Preparing for rural practice

Enhanced experience for medical students and residents

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ABSTRACT

PROBLEM ADDRESSED Recruitment and retention of physicians appropriately trained for rural practice in Canada continues to be a serious challenge. We describe three integrated educational programs at the University of Alberta that aim to increase students' and residents' participation in rural health care and encourage them to take up practice in rural areas.

OBJECTIVES OF PROGRAM To expand and enrich rural educational experiences at undergraduate and postgraduate levels and to supplement family medicine postgraduate education with a third-year special-skills program for rural practice.

MAIN COMPONENTS OF PROGRAM Main components are sustained, reliable funding from the Government of Alberta for the Rural Physician Action Plan; adequate infrastructure to support the program; and commitment by university faculty, rural physicians, and communities.

CONCLUSION The rural-based educational programs have allowed more than 95% of medical students to gain experience in rural areas. The number of family medicine residents doing rural rotations has doubled, and the length of experiences in rural practice has increased fourfold. The third-year special-skills training for rural practice has expanded greatly, and at least 26 of 49 participants have gone on to enter rural practice. In more than 30 rural Alberta communities, 56 physicians have had an important influence on the training of medical students and family medicine residents.

RÉSUMÉ

PROBLÈME Le recrutement et le maintien d'un effectif de médecins bien formés dans les milieux ruraux au Canada persistent à poser un sérieux défi. Nous décrivons trois programmes pédagogiques intégrés, dispensés par l'Université de l'Alberta, qui visent à accroître la participation des étudiants et des résidents aux soins de la santé en milieu rural et à les inciter à y établir une pratique.

OBJECTIFS DU PROGRAMME Élargir et enrichir les expériences éducatives en milieu rural aux niveaux du premier cycle et des études supérieures, et ajouter, en troisième année du programme d'études supérieures en médecine familiale, un programme de perfectionnement spécial conçu pour l'exercice de la médecine en milieu rural.

PRINCIPALES COMPOSANTES DU PROGRAMME Les principales composantes comportent un financement constant et fiable de la part du gouvernement de l'Alberta pour le Plan d'action des médecins en milieu rural; une infrastructure appropriée à l'appui du programme; et l'engagement manifesté par le corps professoral de l'université, les médecins en milieu rural et les collectivités.

CONCLUSION Les programmes pédagogiques axés sur le milieu rural ont permis à plus de 95% des étudiants en médecine d'acquérir de l'expérience dans ces milieux. Le nombre de résidents en médecine familiale qui ont fait un stage en milieu rural a doublé, tandis que la durée de ces expériences en pratique rurale a quadruplé. Le perfectionnement spécial pour la pratique rurale, offert en troisième année, a pris un essor considérable. Au moins 26 des 49 participants ont établi une pratique en milieu rural. Dans plus de 30 communautés rurales de l'Alberta, 56 médecins ont joué un rôle important dans la formation des étudiants en médecine et des résidents en médecine familiale.

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In April 1991, after extensive consultation and planning,[1,2] the Alberta government announced the start of the Rural Physician Action Plan (RPAP). The RPAP is a comprehensive program designed to enhance recruitment and retention of physicians in rural Alberta. A large part of it focuses on medical students and residents. Although it was developed before the WONCA Policy on Training for Rural Practice,[3] the RPAP shares with it an emphasis on encouraging future practice in rural communities by providing medical students and residents with positive experiences in rural medicine and the necessary skills to practise in rural communities, and by providing academic appointments, faculty development, and financial support to rural preceptors.

Previous descriptions of rural educational programs have largely discussed either undergraduate[4-8] or postgraduate[9-11] rural experience in countries other than Canada.[4-9,11] In response to the RPAP, the Faculty of Medicine at the University of Alberta formally organized a rural rotation program for both medical students and family medicine residents, and offered third-year special-skills training to family medicine residents to better prepare them for rural practice. This paper describes the three integrated rural-practice educational programs and our experience from 1992 to 1997.

Program organization and resources

Two new organizational systems were established within the Faculty of Medicine to facilitate rural educational programs. The first, the Faculty RPAP Coordinating Committee, chaired by the Dean of Medicine, coordinates the various rural practice initiatives within the Faculty of Medicine. The second, the Rural Practice Coordinating Committee, a multidisciplinary resource group, reviews and makes recommendations on all postgraduate training for rural practice in both family medicine and general specialties.

