

Chapter 4.3.1

MODELS FOR UNDERGRADUATE RURAL HEALTH PLACEMENTS

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Introduction

This chapter provides an overview of different models for rural placements for undergraduate medical or other health science students and identifies some of the common – and distinguishing – features of these models.

A ‘rural placement’ is defined as one in which students stay overnight (usually for a few weeks or more) at a location away from the main campus of their health sciences faculty¹. In addition, the intention of the placement includes exposure to the complex circumstances of health care provision in rural, remote and often disadvantaged communities, even when students are accommodated in towns.

Sources of evidence

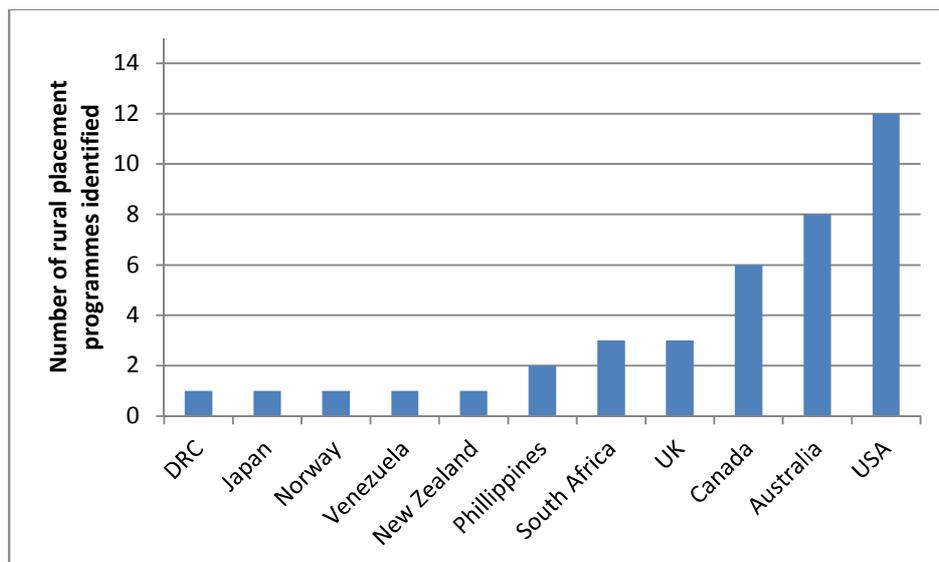
This chapter is based on a 2011 rapid review of the international literature using PubMed, Google Scholar, and health sciences faculty websites to identify peer-reviewed as well as ‘grey’ literature. (The full set of documents referred to is given in the article identified in reference (1) at the end of this chapter.) Review articles were prioritised for reading, as were articles or reports that described the structure of specific programmes that included rural placements. The majority of programmes had been evaluated favourably with respect to their impact on student performance and rural retention of doctors, although some more recent programmes had not yet undergone evaluation.

¹ Here ‘faculty’ is the term for the organisational unit within a university comprising a number of departments.

Thirty-nine different programmes were identified. The majority of these came from Australia and North America, as shown in Figure 1. These continents are notable for having to deliver health care across vast spaces and developing strong alliances of stakeholders to promote rural health. They have also had several decades of experience, with some programmes dating back to the 1970s.

However, there are other continents – such as Central and South-East Asia, as well as Latin America – that are likely to have had considerably more experience than the review was able to tap, because of time constraints and language barriers, or because not all successful programmes have published information in electronically accessible formats. Thus, for example, there are apparently 40 rural medical schools in China (2) but no information on these could be sourced.

Figure 1:
Number of undergraduate rural placement programmes identified, by country



Key: DRC (Democratic Republic of Congo), UK (United Kingdom), USA (United States of America)

Various models for rural placements

The literature neither differentiates explicitly between various models for undergraduate rural placements nor does it debate the relative strengths and weaknesses of each. Different health sciences faculties seem to have opted for more or less intensive rural exposure for students (as illustrated in Table 1), depending on differing circumstances but with the overall objective of providing a high quality educational and clinical experience. It is the more intensive programmes – which have early, repeated and lengthy exposure to rural conditions - that have resulted in a larger proportion of students choosing a future career in rural practice. As discussed later, this is a result of a combination of faculty strategies, although intensive rural placements play an important role.

