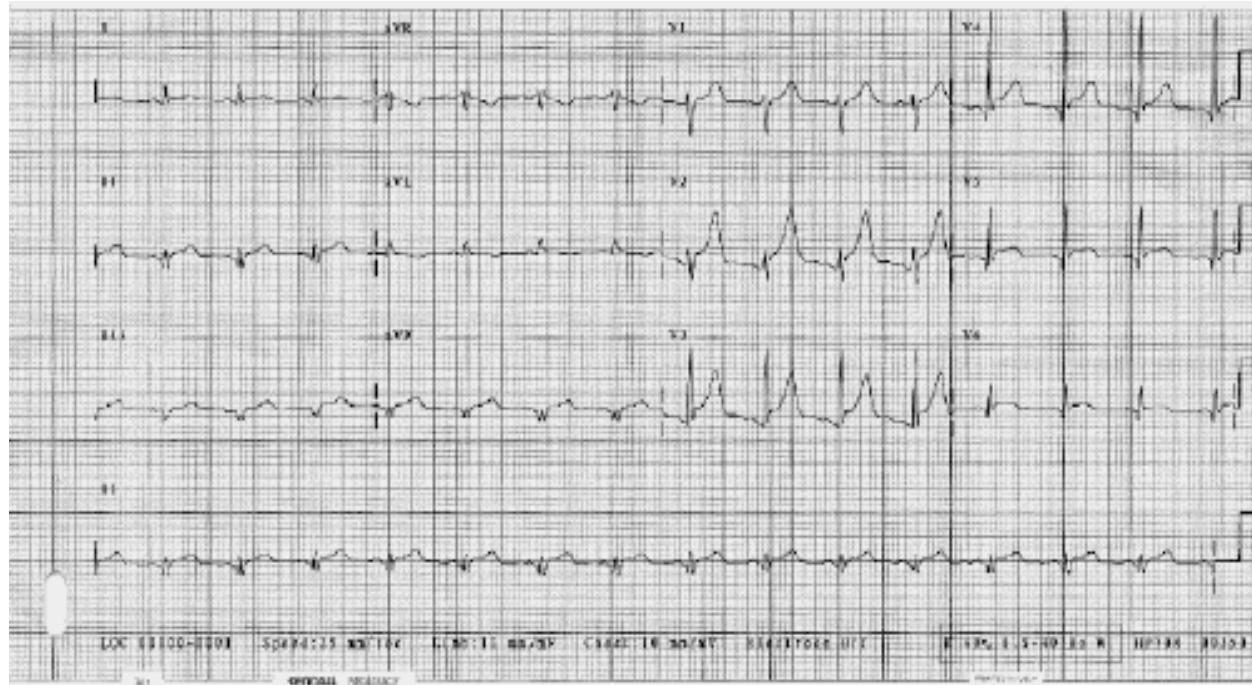


Fig. 1. ECG of 48-year-old man with vague chest pain.

For the Answer, see [page 278](#).

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This article has been peer reviewed.

Competing interests: None declared.

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Country cardiograms case 23: Answer

CJRM 2003;8(4):278

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#### ECG interpretation

The ECG shows normal sinus rhythm at a rate of 90 beats/min. The P-R, QRS and QT intervals are normal. Left axis deviation of -40° is present. Narrow septal Q waves are seen in leads V4-V6, and wider, probably abnormal, Q waves are present in leads II, III and aVF, likely indicating an inferior myocardial infarction of undetermined age.

S-T segments are elevated in many leads, most pronounced in V2-V6, with a maximum elevation of just under 2 mm in V2. Subtler elevation is present in leads II, III and aVF, and possibly in lead I.

Probably the most unusual feature lies in the P-R segments, which show a significant down-sloping depression, best seen in leads V2-V4 but also present in leads V5, V6 and II. Reciprocal up-sloping P-R segment elevation is seen in lead aVR.

In combination, these findings are highly suggestive of acute pericarditis.

