

# How can medical schools contribute to the education, recruitment and retention of rural physicians in their region?

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## Introduction

Access to appropriate health care is often difficult for people living in rural areas because of a widespread shortage of appropriately educated local, rural health-care workers and the distance, time and cost of travelling to larger urban health centres. This shortage is due to many factors including medical education, practice conditions, health system, regulatory, community, personal, family and financial considerations.<sup>1,2</sup> Developing a sufficient and sustainable rural physician workforce requires commitment and cooperation from communities, governments and medical schools.

Medical education can play an important role in the recruitment and retention of rural physicians.<sup>3</sup> Most of the world's medical schools, however, are situated in large cities; most medical students grow up in affluent urban areas, learn little about rural health-care needs and experience little or no medical learning in the rural context. Physician graduates flow almost entirely into large city practices with an insufficient trickle getting out into practice in rural areas.

Some medical schools in large cities have developed specific programmes for educating physicians for rural regions. A few medical schools are located in small cities within large rural regions and have a rural regional focus. Graduates of these medical schools often also serve rural populations well outside their own regions. Unfortunately for many developing countries, especially in Africa, many graduates of their medical schools end up in rural practice, often not in Africa, but rather in developed countries where they have been enticed to serve the rural populations.

## Social responsibility

Medical schools should operate under a social accountability framework that includes responsibility to their regions. Four fundamental questions focus on how medical schools can contribute to the

education, recruitment and retention of rural physicians in their region and beyond.

## Students from rural areas

Can students from rural areas get admitted into medical school doctor education programmes? Importantly for rural physician workforce planning, physicians who practice in rural areas compared to physicians in urban practice are much more likely to come from a rural background. Students from rural areas, however, face many difficulties and, in most countries, are under-represented in medical schools especially compared to those whose parents are urban, wealthy and highly educated. People in rural regions should expect to have a fair opportunity to get into medical school.

Governments and medical schools need to implement cohesive strategies including premedical school outreach education preparatory courses; admission policies that recognize diversity of geographic backgrounds and experiences; and tuition and scholarship support to make medical school affordable.<sup>4</sup> In Australia, the percentage of students of rural origin in medical schools has more than doubled in response to national policies and incentives.

Aboriginal/indigenous people make up an important subset of the world's rural peoples and their health, education and economic status are often worse than the average for rural people. In addition, cultural differences and misunderstandings often create huge barriers. The Indigenous Physicians Association of Canada has partnered with the Association of Faculties of Medicine of Canada to increase the admission of and support for indigenous students in Canada's medical schools and to develop a First Nations, Inuit and Métis health competencies curriculum framework.

Ateneo de Zamboanga University School of Medicine in the Philippines and University of Malaysia Sabah are recent examples of small regional medical schools established with a focus on local indigenous health care.

## Relevant education

Can medical students get education that is relevant to the rural context? While much medical education is universal, much is also contextual. Rural areas always have important demographic and geographic differences compared with large metropolitan areas. This particularly applies to the social determinants of health, health status, disease and illness patterns and the need for an understanding of the geographic barriers to health care.

Medical education that integrates rural curriculum content and experiential learning develops understanding of rural peoples and their health challenges and also encourages more students to make rural practice their career choice. Physicians practicing in rural areas compared to physicians in urban practice are much more likely to have had rural medicine learning experiences in medical school.

Making these experiences positive requires development of a rural medical education support structure that addresses not only accommodation and travel logistics but engages communities and provides preceptor development and support.<sup>5</sup> In some medical schools around the world, students can develop an in-depth connection to and understanding of rural communities through longer clinical rotations. Early examples of this approach include the University of Michigan Upper Peninsula Education Program (United States of America), the Flinders University Murray River Clerkship Project (Australia) and, more recently, the Northern Ontario School of Medicine (Canada).

