# Keeping family physicians in rural practice

## *Solutions favoured by rural physicians and family medicine residents*

James T.B. Rourke, MD, CCFP(EM), MCLSC, FCFP Filomena Incitti, MD, CCFP
Leslie L. Rourke, MD, FCFP, MCLSC MaryAnn Kennard, MLS

ABSTRACT

**OBJECTIVE** To determine how family medicine residents and practising rural physicians rate possible solutions for recruiting and sustaining physicians in rural practice.

**DESIGN** Cross-sectional mailed survey.

**SETTING** Rural family practices and family medicine residency programs in Ontario.

**PARTICIPANTS** Two hundred seventy-six physicians and 210 residents.

**MAIN OUTCOME MEASURES** Ratings of proposed solutions on a 4-point scale from "very unimportant" to "very important."

**RESULTS** Rural family physicians rated funding for learner-driven continuing medical education (CME) and limiting on-call duty to 1 night in 5 as the most important education and practice solutions, respectively. Residents rated an alternate payment plan to include time off for attending and teaching CME and comprehensive payment plans with a guaranteed income for locums as the most important education and practice solutions, respectively.

**CONCLUSION** Residents and physicians rated solutions very similarly. A comprehensive package of the highest-rated solutions could help recruit and sustain physicians in rural practice because the solutions were developed by experts on rural practice and rated by family medicine residents and practising rural physicians.

RÉSUMÉ

**OBJECTIF** Déterminer les solutions que les résidents en médecine familiale et les médecins en pratique rurale favorisent pour recruter et retenir des médecins en pratique rurale.

**TYPE D'ÉTUDE** Enquête transversale par la poste.

**CONTEXTE** Milieux de pratique familiale rurale et programme de résidence en médecine familiale d'Ontario.

**PARTICIPANTS** Deux cent soixante-dix médecins et 210 résidents.

**PRINCIPAUX PARAMÈTRES MESURÉS** Évaluation des solutions proposées sur une échelle comportant quatre niveaux, de « très peu important » à « très important » .

**RÉSULTATS** Les stratégies favorisées par les médecins de famille ruraux pour ce qui est de la formation et de la pratique étaient le financement de la formation médicale continue (FMC) auto-gérée et la restriction des gardes en disponibilité à une nuit sur cinq, respectivement. Pour les résidents, les solutions les plus importantes pour la formation et pour la pratique étaient un mode de rémunération différent incluant des congés pour participer à des activités de FMC comme auditeur ou enseignant et un mode de rémunération global avec revenu garanti pour les remplaçants, respectivement.

**CONCLUSION** Les solutions proposées ont été évaluées de façon très semblable par les deux groupes de répondants. Le recrutement et la rétention des médecins en pratique rurale pourraient être meilleurs si on offrait l'ensemble des solutions les mieux cotées, car ces solutions ont été développées par des experts en pratique rurale et ont été évaluées par des résidents en médecine familiale et par des médecins en pratique rurale.

*This article has been peer reviewed.*
*Cet article a fait l'objet d'une évaluation externe.*
*Can Fam Physician* 2003;49:1142-1149.

Poor distribution of physicians remains one of the most serious problems facing the Canadian health care system. Throughout the country, rural people have the greatest difficulty accessing both family doctors and specialists. Despite increased awareness of the difficulties of providing medical care in rural and remote areas, the problem has worsened. The ratio of family physicians and general practitioners to population in rural Canada is 1:1340 compared with 1:995 for Canada as a whole. Rural Canada will need 1652 more FP/GPs to meet the national average.[1-4]

In rural Ontario, the FP/GP-to-population ratio is 1:1562 compared with 1:1052 for Ontario as a whole. Rural Ontario needs 495 more FP/GPs to meet the provincial average.[1] In 1996, 68 communities, most of them rural, were designated by the province as underserviced and requiring 100 more FP/GPs. By January 2001, that number had grown to 109 communities and 485 physicians.[5]

The difficulties of recruiting and sustaining adequate numbers of physicians in rural areas across Canada might be related to the fact that there are too few education programs and practice incentives and too little support. The Canadian Medical Association (CMA) and other groups have developed recommendations to address the problem.[6-8] None of these recommendations has been subjected to a stringent validation process involving the two most important target groups: residents who form the pool of potential future rural family physicians and rural family physicians currently in practice. We did this study to determine which strategies to recruit and sustain rural doctors are most important to these two groups.

