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Physician numbers in rural British Columbia

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The objective of this study was to obtain an accurate count of the number of physicians living and working in rural British Columbia. Telephone surveys were conducted in June 1998, September 1998, February 1999 and October 1999. The number of physicians residing and working in those BC communities previously designated as isolated by the Ministry of Health and the BC Medical Association was tallied. Other parameters studied included the place of medical school graduation and the relative age of the physicians surveyed. Results showed an overall decline of 2% in physician numbers during the study period as well as a heavy dependence on physicians trained elsewhere in Canada (37%) and on foreign-trained physicians (46%). Only 20% of rural physicians had graduated within the last decade, and the estimated average age was in the mid-40s.

Cette étude visait à établir le nombre précis de médecins qui vivent et travaillent en milieu rural en Colombie-Britannique. On a procédé à des sondages téléphoniques en juin 1998, septembre 1998, février 1999 et octobre 1999. On a totalisé le nombre de médecins habitant et travaillant dans les localités de la Colombie-Britannique désignés auparavant comme isolées par le ministère de la Santé et l'Association médicale de la Colombie-Britannique. Les autres paramètres comprenaient notamment la faculté de médecine où les intéressés avaient obtenu leur diplôme et l'âge relatif des médecins en cause. Les résultats ont montré que le nombre total des médecins a diminué de 2 % pendant la période d'étude et que l'on dépendait énormément des médecins qui ont reçu leur formation ailleurs au Canada (37 %) et à l'étranger (46 %). Seulement 20 % des médecins ruraux avaient obtenu leur diplôme au cours de la décennie

précédente et l'on a estimé que les effectifs médicaux avaient en moyenne la mi-quarantaine.

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Introduction

There has been an increased focus on rural health issues in British Columbia. None of the issues are new. For years the province has been concerned about recruitment and retention of rural physicians and the associated provision of quality health care for rural citizens. What is new is the increased political action on a variety of levels by rural physicians, and an increased awareness of the issues among the rural population. This may be due to declining physician numbers nationally and increased publicity about health care issues in general. Another factor may be the implementation of regionalization of health care in the province, which has been widely advertised by the provincial government as a way of bringing health care spending decisions into the hands of those affected. Recent changes have certainly been associated with a feeling of impending crisis in many rural areas.

For many years British Columbia has had an enhanced pay scheme known as the Northern and Isolation Allowance, or NIA. Under this program northern and rural communities apply for funding and are assessed by a complicated formula, which includes factors such as the size of the community, the number of physicians and the distance from the nearest tertiary care facility. Points are awarded for each isolation factor, and doctors in communities that qualify receive a percentage above the regular fee schedule. The exact percentage is determined by the total point score. This program is jointly administered by the British Columbia Medical Association and the Ministry of Health (MOH), and calculations are done yearly. The group of communities that qualify are referred to as the NIA communities. NIA is an attempt to fairly address the issue: "What exactly is rural anyway?" Despite perceived flaws in the system, it does attempt to use an unbiased system to determine the degree of isolation.

In January 1998, a group of 22 northern physicians withdrew on-call services from their hospitals in 5 communities in an attempt to get the MOH to address the issue of remuneration for after-hours call service.1 Such remuneration existed in a number of other provinces (e.g., Ontario, Nova Scotia), and it was felt that, although NIA attempted to address isolation factors, it did nothing to address the added responsibilities of those covering emergency departments in rural communities. With a 15% decline in the number of rural physicians over 4 years,2 the recruitment issue was more challenging, and it became very difficult to compete with other provinces who were prepared to offer considerably more in the way of incentives. The job action spread to include 63 physicians in 20 communities.1 Eventually the government hired Lucy Dobbin, a consultant, who developed a report with recommendations for solving the crisis.3 During the political fighting, it became obvious that no accurate count of physicians in rural BC

existed. The author developed a plan to look into this, the results of which are outlined here. The Dobbin recommendations were accepted June 13, 1998, and those physicians participating in job action returned to work. With legal wrangling, the first contracts were signed in September 1998. In this study physician numbers in the NIA communities were counted during the job action, immediately after the signing of the contracts and over the following year.

