Innovative Rural Medical Education

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ABSTRACT

This presentation will introduce the Rural Clinical School of Western Australia as an example of an innovative approach to securing the rural medical workforce in Australia. While there are other government policy changes and settings which can contribute to solving the urban-rural maldistribution of medical workforce, this is an educational approach. It comprises a significant reform in medical education which was implemented nationally in 2002. The establishment of the Rural Clinical Schools in Australia was indeed innovative in and of itself, but of necessity resulted in a range of curriculum and other innovations which have fed back into, and changed, the curriculum of urban medical schools.

KEYWORDS
Rural Clinical School, Rural Medical Education, Rural Workforce, Curriculum Design, Longitudinal Integrated Curriculum, Assessment Theory, Service Learning, Vertical Integration

MAIN ARTICLE (Full text)

Introduction

The Rural Clinical School was established in 2002 within the Faculty of Medicine, Dentistry, and Health Sciences of The University of Western Australia with Australian (Federal) Government funding. Quite simply it is a workforce initiative designed to attract more doctors to rural practice. Senior medical students spend their entire penultimate academic year in a rural town, which, as well as offering excellent educational opportunities, provides for the possibility of a real understanding and enthusiasm for community and rural life, and accordingly a future in rural medical practice.

The RCS started with seven students in four towns and has grown steadily. In 2014, 83 students are based across 14 ‘sites’, and we have approximately 100 academic and professional staff. The current ‘sites’ are: Kununurra, Derby, Broome, Port Hedland, Karratha, Carnarvon, Geraldton, Bunbury, Busselton, Northam, Narrogin, Kalgoorlie, Esperance and Albany.

In 2007, medical students from the University of Notre Dame Australia’s post-graduate medicine programme were successfully incorporated into the existing Rural Clinical School programme. The two universities entered into a Memorandum of Understanding to establish The RCSWA - one collaborative rural medical school for the State. Approximately one third of the students are now UNDA students and two thirds are from UWA. This is a highly successful arrangement which has broadened the School’s perspective and enriched the student experience.

Western Australia is a huge state comprising the Western third of Australia and is accordingly the same size as the western third of the contiguous states of the USA. The School is administered by UWA from Headquarters in Kalgoorlie (approximately 600km East of the capital Perth) and maintains a small urban presence in the UWA Faculty of Medicine building on the QEIMC campus. It has recruited exceptional local doctors and professional staff at the sites, all of whom are comprehensively supported by the School. Each site comprises an administrative and teaching building as a base, and student accommodation (usually houses which we own), as well other necessities including vehicles, computers and IT facilities including videoconferencing and electronic communication systems. The students’ clinical placements occur at local hospitals, general practices, community and remote clinics, and other health facilities. The ‘sites’ are heterogeneous in many respects, and accordingly are granted substantial autonomy in the delivery of the programme. The ‘sites’ are also widely
distributed, making extensive travel necessary, and electronic communication is vital to daily transactions. In addition there are three two-day, face-to-face meetings of academic staff per year, and an annual meeting of professional staff.

The content and learning outcomes of the RCSWA programme are identical to those of the UWA Medical School in Perth, but are delivered in a significantly different way. In particular, the RCSWA process is characterised by longitudinal integration in lieu of rotating specialty clerkships, and opportunistic learning embedded in the community. We say “The same curriculum is taught in 13 different ways”. RCSWA students are taught and assessed to the same rigorous standards as urban students and achieve results entirely comparable to their Perth counterparts.

The RCSWA is locally and nationally acclaimed. It achieved the WA Premier’s Award in 2008 and a prestigious Garrick Award for Curriculum Innovation in 2007.

Recent analysis has confirmed that the RCSWA is working as a workforce initiative – urban origin medical students who spend the year with the RCSWA are three times more likely to go back to rural practice than controls. This is equivalent to the effect of having rural origins.

