Mental health, job satisfaction, and intention to relocate

Opinions of physicians in rural British Columbia

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abstract

OBJECTIVE To determine the prevalence of depression and burnout among family physicians working in British Columbia's Northern and Isolation Allowance communities. Current level of satisfaction with work and intention to move were also investigated.

DESIGN Cross-sectional, mailed survey.

SETTING Family practices in rural communities eligible for British Columbia's Northern and Isolation Allowance.

PARTICIPANTS A random sample of family physicians practising in rural BC communities. Initial response rate was 66% (131/198 surveys returned); excluding physicians on leave and in temporary situations and those who received duplicate mailings gave a corrected response rate of 92% (131/142 surveys returned).

MAIN OUTCOME MEASURES Demographics; self-reported depression and burnout; Beck Depression Inventory and Maslach Burnout Inventory scores; job satisfaction; and intention to leave.

RESULTS Self-reported depression rate was 29%; the Beck Depression Inventory indicated 31% of physicians suffered from mild to severe depression. About 13% of physicians reported taking antidepressants in the past 5 years. Self-reported burnout rate was 55%; the Maslach Burnout Inventory showed that 80% of physicians suffered from moderate-to-severe emotional exhaustion, 61% suffered from moderate-to-severe depersonalization, and 44% had moderate-to-low feelings of personal accomplishment. Depression scores correlated with emotional exhaustion scores. More than half the respondents were considering relocation.

CONCLUSION Physicians working in these communities suffer from high levels of depression and very high levels of burnout and are dissatisfied with their current jobs. More than half are considering relocating. Intention to move is strongly associated with poor mental health.

résumé

OBJECTIF Déterminer la prévalence de la dépression et de l'épuisement chez les médecins de famille qui travaillent dans les collectivités du Nord et isolées admissibles à des primes d'éloignement en Colombie-Britannique. L'enquête portait aussi sur le degré de satisfaction professionnelle actuelle et sur les intentions de déménager.

CONCEPTION Une enquête transversale au moyen d'un questionnaire envoyé par la poste.

CONTEXTE Les pratiques familiales situées dans les collectivités rurales admissibles aux primes consenties aux habitants du Nord et des régions éloignées de la Colombie-Britannique.

PARTICIPANTS Un échantillon aléatoire de médecins de famille pratiquant dans des communautés rurales de la C.–B. Le taux de réponse initial était de 66% (131/198 questionnaires retournés); en excluant les médecins en congé et en situations provisoires et ceux qui ont reçu le questionnaire en double, le taux de réponse corrigé était de 92% (131/142 questionnaires retournés).

PRINCIPALES MESURES DES RÉSULTATS Les données démographiques; la dépression et l'épuisement signalés par les répondants; les résultats au questionnaire de dépression de Beck et à celui de Maslach sur l'épuisement; la satisfaction professionnelle; et l'intention de partir.

RÉSULTATS Le taux de dépression signalé par les intéressés était de 29%; les résultats au questionnaire de dépression de Beck indiquaient que 31% des médecins souffraient de dépression légère à grave. Environ 13% des médecins ont rapporté avoir pris des antidépresseurs au cours des cinq dernières années. Le taux d'épuisement professionnel déclaré par les médecins était de 55%; les résultats au questionnaire de Maslach à ce sujet indiquaient que 80% des médecins souffraient d'épuisement émotionnel de modéré à grave, 61% souffraient de dépersonnalisation de modérée à sérieuse et 44% éprouvaient des sentiments d'accomplissement personnel de modérés à faibles. Les résultats sur la dépression étaient en corrélation avec les résultats sur l'épuisement émotionnel. Plus de la moitié des répondants envisageaient de déménager.

CONCLUSION Les médecins qui travaillent dans ces communautés souffrent de degrés élevés de dépression et de très forts degrés d'épuisement et ils sont insatisfaits de leur travail actuel. Plus de la moitié d'entre eux songent à déménager. Cette intention est fortement associée à des problèmes de santé mentale.