#### Discussion

Acute pericarditis is one of the few disease entities that can be diagnosed with relative confidence from the ECG. The S-T elevation that characterizes it needs to be distinguished, if possible, from that of the "acute injury pattern" and the so-called "early repolarization syndrome."<sup>1</sup>

The first feature that usually prompts consideration of acute pericarditis is the widespread nature of the S-T elevation. If present, this is useful, but like many ECG findings, it is not always present. In this situation, a fairly convincing case can be made for S-T elevation not only in the precordial leads, but also in the inferior leads and possibly in lead I.

The absence of reciprocal S-T depression is another powerful finding, as significant reciprocal changes are highly suggestive of myocardial injury (the exception is lead aVR, as described below).

Third, the shape of the S-T elevation can be helpful, typically showing upward concavity in acute pericarditis, versus the coved shape of the injury pattern. In this tracing, upward concavity is certainly present in all the leads that display ST elevation except V5 and V6.

Acute pericarditis has no effect on Q waves, and the development of abnormal Q waves obviously goes against such a diagnosis. In this case the inferior Q waves were present on a prior tracing and thus are unconnected with the patient's current complaint of chest pain.

However, it is the P-R segment, which is often ignored, that can sometimes clinch a diagnosis of acute pericarditis. Changes in this segment have low sensitivity but high specificity. They will often be absent in a patient with acute pericarditis, but if present, allow high diagnostic accuracy. These changes are sometimes referred to as "Spodick's sign," after David Spodick, a leading researcher in the field of S-T segment elevation.<sup>2</sup>

In Spodick's study the ECGs of 63% of patients with acute pericarditis displayed a depressed P-R segment, usually down-sloping as the segment reaches the QRS complex.<sup>3</sup> This ECG provides a classic example of Spodick's sign.

When discussing acute pericarditis, a final word is needed on a neglected lead that can be helpful: aVR. This is the one lead in which S-T segment depression often occurs (as in this case). However, Spodick's sign is often best seen in this lead, in which it takes the reciprocal form of up-sloping elevation, as can subtly be seen in this ECG.

For the Question, see [page 267](#).

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A PDA user's diary

Barrie McCombs, MD, CCFP, CCFP(EM)

CJRM 2003;8(4):270-1

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September 03, 2003

Dear Diary! My medical colleagues are always asking me how I use my handheld computer in my practice. So I decided to make a note of every time I used my PDA (Personal Digital Assistant) today.

0800 — Drug dosage

Patient: Billy Smith

Diagnosis: recurrent otitis media

With his last episode, Billy responded poorly to ampicillin, so I decided to try him on Clavulin. I didn't remember the dose per kilogram, so I looked it up in my Lexi-Drugs program. His mother asked about side effects, so I showed her the information right on the PDA. I like Lexi-Drugs because it has a large drug list and gives Canadian drug names (for example, in the USA, Clavulin is known as Augmentin). The data is updated several times per year.

0900 — Drug interaction

Patient: Mary Jones

Diagnosis: diarrhea

A specialist recently started Mary on "Nousatol." She forgot to tell him about the "Nogudatol" that I gave her last week. I entered the names of all her medications into my Lexi-Interact program and discovered that diarrhea is a common side effect of "Nousatol," particularly in patients taking "Nogudatol." The recommended treatment is to reduce the dose of both drugs.

1000 — Medical reference

Patient: William Dogood

Diagnosis: malaria

Bill has just returned from 2 years as a volunteer in the Far East. He had developed acute malaria and was treated with quinidine, which is usually used for cardiac arrhythmias. I had never heard of this treatment, but I looked up malaria in my "Five Minute Clinical Consult" (5MCC) and found quinidine listed as a treatment option. I'm sure glad that I have a memory expansion card on my PDA so that I can store all these different programs.

#### 1100 — Medical calculator

Patient: Hees Tufaht

Diagnosis: smoker, obesity

Until today, I've had no success in convincing Hees to stop smoking, reduce weight, follow his diabetic diet and take his hypertension medication regularly. On this visit, I used the Framingham calculator on my PDA to show him that, with all his risk factors, he has a 75% chance of having a heart attack within 10 years. He immediately asked for a prescription to help him stop smoking, and agreed to start working on his other risk factors.

#### 1115 — Date Book

I called the Canadian Pharmacists Association to see if they have a PDA version of the Compendium of Pharmaceuticals and Specialties (CPS). They will have one available in early 2004. They had not decided on a price yet, so I made a note in my PDA's "Date Book" to call them again in January.