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Funding for the RPAP became available in January 1992 and was essential for developing the necessary infrastructure and staff for the rural educational programs. The RPAP provides financial support for a Rural Practice Coordinator, a full-time academic family physician with rural experience who provides coordination and leadership for rural preceptors, medical students, and residents; a Rural Rotation Administrator who is responsible for all aspects of the day-to-day functioning of the program; an Informatics Coordinator who provides training and technical support for the computers and software provided to all residency teaching sites; accommodation and travel for medical students and residents; rural preceptor stipends for teaching and supervising medical students and residents ($1000 and $500 monthly, respectively); faculty development for rural preceptors (travel and accommodation) for one faculty development activity yearly; and physician recruitment fairs held annually at both the University of Alberta and the University of Calgary to give family medicine residents and medical students the opportunity to meet members of the rural communities and regional health authorities that are recruiting physicians.

Program development

Rural practice teaching sites and preceptors. Criteria for selecting rural teaching sites were developed. In general, communities must have more than three physicians, be close to a hospital, have physicians who are interested in and capable of providing an educational experience, and have the support of local community leaders. Rural physician preceptors currently are involved in teaching medical students and residents in more than 30 communities provincewide (**Figure 1**). There are 10 postgraduate training sites and 28 undergraduate sites (three are combined sites). Few changes in preceptors and communities occurred between 1992 and 1996. Most rural physicians view the program as a means of encouraging rural practice and of influencing the training of potential new rural physicians.[12] Rural preceptors are given a nonsalaried clinical academic appointment at the University of Alberta; 56 preceptors now hold such appointments.

Faculty development. Faculty development is vital to ensure that preceptors are prepared to teach and supervise students and to act as appropriate role models.[13] The Department of Family Medicine organizes "Spring Seeding," a 1.5-day faculty development workshop each year. Considerable effort is spent on

determining the learning needs of preceptors: effective communication between teacher and student and teaching techniques are the most prominent themes. An average of 27 physicians have attended each year from 1993 to 1996; the workshop is highly rated and valued by rural preceptors.

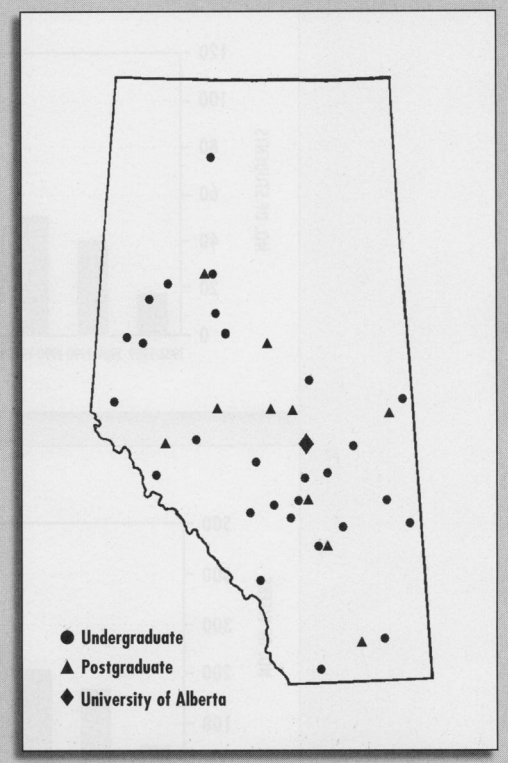
Undergraduate rotations. Student rural experiences before 1992 depended on students' interest in using elective time and seeking out rural practice opportunities. The department maintained a modest list of potential community preceptors, but there was no regular source of financial support or organized assistance in arranging the experience.

Since the RPAP began in 1992, rural rotations have been formalized. Preceptors are preselected and are evaluated regularly on their effectiveness as teachers. Educational objectives have been written, and students are graded on a pass-or-fail basis. The graduating class of 1997, for the first time, had a mandatory family medicine rotation during clerkship, and more than 95% of the rotations were rural. Evaluation of students now includes an objective structured clinical examination.

During the 1992-1993 academic year, 43 students spent 168 weeks at approved rural teaching sites; in 1995-1996, 112 medical students spent 473 weeks in rural Alberta, a striking increase (**Figure 2**). Medical students rated their rural experience and community preceptors highly in their formal evaluations. In 1993-1994 and 1994-1995, 177 of 181 students responded "Yes" to the question, "Would you recommend this site to your classmates?" The remaining four qualified their answers with "It depends what you are looking for." Student evaluations also have helped identify the few physicians who were not appropriate preceptors.