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Cet article a fait l'objet d'une évaluation externe.

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RESEARCH

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On January 31, 1998, 22 doctors in several northern British Columbia rural communities resigned their hospital privileges to protest exhausting on-call schedules. Physicians in other isolated rural communities soon followed suit. At the peak of the dispute, 62 doctors from 21 BC communities withdrew at least partial services.[1,2]

Doctors in these communities argued that clinic work plus on-call requirements had become so onerous they were becoming exhausted and facing burnout. After 5 months of job action, the Northern Rural Doctors group reached a settlement with the provincial government following the recommendations of the Dobbin report.[3,4]

Prevalence rates for depression and stress (anxiety and burnout) have been reported for British general practitioners,[5-7] Canadian and American emergency room physicians,[8,9] American internists,[10,11] and American family practice residents.[12] As far as we can tell, no one has yet documented rates of depression and burnout among any North American family physicians or general practitioners.[13]

The objective of this study was to document and better understand burnout among physicians working in British Columbia's northern and isolated communities. In particular, we wished to discover how common burnout and depression were among these physicians and whether burnout or depression were related to low job satisfaction or intention to relocate.

METHODS

Communities surveyed were the 1998-1999 British Columbia Northern Isolation Allowance (NIA) communities.[14] These communities pay doctors an extra fee over and above the fee paid to physicians working in less needy communities. The BC Medical Services Plan has developed a rurality index score that it uses to determine whether a community is northern or isolated enough to qualify for the NIA and how much the NIA should be. A similar scoring system has been proposed by Leduc.[15]

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The 62 NIA communities had an estimated 412 physicians (NIA physicians make up about 9% [ie, 412/4396] of all BC physicians). About 10% to 15% of these physicians were in the process of moving, had recently moved, or were providing temporary locum relief at the time our survey was sent.[16] Among the NIA communities, 11 had populations exceeding 10 000, which by many definitions means they are not "rural" communities.[13] An estimated 168 physicians work in these 11 communities (ie, 41% of all NIA physicians). About 84% (ie, 244/290) of BC's physicians working in communities of less than 10 000 people work in NIA communities.

To keep the survey manageable and ensure representation from as many of the smaller NIA communities as possible, up to four doctors were randomly chosen from each site. We were interested mainly in the smaller NIA communities because they were the ones involved in the 1998 action. Contact information came from the 1998 physician register of the College of Physicians and Surgeons of British Columbia.[17] Where four or fewer physicians were listed in a community, all were sent a survey. One of the authors (I.C.) used a program written in Microsoft Visual Basic 6.0 to select names at random.

The survey asked about age, sex, marital status, parental status, practice type, years in practice, and years in current practice (**Table 1**), and about depression, burnout, job satisfaction, and intention to relocate. Physicians were asked whether they suffered from depression, whether they had suffered depression in the last 5 years, whether they had consulted a physician for depression, and whether they had taken an antidepressant in the last 5 years. Physicians were also asked whether they suffered from burnout; depression and burnout were quantified using the Beck Depression Inventory and the Maslach Burnout Inventory, respectively. These well-accepted scales have good reliability and validity.[12,18-20] The Beck Depression Inventory has 21 questions on depressive symptoms. A score of 0 to 9 indicates no to mild depression, 10 to 18 mild-to-moderate depression, 19 to 29 moderate-to-severe depression; and 30 or more severe depression. The Maslach Burnout Inventory has 22 questions on three aspects of burnout: emotional exhaustion, depersonalization, and sense of accomplishment. As described by Maslach, emotional exhaustion means physicians feel emotionally overextended and exhausted by their work; depersonalization means physicians have negative, cynical attitudes and impersonal feelings toward their patients; and reduced personal accomplishment

Table 1. Demographics of survey population: *Mean years in practice was 15.2 y ± 10.1 y; mean years in current practice was 8.5 y ± 8.2 y.*