#### 1130 — Alarm

Patient: Barrie McCombs

Diagnosis: poor memory

My PDA's alarm rang to remind me of the 1200 CME meeting at the hospital. I got there just in time to grab the last sandwich and hear Dr. Ray Bhid describe the first case of West Nile virus in our community. He gave a really good review of what physicians could do to reduce their patients' risk of contracting the disease.

#### 1245 — Beaming

At the end of the rounds, Dr. Bhid had exhausted his supply of printed handouts, but he had a copy of the information on his PDA, so he copied it to my device using infra-red beaming. It only took a couple of seconds!

#### 1300 — Address Book

Patient: Marcus Wobbly

Diagnosis: old age

Marcus is a 95-year-old physician. Just this year, he finally saved up enough

money to be able to retire. He asked to have his prescriptions refilled at a new pharmacy that just opened in his neighbourhood. The store isn't listed in the phone book yet, but I had saved their phone number from a previous call. I pressed the "Address Book" button on my PDA and looked in my list of local pharmacies.

#### 1310 — To Do List

I'm on telephone hold, waiting to talk to the pharmacist. While waiting, I pressed the "To Do List" button on my PDA. My wedding anniversary is in 2 days, and my wife has never forgiven me for forgetting it for the past 3 years. So I made a "high priority" note to call a florist tomorrow.

#### 1500 — Calculator

Patient: Christie McDonald

Diagnosis: recurrent otitis media

I decided to try Clavulin on Christie as well. I remembered the dose per kilogram from the previous patient, but used the calculator on my PDA to determine the correct daily dose for her particular weight.

#### 1515 — Memo Pad

A patient cancelled, so I used the time to read the notes on West Nile virus that the speaker had given me. I made a "To Do" note to create a patient handout about mosquito repellants. Just then, my partner dropped in. She had missed the meeting, so I beamed a copy of the notes to her PDA.

#### 1545 — Note Pad

A patient came in with a sprained ankle. He wanted an x-ray, but I used "Note Pad" on my PDA to draw an ankle diagram and explain that, according to the Ottawa Ankle Rules, he was at low risk of a fracture. It was a good diagram, so I saved it to use again.

#### 1600 — Find

I couldn't remember the diagnostic code for Ulcerative Colitis, so I used the "Find" feature of my PDA to look it up in my list of ICD-9 codes. While searching all the data on my PDA, it also found the notes I had written about the disease at a recent CME meeting,

#### 1615 — Camera

My last patient had a very strange rash. I took a quick picture of it with the built-in camera on my PDA. I'll email the picture to a dermatologist in the city to ask if I should refer the patient.

#### 1630 — Email

I'm stuck on telephone hold again. I used the time to write an email message to

Mary Smith's specialist, to tell him that I reduced her drug dosage.

#### 1800 — Music

I'm finishing up my charts for the day. To help me relax, I listen to my favourite music, using my PDA's built-in MP3 player.

#### 1900 — Synchronization

When I get home, I connect my PDA to my desktop computer and run the synchronization program. When I came back after supper, they had updated each other, including sending the email message that I had written, and downloading 2 full-text articles from the CMAJ.

#### 2330 — Good Night

I'm exhausted, and so is my PDA's battery. We are both going to crawl into our cradles and recharge.

#### Web Sites:

Lexi-Drugs: [www.lexi.com](http://www.lexi.com)

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Competing interests: None declared.

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Rural Canadian anesthesia: past, present and future

Hal Irvine, MD, FCFP

CJRM 2003;8(4):272-4

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Concerns about the sustainability of rural anesthesia in Canada began to be raised in the mid-1980s. Opportunities for postgraduate training for general practitioner anesthetists (GPAs) were decreasing, some of the training being offered was inappropriate, and the length of training offered and felt to be necessary for safe practice was variable. In 1988 the Canadian Medical Association (CMA) sponsored an Invitational Committee with wide representation to come to a consensus on the training of general practitioners / family physicians to provide anesthesia services.<sup>1</sup> There was optimism at the conclusion of these 1988 meetings. The Executive Director of the College of Family Physicians of Canada at the time, Dr. Reg Perkin, reported:<sup>2</sup>

"The organizations representing Canadian medicine now all agree on the need to provide adequate numbers of funded residency programs for the training of FP anesthetists... The training must be appropriate to the educational objectives of FP anesthetists and will have to take place in clinical settings where this aim can be achieved, including the approval of new community-hospital training sites where indicated... There is now a renewed commitment of support for the practicing FP anesthetist... Teachers of anesthesia may travel to smaller centers on a regular basis... telephone "hot lines" may be available for urgent consultations... the services of locum tenens may be provided..."