Family medicine rural rotations. While the RPAP facilitated a marked increase in the number of residents undertaking rural family medicine rotations and in the length of these experiences, the number of residents entering family medicine at the University of Alberta increased also for reasons unrelated to the RPAP from 28 to 46 positions. The proportion of residents taking rural rotations increased also from 50% before 1992-1993 to between 75% and 82% in subsequent years (**Figure 3**). In 1995-1996, the 492 weeks of rural rotations represented the equivalent of 10 years of physician support and service (at 48 weeks per year) for rural communities. At this time, the Department of Family Medicine recommends that rural rotations be a minimum of 20 weeks.

Figure 1. Map of Alberta showing rural teaching sites in relation to the University of Alberta



Residents consistently rate their rural experience highly. In the last 2 years, 69% of the residents said "Yes" to the question, "Given the opportunity, I would choose to go back to this community (either as a resident or as a practising physician)," and an additional 23% gave qualified "Yes" responses. Residents also evaluate rural preceptors in the areas of personal communication with patients and other professionals, effectiveness as teachers and in giving feedback to residents, and appropriateness as role models. Ratings for rural preceptors are equivalent to those given to full-time urban faculty.

Third-year special-skills training. Graduates of Canadian family medicine training programs often feel inadequately prepared to manage clinical problems requiring technical skills in rural communities.[14] In most rural practices, it is not feasible to have specialists, such as obstetricians, surgeons, and anesthetists, on staff, yet their services are required in rural communities. In order to prepare family medicine residents better for rural practice, the RPAP makes

Figure 2. Medical students doing rural rotations: *A) Number of students each year; B) Number of weeks in rural practice each year*

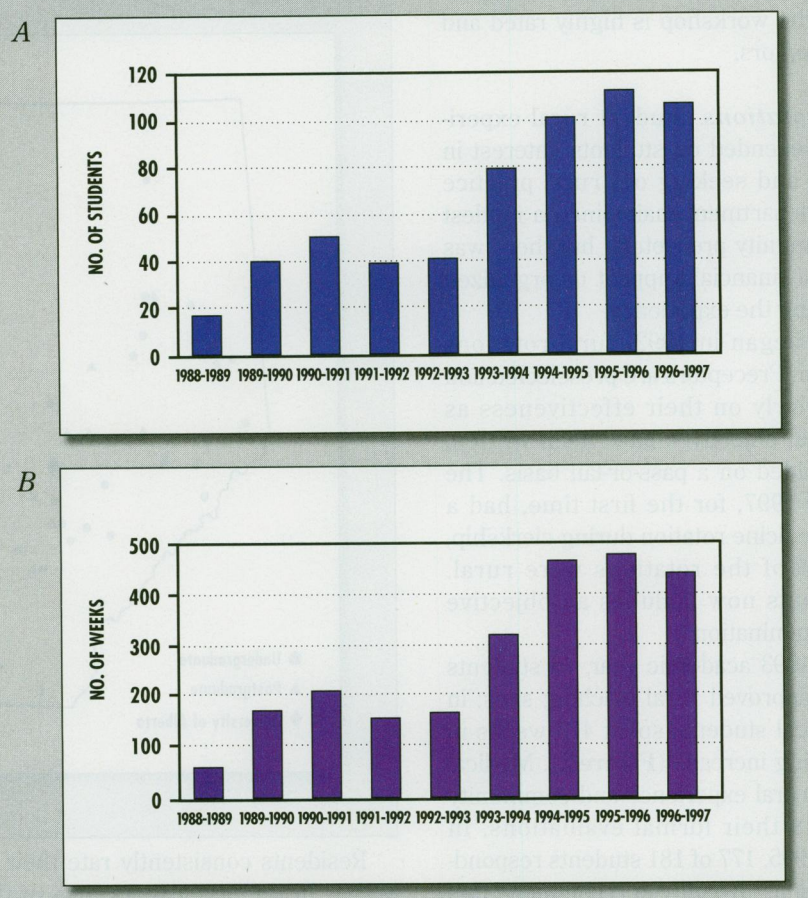
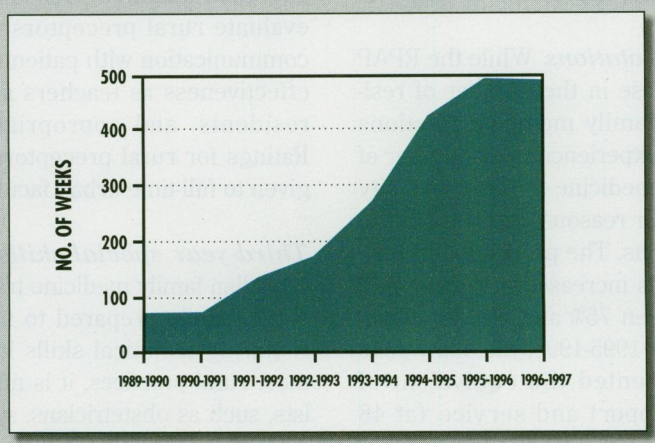


Figure 3. Number of weeks spent in rural Alberta by residents each year



12 residency positions available at the University of Alberta for third-year special-skills training. Up to 1997, 49 physicians have taken special-skills training in nine different disciplines (**Tables 1 and 2**).