CHARACTERISTIC	N (%)
Age (y) (mean age 43.6 y ± 10.3 y) (n = 127)	
• <30	4 (3)
• 30-39	47 (37)
• 40-49	37 (29)
• 50-59	29 (23)
• >59	10 (8)
Sex (n = 126)	
• Male	93 (74)
• Female	33 (26)
Marital status (n = 126)	
• Single	12 (10)
• Married	106 (84)
• Partnered	8 (6)
Parental status (n = 121)	
• No dependent children	40 (33)
• One child	18 (15)
• Two children	29 (24)
• Three children	19 (16)
• Four children	9 (7)
• Five children	5 (4)
• Six children	1 (1)
Type of practice (n = 122)	
• Group	64 (53)
• Partnership	15 (12)
• Solo	23 (19)
• Salaried clinic	9 (7)
• Regional locum	11 (9)

Table 2. Responses to depression questionnaire

QUESTION	NO. WHO ANSWERED YES (%*)
Do you suffer from depression?	28 (29)
Have you been depressed in the last 5 years?	51 (40)
Have you consulted a physician for depression?	21 (16)
Have you taken antidepressants in past 5 years?	16 (13)
Severity of depression (Beck Depression Inventory scores)	
• No-to-minimal	90 (69)
• Mild-to-moderate	31 (24)
• Moderate-to-severe	7 (5)
• Severe depression	3 (2)

**Percentage of those responding.*

means physicians feel their work has low productivity and they are achieving little.

Because each aspect of burnout is considered separately in the Maslach Inventory, responses were rated low, moderate, or high in each of the three aspects (**Tables 2** to **4**). The higher the emotional exhaustion and depersonalization score and lower the personal accomplishment score, the more a physician would be suffering from burnout.

Respondents were asked to rate their degree of satisfaction with various aspects of the job on a 7-point Likert scale ranging from 1, very dissatisfied, to 7, extremely satisfied (**Table 5**). The test-retest reliability and validity of Likert scales to measure job satisfaction has been shown in previous studies.[5,21,22] Last, physicians were asked whether they currently wished to relocate.

This study was approved by the University of British Columbia's Ethics Review Board. In fall 1998, questionnaires were mailed; nonresponders received a second mailing in spring 1999, a telephone reminder in May 1999, and a second follow-up mailing in June 1999. All physicians surveyed were asked to sign an informed consent form. To preserve privacy, only one author (I.C.) collated the raw data, and questionnaires will be shredded at the end of the project.

Data were tabulated and analyzed. Correlations between demographics, moving wishes, and responses to the satisfaction scales and depression and burnout questionnaires were calculated using χ^2, ANOVA, and *t* test statistical techniques. To minimize false-positive associations, statistical significance was defined as $P < .01$.[23]

RESULTS

Of 198 surveys mailed, we received 131 completed surveys (66%) from at least 58 NIA communities (two surveys were from unknown sites). After correcting for surveys mailed to physicians who had moved or retired; who were on sick leave, on sabbatical, serving as locum tenens, or functioned as specialists; or who received duplicate mailings, the true response rate was 92% (131/142).

All survey respondents completed the Beck Depression Inventory, and almost all completed the Maslach Burnout Inventory (129/131). The other questions were variably answered, presumably because questions were ambiguous or because respondents wished to maintain anonymity.

Demographics of the survey population are summarized in **Table 1**. Depression rates are shown in

Table 2. Both χ^2 and one-way ANOVA tests of scores on the Beck Depression Inventory revealed statistically significant correlations among self-reported depression parameters: current depression status, past depression status, seeking consultation for depression, and taking antidepressants (all with $P < .001$). χ^2 analyses of cross-tabulations between Beck depression scores and selected variables (sex, marital status, number of dependent children, practice type) revealed no statistically significant correlations. *T* test analysis of selected variables on depression status (score >9) revealed no relationship between depression and age, total years in practice, or current years in practice.