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Methods

The dispute could not be settled or realistic planning strategies developed without an accurate assessment of the trends. Therefore, a telephone survey was conducted of all physicians in the 70 BC communities that currently qualify for the NIA. All previous data were generated indirectly, either by analyzing billing data or from registration or licensing information. For the purposes of this paper, NIA physicians were defined as physicians living and working in NIA communities. Locums and visiting specialists were not included. No attempt was made to correct for those physicians who were less than full time.

Physicians' offices and community hospitals in all 70 NIA communities were contacted by phone in June 1998, September 1998, February 1999 and October 1999. The survey was carried out by me and one member of my office staff. A comprehensive database of all physicians living and working in NIA communities was generated using information obtained from physicians and office managers. Once an initial contact was established, 3 follow-up calls were made to the same individuals over the 18 months of the survey. In the larger communities this involved contacting every separate medical office as well as the hospitals. The initial list was revised with each contact. In addition to looking at the overall numbers, the place and date of graduation for each physician was noted. This information was obtained from the BC College of Physicians.4 It was sorted and then analyzed. Statistics concerning rural specialists were also generated.

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Results

Overall, the number of physicians in rural BC fell during the study period (Table 1, Fig. 1). The lowest point was in February 1999, when the number fell from 346 to 330, a decrease of 4.7% over 8 months. Between February 1999 and October 1999 the number rose to 340. Therefore,

there was a net decrease of 1.7% over the 18 months. The numbers were broken down to see if different types of communities displayed different trends. Initially, the 70 NIA communities were divided into the categories described in the Dobbin Report: 1) 27 diagnostic and treatment centre (D&T) towns (1 to 3 physicians, a D&T, but no hospital); 2) 27 small-hospital towns (6 or fewer physicians and a hospital); 3) 10 medium-hospital towns (7 to 10 physicians and a hospital); and 4) 6 large-hospital towns (greater than 10 physicians and a hospital). As an additional category, numbers for all towns north of the 54th parallel (basically, all towns north of Prince George) were totalled.

The 27 D&T towns lost a total of 7.5% of their physicians during the study period (from 40 to 37 physicians, overall). In February 1999, when numbers were the worst, they were down 20% (32 physicians) compared with the number at the beginning of the job action. There has been a concerted effort made over the last 2 years by the MOH to recruit doctors to these communities, with some recent improvement.5 The 27 small-hospital towns were stable during the study period and displayed a net gain of 4.5% (going from 84 to 88 physicians). The 10 medium-hospital towns were also stable, with a decrease of 1.2% overall (from 86 to 85). The 6 large-hospital towns did not fare as well, with a net decrease of 4.4% (from 136 to 130 physicians); they hit their lowest point, 7.5%, in February 1999.

There are 19 NIA communities north of the 54th parallel, with a total of 171 physicians. From June 1988 to October 1999 they lost 163 physicians (4.7%). In February 1999 they had only 158 physicians, a loss of 7.6%. The north contains communities in all the categories mentioned in the Dobbin Report.3

Turnover

More interesting than overall physician numbers is the turnover in the NIA communities. The percent losses listed so far are based on relatively small numbers, and, despite the net decrease, one could argue that a difference of 6 fewer physicians is not really significant. However, it was decided to look at how many of the physicians present in October 1999 were the same ones as were present in June 1998 (Fig. 2). It was found that there was an average turnover of 23%; therefore, although many of those lost have been replaced, 79 out of the original 346 physicians are no longer present. When the numbers are broken down according to the previously designated categories, one finds that the D&T towns have a staggering turnover of 52%, having lost 21 of their original 40 physicians. The small-hospital towns gained in overall numbers, but still had a turnover of 18% (15 of the original 84 replaced). The medium-hospital towns had a 21% turnover (18 of original 84 left) and the large-hospital towns had an 18% turnover, losing 25 of the original 136. For the north there was a 22% turnover (37 of 171 physicians).