Unfortunately, the good intentions of the Invitational Committee failed to materialize. Most of the recommendations produced by these meetings were not generally implemented. This, in part, reflects the challenges facing existing professional organizations to represent and advocate effectively on behalf of GPAs.

While in training, residents are in a third year of family medicine, but they spend their time working within the department of anesthesia without formal attachment or base within that department. On completing their training, they have no base within the Canadian Anesthesiologists' Society (CAS), nor are they members of the

Royal College of Physicians and Surgeons of Canada. While most also practise family medicine and have a professional home within the College of Family Physicians of Canada (CFPC), their practice profiles set them outside the scope of most family physicians. Many are international medical graduates, who have no history of affiliation with the CFPC, and some do not practise family medicine at all.

When professional issues relating to training, competence, professional development and clinical standards of practice are discussed, there has been no professional or academic group with the responsibility and mandate to speak for rural GPAs.

Fortunately, this is changing.

The same concerns with training, accreditation, maintenance of competence and quality assurance that prompted the 1988 CMA Invitational Meetings brought together the Society of Rural Physicians of Canada (SRPC), the CFPC, and the CAS to produce the Joint Position Paper on Training for Rural Family Physicians in Anesthesia.<sup>3</sup> Following these discussions, another broadly represented invitational meeting was held in Kananaskis, Alta., in November 2001.<sup>4</sup> Some of the discussions at Kananaskis involved how best to represent and provide a professional home for GPAs in rural Canada. It was realized that no one organization could adequately provide this function, and a collaborative model was proposed: that the CFPC, CAS and SRPC form a Collaborative Committee on Anesthesia (CCA).

This committee held its inaugural meeting in September 2002. The mandate of the CCA is to advocate for rural GPAs by identifying and responding to issues relating to anesthesia practice. The goal of the CCA is to function as an organizing committee with the responsibility to ensure that issues are identified, heard and carried forward toward resolution. Ad hoc working groups will be formed when necessary to address specific tasks. The CCA will also function as a resource for general and family practice anesthesia, its home organizations and outside bodies.

The CCA believes it can best support practising GPAs through 4 main mechanisms:

- supporting the development of national standards of training and accreditation;
- supporting the development and promotion of continuing medical education opportunities that are appropriate for rural GPAs;
- supporting the development of rural-appropriate clinical practice guidelines; and
- developing ways to reduce the professional isolation of rural GPAs.

Much has already been accomplished. There is a rural anesthesia email list, which currently has about 170 subscribers. A database of practising rural anesthetists has been compiled, and this allows a mechanism to communicate with the approximately 540 GPAs in Canada. Parallel to the activities of the CCA, a subcommittee has developed a document outlining national standards for accreditation of family practice anesthesia training programs and a national core curriculum for those programs. This document supports the CFPC initiatives in developing and accrediting advanced skills programs. It will give guidance to university programs on curriculum standards, and establishes the program organization necessary to ensure quality education. Programs will be accredited by the CFPC as part of their accreditation process for family medicine programs. Residents completing training will be given a diploma or other attestation of completion of training that notes that the program has been accredited by the CFPC.

The CCA remains concerned about the sustainability of its activities. To date, it has been supported by Health Canada funding left over from the Kananaskis Conference (with physical space and organizational and secretarial support provided by the CFPC). However, our federal funding expired Mar. 31, 2003. The original idea was that Health Canada would provide start-up funds and the committee would continue to be sustained by the 3 primary stakeholder organizations: the SRPC, CFPC and CAS. Despite an ongoing commitment to the activities of the CCA, the ability of these organizations to financially be totally responsible for the CCA in the long term is tenuous in view of all the other and increasing responsibilities they have. The CCA has proposed a model of sustainability, which is a combination of support from the SRPC, CFPC and the CAS with financial contribution from members of a new informal association of GPAs. GPAs could join the new association through membership in any one of the 3 primary stakeholder organizations and would receive some benefits from all 3 groups.

