

Chapter 4.2.1

MEDICAL SCHOOL ADMISSIONS POLICIES TARGETING RURAL STUDENTS

Pamela Stagg

Flinders University, Australia

Introduction

It is recognised globally that there is a lack of medical and allied health professionals in rural areas and that this contributes to the lower health status of rural populations (1-9). There is also consensus that students from rural areas are more likely to practice in rural areas (4, 10-16) and that efforts need to be made to recruit more students from rural areas into medical schools (17). In Australia, the government has mandated that 25% of Commonwealth-supported medical school places must be allocated to rural origin students (14, 18, 19). In addition, 17 Rural Clinical Schools have been introduced across the whole of Australia (19) and five new medical schools in regional Australia.

Addressing disadvantages and disincentives

Despite this recognition, in most countries the number of applicants to medical schools from rural areas tends not to reflect the population ratio in those countries (3, 20-22). This has been attributed to a number of pre-medicine disadvantages including simply living in a rural area where there is often limited access to a high school science curricula, career counselling, mentoring and career information (3, 21-27). Combined, these factors mean that lower numbers of rural students apply to enter urban-based medical schools (21, 22, 27, 28). Further, from this smaller pool of applicants, a lower proportion of rural applicants are offered places than non-rural applicants (3). It has been proposed that this is because admission processes inadvertently discriminate between rural and urban candidates (21, 25), although at the University of Calgary in Canada, research found that the admission process did not disadvantage rural origin students (20). In 1999 Rabinowitz (29) called for more medical schools to change their admissions processes in order to admit more rural students into medical schools.

There is a view amongst medical educators across the world that increasing the number of doctors alone is not the answer to society's health needs. This view is encapsulated in the formulation of the Training for Health Equity network (THEnet) (30), a collaboration of medical schools that have adopted a social accountability mandate to orientate their education, research and service activities to the priority health needs of their communities. An important component of this mandate is to recruit medical students from local, underserved rural areas.

The United States

In the United States (US) a number of medical schools have been established with the express aim of graduating doctors responsive to the health needs of rural populations in America (31-34).

One of the earliest and most successful programmes to address the rural workforce shortage started in America at the Jefferson Medical College of Thomas Jefferson University. In 1974 the College developed the Physician Shortage Area Programme (PSAP) (11) which selectively recruits and admits rural students. The PSAP offers an educational curriculum designed to increase the number of rural doctors and especially primary care doctors – and the programme has been extremely successful in doing so. In 2011 (35) outcomes of the PSAP showed that its graduates: are more than eight times as likely as their peers to become rural family physicians; have a retention rate of 79% after 11-16 years in practice; and accounts for 21% of family physicians practicing in rural Pennsylvania who graduated from one of the state's seven medical schools, even though they represent only 1% of graduates from those schools.

One of the major strategies of the School of Medicine at the University of Washington is to designate places for rural students, sponsored by the five states served by the Schools, known as the WWAMI region (Washington, Wyoming, Alaska, Montana and Idaho). In 1992, the School established the Native American Centre of Excellence (NACOE) whose priority aims are to recruit American Indian (AI) and Alaskan Natives (AN) students into the school, to provide culturally appropriate support and to integrate native healing into the curriculum (31).

Canada

A review of the future for medical education in Canada undertaken in 2011 identified ten priority issues which need to be acted on in order to build a suitably trained rural medical workforce. The highest priority was for medical schools to adopt a social accountability mandate to address local and community needs. This was followed by improving access to medical school and improving the admissions process in response to those needs (36).

Recruiting medical students from local, underserved rural areas is evident at the Northern Ontario School of Medicine which has a mandate to favour rural, Francophone and Aboriginal applicants that meet the academic criteria for admission (37). And there has been a change in the admissions process at the University of British Columbia, where two new rural sites established as a result of expansion to a distributed campus model have their own admissions committees and a specific admissions stream for Aboriginal students (38).

Australia

In Australia, the Northern Territory Rural Clinical School (NTRCS) has an enrollment quota of Northern Territory residents and Aboriginal students. Established in 1997, NTRCS graduates are more than ten times likely to undertake an internship in the Northern Territory (NT) than non-NTRCS Flinders graduates, with 70% of NT quota students choosing internships in NT (39).

A small quota of four rural origin students are selected into the Flinders University School of Medicine each year by a committee of rural community members (40). These students are guaranteed a place in the rural-based, longitudinal integrated clerkship¹, the Parallel Rural Community Curriculum (PRCC) (41). Students from both rural and urban backgrounds can apply for the coveted PRCC places. Half of the urban origin graduates of the PRCC report being 'converted' by the experience to embark on a rural-based career (40). Overall 70% of PRCC graduates are practicing rurally (42).

¹ A clerkship – or rotation or block – is a structured clinical learning opportunity which forms part of academic requirements that have to be met.

The James Cook University, located in tropical north Queensland was established with the aim of graduating doctors with the skills, knowledge and desire to practice in rural and remote Australia (43). Both Flinders and James Cook universities have been successful in building the 'education pipeline' by retaining graduates in intern positions in rural areas(44, 45).

