

## Family Physicians Trained in Northern Ontario: Where Do They Practise?

As in many parts of the world, cities in Canada appear to have more than their fair share of physicians, often leaving rural communities with critical physician shortages. In recent decades, governments have used various strategies to try to increase the number of rural physicians. One strategy is to provide medical training in rural areas, as there is growing evidence that physicians who are exposed to rural settings during medical education are more likely than others to practise in rural areas. Rural medical education imparts the knowledge and skills needed for meeting the special challenges of rural practice.

Northern Ontario, a vast area with a relatively small and widely dispersed population, has experienced chronic shortages of physicians. Although northern Ontario includes several small and mid-sized cities, almost the entire region has been designated by the ministry of health as “underserved” for general practitioners. In 1991, the Ontario government established two family medicine residency programs — the Northeastern Ontario Family Medicine (NOFM) program in Sudbury and the Family Medicine North (FMN) program in Thunder Bay — in the hope that the residents would consider practising in northern and rural Ontario. These programs offered exposure to northern Ontario cities as well as to the smaller and more remote communities. (Note: Both programs have since been incorporated into the Northern Ontario School of Medicine at Laurentian University and Lakehead University.)

This study, conducted by the Centre for Rural and Northern Health Research and its research collaborators, tracked the practice locations (rural, northern, urban) of 194 graduates of these programs over a 10-year period from 1993 to 2002 by analysing secondary data — mailing addresses as of December 31 of each year provided to the study anonymously by the Scott’s Medical Database. Another related component of the study was based on qualitative, in-depth interviews with 14 graduates who had chosen to practise in urban settings.

### First Practice

- ▶ Between two-thirds and three-quarters of NOFM and FMN graduates started their practice of medicine in either northern Ontario (i.e. the area of Ontario north from and including the district of Parry Sound, including both urban and rural communities) or in a rural area (i.e. in a community with a population less than 10,000).
- ▶ Physicians’ age, sex or additional residency training had no impact on their choice of initial practice location.
- ▶ NOFM graduates were more likely to choose a first practice location in northern Ontario (in both rural and urban communities), and FMN graduates were much more likely to choose a first practice location in a rural area (in northern Ontario or elsewhere).

This issue of Research in FOCUS on Research is based on two articles published in the Summer 2007 issue of the *Canadian Journal of Rural Medicine*: “Graduates of northern Ontario family medicine residency programs practise where they train,” pp. 146–52 by Denis Heng, Raymond W. Pong, et al.; and “Big cities and bright lights: rural- and northern-trained physicians in urban practice,” pp. 153–60 by Raymond W. Pong, Benjamin T.B. Chan, et al. These articles are available at: [www.srpc.ca/cjrmcurtoc123.html](http://www.srpc.ca/cjrmcurtoc123.html).

These studies are components of a larger research project – supported by the Canadian Institutes of Health Research – whose overall objective is to examine the extent to which rural medical education in Canada is successful in producing rural physicians.

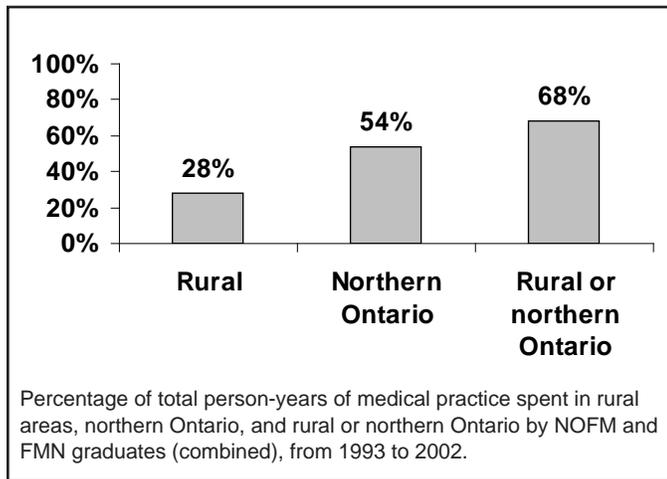
This can be partly explained by differences between the two programs. NOFM had fewer mandatory and optional rotations in rural communities. Also, 82% of the residents in northeastern Ontario (where NOFM was located) live in the six urban communities (Sudbury, Sault Ste. Marie, North Bay, Timmins, Elliot Lake and Temiskaming Shores). In contrast, FMN was located in northwestern Ontario, where just 53% of the residents live in urban centres (Thunder Bay and Kenora). Thus, all else being equal, NOFM graduates who chose to work in northeastern Ontario were more likely to work in urban communities and FMN graduates more likely to work in rural areas.

- ▶ Male graduates appeared to be much more likely to practise in northern Ontario than female graduates, and graduates who had acquired further training beyond the two-year family medicine residency also appeared to be more likely to practise in northern Ontario.
- ▶ Graduates from both programs were less likely to practise in northern Ontario as time after graduation increased.

## Staying Power

To find out whether the graduates had continued to work in northern or rural areas, the study counted “person-years of medical practice” (a person-year is one year of medical practice by a physician, counted at the practice location at the end of each year). Altogether, there were 1,117 person-years of medical practice provided by the 194 graduates.

- ▶ Slightly over one-half of these took place in northern Ontario. The figure rises to just over two-thirds when medical practice in rural areas outside northern Ontario are added.



- ▶ Compared to NOFM graduates, FMN graduates were more likely to continue practising in rural areas, but less likely to continue practising in northern Ontario.
- ▶ When northern and other rural locations were considered together and compared with urban locations outside northern Ontario, there was no difference between the two groups of graduates.

## Choosing Urban Practice

While slightly over two-thirds of the person-years of practice of the graduates took place in northern Ontario or rural areas, some graduates did end up practising in larger urban centres. In order to better understand why, the study team interviewed 14 who were practising in larger urban centres (cities with a population of 100,000 or more).