Recognizing the need for a comprehensive "blueprint" for physician recruitment and retention in Ontario's rural communities, an expert group of committed representatives of rural medicine and medical training met in 1998 under the joint sponsorship of the Society of Rural Physicians of Canada's (SRPC) Ontario Regional Committee and the Professional Association of Internes and Residents of Ontario (PAIRO). Drawing on its collective expertise and experience, the group produced the report *From Education to Sustainability: A Blueprint for Addressing Physician Recruitment and Retention in Rural and Remote Ontario*.[9] The blueprint contains a comprehensive set of recommendations for recruiting and retaining rural physicians in rural and remote Ontario[9] and a thorough discussion and analysis of the literature on the subject.

Solutions recommended in the blueprint were condensed into a questionnaire for our study. We aimed to determine which solutions for recruiting and sustaining rural family doctors were most important to practising rural family physicians and family medicine residents.

**Dr James Rourke** *is a Professor,* **Dr Incitti** *was a resident, and* **Dr Leslie Rourke** *is an Assistant Professor in the Department of Family Medicine at the University of Western Ontario in London.* **Dr Incitti** *now practises in Elora, Ont.* **Drs James and Leslie Rourke** *practise in Goderich, Ont.* **Ms Kennard** *is a Research Assistant in the Southwestern Ontario Rural Medicine Education, Research and Development Unit at the University of Western Ontario.*

## METHODS

On the survey questionnaire physicians and residents were asked to rate the importance of a series of proposed solutions for recruitment. Physicians were also asked to rate the importance of solutions for sustaining physicians in rural practice. Residents were also asked to rate proposed solutions concerning return-of-service agreements and postgraduate medical education (**Tables 1**[9] and **2**[9]). The questionnaire was pilot-tested among rural family physicians and modified. It was also modified after review and before approval by the University of Western Ontario's Review Board for Health Sciences.

The survey was mailed in November 1999. A modified Dillman method was used.[10] One follow-up mailing was sent to nonrespondents. All surveys were given an identification number; confidentiality was strictly maintained.

The questionnaire was sent to all 507 family physicians defined by the Ontario Medical Association (OMA) as practising in rural areas. For its continuing medical education (CME) grant allocation, the OMA has strictly defined rural practice as practice in communities with a population of less than 10 000 more than 80 km away from a community of at least 50 000.[11,12] We used this very restrictive definition to distinguish physicians in rural practice. The questionnaire was also sent to all 536 first- and second-year family medicine residents in Ontario. The survey and analysis were conducted by the Southwestern Ontario Rural Medicine Education, Research and Development Unit in Goderich, Ont.

**Table 1. Fifteen rural medical education solutions**

| |
|---|
| **Return-of-service agreements*** |
| Implement undergraduate return-of-service agreements |
| **Postgraduate rural medical training*** |
| Ensure all family medicine programs offer substantial rural training |
| Create a separate rural stream for aspiring rural physicians |
| Increase substantially the number of residents in rural training streams |
| **Training rural teachers** |
| Appoint more rural clinicians to faculty positions |
| Provide appropriate funding of rural faculty through alternative payment plans |
| Create funded faculty positions to develop rural teachers |
| **Advanced skills training** |
| Increase number of positions for advanced skills training |
| Offer advanced skills training in rural hospitals |
| Offer sabbaticals at appropriate pay for qualified rural physicians |
| Offer advanced skills training programs to rural physicians |
| **Reentry training positions** |
| Compensate positions granted to established rural physicians beyond residency salaries |
| Permit established rural physicians to compete for reentry positions after 5 years without return-of-service agreements |
| **Continuing medical education** |
| Continue funding for the Ontario Medical Association's learner-driven continuing medical education for rural physicians |
| Ensure alternative payment plans include allotted time off for attending and teaching continuing medical education |

*Data from the Society of Rural Physicians of Canada, Ontario Regional Committee, Professional Association of Internes and Residents of Ontario.*[9]
**Only residents were asked to rate these solutions.*

## RESULTS

Overall response rate was 46.6%; surveys were received from 276 of 507 rural family physicians and from 210 of 536 family medicine residents. Twelve physician surveys were excluded because physicians were no longer in active practice or practised in communities with populations larger than 10 000.