The CCA has determined the following priorities for the next year.

- moving forward with a collaborative model for sustainability of our initiatives;
- supporting CME appropriate for rural GPAs;
- developing a national system of evaluation for international medical graduates with skills in anesthesia;
- developing a national system of evaluation of residents training in anesthesia; and
- encouraging the development of rural-appropriate practice guidelines through liaison with the CAS Standards of Practice Committee.

Despite ongoing challenges, the future of anesthesia in rural Canada has never looked better. With continuing support for other "advanced skills" by our professional organizations, residents of rural Canada will be able to continue to receive services in their home communities from the doctors who serve them.

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Hal Irvine, MD, FCFP — Chair, Collaborative Committee for General and Family Practice Anesthesia in Rural Canada

Competing interests: None declared.

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Impact of alternate payment plans

CJRM 2003;8(4):275

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To the Editor:

Although a difficult topic to study I must comment on one aspect of "Impact of alternate payment plans on the practice patterns of fee-for-service physicians in the Northwest Territories" (NWT).<sup>1</sup>

Having done locums in both systems, I'm a little skeptical about alternate payment plans (APPs) and billings. The article states: "[The Government/payer] monitored the shadow billings submitted by salaried physicians to ensure that salary levels were justified, thereby providing salaried physicians with motivation to submit accurate shadow billings." (p. 92).

I suggest there is no motivation like fee-for-service (FFS) to bill. If one doesn't see an immediate reward for billings, they become more difficult to justify going that extra mile to get — especially for locums (who care about next year's funding, but not that badly), especially at 3am, especially when you're swamped. Whether it's the urinalysis, pregnancy tests, the IV starts or minor ward assessments, it takes special motivation to bill for these things while the pager is going. I speculate the rural areas have a lower percentage of physicians who are aggressive billers (partly personality, partly logistical). And I'd bet most of those on various APPs are told next year's funding depends on billings. I'd bet the billing assistant is under less physician scrutiny in the new system, and in turn is less motivated to go the extra billing mile.

With new physicians who've had little exposure to aggressive billing, and billing assistants who work not for the physician but another agency, billings will drop. In reality, I believe, although the intention to bill is good, the motivation is not the same. The inherent drop in submitted billings is by its nature somewhat inevitable, especially over time. I fear billing data can be used by government agencies as "documentation" to justify cutting funding, hence my concern with the details of the study's motivation-to-bill assumption.

Darren Jakubec, MD, CCFP  
Drifting GP, currently located  
in Sioux Lookout, Ont.

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1. Mathews M, Lockhart AJ. [Impact of alternate payment plans on the practice patterns of fee-for-service physicians in the Northwest Territories](#). Can J Rural Med 2003;8(2):89-93.

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Impact of alternate payment plans

CJRM 2003;8(4):275-6

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See response from: [M. Mathews, A.J. Lockhart](#)

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To the Editor:

Given that I worked as a family physician/anesthetist for the Inuvik Regional Health Board from 1993 to 2000, I read Mathews and Lockhart's article<sup>1</sup> with interest. Initially I worked as a long-term locum for the Inuvik Medical Clinic. In 1995 I became a co-owner of that clinic, now renamed the Arctic Family Medical House.

The authors proposed to "examine practice patterns of FFS general practitioners (GPs) after the introduction of a salary program for physicians new to the Inuvik Region" by comparing 5 indicators of practice patterns between FFS and salaried GPs over the course of the first 3 fiscal years that salaried program was introduced to the Inuvik Regional Health and Social Services Board (IRHSSB) (fiscal years 93/94 to 95/96). I question the distribution the authors make in Table 1 (Results section), where they divide the number of GPs between FFS and Salary for each of the fiscal years in the study.