Specialists

Rural specialists were another area of concern. There were only 39 rural specialists living and working in an NIA community. Most of these were located in Terrace, with the rest found in Dawson Creek, Fernie, Fort St. John, Prince Rupert, Quesnel and Smithers. There were also a

few solo specialists scattered around the province. During the study period, 9 of the 39 specialists left and were replaced, for a turnover of 23%.

Foreign-trained physicians

Traditionally, rural BC has relied on foreign-trained physicians to fill the gaps in underserviced areas. With this in mind, we noted the place of graduation (i.e., BC, elsewhere in Canada or outside Canada): 17% were UBC graduates, 37% graduated elsewhere in Canada, and 46% graduated in a foreign country. When specialists were studied, 10% graduated from UBC, 33% elsewhere in Canada and 57% outside Canada. These numbers do not take account of location of residency or any upgrade training within Canada.

Age

The other parameter of interest is the age of the physicians currently practising in the NIA areas. To generate this information, the year of graduation from medical school was noted and analyzed. This is an indirect measure of age, but does give an idea of the trends (Fig. 3). It was found that the single largest group (40%) graduated in the 1980s, which corresponds to an age of 36 to 45 years. The next largest group (26%) graduated in the 1970s (rough age range from 46–55 years). Eight percent of these physicians graduated in the 1960s (age range from 56–65 years). Physicians who graduated in the 1950s and are still in practice made up 4% of the total. The remaining 21% graduated in the 1990s. Just one-fifth of the NIA doctors are 35 years old or younger. It seems that the average age of physicians is rising. This could point to an impending manpower crisis, even without taking other factors into consideration.

For specialists, the figures are more worrisome: 32% are in the 36 to 45 years age range, 39% in the 46 to 55 years age range, 13% are between 56 and 65 years, 11% are 65+, and only 5% are under 36. These numbers are potentially skewed to give a younger-than-actual age, because they do not take account those of us who did not go straight to medical school from high school.

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Discussion

The numbers analysed for this study are small, and the overall decrease in physician numbers is also small. However, some trends are obvious, and the implications for future supply and stability of physicians in rural BC must be addressed.

One of the challenges of generating numbers for this study was the state of flux of physician supply in the NIA communities. The MOH uses billing data and looks at how many physicians are paid NIA premiums. This number is corrected to include only those physicians with full-time

billings, and the resultant figure is still higher than the number of physicians we tracked down by phone. This is likely owing to the fact that this method does not exclude long-term locums from the total.6 Each phone survey noted significant changes, and tracking of individual physicians was quite challenging. Only 3 physicians relocated to other NIA communities. The rest headed for the city, the US, or returned to their country of origin. The Medical Directory of the BC College of Physicians and Surgeons4 was used to obtain the place and date of graduation. Ten percent of the NIA physicians were so new to the province that they were not listed in the 1998–99 directory. Despite these challenges I believe an accurate and realistic snapshot of current physician supply in rural BC was obtained.

The net loss of physicians from NIA communities will become more problematic if it continues. The fact that an all-time low was reached and that there has been some recovery is encouraging. The big question is whether the improvement in the last 8 months of the study has anything to do with the Dobbin Report or is just due to more publicity and active recruiting on the part of needy communities. The program implemented by the MOH on the recommendations of the Dobbin Report offered quite different incentives, depending on the type of community. An on-call stipend for after-hours call availability was implemented for the small- and medium-hospital towns. The hourly rate of pay was $30/h plus fee-for-service billings for the small-hospital towns and $20/h plus fee-for-service billings for the medium-hospital towns.7 These communities were basically stable, and the small-hospital towns actually improved overall (the only group to do so during our study period). The communities that received the most financial benefit as a result of the Dobbin Report appear to be the most stable. A number of these communities have been able to attract consistent weekend locum relief since the availability of the on-call stipend. Despite this, they exhibit a turnover of 18% to 20%.