Burnout rates are summarized in **Table 3**. Both χ^2 and one-way ANOVA tests of Maslach Burnout Inventory self-reported burnout parameters revealed statistically significant correlations between emotional exhaustion and self-reported current burnout status ($P < .0001$) and between depersonalization and self-reported burnout ($P < .0002$), but no correlation between sense of personal accomplishment and self-reported burnout ($P < .07$).

Table 3. Responses to burnout questionnaire (Maslach Burnout Inventory scores): *54 responding physicians (55%) reported suffering from burnout.*

ASPECT OF BURNOUT	LOW N (%)	MODERATE N (%)	HIGH N (%)
Emotional exhaustion	26 (20)	33 (26)	70 (54)
Depersonalization	50 (39)	40 (31)	39 (30)
Poor sense of personal accomplishment	23 (18)	33 (26)	73 (57)

Both χ^2 and *t* tests of Beck Depression Inventory and Maslach Burnout Inventory scores revealed a statistically significant correlation ($P < .0001$) between depression and emotional exhaustion, a weaker correlation ($P < .08$) between depression and depersonalization, and no correlation between depression and sense of personal accomplishment.

Likert satisfaction scores for the various job parameters are summarized in **Table 4**. Physicians suffering from the emotional exhaustion type of burnout or depression were more likely ($P < .001$) to report low job satisfaction compared with physicians reporting no emotional exhaustion or depression (**Table 5**).

When asked whether they currently wished to relocate, 33% said yes, 18% said maybe, and 49% said no. Depressed physicians (Beck score >9)

Table 4. Job satisfaction

ASPECT OF JOB SATISFACTION	SCORES ± SD	NO. RESPONDING
A. 7-POINT LIKERT SCALE SCORES		
1. On-call shifts	3.1 ± 1.5	113
2. Work-related sleep interruption	3.2 ± 1.6	114
3. Teaching or research	3.4 ± 1.6	104
4. Days off work (d/mo)	3.4 ± 1.8	113
5. Vacation (minus days off) (d/y)	3.5 ± 1.85	107
6. Administrative or committee work	3.8 ± 1.5	115
7. Emergency department work	3.9 ± 1.4	119
8. Obstetric deliveries	4.3 ± 1.4	107
9. Clinical office work	4.4 ± 1.2	118
MEAN SCORES ON ITEMS 1 TO 9	3.7 + 1.0	127
Yearly income (after overhead, before taxes)	4.4 ± 1.7	130
Availability of continuing medical education	3.3 ± 1.5	131
Able to meet patient demands	5.0 ± 1.1	129
Current overall level of training	4.6 ± 1.1	131
Congeniality and support of colleagues	5.0 ± 1.6	130
Ease of obtaining specialist backup	3.6 ± 1.6	131
B. ESTIMATED TIME SPENT ON WORK ACTIVITIES		
1. On-call shifts (h/mo)	179 ± 155	109
2. Work-related sleep interruption (no./mo)	12 ± 11	87
3. Teaching or research (h/mo)	3 ± 6	104
4. Days off work (d/mo)	7 ± 10	108
5. VacAtion (minus days off) (d/y)	26 ± 32	90
6. Administrative and committee work (h/mo)	9 ± 17	110
7. Emergency department work (h/mo)	53 ± 54	113
8. Obstetric deliveries (no./y)	11 ± 70	106
9. Clinical office work (h/mo)	113 ± 74	113

Table 5. Correlations between mental health, low job satisfaction, and intention to move

DISSATISFACTION	DEPRESSION *P*	EMOTIONAL EXHAUSTION *P*	DEPERSONALIZATION *P*	POOR SENSE OF PERSONAL ACCOMPLISHMENT *P*
Job dissatisfaction	< .001	< .001	NS	< .01
Dissatisfaction with:				
• Vacation time	<.01	<.001	<.05	<.05
• Days off	<.01	<.001	NS	<.05
• Sleep	<.01	<.001	NS	NS
• Emergency work	<.05	<.05	NS	NS
• Clinic time	<.05	<.001	<.05	<.05
• On-call time	<.05	<.05	NS	NS
• Administration	NS	<.05	NS	<.01
• Income	<.001	<.05	<.05	NS
• CME	<.01	<.01	<.05	NS
• Patient demands	<.05	<.05	<.01	<.05
• Training	NS	NS	<.01	NS
• Colleagues	NS	NS	NS	NS
• Specialists	NS	<.01	<.05	NS
Wish to relocate	<.01	<.001	NS	<.05

CME—Continuing medical education; NS—P > .05.

and emotionally exhausted physicians were much more likely to wish to relocate.