Because medical practice in Sudbury (population 155,000) and Thunder Bay (population 120,000) would be more like practising in other mid-sized cities than in rural or remote areas, these cities were included in this study although they are in northern Ontario. Each has a large regional hospital, a considerable number of specialists, and other health care services (e.g. cancer treatment centre, mental health program, and nursing homes).

Most of the interviewees did not come from a rural background. Close to one-half were practising in Sudbury or Thunder Bay. The rest were in mid-sized or large cities in southern Ontario or other provinces. None were in very large cities like Toronto and Vancouver.

Most started practising in an urban setting with little or no previous rural practice. Two moved to an urban setting after at least a year in rural practice, and one moved back and forth between the two settings.

The choice to practise in an urban setting was clearly NOT because they were disinterested in rural practice. Most liked the autonomy, the variety of clinical work and the respect from patients in a rural setting. It was also not because they felt insufficiently prepared for rural practice: almost all had nothing but praise for the two residency programs and the preparation provided for rural and northern practice. Nor was a lack of medical practice opportunities in rural areas a key reason, nor financial motivation.

While some graduates chose urban practice for fairly straightforward reasons, others offered multiple reasons for their choice, suggesting that the process could be quite complex.

Reasons for practising in cities	No. of responses
Family concerns	
Spouse's employment or career	9
Cities are better for children (e.g., better schools)	3
Closer to extended family	3
Health problems experienced by family members in northern Ontario	1
Personal preferences	
Subject or spouse preferred city living	6
No ethnic or cultural ties in rural areas	1
Returning to roots	
Originally from Sudbury or Thunder Bay and wanted to return home	2
Professional or political considerations	
Easier to be part-time or have flexible medical practice in cities	1
Professional isolation in rural areas	1
Difficult to specialize in a special field (e.g. palliative care) in rural areas	1
Wanted to do obstetrics in a large centre with full back-up	1
Easier to establish medical practice in northern Ontario city where contacts and networks were established	1
Opportunity to teach in a medical program	1
Concern about proposed health care policies	2

Family and personal reasons were mentioned most frequently, especially the spouse's employment or career, which was mentioned equally often by male and female physicians. Physician recruiters from rural communities are well advised to pay special attention to the needs of physicians' spouses and to make physicians and their families feel welcome. Other family reasons related to opportunities for children and to distance from extended family.

Six interviewees said that they or their spouse preferred city living. Also, several professional or political reasons were cited.

Would they return to rural practice some day? Only one said yes. A loss of the skills needed for rural practice was mentioned as a reason for not returning to rural practice.

It appears, however, that most had lingering attachment to rural medical practice. They felt it was more challenging and stimulating than urban practice. Some tried to maintain a broad-scope practice, similar to that in most rural settings. Others claimed that their northern practice in Sudbury and Thunder Bay was somewhere between urban practice in southern Ontario and rural practice. Some would even welcome the chance to do rural locums or see patients in nearby small towns.

A few had apparently chosen the rural residency program for its quality even though they had planned to practise in an urban setting. Rural medicine programs will need to select trainees with genuine interest in rural practice, if this can be determined.

- ▶ *My residency training gave me "an increased level of confidence in the northern practice setting."*
- ▶ *"Because the model is preceptor-based, I received a tremendous amount of direct supervision by very highly qualified individuals."*
- ▶ *"I get paid more to work in a rural area than I do to work in a city."*
- ▶ *"I really enjoyed living up there (the north). But for me, the move down (south) was really more for my spouse's occupation."*
- ▶ *"I think the satisfaction as a family physician is probably greater in rural areas in general, except I think that lifestyle in a smaller city or rural area is more difficult."*
- ▶ *"In Thunder Bay...you still practise like a rural family doctor because we are remote...from the rest of Ontario...There is a shortage of specialists...you still have to do so much."*

## Questions Raised

The Scott's Medical Database data used in the study did not provide information about many important factors that might have influenced physicians to practise in rural areas, such as their background and that of their spouse, remuneration, professional support, locum relief, workloads, spousal employment opportunities, community attributes and proximity to family members. Such information would be valuable in future research. At the same time, the urban-practising graduates did shed light on some of these issues in the study's interviews.

Future studies should also consider including one or more comparison groups — graduates of other family medicine residency programs with much shorter duration of rural or northern exposure, or of urban-based programs.

The stronger likelihood of male rather than female graduates practising in northern Ontario raises the question of the long-term implications for northern Ontario and other rural areas of the rapidly increasing numbers of women in the physician workforce.

Because many of the graduates in the study were relatively new physicians, the mobility patterns revealed by this study may be just the tip of the iceberg. Continued monitoring is called for to determine if different career patterns and practice location choices will emerge over a longer period of time.

## A Success Story

With two-thirds of person-years of medical practice of their graduates taking place in underserved northern and rural areas, the NOFM and FMN programs have had good success. These two family medicine residency programs have thus fulfilled, to a large extent, their mandate of training family physicians to work in northern Ontario and other rural areas.

The findings of this study could help medical educators and decision makers know what to expect from offering rural medical opportunities and help them understand how practice location decisions are made by graduates.

The study also shows the importance of the geographic context of medical education programs. The differences between NOFM and FMN in relation to where their graduates practise could be partly explained by the geographic and demographic differences between northeastern and northwestern Ontario.

Despite the questions that remain, this study adds to the growing evidence from Canada and abroad that educating physicians in northern and rural settings increases the likelihood that they will practise in northern or rural areas. Thus, effective rural and northern medical education must be a cornerstone of any long-term physician workforce strategy designed to address the inequitable distribution of medical practitioners in Canada.

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