The D&T towns were offered a yearly "bonus" of $30 000 to fund call and recruit locums.7 To qualify for this money, the individual physicians were required to sign a contract stipulating that they would be personally available to the community 24 hours a day, 365 days a year. There were a few doctors in 2-physician communities who signed, but the majority refused the contract and thus received no financial benefit from the Dobbin Report (BCMA Rural Negotiating Committee. Unpublished data, 1999). Our phone survey found that, at times during the past 18 months, 7 of these communities had been without physicians and many relied on rotating locums obtained through the provincial locum service. The MOH recently recruited a number of physicians to these smaller communities. Many of the new physicians are on alternative payment plans, involving salary and benefits. These vary by community and display varying amounts of creativity — for example, some share call with neighbouring towns, others only provide limited call (BCMA Rural Negotiating Committee. Unpublished data, 1999). It remains to be seen if these physicians stay once the term of their contracts expire, and whether creative funding is a possible solution for these smaller communities. Certainly, a turnover of 52% does not provide reasonable continuity of care for the rural citizens.

The large-hospital communities (more than 10 physicians) also received no specific financial

incentives as a result of the Dobbin Report with regard to on-call. The option of receiving a flat rate of $20/h without fee-for-service would represent a significant decrease in income, therefore it cannot be truly seen as an incentive. The resentment engendered by being excluded from call pay, along with an actual decrease in the NIA premium paid to physicians in some larger communities in 1999, has resulted in significant dissatisfaction. The communities continue to lose ground with regard to overall numbers, and their recruiting appears to consist almost entirely of foreign physicians. The supply of international medical graduates is variable, and because stricter licensing and immigration regulations are being implemented, this could have a significant impact on these communities.

The turnover issue is worth considering. How much turnover is a good thing? Fifty percent, when looking at towns that only have 1 or 2 physicians, seems too high. The ideal of a family physician who knows you and your medical history is unattainable in such a situation. Overall, the net turnover is in the area of 20%. Is replacing one-fifth of the doctors in rural BC each year too much? When is a community medically stable? Why are there some communities that have had the same group of physicians for 10 to 20 years, while others have constant change? The issue of stability is a difficult one, and ideas on the contributing factors are largely speculation on my part. I think the first factor is adequate physician supply. If there are enough doctors in a town and each can work a reasonable amount, you are less likely to get burnout and fatigue, and subsequent attrition. The second factor is the structure of the medical community in each town. Those towns with a group of physicians that works together cooperatively have a much more stable track record. This does not necessarily mean a group practice; if there are several groups or solo physicians they still must work well together with regard to call and hospital issues. Other authors have suggested that the major factors are confidence in medical skills, adequate compensation and community commitment.8

Training issues are a significant concern, especially for rural specialists. Currently, almost half the NIA doctors were trained outside Canada, and 56% of the rural specialists were foreign trained. With the new licensing requirements of the Royal College of Physicians and Surgeons of Canada, it would be virtually impossible for these physicians to have obtained Royal College certification.9 This will provide a disincentive when recruiting foreign specialists. Depending on other countries for half of our rural doctors seems to be poor planning at the very least. The ethics of hiring physicians from disadvantaged countries was addressed at the World Rural Health Congress in Durban in 1997.10 It was resolved that governments who rely on these physicians to meet their medical manpower needs must recognize the effect this has and take appropriate action. The ongoing issues of how we train physicians for rural practice and whether or not it is purely a distribution problem or an actual shortage must be re-examined.

Age issues are a concern, but more for rural specialists than for rural physicians in general. With the implementation of longer residency programs, the data on physicians who graduated in the 1990s and will eventually end up in rural practice will not be available for another 3 years. It is clear that we must find a way to get more new graduates interested in rural practice. We are not

adequately staffed in rural BC at present.

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Conclusions

Tracking the physicians in the NIA communities in BC has shown some possible trends and some troubling statistics. The number of rural doctors in BC is holding almost steady, but there is a need to slow the turnover and to add stability. An overall increase in physician numbers, so that each community is adequately staffed, would help. The incentives offered in the Dobbin settlement seem to have added some stability to the small- and medium-hospital towns. A way to extend this stability to the D&T towns, rural specialists and the larger communities would help tremendously. Long-range planning should take into account our historical dependence on foreign-trained physicians and look at current training programs in BC.

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