DISCUSSION

The Canadian Medical Association's (CMA) *Code of Ethics* states that physicians should strive to practise the art and science of medicine competently and without impairment. A recent CMA policy summary entitled "Physician Health and Well-being" states that physicians should strive to manage professional and personal stress to maintain their own health and well-being and to maximize their ability to provide good-quality health care to their patients.[24] The authors of this policy point out that too much stress can become overwhelming and lead to physical, mental, and spiritual difficulties. Maladaptation to stress, they say, might lead to emotional withdrawal, social isolation, and denial of problems, conditions that can ultimately affect quality of care.[25-27] Excessive job stress can also contribute to the higher rates of alcohol and drug abuse, accidents, myocardial infarctions, psychiatric conditions, and suicide reported for physicians.[5,21,28-31]

Rural physicians are likely at high risk of developing stress-related mental and physical illnesses because they face unique practice and personal stressors, many of which are beyond their control.[32] Excessive clinical workload, professional and social isolation, difficulty taking time off, and heavy on-call requirements are known reasons for leaving rural practice. Increasing patient demands; hospital, program, and bed closures; funding cuts; recruitment problems; and inadequate access to diagnostic tools, therapies, or technologies make it increasingly hard to provide optimal patient care.[2,13,33-37]

Results of the 1998 CMA physician resource questionnaire[38] point to a serious decline in rural physicians' morale. For example, 59% of rural doctors reported workloads heavier than they would like; 35% thought on-call responsibilities were too onerous; 55% reported patients having unreasonably high expectations; and 58% reported that family and personal life suffered from choosing medicine as a profession.[38]

Mental illness

Our survey confirms that physicians working in British Columbia's NIA communities suffer from stress-related mental illness, namely depression and burnout. High levels of depression and burnout could account for the current exodus of physicians from rural communities, and fear of becoming depressed and burnt out could be an important reason new graduates do not choose to practise in rural communities.[1,2,4]

This study extends the existing literature in that it looks at the relationships between all the parameters—depression, burnout, job satisfaction, demographics, work variables, and intention to leave—in a single study. This has not been done before.

Theoretically, if we understand the reasons for burnout and low job satisfaction, we can institute policies that would help improve job satisfaction, retention of physicians, mental health, and, ultimately, patient care in rural Canada.[1,13]

The expected prevalence of major depressive episodes in the general population is between 2% and 4%, which is much lower than the 8% prevalence found among our NIA physicians.[39-41] The higher prevalence of depression among physicians presumably accounts for the higher suicide rates also found among physicians. Suicide rates have been estimated to be two to three times higher among physicians than in the general population.[30,42]

Our data reveal a relationship between depression and low job satisfaction. It is impossible to sort out whether job satisfaction is low because these physicians are depressed or whether the physicians are depressed because of various job stressors. The fact that depression among physicians differs from depression in the general population (ie, is not related to low income, unemployment, being female, having little education, and being married) suggests that work stressors contribute greatly to depression and burnout among physicians.[39]

The self-reported use of antidepressants of 13% in the last 5 years is consistent with the 8% of NIA physicians who scored in the moderate-to-severe depression range on the Beck Depression Inventory. Perhaps more physicians should actually be taking antidepressants because 31% of NIA physicians scored in the mild-to-severe range on the Beck Depression Inventory. Studies have shown that the stigma attached to being a health care professional and suffering mental illness prevents physicians from seeking help.[43,44]

