

## ORIGINAL RESEARCH

# Do benefits accrue from longer rotations for students in Rural Clinical Schools?

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## ABSTRACT

**Introduction:** The Australian Government has provided funding for Rural Clinical Schools (RCS) to provide substantial rural clinical experience to medical students. The strategy aims to acculturate students into rural living with the intended long-term outcome of increasing the availability and viability of rural health services. When evaluators from two of the Rural Clinical Schools discussed findings and insights relating to rural rotations from their in-depth evaluation studies of their respective schools they found a range of similarities. This article is a collaboration that articulates parallel findings from evaluations over 2 years, using three different approaches to students' placements across the two RCS: (1) students based long term in one centre (with only a few days away at a time); (2) students based long term in one centre with short-term rotations of 3-6 weeks away from home base; and (3) week rotations without a home base.

**Method:** The two RCS, as part of their initial establishment, put comprehensive internal evaluation processes in place, including the employment of dedicated evaluators extant from the teaching and assessment of the rural medical curriculum. Data were collected and analysed according to standard education evaluation procedures.

**Results:** Home-base preference: most students preferred having a home base in one centre and having as little time as possible away from that centre, while recognising that sometimes the requirement to go and learn elsewhere was useful. The reasons for this were three-fold: academic, clinical and social. Academic benefits: students enjoyed the excellence of teaching and learning opportunities in their rural sites and did not want their discipline of learning interrupted by what they perceived as unnecessary change. Students with a home base used their learning opportunities qualitatively differently from those students who had 6 week rotations. Their learning became self-directed and students sought opportunities to extend and consolidate areas of need. Clinical benefits: contributions to the clinical team: students in their clinical years want to feel useful and to be allowed to become contributors to the medical care, even as they are learning. A longer rotation allows them to become known to their teachers who are then able to easily



assess the type of contribution that is appropriate for their students to undertake. Students then become full participating members of the healthcare team, rather than observing learners. Social benefits: all students with a home base actively participated in a wide range of community activities outside their role as medical students. Those students undertaking short rotations without a home base seldom connected in the same way to any rural community.

**Conclusion:** Evaluation from these two RCS has shown that short rotations are likely to be less optimal than longer rotations for meeting the broader goals of the RCS to build future workforce capacity. Our results suggest that one opportunity to acculturate students into the rural lifestyle is lost when students' placements are insufficiently long for them to put down roots in their community, and to understand how to 'live' there more broadly. Good rural experiences and teaching and learning opportunities are not sufficient in themselves. Students' emotional attachment to rural living comes from experience related to time and the connection to local people that comes as a result of time spent in the community. Students on short rotations do not make that local connection.

**Key words:** Australia, rural clinical schools, undergraduate.

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## Introduction

The Australian Government's Regional Health Strategy has provided funding through the Department of Health and Ageing for Rural Clinical Schools (RCS) to provide substantial clinical experience to medical students in rural areas<sup>1</sup>. The strategy aims to acculturate students into rural living with the intended long-term outcome of increasing the availability and viability of rural health services.

Rural experience during training has been shown to increase the likelihood of practising in rural areas after graduation<sup>2,3</sup>. After initial concerns about whether students would be disadvantaged academically if they undertook training in rural areas, there is evidence that this is not the case and students may even experience improved marks as a result of their time in rural settings<sup>4,5</sup>.

It has been recognised for some time that students from rural backgrounds are more likely to return to practice in rural areas<sup>3,6</sup>. With rural experience, either prior to, or during, medical training and subsequent internship increasing the likelihood of future rural practice, the question needs to be asked as to how much rural experience is needed to influence a person to practice in the country? There is some indication

from Canada that periods as short as 1 month do not increase the likelihood of rural practice<sup>7,8</sup>.