**Table 1:
Extremes of the continuum of rural exposure during medical training**

Most intensive exposure	Least intensive exposure
Students are introduced early to rural environments	Rural placement happens towards the end of the programme
Rural placements occur at periodic moments throughout the programme	There is only one rural placement
The main rural placement is long (six months or more)	The rural placement is short (a few weeks)
Students are attached to individual health professionals who act as mentors	Students are not assigned rural mentors

There appear to be five main models for rural placements that fall along the continuum appearing in Table 1. These are described below, starting with the most intensive option. Illustrative examples from actual programmes are given in each case, having been selected because information on the programme was readily available rather than on the basis of relative merit.

It should be remembered that most programmes evolve over time in response to changing circumstances, and that some faculties employ a variety of models. The categorisation below is a necessary over-simplification of what can be a very complex and constantly shifting educational process.

Model 1:***Rural placements as part of a comprehensive rural programme***

These are programmes whose primary goal is to increase the supply of rural health professionals. In some cases, health sciences faculties were set up with a specific rural training mission and are located in, or near, rural areas. In other cases, faculties have re-oriented their entire curricula towards rural issues as part of a re-visioning exercise. In general, the rural programme is the only programme offered and is compulsory for all students to attend.

A number of strategies are employed throughout the curriculum to make students aware of the particular clinical and public health issues relevant to rural communities, encourage students to contemplate a career in rural practice and deal with the realities of working and living in a rural community. An intensive and extended rural placement (of six months or more) is but one of these.

Comprehensive rural programmes specifically seek out students with a rural background and sometimes require them to commit to returning to rural practice for a period following qualification. Where rural students have been disadvantaged in terms of the quality of secondary schooling that they received, educational and other support is provided, especially during the early years of the programme. Efforts are made to ensure that rural placements are near the students' place of origin to maintain and strengthen links between students and their home communities.

Communities and community-based organisations tend to be integrally involved in the governance of these programmes, including identifying potential students and participating in their selection. Communities may also be involved directly in training activities and accommodating students.

The programmes rely heavily for training capabilities on rural health facilities and health professionals (including private general practitioners running rural family practices). These tend to be part of formal network agreements with the faculty. Rural trainers often have academic status and receive training and support from the faculty. Sometimes rural training is supported through long-distance education methods.

Illustrative example: Model 1 (3,4,5)

Ateneo de Zamboanga School of Medicine in the Philippines is a remote medical school that has a strong social accountability mission founded on the principles of community partnership and community-based education. It has an approach similar to the Northern Ontario School of Medicine in Canada but operates within a context of far fewer resources. The course is a five-year combined medical degree and Masters in Public Health, with public health concepts well-integrated with clinical experience. Fifteen to 25 students are accepted each year and, from their first year, students are exposed to patients in clinics and communities. About eighteen months of the first four years are spent studying and working in remote rural communities; the fifth year is an internship. Before entering these communities, students are trained in rural emergencies. They return to the same communities over the length of the programme.

Model 2:***Rural placements as part of a continuous dedicated rural track in a traditional programme***

These programmes allow selected students to focus on rural issues by joining a rural track within a traditional, urban-based programme. Students on the track are expected to meet the same educational and clinical competencies as other students but, for a large part of the curriculum, do so through different avenues, including extended rural placements (often over one year). Joining the rural track does not imply an additional workload for the students.

These programmes are voluntary in that not all students are required to experience the rural track, although participation in the rural track may be compulsory for those students who have gained admission by virtue of their rural background and intention to focus on rural health care.

Clinical experience is often longitudinal and integrated (in contrast to urban clerkships² where students rotate through different disciplines). The focus tends to be on family medicine but may include other disciplines.