Innovations

So let me now summarise the “innovations” embedded in this new programme.

Firstly the very establishment and existence of the programme was innovative, and occurred in the face of considerable resistance from Faculty Members. This repudiation was especially true for urban teaching hospital specialists who scoffed at the idea that it would be conceivable to teach the curriculum outside those urban centres and what’s more, largely taught by General Practitioners.

The academic viability of the program has however now been established unequivocally over the last decade and this has largely dispelled reservations. More importantly students are voting with their feet. The students are wholly reassured that the academic quality of the program is of high quality and at least equivalent to the urban program, that they are applying to come to the rural clinical school in large numbers. Indeed the program is now regularly oversubscribed and for the 83 places available in 2014 we had over 160 applications. The students are selected by interview. We do not cherry-pick the students on academic grounds and the failure rate as well as the success rate of the students is roughly comparable to the urban cohort which again reassures that the standards of the Rural Clinical School are correctly calibrated with the urban center.

And by the way, the success of the program as a workforce initiative is also now proven: we have recently published a paper which confirmed that medical students who spent the year in the Rural Clinical School are approximately 4 times more likely to return to rural practice after graduation.

Longitudinal Integrated Curriculum (LIC)

The second major innovation at the Rural Clinical School of WA is the Longitudinal Integrated Curriculum (LIC). LIC is innovative in this context only in the sense that it was very new to Australia and certainly to the medical school at the University of Western Australia. In fact LIC was already established overseas when we commenced in 2002, but it's fair to say that even then it was new and even still regarded as experimental by some.

For those in the audience who are not familiar with LIC, it is in summary the idea that students instead of doing rotations through various hospital departments during their clinical years, spend the year following patients through the health system to get their clinical exposure. The learning is accordingly “opportunistic”. At the end of the academic year however they have to have covered all the same learning objectives as students doing traditional rotations, and are assessed by the same method and to the same level as the urban students.
The students have access to a great deal of clinical contact. They attend as well as the local hospital, general practices, remote clinics, aged care facilities, population health services and so on, and they sit in with all visiting specialist and other health services that come to their town. They will also fly to clinics the Royal Flying Doctor Service (RFDS) and also participate in retrieval and evacuations of seriously ill patients with the RFDS.

All of these clinical exposures are backed up, as in the urban centres by regular tutorials mostly delivered by the local academic staff but also supplemented by video-conferenced lectures from the urban centre or other rural centres.

If there’s an apparent deficit in the programme in a particular town then a workshop with a couple of other sites may be organised such as a weekend workshop on paediatrics. Alternatively an exchange between the sites for example where one set of students rotate through another site with for example more obstetric activity, and conversely students from that site spend time getting more, for example, indigenous health and population health exposure at the first site. Essentially the students’ learning is monitored very closely, as is student feedback, and if it is clear that deficits are emerging then some remedial action is taken. We can be very flexible - we always make sure that the learning objectives have been covered, and as I said the academic performance of our students is entirely comparable with the urban counterparts, and in fact in most years slightly better. This should not be surprising as the students are exposed to a great deal more clinical activity with often one-to-one teaching and the intimate small group classroom teaching is almost ideal.

So one of the great advantages of this Longitudinal Integrated Curriculum is that the students are very well known to our academic staff and indeed to the whole health community in their town. Accordingly there is absolute continuity of the staff-student relationship with the staff acting not just as teachers but also mentors and to some extent in loco parentis. This is just about the ideal rediscovery at the old apprenticeship style clinical teaching which has so often been lost in recent years because of high student numbers.

