

Chapter 2.1.1

FOUNDATIONS OF A RURAL MEDICAL SCHOOL: PEOPLE, PLACES AND PATIENTS

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Introduction

While there is a variety of models for operating a rural medical school, they all depend on the same key elements: people, places and patients.

Key *people* include: staff, both academic and administrative; preceptors¹ and other clinical teachers; and students. *Places* include teaching and placement sites, and infrastructure to support student teaching and accommodation. *Patients* are key. While simulation can augment the clinical experience, there has to be enough breadth and depth of clinical activity and patient exposure to support the planned number of students.

Structure and environment

In addition to these specific factors relating to people, places and patients, it is also important to consider the broader structure of the medical school, and the environment in which it operates. While the environment of the School will influence its structure and operations, the School itself, its staff, and its students can positively influence the environment in which it is located.

The structure and environment of the School are inextricably linked with its operation. Schools based in metropolitan areas may offer some or all students placements in rural areas for part or all of their clinical training. For example, in Australia, the Rural Clinical Schools offer an opportunity for 25% of each cohort to undertake 50% or more of their clinical time in rural areas. Other schools may be based in regional or rural areas with students undertaking placements in or near their home location.

¹ A preceptor - or clinical instructor/adjunct faculty - is a clinician (person with core clinical skills) who offers clinical teaching at a distant (rural) site.

A common tension is balancing the need to centralise teaching resources and infrastructure in larger centres against the need to offer students placements in smaller rural and remote sites. Many schools are adopting distance education techniques (e.g. internet, webinars, Skype, videoconferencing etc), and distributed models, with locally staffed nodes, in order to meet this challenge. Models such as Continuous Longitudinal Integrated Clerkships² (CLIC) immerse small groups of students, supported by staff and other resources, in rural communities for extended periods, typically one academic year or longer. This approach has been shown to produce at least equivalent clinical experience and academic performance compared to conventional models.

In all these approaches a model has been chosen to fit the region, to maximise the use of available resources, and to match the School's structure. For this reason many rural schools deliberately choose a distributed model on the basis that the region cannot support the entire student cohort in the one location. The best rural medical schools reflect the milieu of the region in which they are located, are community-engaged and socially responsive and have a vision to positively influence the communities and region they serve.

The environment of the School should be considered early in the School's planning process. The geography and economy of the region are important as they will impact on the *people* – the staff and students, who will be attracted to live, study and work there. The health needs and special features of the region should be considered. For example, medical schools in areas with a large Indigenous population may develop a focus on Indigenous health, thereby providing a point of difference that may be attractive to potential applicants, and offering prospects of research and clinical service that may benefit the local health service.

The resources available to support clinical activity – teaching hospitals, nursing homes etc – will determine the *places* in which the students learn. And finally, the culture, the engagement of the community and the health system needs to be considered: a positive, supportive culture that embraces teaching, learning and research is essential for the operation of a rural medical school. Similarly, the school needs to develop a culture that celebrates and values the rural aspects of its programme. The school's leaders need to understand and manage these many relationships.

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

The structure of the School should reflect the local resources and how these can best be deployed to meet the learning objectives. In some settings there will be a choice of an undergraduate or postgraduate programme. The former may be attractive for some rural schools as many regional / rural areas will have many more school-leaver applicants than graduates. However, access to basic science teaching and associated facilities (e.g. anatomy labs) will need to be considered, which may be less problematic in graduate courses. The School needs to develop appropriate selection strategies, ideally based on evidence and reflecting the School's mission and desired target market.

The curriculum should have an adequate rural component, including placements, rural case studies and formal teaching about other aspects of rural health and rural communities. It is important to get the assessment right, including assessing important aspects of the rural context, the so-called 'context validity' (1).

Support for students and staff can be provided: some of this, e.g. library access can be provided remotely via use of information technology, but there are benefits from peer support and interaction, and some student support is better provided face-to-face.

Operation of a rural medical school therefore requires definition of the objectives - what the School is trying to achieve and the availability of resources. This will lead to some important decisions like what elements of the curriculum should be delivered where, and what resources need to be provided or developed. The next stage is to consider the specific details of the people, places and patients needed to put the plan into action.