When I arrived in July 1993 there were only FFS physicians working in the Inuvik region. A new salaried medical director (who would be responsible for salaried physician recruitment) was hired in spring 1994. In fact, throughout 1994 the majority of physicians practising in the Inuvik region (I recall at least 11) remained FFS. It needs to be clarified where the authors found 5 salaried GPs who worked for the IRHSSB in 93/94 and a further 15 salaried GPs in 94/95.

A related concern comes from the calculation in Table 1 of the numbers of monthly full time equivalents (FTEs) for each of the 3 fiscal years. While we attempted at all times to maintain a physician staff complement of 7 in the region, I will concede that there was the odd month or two when overlapping locums may have provided the luxury of an 8th medical body. Most often, however, we were short-staffed, and recruitment was an interminable problem. Even so, 7 FTE positions multiplied by

12 months gives only 84 monthly FTEs. The authors appear to have identified that our full-time complement of GPs was closer to 9 or even 10. Assuredly this was never my experience.

The debate over whether physicians should be paid FFS or be on salary is very topical. In the NWT the movement of the debate is pendular. When the federal government was responsible for health care in the Inuvik region, all medical doctors, GPs and specialists alike, were salaried. This funding arrangement was carried forward by the Government of the NWT when it assumed responsibility for funding health care services in the 1970s. Curiously, it was in response to the real expense of maintaining a large cadre of salaried physicians and on-going physician recruitment and retention issues that an Inuvik physician first proposed establishing the Inuvik Medical Clinic and taking on responsibility for physician recruitment for the entire region. Now, it appears, the pendulum has again swung to the salaried extreme. Time will tell whether this strategy is more successful in its newest incarnation.

A word of caution for those enticed to do future practice comparison studies in the NWT due to the temptations of isolated patient populations and small numbers of physicians. Changes to the funding of medical practitioners do change practice patterns. As the authors point out, within 3 years of implementing a salary program in the Inuvik Region, only a small percentage of community visits were being performed by FFS physicians. In part, this was because a large proportion of anesthesia and surgical coverage at the Inuvik hospital, particularly in the early years of the salary program, was provided by FFS doctors. When there is only 1 surgeon and 1 anesthetist in the region, neither can easily leave the community for 3 or 4 days. A secondary result, however, is a shift in obstetrical care, since two-thirds of the regional population lived outside Inuvik.

A second point, which the authors do not dwell upon, is the general transience of the medical staff in small northern locales. Annually a minimum of 25 physicians filled 7 FTE positions! Perhaps more to the point, from January 1993 through to December 1996 only 1 physician provided continuity of service to the Inuvik region. Third, small changes in the medical personnel composition can have significant impacts on the skill set and practice patterns of the medical community. For example, in early 1993 the core of the Inuvik medical community was comprised of 3 South African trained GPs who were, each one, also GP surgeons and GP anesthetists. When I left in 2000 only 1 of these medical pillars remained, supplemented by 2 Canadian-trained FP anesthetists and an occasional FRCP surgeon locum. And finally, any change in clinic ownership during a study period will completely change the billing characteristics of an FFS clinic. This is due both to changed priorities and visions of the clinic owners as well as to changing billing staff.

I appreciate the authors' efforts in examining the differences and similarities between FFS and salaried physicians in a northern locale. The political tensions between the 2 funding visions for providing medical services continue to escalate across Canada. Possibly the 2 visions can be made to co-exist, as they did in the Inuvik Region for a period of 6 years, though not without considerable tensions within our medical staff. I am currently practising as a part-time salaried physician at a local community health centre. Having lived in both physician funding worlds — FFS and salary— I can confidently declare that there is no perfect funding mechanism. Both have significant strengths and concomitant weaknesses.

P. Kuhnert, MD, CCFP  
Waterloo, Ont.

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1. Mathews M, Lockhart AJ. [Impact of alternate payment plans on the practice patterns of fee-for-service physicians in the Northwest Territories](#). Can J Rural Med 2003;8(2):89-93.