Twenty-six physicians who took special-skills training between 1991-1992 and 1996-1997 are known to have entered practice either full-time or as locums in rural or remote communities, although not all in Alberta. Four physicians who took special-skills training are not in rural practice but are affiliated with a University training program preparing others for rural practice, and two of these staff outreach geriatric clinics in rural Alberta. Starting in academic year 1997-1998, residents must have a return-in-service agreement with rural health authorities to obtain special-skills training.

Discussion

Educational initiatives aimed at encouraging and preparing young physicians to undertake rural practice are critical to the future of rural health care in Canada.[15] The RPAP has allowed our Department of Family Medicine to develop such programs by providing the infrastructure necessary for establishing teaching sites, rural physician preceptors, and educational programs. We recognize, however, that these educational programs are only one element of a comprehensive program for addressing rural physician recruitment and retention.[1-3]

Considerable evidence indicates that positive experiences in rural medicine during undergraduate[8-12] and residency[13-15] training influence career choices and practice locations. The RPAP has facilitated and supported a marked increase in rural experience for both medical students and family medicine residents. Definitive evaluation of the effect of rural practice experience requires several more years of study, but already we are seeing residents choosing postgraduate rural experiences based on positive undergraduate experiences.

As yet, it is unclear whether timing or duration of rural experience affects outcome. Currently, also, debate continues over whether there should be a separate training stream in family medicine for rural practice.[16] Our approach is to involve as many undergraduate students and family medicine residents as possible in rural practice in the belief that a greater number will be attracted to careers in rural communities.

The organization and funding of rural educational programs have made possible development of more than 30 rural teaching sites and the participation of 50 to 60 rural preceptors. Faculty development

Table 1. Number of residents taking third-year special-skills training, months of training provided, and number of disciplines providing training

ACADEMIC YEAR	NO. TAKING TRAINING	NO. OF MONTHS OF TRAINING PROVIDED	NO. OF DISCIPLINES PROVIDING TRAINING
1991 to 1992	3	27	2
1992 to 1993	3	36	5
1993 to 1994	4	48	3
1994 to 1995	12	117	5
1995 to 1996	10	108	6
1996 to 1997	17	178	8

Table 2. Number trained and months of training provided in various disciplines

DISCIPLINE	NO. TRAINED	TOTAL NO. OF MONTHS OF TRAINING PROVIDED
Anesthesia	11	121
Emergency medicine	19	210
Geriatrics	2	42
Obstetric surgery	11	66
Orthopedics	1	6
Surgery	6	36
Palliative care	2	12
Sports medicine	1	6
Pediatrics	1	3

Key points

University of Alberta's Department of Family Medicine has an integrated program to enhance its residents' rural experience.

Under the Rural Physician Action Plan, the number of residents in rural rotations doubled and the length of rotations increased fourfold.

activities provide opportunities for effective communication between rural and urban academic physicians. Rural faculty have instigated many changes in undergraduate and postgraduate educational programs.

A third year of training in special skills is highly associated with entry into rural practice. Only physicians with a serious interest in rural practice are willing to commit to a third year of training, which, in many cases, would not be useful for an urban centre. Busing, in 1989, found that there were sufficient third-year special-skills positions for only 10% of family medicine residents in Canada[17] and suggested that 46% of family medicine residents should have access to such positions. The University of Alberta currently has positions for 27% of family medicine residents.

The first cohort of physicians to take advantage of formalized rural rotations in medical school and in family medicine residency training, and then to have access to the third-year special-skills training, are just now entering practice. It is premature, therefore, to evaluate fully the outcomes of these rural educational programs, but data collected over the last 6 years provide encouraging results when compared with data collected before 1993. We believe that integrating the three rural educational programs, having high participation in the program by medical students, family medicine residents, and rural preceptors, and having sustained program funding are the key features for success. Over the next several years, the Department of Family Medicine will examine the determinants for choosing rural practice and related issues as we strive to prepare physicians better to meet the needs of rural communities.

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