**Table 3** shows the six medical education solutions rated highest by practising physicians and residents. **Table 4** shows the top 10 practice solutions as rated by physicians and residents. Solutions were ranked using a mean rating score. All solutions rated "very important" by 50% or more of at least one group are included in **Tables 1**[9] and **2**[9]. All education solutions and all but two of the practice solutions met this criterion.

Results were further analyzed by sex. Male and female rural physicians and residents ranked solutions similarly. Significant differences were found for only four of the 31 proposed solutions, none of which were in the top five education solutions or the top 10 practice solutions.

Solutions for sustaining rural physicians were further analyzed by age. There was little difference between younger and older physicians' ratings. Physicians in rural practice 20 years or more valued advanced skills training. Physicians in practice less than 20 years put more importance on being able to get locums.

Among the residents, 29 (13.8%) indicated they would consider practising in communities with populations of less than 10 000. These respondents ranked some education and practice solutions differently from the residents overall (**Tables 3** and **4**).

## DISCUSSION

We could find no studies of family medicine residents' opinions on incentives or solutions for rural practice. The CMA surveyed rural physicians in 1991 and found that the desire for rural practice,

**Table 2.** Sixteen rural practice solutions

| |
|---|
| **Referral and support network** |
| Implement user-friendly specialist referral network, including flexible access via telephone, fax, and the Internet |
| **Medical informatics** |
| Provide direct medical informatics grants for training and purchase of patient-record and information systems |
| **Physician licensure** |
| Provide forms of licensure that enable qualified trainees to provide locum and hospital on-call coverage |
| Provide forms of licensure that permit rural physicians to cross provincial borders to provide locum services |
| **Allied health professionals** |
| Increase funding to enhance the roles of nurse practitioners and midwives |
| **Clinical support program** |
| Provide special funding for rural practice clinics, including funding for facilities, support staff, and administration, regardless of compensation model |
| **Remuneration** |
| Extend sessional funding beyond emergency room coverage to apply to GP anesthesia and obstetrics |
| Revise current "Scott sessional fee" for emergency room coverage to reflect market realities |
| Include time off in alternate payment plans for rural physicians in practice more than 10 years |
| Give direct financial support for overhead expenses |
| **Natural limits, retirement, and burnout** |
| Support rural physicians not having to take overnight calls after 20 to 25 years of practice |
| Devise retirement incentives specific to rural physicians |
| **Spousal and family concerns** |
| Support rural physicians not having to provide on-call services more frequently than 1 night in 5 |
| Fund an organization to identify job opportunities for spouses |
| **Locum programs** |
| Have a provincial locum program to rapidly supply rural areas from a roster of registered physicians |
| Ensure payment plans for locums include assistance for travel, accommodation, and continuing medical education, and a guaranteed income |

*Data from the Society of Rural Physicians of Canada, Ontario Regional Committee, Professional Association of Internes and Residents of Ontario.*[9]

attractiveness of a rural location to the spouse, considerations of children, recreational opportunities, experience in training, community size and financial incentives were given as important factors in the decision to locate to a rural area.[6,13] We found no directly related American studies. Australian studies showed that both professional and quality-of-life issues influenced GPs in their choice of practice location and in their decisions whether to remain in or leave rural practice.[14,15] A 1991 Australian study reported suggestions for improving recruitment, training, and retention of rural general practitioners in Australia.[16]

No current published studies of recruitment and retention incentives or solutions directly relate to the continuing shortage of rural family physicians in Ontario. Family medicine residents in Ontario are the largest potential source of new rural physicians, and in our study, they have indicated which of the proposed solutions they think most important for recruiting new physicians to rural practice. Practising rural physicians have indicated which solutions they think are most important for both recruiting and sustaining physicians in rural practice. The concordance between residents' and rural physicians' ratings is remarkable. Key findings are discussed below.