People

Students

Selection of students, as described separately in this guidebook, should have appropriate processes matched to the school's mission and based on evidence where possible. A rural background is the strongest predictor of a career in rural medicine, with evidence that positive discrimination can be undertaken in ways that maintain entry standards and satisfactory academic and clinical performance.

Staff

Staff need to be carefully chosen: innovative programmes require staff with vision, who are positive, committed to the cause, and with skills to manage relationships with key stakeholders and the occasional detractors. The importance of key teaching staff who understand, or have experience of rural medicine and can act as role models for students, cannot be overstated. In addition, staffing should reflect the geographic footprint of the school and curricular needs. There may be a need to employ rural staff, both academic and administrative, in the central school/university structure to provide leadership, direction and some co-ordination function.

The essential staffing, though, are those people in rural centres who support students on placements. Academic staff may be drawn from local clinicians, from a variety of disciplines, who have a fractional appointment with the school.

Local administrative staff play a pivotal role - developing local relationships, managing student timetables, troubleshooting and being a local point of contact and co-ordination. Indeed, in many sites, skilled and committed administrative staff can continue to manage and run a rural programme without an on-site academic.

Finally, preceptors must be recruited, supported and trained: they are responsible for much of the teaching, and their goodwill must be nurtured and harnessed. They can be drawn from a variety of backgrounds – students often find the inter-professional perspectives of rural placements one of the unexpected bonuses – and may be a source of future academic staff.

Support for staff is vital – rural academics need career paths, and preceptor support should be practical and relevant, recognising their needs and their time constraints. Support for students also needs to be provided in rural areas.

Schools need to actively manage all of these people, relationships and lines of communication – a challenging task across distance and competing priorities, particularly as schools grow.

Places

The school needs to develop appropriate places to teach and consider how to best match available resources with curricular requirements and student location. This may mean that some things are taught centrally on the main campus/es and others taught in rural locations. Students can be moved, or ideas can be moved, by use of the IT solutions mentioned earlier.

Schools need to resource rural sites and develop accommodation and infrastructure to support local teaching. The school should try where possible to develop dedicated infrastructure rather than renting or borrowing space, say, for example, from the local hospital. 'Bricks and mortar' brings some assurance of permanency that rented space does not. External grants may be needed to develop such facilities, often in partnership with the local community or health provider. There may also be opportunities to integrate vertically or horizontally with other providers of health professional education.

Patients

The final aspect to consider is patients. How does the volume and breadth of clinical experiences offered by the patients in a particular area match curricular requirements?

While curricular experiences that are not met may need to be provided by other means, these are relatively rare. While simulation can be used to augment and enhance the students' learning experience, the focus of their experience should be the patient. Students may express concern about missing out on didactic teaching, but can be reassured by the international experience that their outcomes will be at least equal – if not better, given the breadth of their experience.

Most rural programmes find that students value the rich clinical environment, the exposure to undifferentiated problems, and integrated learning from being immersed in the health care team – although in general, students benefit more from close contact with patients rather than professors. Immersion in real aspects of health care is motivating and stimulating for the student. They also learn about the health care system and their community and form valuable professional relationships with staff (2).

Finally, community and patient attitudes to teaching and research should be considered. While most rural communities warmly welcome students, some may be unfamiliar with the teaching and learning environment, and any concerns such as confidentiality and consent should be addressed.

Case study: James Cook University School of Medicine

The James Cook University (JCU) School of Medicine in North Queensland, Australia was established in 1999 with the mission to

‘ ... pursue excellence and provide leadership in medical education and research. In particular, programmes will be responsive to the health needs of the communities of northern Australia and JCU will be a leader in the focus areas of rural and remote health, Indigenous health and tropical medicine for Australia and for the wider Asia-pacific region.’ (2)

This mission reflects the School’s environment as Australia’s first tropical medical school, with several regional centres serving a large Indigenous population and many rural and remote areas. The new JCU medical school was built on a platform of medical education and a network of community-based practices and clinical teachers established some years earlier through The University of Queensland’s North Queensland Clinical School.