The students feel embraced not only by the health professional community but also by the community at large. They are possessed as “our students” and adopted by the town. In this way they learn about community and the importance of relationship in small towns, and this, with exposure to special environments and the associated special recreations means that they have an extremely positive experience for the year that they are with the rural clinical school. Generally the students report having a life-changing year and this very positive experience is central to the decision to return to the country. Of course a proportion of the students have country origins already and we know that they are at least three times more likely to come back to rural areas anyway, but it is of great interest that we have demonstrated that urban-origin students who having spent the year with the rural clinical school are nearly 4 times as likely to return to country practice, and by the way, we had value to the rural-origin students who are now more than four times more likely to return. We say we are “converting” urban-origin students to country-origin students in terms of their likelihood to return to country practice.

Assessment Portfolio

The adoption of the Longitudinal Integrated Curriculum of necessity required the complete reconsideration of the assessment process and a great deal of work has gone into innovative practice in assessment. Firstly the students are required to maintain an electronic log (elog) of their cases and experience, with reflections, which are reviewed one-to-one with an academic on a fortnightly basis. A certain number of mini-cex assessments must be submitted each month and three long cases throughout the year. An eight station formative OSCE is held at week 12. This assessment portfolio is lean and efficient but is backed up by regular meetings with the academics and targeted remediation through the year if necessary.

Several of the innovations in assessment developed by the Rural Clinical School have been adopted by the main medical school in Perth, and this exemplifies an interesting aspect of the
Rural Clinical School - as “necessity is the mother of invention” we have had to find innovative solutions to issues that simply don’t arise in urban medical schools. So we have had to develop new ways of doing things, and some of these have been so successful that they’ve been adopted by the urban programme.

Community Projects

The student engagement with the community, mentioned earlier, is in fact another innovative aspect of the programme. All students take little encouragement to join the local community in terms of sports teams, volunteering, church groups, NGOs and so on. But as well as this, all students are mandated to formally engage with a community service activity and complete an assessable report on the activity towards the end of the year. These compulsory Community Projects must be directly involved with health and medicine, and usually address a community need, social determinants of health, population health, mental health, health literacy and so on. Some students have established vegetable gardens in working in remote aboriginal communities to promote awareness of healthy eating. Another established a league of children’s water polo teams, coached the children, and raised money for equipment, and this initiative like so many others was taken over by subsequent cohorts of students so that is that it is an ongoing activity in the community.

It is our belief that these projects contribute to the students’ professionalism and leadership, as well as a broader understanding of community health, and are an innovative example of “service learning”.

Vertical Integration

Vertical integration is the idea that postgraduate education and training should ideally be seamless with undergraduate education. In some countries where the University is also responsible for postgraduate education, vertical integration is to some extent inherent. In Australia this is not the case, but national guidelines have been developed in respect of learning outcomes for the pre-vocational period, the early to 3 years after graduation which comprise rotations through various disciplines in the teaching hospitals as intern and June medical officer. While this is certainly provided improved continuity and ‘build’ of learning, it is not provided anything like the mentoring or personal relationship with each individual which characterises the ideal of vertical integration in which individuals are continuously mentored with regard to their personal development, training and career choice.

In the Rural Clinical School of Western Australia we employ a Director of Postgraduate Medical Education who is also a member of the Postgraduate Medical Education Council of Western Australia, and whose task it is specifically to maintain contact with alumni of the Rural Clinical School with a view to supporting rural training placements during the pre-vocational training and generally continuing mentorship through a personal relationship which was established during their time at the Rural Clinical School. We believe that the relationship is everything, and this supportive commitment to individuals we believe has substantially contributed to the increased likelihood of RCSWA alumni taking up careers in rural medicine. At least this is what the students tell us!

Conclusion

The Rural Clinical School of Western Australia as an example of an innovative approach to securing the rural medical workforce in Australia. While there are other government policy changes and settings which can contribute to solving the urban-rural maldistribution of the medical workforce, this is an educational approach. It comprises a significant reform in medical education which was implemented nationally in 2002. The establishment of the Rural Clinical Schools in Australia was indeed innovative in and of itself, but of necessity resulted in a range of curriculum and other innovations which have fed back into, and changed, the curriculum of urban medical schools.
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