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Impact of alternate payment plans

CJRM 2003;8(4):276-7

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In response to: [P. Kuhnert](#)

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[The authors respond:]

In response to Dr. Kuhnert's letter, we would like to clarify the methods used to identify salaried and FFS physicians and to calculate monthly FTEs in our study.<sup>1</sup> We obtained data for the study from the Medicare database of the Northern Health Information Management System. The medical director from the IRHSSB identified GPs by payment type (FFS or salary) using billing numbers and dates when services were provided and cross-referencing them to dates when the IRHSSB awarded medical privileges. The classification of the physicians, as well as preliminary analyses, were reviewed and verified by the medical director and billing staff at both the IRHSSB and the Territorial Health Insurance Service.

In the article, we provided both the number of physicians as well as FTEs to provide an indication of the organization and delivery of medical services during the study period. We tabulated monthly FTEs by dividing the total number of weeks each physician spent in the region by 4. As we stated in the article, and as Dr. Kuhnert concurs, at any given time there was a total complement of roughly 7 physicians in the region. The monthly FTEs may suggest that the complement was higher because of overlap between physicians during the course of a week due to either holiday coverage or the dates that contracts began and ended. For example, if a physician provided locum services during another physician's vacation, this would have been counted as 2 FTE months even though only one physician provided services. It should also be noted that the FTE does not take into account the volume of services provided by individual physicians. Given these limitations, we chose to compare physician behaviours on the basis of single visits and aggregate billings rather than FTEs.

Dr. Kuhnert also raises important issues for researchers to consider when examining physician services in rural communities, specifically the impact of high physician turnover, management changes and education on practice behaviours.

These contextual issues highlight the limited ability to generalize urban studies to rural settings as well as the need for more evaluative studies in rural communities to inform policy-making.

Maria Mathews, PhD

Memorial University of Newfoundland

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Andrew J. Lockhart, MPH

Nor-Man Regional Health Authority

Flin Flon, Man.

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1. Mathews M, Lockhart AJ. Impact of alternate payment plans on the practice patterns of fee-for-service physicians in the Northwest Territories. Can J Rural Med 2003;8(2):89-93.

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## Midwifery

CJRM 2003;8(4):277

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### To the Editor:

Midwifery can now be considered an established profession in both Ontario and BC. Even with the exception of journeymen midwives who do home births in the periphery of a larger urban centre, there has been very limited service to rural populations by this group. Some of the challenges were discussed in Judy Rogers article,<sup>1</sup> but some important ones were left out. The fact remains that the midwifery programs such as the one from Toronto that Ms. Rogers is associated with, produce urban practitioners as a rule. Remote populations remain dependent on rural physicians for maternity care.

While it is a truth that is so obvious it should need no telling, those who want to "save" rural medicine with alternate health providers often forget that they do not distribute to rural areas any more easily than do physicians. Why should they? Rural practice can be a daunting burden for people who originally trained in the city and who, by necessity, have to have a broader spectrum of care with its higher workload and less backup than their city colleagues.

Rural midwifery has an additional burden of specialization not shared by other practitioners such as nurse practitioners, physician assistants and rural family doctors. A midwifery practice might involve 2 practitioners jointly attending about 75 births between them. Given rural birth rates this will usually require a catchment area of about 10 000. It becomes clear that only larger regional centres will be able to sustain a midwifery service. As rural GPs only require a catchment of 1000, it follows that most rural hospitals, particularly isolated ones, will continue to require physicians trained in maternity care to sustain delivery services.

In the larger rural, regional centre doctors, nurses and midwives will have to work in a collaborative fashion to meet the needs of their community. The town is rarely big enough to allow for separation of sustained, competing silos of care. A collaborative model will be essential to realize the type of call schedule that Ms. Rogers described in her article for the benefit of patients, physicians and

midwives.

Unfortunately, professional organizations often have concerns that trump the supporting of practice models outside the urban standard. Ms. Rogers rightly pointed out the hesitation of the Canadian Medical Protective Association in supporting collaborative endeavours. Let me point out that the opposition is not one-sided. The College of Midwifery of Ontario also has concerns and, notably, it declined to support a Thunder Bay proposal to form a collaborative maternity service between midwives and physicians. Working around these limitations will be our ongoing challenge in servicing the needs of rural women in Canada. Our secret solution will continue to be good will among practitioners on the ground.

Peter Hutten-Czapski, MD  
Rural doctor  
Haileybury Ont.

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