For those students taking the rural track, the experience may have similarities to that of students who are part of a comprehensive rural programme (Model 1), in that communities may be involved in governance and selection; there may be frequent and extensive rural placements embedded within a curriculum strongly oriented towards rural issues; rural facilities and health professionals may be integrally involved in training and mentorship; and faculties may employ a variety of strategies to support an interest in rural health care.

However, the fact that the faculty as a whole is not focused on rural health care may lead to some dilution of the impact of rural tracks on final career choice, or even the quality or relevance of rural training. For this reason, rural tracks emphasise the importance of carefully supporting students who have chosen the track, through interventions such as 'rural clubs' that allow them to share their experience and attract students with urban backgrounds into the track.

Illustrative example: Model 2 (6)

The Greater Murray Clinical School is one of five clinical schools at the University of New South Wales in Australia. Unlike the other schools, it is based in a rural area and offers a community-based, longitudinal rural curriculum. Students on this rural track attend the School for the final three years of their medical degree, following an initial three years participating in a traditional, urban-based curriculum. Twenty-four students per year are based in each of two rural campuses (that is, eight in each of the three final years).

² A clerkship – or rotation or block – is a structured clinical learning opportunity which forms part of academic requirements that have to be met.

Model 3:***Rural placements as part of an abbreviated rural track in a traditional programme***

This is a variation on the above approach. As with Model 2, some students join up for a rural track but this track is less substantial and less well integrated into the overall life of the medical programme, while the rural placements are generally shorter (for example, one year or less). One could also group within this category faculties that allow selected students to combine a few of their clerkship rotations in rural practice - although typically these placements are relatively short (for example, three months). However, the distinguishing feature of this model is not so much the length of the rural placement as the fact that rural exposure is less intensive.

Illustrative example: Model 3 (7,8,9)

In the United States, the Upstate Medical University (part of the State University of New York) has a Rural Medical Education Programme, which requires nine third-year medical students to live and work in small communities for nine consecutive months. Most training occurs concurrently and longitudinally, mainly under the guidance of a preceptor³. Training is mainly in family medicine but also includes other disciplines such as surgery, anaesthetics and radiology.

Model 4:***Rural placements in supplementary rural tracks***

These programmes allow selected students to engage in activities additional to the traditional programme, including a rural placement. This results in an extra workload for the students, although the faculty may provide support to help students through this experience. Apart from the additional workload, this approach differs from integrated rural tracks (Models 2 and 3) as the taught component of the curriculum is not suffused with a rural perspective and rural placements are less frequent and long.

³ A preceptor - or clinical instructor/adjunct faculty - is a clinician (person with core clinical skills) who offers clinical teaching at a distant (rural) site.

Illustrative example: Model 4 (10)

At the School of Medicine at the University of Colorado in the United States, students can join a rural track. This is a set of voluntary extra-curricular activities that extend through multiple semesters and three or more years of medical school on a longitudinal basis. During the first two years, seminars with a rural focus are held twice a month and students participate in additional skills labs. In the summer between the first two years, students participate in a four-week rural placement. During the third and fourth years, students meet in the intervals between clinical clerkships when all students are back on the main campus. Students also have to undertake a research project.

Model 5:**Rural placements offered within a traditional programme**

In this model, all students experience a brief rural placement of a few weeks (typically a clerkship). The rural placement is compulsory for all students but the rest of the programme does not have a specifically rural focus, although it may attempt to introduce students to rural perspectives at some points. The aim of these rural placements tends to be more about improving the clinical competence of students (especially in the primary care setting) rather than influencing them to return to rural practice.

Illustrative example: Model 5 (11)

The University of the Witwatersrand in South Africa has a four-year Graduate Entry Medical Programme. In their third year, all 180 medical students rotate through a two-week public health block in a remote rural area. In their final year, they rotate through a six-week Integrated Primary Care block in primary care centres and district hospitals in ten rural and disadvantaged areas.