## Postgraduate training

Can postgraduate residents get vocational training that is relevant to the rural context? Physicians in rural practice are more likely than those in urban practice to have done some of their postgraduate training in rural areas. Specific rural medicine postgraduate residency training programmes are important, not only for encouraging more physicians to enter rural practice, but

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also for providing them with the specific knowledge and skills needed for rural practice. This has become important as the differences between urban and rural general practice diverge. Rural general practice/family medicine requires the ability to care for a widely disbursed population with limited or distant access to specialist support and highly technical services. This can involve care of patients with complex and serious illnesses who, in large urban cities, would be managed by a team of specialists. This requires the development and maintenance of knowledge and skills that are contextually quite different to that of most urban general practitioner/family physicians. A growing recognition of this reality has led to the development of specific postgraduate residency/vocational training programmes for rural general practice that recognize the importance of contextual learning experiences and procedural skills development. This has been most highly developed by the Australian College of Rural and Remote Medicine with a rural curriculum and programme leading to fellowship in rural and remote medicine.

Over the last half century there has been an enormous fragmentation and subspecialization of care in large cities. This pattern does not work in rural regions where there will continue to be a vital need for regional general specialists. Meeting these needs will require the development of specific training programmes to produce general surgeons, internists/physicians, obstetricians, paediatricians, psychiatrists and other specialists for roles as regional general specialists. There is a significant potential to develop educational partnerships between rural-focused medical schools in developed countries and developing countries.

### Professional development

Can rural physicians get appropriate professional development? Rural physicians face a particularly difficult challenge to develop and maintain the broad knowledge and deep skills required to work effectively in rural areas where access to specialists is limited and often distant. Involving rural

physicians with student and resident teaching is one way of encouraging physicians to continually update their knowledge and skills. As part of their rural medical education networks, medical schools can develop integrated outreach learning opportunities for students, residents and practicing physicians and thus reduce the need for practicing physicians to leave their busy rural practices. In many countries, rural physician societies have set up continuing medical education conferences that bring rural physicians together to share their experiences and learn together.

Medical schools can contribute significantly to their regions by integrating rurally relevant education and research with health care. Forming a partnership between university health professional schools and the regions' health-care organizations can facilitate the coordination and advancement of education, research and health care for the entire region and thus benefit the rural population.

### Pipeline to practice

The concept of a "pipeline to practice" is particularly relevant to the education of physicians, nurses and other health professionals for practice in rural areas.<sup>6</sup> For this to be successful, all parts of the pipeline must work and work well together. Memorial University of Newfoundland Faculty of Medicine illustrates the "pipeline to practice" concept. This graduate-entry medical school has a longstanding Medquest programme to encourage secondary school students to pursue university education leading to a health professional career. More than 30% of Memorial medical students are of rural origin compared with 11% for other Canadian medical schools. With provincial government support, medical school tuition is less than half the Canadian average and therefore the students are much more representative of the population's socioeconomic diversity than at medical schools with higher tuition.

Medical students have learning experiences in all years of medical school in communities all over Newfoundland and Labrador with a particular focus on rural

family medicine and general specialty rotations. Memorial received the 2008 award from the Society of Rural Physicians of Canada (SRPC) for having the highest percentage of medical school graduates to do specific rural family medicine training programmes (Canadian average 8%; Memorial 26%). More than 40% of doctors who did their family medicine training at Memorial establish practice in rural communities. The Memorial family medicine training programme was awarded the 2010 SRPC award for having the highest percentage of graduates practicing in rural areas 10 years after graduation (Canadian average 20.9%, Memorial 52%).

### Conclusion

Increasing the proportion of medical students who come from a rural background, providing positive rural learning experiences in medical school and specific rural residency/vocational training programmes will increase the number of graduating physicians with the interest, knowledge and skills for rural practice. Recruiting and retaining them in rural practice requires attention to practice environment, health system, financial and other factors.<sup>2</sup> Practice factors include a well functioning rural group practice clinic and hospital facilities with multidisciplinary resources and good regional support. Educational grants and financial incentives linked to rural practice can aid in recruitment. Appropriate compensation for heavy work beyond normal work hours and provision of regular paid leave to upgrade skills can aid in retention. Employment for a spouse, education for children and safety issues are among the community factors that often need to be considered. Rural physician societies have been very helpful in addressing some of these vitally important issues associated with the life and practice of rural physicians and their families. Working together, communities, governments and medical schools can improve the education, recruitment and retention of rural physicians. ■

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