Training an adequate number of rural family physicians

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All measures indicate a shortage of rural family physicians (FPs) in every province in Canada. In 1999, the College of Family Physicians of Canada (CFPC) approved, and the Society of Rural Physicians of Canada (SRPC) endorsed, a national plan to train doctors for rural family practice.[1-4] Substantial progress is being made in training doctors for rural family practice, but we are only halfway there.

Educating an adequate number of appropriately trained rural FPs will require doubling the number of rural-regional family medicine training positions. In this editorial, we summarize the rationale for that action and consider the number of physicians needed.

Defining rural practice

A common definition of "rural" communities in Canada includes those with populations of up to 10 000 people. By this definition, 8 740 847 Canadians (30.3%) are rural.[1,2,5] Rural people can also be defined as those living outside census metropolitan areas and census agglomerations. By this definition, 6 396 906 Canadians (22.2%) are rural.[1,2,5] A census agglomeration is defined as "a large urban area (known as an urban core) together with adjacent urban and rural areas (known as urban and rural fringes) that have a high degree of social and economic integration with the urban core." A census agglomeration has an urban core population of at least 10 000, based on the previous census.

Rural practice can then be defined as practice outside census metropolitan and census agglomeration areas. By that definition, only 9.9% of Canada's doctors—4775 FPs/GPs (16.5% of Canada's FPs/GPs) and 756 specialists (2.8% of Canada's specialists)—can be considered rural (numbers as of January 1998).[6] In the CFPC's Janus Project, 4179 FPs/GPs identified themselves as primarily serving rural or remote populations.[2] A useful functional definition of rural practice is "practice in non-urban areas, where most medical care is provided by a few GPs or family doctors with limited or distant access to specialist resources and high technology health care facilities."[7]

Too much work; too few doctors

Compared with doctors in urban areas, rural physicians are older and more likely to be male.[6] In addition to office-based practice, housecalls, and nursing home visits, many rural physicians are actively involved in direct hospital management of patients, including obstetric deliveries, emergency department shifts, and anesthesia, to a far greater extent than their urban counterparts.[2] Those "second jobs" are often done at the expense of sleep and family and personal time and cut into time available for office-based primary care.

Lack of specialists means rural physicians must manage more complex and time-consuming patient problems. These factors all contribute to the shortage of rural physicians and sometimes to the burnout that causes physicians to leave rural areas. Recruitment and retention of rural physicians is complex, affected by working conditions, practice support, and compensation, which are modifiable. Many other professional and personal factors, such as job opportunities for spouses, are important but difficult to modify.

Tables 1[6] and **2**[6,8] provide numbers of FPs/GPs and how many enter and exit rural practice, based on the most recent data available.[2,6,8] The Canadian Medical Association (CMA) and SRPC news release of January 31, 2000, highlights the problem that the FP/GP to population ratio in rural Canada is 1:1340 compared with 1:995 for Canada as a whole. Rural Canada will need 1652 more FP/GPs to make the situation more equitable.

The CMA has analyzed the numbers of rural physicians and developed a projection tool for workforce supply planning.[8] This Physician Resource Evaluation Template (PRET) uses four main categories of variables to determine how many physicians will be practising in rural Canada: base stock, exits, entries, and flow of active physicians between rural and urban Canada.

Table 1. **Numbers of rural family physicians (FPs) and general practitioners (GPs) in Canada:** *January 1998.*

LOCATION	MALE FPS/GPS* (% OF ALL FPS/GPS)	FEMALE FPS/GPS* (% OF ALL FPS/GPS)	TOTAL FPS/GPS*	POPULATION†
Rural	3 534 (74.0)	1241 (26.0)	4775	6 396 906
Canada	19 797 (68.3)	9186 (31.7)	28 983	28 846 761

**Data from CMA Masterfile.[6]*
†1996 census data.

The CMA projections provide five scenarios from now to the year 2021. All are frighteningly dismal and predict an aging, shrinking stock of rural physicians.[8] Even allowing double the number of international medical graduates (IMGs) to enter rural practice immediately without Canadian postgraduate training would only slightly increase the number of rural physicians (and would still fall behind rural population growth!).[8] This is unlikely to be a successful long-term solution because 25% of Canadian physicians (and 26% of rural physicians) are already IMGs.[6] Nevertheless, some provinces have been actively recruiting overseas.

Postgraduate medical education is an important modifiable factor. In 1998, of 735 physicians who had completed postgraduate family medicine training in Canada, only 86 (11.7%) began practice in rural Canada.[8]

Canadian Resident Matching Services

For the July 1, 2000, CaRMS match, 28% of family medicine positions were classified rural. This is definitely progress. Closer scrutiny, however, reveals that many of these programs can best be classed as rural-regional and that their "successes" often depend on physicians practising in regional underserviced communities rather than rural locations.