Structure and environment

The School’s structures, such as the curriculum, reflect the region’s environment. All students study a subject in their second year called Rural, Remote, Indigenous and Tropical Health, which sets the foundation for these important strands of the course. Many cases are taught in these contexts, supported by appropriate teaching material and assessments. All students undertake a minimum of 20 weeks of rural placements in the programme across years 2, 4 and 6, with many completing additional placements.

The School supports a multi-disciplinary rural health club and has developed close connections with key rural organisations (2).

People

The School considered how to recruit the right people. A student selection process was developed, weighted in favour of rural and remote applicants, with a separate, parallel process for Indigenous applicants (3). Many staff with significant backgrounds in rural, Indigenous and/or tropical health were recruited. The network of community teaching practices was further developed and strengthened, with additional preceptors recruited, support mechanisms established, and fractional appointments, both academic and administrative, made in a number of key rural sites.

Students appreciated the range of rich clinical experiences and immersion in the health care team, and developed significant networks and connections. As anticipated, they had little difficulty in meeting curricular requirements, with teaching in a small range of specialised topics (e.g. neurotrauma, transplant medicine) being delivered by videoconference.

The School is tracking outcomes of the nine cohorts of graduates since 2005. Early indications are that many of the School's aims are being met. Interest in general practice, rural medicine and other generalist specialties remains high (4). Over 50% of graduates undertake internships in the region, with another 25% in other regional settings. Early trends suggest different patterns of practice to the other established Australian medical schools, with a minority of JCU graduates working in capital cities (5).

Places

The School also developed appropriate places for its teaching and research programme. Clinical Schools were established in the regional centres of Cairns, Townsville and Mackay, with rural nodes developed in many sites such as the Atherton Tablelands, Mt Isa district and Whitsunday region.

Significant infrastructure was developed for student accommodation and to support teaching, often in partnership with local organisations.

Growth of the School has been accompanied by growth in rural placements and sites used, with significant resources devoted to supporting and co-ordinating placements.

Patients

Patients were overwhelmingly supportive of the concept of 'their' medical school. Communities welcomed students and staff, partnerships were developed and opportunities for collaboration identified.

Broader applicability

Rural medical schools, whether they are designed *de novo* or are part of a larger established existing structure, must address these principles in a number of stages: definition and design; development; delivery; and distribution and dissemination.

Defining and designing a rural medical school requires constructive alignment of its mission with its structure and the environment in which it operates.

Developing the school requires close connections and partnerships, with local health services and the community, education providers, colleges and medico-political organisations, rural industry groups and other key stakeholders. A number of other 'p's emerge as important and must be considered in the development phase: partners, local personalities and preceptors.

As the School starts to deliver its programme and its first graduates, further impacts will be felt on the workforce. The increased activity due to the presence of growing numbers of students and staff can impact on the health system, developing a teaching and research culture, with positive impacts on recruitment and retention. Successful local models need to be replicated and enhanced; succession planning should start early and include career paths for the School's graduates to become the future teachers and researchers.

Other important aspects of development are investment in appropriate infrastructure and staffing. As the School develops, its influence will grow and it will start to see some sites transforming into a teaching health service. Schools may develop a mutually reinforcing symbiotic relationship with the communities they serve, with students and staff contributing to, and enhancing, their communities and health systems. These positive impacts of schools on their environment may be especially evident in Schools with a well-developed rural pipeline and a strong mandate for socially accountable medical education.

Finally, the School needs to collect data on graduate outcomes and on successful models and ensure that as graduates are distributed in areas of workforce need these findings are disseminated and the model promulgated.

Practice pearls

What to do

- People, places and patients are important elements to consider when operating a rural medical school - the 'three-legged stool' of rural placements.
- Consider the milieu of the School, its environment and structure.
- Schools should develop a socially accountable mandate and aim to positively influence the communities they serve – symbiotic medical education.

What not to do

- Don't neglect any of these elements – they are an integrated whole, all interlinked and interdependent.
- Don't forget to evaluate outcomes and disseminate them.

Conclusion

People, places and patients define the 'three-legged stool' of rural programmes and rural placements. Each of these three legs is essential: without any one of them, the stool will fall over. The three legs of the stool exist in a milieu – the structure and the environment - which needs to be understood by the School, and which can be thought of as part of a larger system, the rural pipeline into rural practice.

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Further reading

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