## Education solutions

Return-of-service agreements were the lowest-rated solution. Only 11.2% of residents rated them very important. Sabbaticals at appropriate pay for qualified rural physicians were highly rated by both groups. They would provide valuable opportunities for physicians

**Table 3.** The six highest rated of the 15 rural medical education solutions: *Mean rating score was used for ranking.*

| | RANK GIVEN BY PHYSICIANS | | RANK GIVEN BY RESIDENTS ALL RESIDENTS | RESIDENTS CONSIDERING RURAL PRACTICE |
|---|---|---|---|---|
| SOLUTIONS | TO SUSTAIN | TO RECRUIT | TO RECRUIT | TO RECRUIT |
| Continued funding for OMA learner-driven CME for rural physicians | 1 | 1 | 4 | - |
| Alternate payment plan to include allotted time off to attend and teach CME | 2 | 2 | 1 | 1 |
| Sabbaticals at appropriate pay for qualified rural physicians | 3 | 4 | 6 | 2 |
| Advanced skills training program for rural physicians | 4 | - | 6 | 5 |
| Increased number of positions for advanced skills training | 5 | 3 | 2 | 3* |
| Advanced skills training offered in rural hospitals | 6 | 5 | 3 | - |
| Separate rural stream for aspiring rural physicians† | - | - | 5 | - |
| All family medicine programs must offer substantial rural training† | - | - | - | 3* |
| Appropriate funding of rural faculty through alternate payment plans | - | 6 | - | 6* |
| Substantial increase in number of residents in rural training streams† | - | - | - | 6* |

*CME—continuing medical education, OMA—Ontario Medical Association.*
**More than one solution with same rank.*
†*Only residents were asked to rate these solutions.*

**Table 4.** The 10 highest rated of the 16 rural practice solutions: *Mean rating score was used for ranking.*

| | RANK GIVEN BY PHYSICIANS | | RANK GIVEN BY RESIDENTS ALL RESIDENTS | RESIDENTS CONSIDERING RURAL PRACTICE |
|---|---|---|---|---|
| SOLUTIONS | TO SUSTAIN | TO RECRUIT | TO RECRUIT | TO RECRUIT |
| Rural physicians should not be required to provide on-call services more frequently than 1 night in 5 | 1 | 1 | 3 | 5* |
| Have a provincial locum program to rapidly supply rural areas from a roster of registered physicians | 2 | 7 | 2 | 1* |
| Payment plans for locums should include assistance for travel, accommodation, and continuing medical education, and a guaranteed income | 3 | 3 | 1 | 1* |
| Revise current "Scott sessional fee" for emergency room coverage to reflect market realities | 4 | 2 | 5 | 3 |
| Implement user-friendly specialist referral network, including flexible access via telephone, fax, and Internet | 5 | 6 | 4 | 7 |
| Extend sessional funding beyond emergency coverage to apply to GP anesthesia and obstetrics | 6 | 4 | 7 | 4 |
| Alternate payment plans should include time off for rural physicians in practice for >10 years | 7 | 10 | - | - |
| After 20-25 years' practice, rural physicians should not be required to take overnight calls | 8 | - | - | - |
| Ensure direct financial support for overhead expenses | 9 | 5 | 8 | 5* |
| Have retirement incentives specific to rural physicians | 10 | - | - | - |
| Special funding for rural clinics, including facilities, support staff, and administration, regardless of compensation model | - | 8 | 9 | 8 |
| Fund an organization to identify job opportunities for spouses in rural communities | - | 9 | 6 | 9 |
| Provide forms of licensure to permit rural physicians to cross provincial borders to provide locum services | - | - | 10 | 10 |

**More than one solution with same rank.*

to enhance their skills. Postgraduate rural medicine training was recommended in the College of Family Physicians of Canada's (CFPC) report "Postgraduate Education for Rural Family Practice: Vision and Recommendations for the New Millennium."[17,18] Most (88%) residents rated a "separate rural stream for aspiring rural physicians" as very or most important.