Realistically, only 30% to 40% of graduates of rural-regional programs establish practice in strictly defined rural areas.[9,10] Others choose regional communities, and some, for family and other reasons, choose big cities. About 3% to 5% of urban-based program graduates likely establish practice in rural areas. Combined, these numbers would predict that 12.8% of family medicine graduates would choose rural practice. This does not even keep pace with the current shortfall (**Table 3**).

Table 2. **Entries to and exits from rural FP/GP practice**

RURAL FP/GP PRACTICE	NUMBER OF PHYSICIANS
ENTRIES	
Entered in 1998 after family medicine training (includes international medical graduates [IMGs] who did postgraduate training in Canada)	86 (43 men, 43 women)
Entered in 1997* after return from abroad (excludes postgraduate trainees)	15
Entered in 1997* as IMGs without postgraduate training in Canada	31
TOTAL	**132†**
EXITS	
Retirements in 1998	98
Deaths before retirement in 1998‡	13
Emigration abroad in 1997*	61
TOTAL	**172†**

Data from Canadian Medical Association[6] and Buske et al.[8]
**1997 data used because 1998 data not yet available.*
†There was a large but nearly equal flow of active FP/GPs from rural to urban (276) and urban to rural (248) practice in 1997. This was surprising, given the common mid-career shift of physicians from rural to urban locations, and warrants further study of who, where, and why.
‡Estimated, based on age and sex of physicians.

Increase training opportunities

Adding 124 more rural-regional training positions (doubling the current number) would produce between 37 and 50 more rural doctors per year. A similar number will be well trained for and will enter family practice in regional communities, which are also developing a shortage of physicians. Anything less than this increase in rural-regional family medicine training positions will be inadequate to meet the health needs of rural Canadians.

That the shortage of rural physicians is worsening and spreading to regional communities is in part due to an increasing and aging population and the 1993 medical school enrolment cut of 10% across Canada. For Canada to produce a self-sufficient supply of physicians, medical school enrolment must be increased. Some provinces have already committed to that. There will be a 4-year lag, however, before these increased numbers of medical students enter rural-regional family medicine residency programs.

Table 3. **Canadian Resident Matching Services (CaRMS) positions for July 1, 2000:** *Number of positions available, number of graduates projected to choose rural practice.*

TYPE OF PRACTICE	CARMS POSITIONS AVAILABLE*	GRADUATES PROJECTED TO CHOOSE RURAL PRACTICE
Urban-based	314 (72%)	13 (4% of 314)
Rural-regional	124 (28%)	43 (35% of 124)
TOTAL	438†	56 (12.8% of 438)

**Includes McGill, but excludes the three francophone Quebec programs that do not participate in CaRMS.*
†In addition to the CaRMS positions, each year other family medicine training positions are available for IMGs and others.

Given the urgent need, we recommend an immediate increase in rural-regional family medicine training positions. Any unfilled positions could be opened to qualified IMGs (possibly with a rural return-of-service condition) until increased enrolment results in enough Canadian graduates to fill them.

Advanced skills for rural practice

The CFPC report, *Postgraduate Education for Rural Family Practice: Vision and Recommendations for the New Millennium*,[1,2] also recognizes the importance of rural family doctors' having special and advanced skills for rural practice. Rural Canada has a critical shortage of GP anesthetists and doctors who can do cesarean sections and other special, advanced procedures.[1,2,11-14]

Training programs need to increase the overall availability of postgraduate year 3 (PGY3) positions for family medicine graduates and practising physicians reentering training. Currently, 20% of graduating family medicine residents take PGY3 training, but many of these go into emergency, palliative care, and other programs and often practise in urban settings.[15] The report recommends an increase in funded, flexible (2- to 12-month, usually 3- to 6-month) PGY3 positions for rural needs-based special skills training and an increase in 6- to 12-month funded PGY3 positions for accredited training in advanced skills, such as GP anesthesia. All residents entering a 2-year postgraduate rural family medicine training stream should have the funded opportunity to do a further 6 to 12 months' special or advanced rural skills training.

Appropriate education for rural practice is essential but insufficient alone to ease the shortage of rural physicians. Strengthened rural health care teams, infrastructure support, and recruitment and retention incentives are needed to make rural practice more attractive and sustainable. Increasing the number of postgraduate rural-regional positions for family medicine training will have the benefit of graduating more FPs well trained to provide comprehensive office- and hospital-based care in regional and rural communities.

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