While only 61% of physicians self-reported moderate-to-high burnout, 80% scored moderate-to-high on the Maslach emotional exhaustion scale. It seems that NIA physicians are better at knowing they are depressed than they are at knowing they are emotionally exhausted. Perhaps they believe practising medicine in an emotionally exhausted state is just part of the job.[26,13]

Low job satisfaction

Our study also confirms the notion that many rural physicians suffer from low job satisfaction.[1,2,36,38] In our study, low overall job satisfaction did not correlate with actual number of on-call shifts, days off each month, or days of vacation each year. This is consistent with other studies that show that perceived workload, rather than actual time worked, seems to be the important factor.[11,21,37] Perhaps one way to address the workload issue is simply to allow rural physicians to decide for themselves how much work they are willing to do for a community. Issues such as call and continuous 24-hour patient coverage would then be concerns of regional health boards rather than individual physicians.[45,46]

Our study also confirms the previously documented relationship between intention to move and low job satisfaction[37] and extends existing literature by showing a relationship between intention to move and poor mental health. Half (51%) the physicians surveyed are considering relocation. Since there is already a severe shortage of physicians in rural communities across Canada, the high rates of burnout, depression, low job satisfaction, and intention to relocate among BC's NIA physicians support the argument that there is, indeed, a crisis facing rural medicine in British Columbia, if not in all of Canada.[2,36,47]

Limitations

Like all self-report, cross-sectional surveys, our study suffers from nonresponse bias, sampling bias, and inherent design difficulties with respect to inferring causality. The overall 66% return rate is acceptable, and we presume that the high true response rate (92%) minimizes nonresponse bias. Many physicians were excluded from the study because they had moved or retired, or were on sick leave or sabbatical, leading us to speculate on how many of these left because they were depressed or burnt out.

Editor's key points

- This survey of physicians working in British Columbia's northern and isolated communities describes disturbingly high rates of depression and burnout and feelings of depersonalization.
- Physicians suffering from depression report less satisfaction with their jobs; more than half were considering relocation.

Points de repère du rédacteur

- Cette enquête auprès de médecins qui travaillent dans les communautés isolées et du Nord de la Colombie-Britannique fait valoir d'inquiétants taux élevés de dépression, d'épuisement et de sentiments de dépersonnalisation.
- Les médecins souffrant de dépression signalent une moins grande satisfaction professionnelle; plus de la moitié d'entre eux songeaient à déménager.

It is possible that NIA physicians purposely distorted their responses to exaggerate their plight in the hope it would attract more attention, more money, and more help. The recent proliferation of editorials on the topic suggests that the problem is real and likely soon to get worse.[1,2,38,48]

Another weakness of this study is that we lacked a sample of urban physicians for comparison. Also, there are likely regional variations among rural physician groups across Canada. Studies from the United States and a recent job-satisfaction survey of urban physicians in British Columbia lead us to suspect that urban physicians are not as dissatisfied, depressed, or burnt out as their rural colleagues.[11,13] Two recent cross-sectional surveys of physicians in rural British Columbia had urban physician samples, and both asked questions about job satisfaction.[13,49] Both studies showed differences between rural and urban groups, and both confirmed that rural physicians as a group were less satisfied with their work than their urban colleagues.

Conclusion

Physicians working in BC's NIA communities suffer from high levels of depression and very high levels of burnout. These physicians are unsatisfied with their current job situation, and more than half are considering relocating. Intention to move is strongly associated with poor mental health.

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Contributors

Dr Thommasen *conceived the idea, did the literature search, and wrote up the manuscript.* **Drs Lavanchy** *and* **Connelly**, *family practice residents, helped design the study, input data, obtained ethics approval for the study, and sent out the initial survey.* **Dr Berkowitz**, *a statistician, helped with study design and did all the statistical analysis.* **Dr Grzybowski** *supervised the project, helped with initial study design, and read and edited early drafts of the manuscript.*

Competing interests

None declared.

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