Substantially increasing the number of residents in rural training streams was ranked sixth by residents considering rural practice. McKendry and others have also recommended increasing such training positions.[2,3] The number of these positions has already been somewhat expanded in Canada; it is of concern that some of the positions were not filled during the most recent Canadian Resident Matching Service match. Training rural teachers was not identified as the highest priority, but more teachers will be needed to educate larger numbers of rural family medicine trainees. Both residents and practising physicians supported advanced skills training, which is recommended not only in the PAIRO blueprint, but also in the McKendry Report, the CFPC Report, the CMA paper, and the report of the Council of Ontario Faculties of Medicine (COFM).[3,7,17-20]

Since 1993, the OMA has administered a learner-driven CME fund for rural physicians. It has been an unqualified success, but funding has been uncertain. A remarkable 82% of practising physicians rated it very important for sustaining physicians in rural practice. A recent study found that rural physicians with access to the OMA program stayed in rural practice longer than those who did not have access to the program.[21] The very high rating for an "Alternative payment plan to include allotted time off to attend and teach CME" underscored the importance both residents and rural physicians place on CME.

## Practice solutions

Rural physicians have limited or distant access to specialists and technological support.[11] Results of this survey indicate that it is important to facilitate referrals and provide specialist support. Increased funding for nurse practitioners and midwives was rated least important by family physicians; only 8% rated it very important for recruitment, and 10% rated it very important for retention. For residents, it was the second-least important of proposed solutions; only 21% rated it very important.

Sessional funding for GP anesthesia and obstetrics was highly rated for both recruitment and retention. The number of rural family physicians in Ontario who attend births or administer anesthesia is seriously declining.[22] There are not, and will not be for the foreseeable future, sufficient specialist anesthetists, obstetricians, or midwives to provide necessary services. Since this study, the Ontario Ministry of Health–OMA 2000 agreement has introduced payment for GP obstetrics and anesthesia as part of a hospital on-call program. Alternative payment funding for physicians working emergency shifts in small hospitals in Ontario was introduced in 2000; rural physicians working in emergency departments have increased.

"Payment plans should include time off in recognition of physicians in rural practice for more than 10 years" was rated highly by practising physicians. This reward for long service could be used for revitalization and education.

"Special funding for rural practice clinics including clinic facilities, support staff, and administrative support regardless of compensation model" was rated highly. However rural physicians are compensated, direct office support would help them develop group practice models that would work better for themselves and their patients.

Results of our survey support the OMA and Ontario Hospital Association recommendation that "after 20 to 25 years of practice, rural physicians should not be required to take overnight calls."[23] After years of dedicated service to a rural community, some senior physicians stop practising because they find overnight calls exhausting. "Retirement incentives specific to rural physicians" would reward physicians who provide long years of service to rural communities.

Results of our survey support earlier recommendations to limit call to no more than 1 night in 5.[7,23] This was ranked as the most important strategy by practising rural physicians and third most important by residents. Frequent call is difficult for physicians' families. Residents in particular indicated the importance of "facilitating spousal job opportunities in rural communities."

With shortages of physicians in most rural communities, availability of locums can make a big difference in continuing patient care and allowing time off for CME, family holiday time, maternity leave, and so on. Residents ranked locum programs and support as most important of the rural practice incentives. Rural physicians also ranked them very highly. Since 1994, the OMA's Rural Locum Program has coordinated and funded accommodation, travel, and a guaranteed income for locums. The shortage of locum physicians and the program's restricted application limit the number of

physicians and communities that can benefit from it.

It is unlikely that any one solution will be sufficient to address the problem of rural doctor shortages. A comprehensive package based on highly rated solutions is more likely to be successful than politically expedient measures.

## Limitations

The study's overall response rate of 54% (of 507 physicians) is lower than we would have liked, but is comparable to that of other large surveys.[24] There was no statistical difference related to sex and years since graduation between respondents and nonrespondents, indicating that the sample was fairly representative. A response rate of 39.2% of the 536 residents is remarkable for a survey on rural practice issues; a much smaller number would be expected to choose rural practice. (In 1998, of 735 physicians completing postgraduate family medicine training in Canada, only 86 (11%) began practising in rural areas.[2]) In our study, 29 (13.8%) residents indicated they would consider practising in communities with less than 10 000 population.