In addition, there are the practical issues of teaching medical students in rural communities. Questions have to be asked as to what works from a teaching perspective, and from the students' perspective. A financial impact model developed in South Australia indicated that medical students had a positive impact on GPs' productivity after 5 months with no loss of patient satisfaction<sup>9</sup>. Such longer attachments allow the development of the student as part of a team participating in the care of patients under supervision, rather than just as an observer<sup>10</sup>.

The University of Western Australia's (UWA) RCS had 29 undergraduate medical students in five centres of learning around the state (Broome, Port Hedland, Kalgoorlie, Geraldton and Esperance) in 2004. The UWA RCS students undertake the normal UWA 5th year curriculum in their rural base town for the year. During this year, some of the students are required to expand their clinical experience by spending at least some of their time in another centre. Students spent from a few days up to 1 month in centres away from their home site. Most of the shorter stays occurred so that students could experience medicine in remote Aboriginal communities, whereas the month-long



stay allowed Esperance (a rural town of approximately 12 000) students to experience a larger rural hospital with more opportunity for paediatric teaching and learning. In 2003 students from Kalgoorlie spent time in Esperance for 3-4 weeks in order to experience general practice based hospital care.

The Spencer Gulf Rural Health School (SGRHS) incorporates the RCS and the University Department of Rural Health (UDRH) programs of The University of Adelaide and The University of South Australia and encompasses learning centres dispersed around the Spencer Gulf region. Ten students voluntarily selected SGRHS in 2003 for a 26 week pilot program of their 36 week 5th year (of a 6 year undergraduate curriculum). They were placed in learning centres at Port Lincoln, Whyalla, Port Augusta, Port Pirie, and Booleroo Centre for 6 week rotations while they completed their standard 5th year curriculum. In 2004, SGRHS introduced an integrated, whole of 5th year curriculum and recruited two large procedural general practices. This enabled 15 students to be located at Port Lincoln, Whyalla, Kadina and Clare as their home community for their 36 week year, with rotations to specialist curriculum in Port Augusta (paediatrics) and Port Pirie (obstetrics and gynaecology) for 6 weeks at a time.

When evaluators from two of the RCS discussed findings and insights relating to rural rotations from their in-depth evaluation studies of their respective schools, they found a range of similarities. This article is a collaboration that articulates parallel findings from evaluations over 2 years, using three different approaches across the two RCS.

## Method

The UWA RCS, as part of its initial establishment, put comprehensive internal evaluation processes in place, including the employment of a senior research fellow with evaluation expertise. These processes included questionnaires, one-on-one interviews and systems to collect data on incidents as they occurred throughout the academic

year. In both 2003 and 2004 the emphasis was on collecting qualitative data as the early experience showed that quantitative student questionnaires gave information that was too generalised to be useful for the internal evaluation purpose. Interviews were semi-structured and were conducted with students and both academic and administrative staff. All but one student (who was studying away in another centre) participated. They were asked what worked or what did not work, how they experienced the curriculum and its delivery and issues relating to their general experience of living and working in the rural community.

The SGRHS also invested in a dedicated evaluator extant from the teaching and assessment of the rural medical curriculum. The SGRHS evaluator contacted the students by email towards the conclusion of each 6 week block in 2003 with four structured questions which were commissioned by SGRHS academics. In 2003 all data was emailed back by students. An evaluation of the evaluation was conducted independently at the end of 2003. Students stated that while they felt there was a thorough evaluation of the program, many students preferred to have the evaluator speak to them by telephone about the structured questions and any other issues they wished to raise. Students stated that the personal contact was important to them despite the distances involved preventing the evaluator travelling every 6 weeks to see every student. Nevertheless, face-to-face contact was the preferred mode whenever that was possible. In 2004, most students preferred telephone contact. They received the structured questions, and responded to them on the telephone, or by email. Despite all educational evaluation being voluntary, students welcomed the opportunity to debrief on their learning and living situation, and to recommend improvements that would further support their rural learning location.