South Africa

In South Africa, as in the countries already mentioned, there is both a shortage of rural doctors and a lower proportion of rural students entering medical schools (22). Government policy enacted since South Africa achieved democracy in 1994 is driving reforms in medical schools. The Health Professions Council of South Africa accredits medical education programmes and the Council is a major impetus for change. Recent changes require medical schools to admit and to graduate more black, (particularly) female doctors willing and able to work both in the public service and in rural areas (46).

Since 1994, there has been a substantial shift in the demographics of applicants to the eight medical schools in South Africa. Black enrollments now account for nearly 70% of the total intake and over 40% are black Africans. However this is not the case at graduation. White students formed a greater percentage at graduation than enrollment, whilst black Africans formed a smaller percentage at graduation than at enrollment (46).

One medical school that has reversed this situation is the Faculty of Health Sciences at Walter Sisulu University (WSU) - established in 1985 to help address rural workforce inequities in the Eastern Cape, one of the poorest and most regional provinces. As at 2008, WSU had graduated 745 doctors, of whom 70% are black (47). This substantiates the claims of De Vries and Reid who suggest that 'the South African situation is similar to that in other countries, with rural-origin medical students more likely to choose rural careers than urban-origin students. Rural-origin graduates are also more likely to choose general practice. It is recommended that the selection criteria of the medical faculties be reviewed with regard to rural origin, and that the career aspirations of applicants to medical school be taken into account in selection, particularly with regard to primary care or general practice' (48).

The Philippines

In contrast to South Africa where government policy is driving reform in medical schools, the same cannot be said in the Philippines. In 1994 a new medical school was opened at Ateneo de Zamboanga University, Zamboanga City on Mindanao Island - one of the most underserved areas of the Southern Pacific and where nearly one third of the 72 million people in the Philippines lives. Seventy percent of the people live along the heavily populated shorelines of the islands where travel is predominantly by boat and access to inland areas is mostly on foot (49).

While the mission of the Ateneo de Zamboanga University School of Medicine states that the School 'exists to help provide solutions to the health problems of the people and communities of Western Mindanao' (49), the founding Dean of the School of Medicine in 2008, Dr Fortunato Cristobal, lamented in an interview that

'recognition has been our greatest challenge. While we have achieved recognition internationally, we have yet to receive recognition or much support from the government. The courage to shift away from the traditional approach has always been met with scorn, ridicule and outright opposition from the medical profession itself, as well as from government institutions, which have been reluctant to give us the mandate to pursue and probe innovative approaches' (50).

Recruitment plus

The evidence is conclusive that selection processes employed by medical schools do influence medical students geographical practice location (11, 23, 28, 39-41, 43, 44). However, there is growing body of evidence to show that preferential admission to medical school alone is not enough to recruit sufficient numbers from rural and underserved population groups such as Aboriginal, ethnic minority groups and linguistically marginalised populations to redress their health needs (25, 28, 36, 46, 49).

The solution lies in a multi-factorial process, beginning pre-medicine (33, 34, 50). Frenk et al describe this as a systems approach where the interdependence of the health and education sectors is paramount (50). Achieving a balance between the two systems is essential for efficiency, effectiveness, and equity. Frenk et al state 'the ultimate practice location of graduates is shaped by multiple factors, including school location, criteria for admissions, curricular exposure, appropriate incentives,

and, most crucially, the values, commitment, and social goals of the graduating student' (50).

The education 'pipeline to practice' commences at high school, prior to entry to medical school (3, 23-27, 50, 51) - where career counselling, mentoring and special tuition is needed.

Locating medical schools in rural and regional areas will attract local students and retain local health professionals in those areas of need (2, 19, 32-34, 50-52). Affirmative selection policies that quarantine medical school places for rural students are essential and should be linked to the values and purpose of the institution (11, 33, 34, 37, 39-41, 43, 50). Establishing selection committees with local community members reduces inadvertent discrimination by urban-based admissions committees (40, 50) and empowers local communities to select medical students with values they see as important.

Alleviating the financial burden of rural students is necessary as university fees can be a deterrent and the alternative is often the accruing of large debts. Locating educational facilities in the proximity of the underserved regions will also go some way to reducing this financial burden on rural students (50).

Importantly, the provision of rural-oriented curricula which encompass the principles of continuity will influence students to practice rurally (6, 33, 34, 37, 41, 44, 53). Continuity is acknowledged as encompassing continuity of care, continuity of patient interactions and continuity of preceptor – and results in an integrated learning environment (54). As such continuity is the key to relevant, high quality medical education.

It has been found that the longer the clerkships the higher the percentage of students return to practice in rural areas (10).

Conclusion

Together these strategies will increase the number of students entering and graduating from medical schools – and will result in more students of rural origin practicing culturally and socially appropriate medicine in rural regions across the world.

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Silom, Bangrak
Bangkok 10500
THAILAND



manager@wonca.net

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