Common features of the different models

Despite their differences, most successful rural placement models tend to

- re-orient training towards primary care and family medicine,
- integrate clinical and public health concerns,
- use problem-solving and community-based teaching methods, and
- acknowledge the importance of adapting training to the context of the teaching site, including local health priorities and the culture of the local community.

Integration of different sub-disciplines and longitudinal exposure to communities and patients are recognised as key to achieving high educational and clinical standards. Rural exposure early in the curriculum is also encouraged and there is an emerging interest in inter-professional training.

These features help to expand the aim of rural placements beyond simply providing students with high quality educational and clinical opportunities (whether or not they intend to practice in rural areas) to also producing graduates who are more responsive to the needs of rural communities, able to function well in a rural environment and adapted to living in rural communities.

Key learning points

- There are five main models for rural placements that differ according to the intensity of students' exposure to rural environments. The dimensions of intensity include how early in the curriculum students are exposed to rural settings, how frequently they work in rural settings and for how long.
- In general, the more intensive the students' exposure, the better qualified they become for rural practice and the more likely they are to work in rural areas once they have graduated.
- To be truly effective, rural placements need to be part of a comprehensive approach to rural medical education that extends to other parts of the curriculum.
- A faculty's choice of model depends partly on contextual issues, such as resource and logistical constraints, but also on its level of commitment to rural medical education.

Conclusion

Setting up, or expanding, a rural placement is complex. At the very least, it includes identifying collaborating teaching hospitals, clinics and communities as well as preceptors, partnering with community-based organisations (including rural health professional associations), developing a tailor-made curriculum and integrating the programme into existing faculty curriculum commitments. The type of model a medical school chooses depends on its vision and commitment, as well as practical considerations around logistics and resources. Whatever model is chosen, it needs to be accompanied by an implementation plan that builds on the strengths of rural medical education approaches whilst overcoming the many challenges of training students in far-flung locations.

References

1. Doherty J. *Alternative models for rural training of health professionals: A literature review*. (Unpublished) Faculty of Health Sciences, University of Witwatersrand, 2011. healthpolicysa.files.wordpress.com/2011/02/alternative-models-for-rural-training_final1.pdf (accessed 28 March 2012).
2. Wang L. A comparison of metropolitan and rural medical schools in China: Which schools provide rural physicians? *Australian Journal of Rural Health* 2002; 10: 94-8.
3. Tesson G, Curran V, et al. Advances in rural medical education in three Countries: Canada, the United States and Australia. *Education for Health* 2005; 18(3): 405-15.
4. Hays RB. Rural medical education in Europe: The relevance of the Australian experience. *Rural and Remote Health* 2007; 7: 683.
5. Schoo A, McNamara K, et al. (2008). Clinical placement and rurality of career commencement: A pilot study. *Rural and Remote Health* 2008; 8: 964.
6. Sturmberg J, Reid S, et al. A longitudinal, patient-centred, integrated curriculum: Facilitating community-based education in a rural clinical school. *Education for Health* 2002; 15(3): 294-304.
7. Hsueh W, Wilkinson T, et al. What evidence-based undergraduate interventions promote rural health? *The New Zealand Medical Journal* 2004; 117: (1204).
8. Smucny J, Beatty P, et al. (2005). An evaluation of the rural medical education program of the State University of New York Upstate Medical University, 1990-2003. *Academic Medicine* 2005; 80(8): 733-8.

9. Upstate Medical University. *Rural Medical Education Program (RMEP)*. http://www.upstate.edu/com/special_opps/rmed/ (accessed 21 March 2011).
10. Deutchman M. *What is the rural track?* University of Colorado, 2011. http://www.ucdenver.edu/academics/colleges/medicalschoo/education/degree_programs/MDProgram/longitudinal/tracks/ruraltrack/Pages/default.aspx (accessed 21 March 2011).
11. Nyangairi B, Couper I, et al. Exposure to primary healthcare for medical students: Experiences of final-year medical students. *SA Fam Pract* 2010; 52(5): 467-70.

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