The education solutions were limited to those directly related to residents and practising physicians, and did not include medical school admission issues or undergraduate rural educational exposure.

The greatest limitation of the study is that it examines the importance that family medicine residents and practising rural family physicians place on proposed solutions. It did not measure the effect of the proposed solutions. It did not study rural physicians who have left rural practice to see whether the proposed solutions would have altered their decisions.

## Conclusion

Our study results could guide communities, regions, and provinces in implementing appropriate incentives and supports to address their rural doctor shortages. The results will be directly relevant to rural family physicians who need support to remain in rural practice and seek new colleagues to join them. They will also be directly relevant to residents considering rural practice as they weigh their career options and opportunities.

The shortage of physicians for rural communities continues to grow; so far, sufficient education, recruitment, and retention initiatives have not been implemented to address this problem. While our recommendations are not new, this study identifies those considered most important by family medicine residents who constitute the pool of physicians most likely to be recruited to rural practice and by practising physicians who are in rural practice and are often involved in recruiting other physicians. Residents and rural family physicians ranked solutions very similarly. No one solution will solve the problem. A cohesive, comprehensive package to recruit physicians and support them in rural practice is urgently needed.

### Editor's key points

- This survey reports ratings by family medicine residents and practising rural family physicians of possible solutions for recruiting and retaining rural family physicians.
- Residents thought the most important solutions were an alternate payment plan with time off for CME, sabbaticals with pay, and a provincial locum program with financial support for travel and accommodation and a guaranteed income.
- Practising physicians thought the most important solutions were continued funding for the rural CME program, an alternative payment program, being on call no more than 1 night in 5, and a provincial locum program.
- Recruitment and retention of rural family physicians will depend on a comprehensive plan that acknowledges the opinions of residents and practising family physicians.

### Points de repère du rédacteur

- Cette enquête auprès de résidents en médecine familiale et de médecins en pratique rurale rapporte leur évaluation des solutions proposées pour recruter et retenir des médecins de famille en pratique rurale.
- Les résidents considéraient que les solutions les plus importantes étaient un mode de rémunération différent prévoyant du temps libre pour la FMC et pour des congés sabbatiques rémunérés et un programme provincial de remplaçants incluant un support financier pour le transport et le logement et un revenu garanti.
- D'après les médecins en pratique, les solutions les plus importantes étaient le financement permanent du programme rural de FMC, un mode de rémunération différent, la restriction des gardes à une nuit sur cinq et un programme provincial de remplaçants.
- Le recrutement et la rétention de médecins de famille en pratique rurale dépendront d'un plan global qui tient compte de l'opinion des résidents et de celle des médecins de famille en pratique.

**Acknowledgment**

*Partial funding of $9000 for the study was received from the Ontario Medical Association's CME Program for Rural and Isolated Physicians. The authors thank all the family medicine residency programs in Ontario for their help distributing the survey to their residents.*

**Contributors**

**Dr James Rourke** *developed and directed the project and was responsible for analyzing results and writing the paper.* **Dr Incitti** *helped develop the project and was involved in writing the paper.* **Dr Leslie Rourke** *assisted with developing the project and writing the paper.* **Ms Kennard** *participated in design and development of the project, was responsible for data collection and analysis, and wrote up the results section of the paper.*

**Competing interests**

*None declared*

***Correspondence to:*** *Dr James T.B. Rourke, Southwestern Ontario Rural Medicine Unit, 53 North St, Goderich, ON N7A 2T5; telephone (519) 524-9940; fax (519) 524-5577; e-mail* mes.rourke@sworm.on.ca

**References**

1. Canadian Medical Association. *CMA masterfile*. Ottawa, Ont: Canadian Medical Association; 1998.
2. Rourke J, Newbery P, Topps D. Training an adequate number of rural family physician [Editorial]. *Can Fam Physician* 2000;46:1245-8 (Eng), 1252-5 (Fr).
3. McKendry R. *Physicians for Ontario: Too many? Too few? For 2000 and beyond. Report of the Fact Finder on Physician Resources in Ontario*. Toronto, Ont: Ontario Ministry of Health; 1999.
4. Scott G. *Small/rural hospital emergency department physician service. Report commissioned by Ontario Ministry of Health, Ontario Hospital Association, Ontario Medical Association*. Toronto, Ont: Ontario Ministry of Health, Ontario Hospital Association, Ontario Medical Association; 1995.
5. Ontario Ministry of Health and Long-Term Care. *January/February/March 2001 list of areas designated as underserviced for general/family practitioners*. Sudbury, Ont: Ontario Ministry of Health; 2001.
6. Canadian Medical Association Advisory Panel on the Provision of Medical Services in Underserviced Regions. *Report of the Advisory Panel on the provision of medical services in underserviced regions*. Ottawa, Ont: Canadian Medical Association; 1992.
7. Canadian Medical Association. Rural and remote practice issues. *Can Med Assoc J* 2000;163(8):1047-50.
8. World Organization of Family Doctors. *Rural practice and rural health*. Traralgon, Aust: WONCA; 1999.
9. Society of Rural Physicians of Canada, Ontario Regional Committee, Professional Association of Internes and Residents of Ontario. *From education to sustainability: a blueprint for addressing physicians recruitment and retention in rural and remote Ontario*. Toronto, Ont: Society of Rural Physicians of Canada; 1998.
10. Dillman DA. *Mail and telephone surveys: the total design method*. Toronto, Ont: John Wiley and Sons; 1978.
11. Rourke J. In search of a definition of "rural." *Can J Rural Med* 1997;2(3):113-5.
12. Ontario Ministry of Health, Ontario Medical Association. *1993 interim agreement on economic arrangements*. Toronto, Ont: MOH/OMA; 1993.
13. Rourke JT. Politics of rural health care: recruitment and retention of physicians. *Can Med Assoc J* 1993;148(8):1281-4.
14. Alexander C. Why doctors would stay in rural practice in the New England Health area of New South Wales. *Aust J Rural Health* 1998;6(3):136-9.
15. Strasser RP. Attitudes of Victorian rural GPs to country practice and training. *Aust Fam Physician* 1992;21(7):808-12.
16. Strasser R. How can we attract more doctors to the country? *Aust J Rural Health* 1992;1(1):39-44.
17. Rourke J (Chair), Goertzen J, Goldsand G, Hatcher S, Humphries S, Iglesias S, et al. *Postgraduate education for rural family practice: vision and recommendations for the new millennium. Report of the Working Group on Postgraduate Education for Rural Family Practice*. Mississauga, Ont: College of Family Physicians of Canada; 1999. Full report available at: http://www.cfpc.ca/education/rural/ruralpaperfull.asp.
18. College of Family Physicians of Canada. Working Group on Postgraduate Education for Rural Family Practice. Postgraduate education for rural family practice: vision and recommendations for the new millennium. *Can Fam Physician* 1999;45:2698-704 (Eng), 2717-21 (Fr).
19. Council of Ontario Faculties of Medicine. Task Force on Education of Physicians for Rural and Northern Communities. *Educating physicians for rural and northern communities: a provincial plan for the new millennium*. Toronto, Ont: Council of Ontario Universities; 1999.
20. Council of Ontario Faculties of Medicine. *COFM business plan for rural medical education*. Toronto, Ont: Ontario Ministry of Health and Long-Term Care; 2000.
21. Sempkowski IP, Godwin M, Sequin R. Physicians who stay versus physicians who go: results of a cross-sectional survey of Ontario rural physicians. *Can J Rural Med* 2002;7(3):173-9.
22. Rourke JT. Trends in small hospital obstetric services in Ontario. *Can Fam Physician* 1998;44:2117-24.
23. Ontario Medical Association/Ontario Hospital Association Task Force. *OMA/OHA guidelines of the provision of hospital on-call services*. Toronto, Ont: OMA/OHA; 1992.
24. College of Family Physicians of Canada. *Initial data release of the 2001 National Family Physician Workforce Survey*. Mississauga, Ont: CFPC; 2001.