In 2003, preceptor staff (that is practice-based preceptors, not academic staff of the SGRHS) completed a structured questionnaire in April. An evaluation of their evaluation preferences was informally conducted in April 2004, prior to conducting another survey. Preceptors nominated face-to-



face contact (not telephone) as their preferred evaluation mode. Those 2004 evaluations commenced September 2004.

This article reports some of the findings from the qualitative data from both RCS. Such data is rich, immediate and informs the ongoing development and implementation of the program at the schools' respective sites. As such it is appropriate to report this prior to the quantitative aspects of the evaluation. We have included some direct quotes in inverted commas to illustrate and support our findings.

The evaluation was conducted utilising ethical protocols for educational evaluation. Questionnaires were voluntary and anonymous. Students were able to withdraw at any stage. Data was de-identified and there were no learning, nor assessment consequences for students who choose not to contribute to the educational evaluation because the students were not in a dependent relationship with the independent evaluators. All interviews were confidential except where students requested that specific issues be addressed. Students received prior notice of the questions to be answered.

Data was analysed thematically by both evaluators operating independently. The themes arose from the data rather than from pre-existing hypotheses. This grounded theory approach served this evaluation project well; however, both evaluators were also well versed in the literature which informs Australian rural undergraduate medical education, and were thus able to recognise key words and phrases from themes previously hypothesised elsewhere.

## Results

The two RCS trialled three different types of rotations: students based long term in one centre (with only a few days away at a time); students based long term in one centre with short term rotations of 3-6 weeks away from home base; and 6 week rotations without a home base.

- In both 2003 and 2004 most of the UWA RCS students went to one centre and stayed there for the

full year, with some students undertaking 3-4 weeks away from their home base at another site to expand their learning experience.

- In 2003, SGRHS students had a 6 week rotation system which allowed students to rotate through smaller and larger procedural general practices as well as specialist paediatric and obstetrics and gynaecology rotations. They moved every 6 weeks, effectively having no 'home' base. In 2004, SGRHS had students based long term in one rural centre with short rotations away from their home base for specialist paediatric and obstetrics and gynaecology rotations. The construction of the RCS programs in the first year was driven by some external influences. Urban curriculum committees needed to be convinced student were receiving enough specialist contact. Facilities in some towns and practices were inadequate and needed to be constructed by the RCS. While rural workforce shortage is the reason for creating RCS it also means that busy clinicians may have difficulty finding time to teach.

### *Home base preference*

Most students preferred having a home base in one centre and having as little time as possible away from that centre, while recognising that sometimes the requirement to go and learn elsewhere was useful. The reasons for this are three fold: academic, clinical and social.

**Academic benefits:** Students enjoyed the excellence of teaching and learning opportunities in their rural sites and did not want their discipline of learning interrupted by what they perceived as unnecessary change.

A number of students from both schools who rotated elsewhere, spontaneously reported their teaching and learning opportunities were of such a high quality in their single site that it was unlikely to be bettered elsewhere. They considered it would be disadvantageous to lose their learning rhythm that was well established in their home sites.



Students with a home base used their learning opportunities qualitatively differently from those 2003 SGRHS students with 6 week rotations. Their learning became self-directed and students sought opportunities to extend and consolidate areas of need, for example, by independently contacting visiting consultants requesting the opportunity to sit in on their sessions, and taking slots on the emergency department (ED) rosters. By the end of their year, they actively sought 'top up' experiences to further build their confidence for their examinations in November. Students reported that the benefit of being in their home community during this period was that if they encountered something in general practice, they could immediately 'top up your knowledge as you go' by running it past the medical practitioners with whom they had been learning all year. For the same reason, some students elected to spend their pre-examination study time in their 'home communities' where they had the learning centre to support them and a settled and familiar living environment.

**Clinical benefits: contributions to the clinical team:** Students in their clinical years want to feel useful and to be allowed to become contributors to the medical care, even as they are learning. A longer rotation allows them to become known to their teachers who are then able to easily assess the type of contribution that is appropriate for their students to undertake. It can take some months before rapport and the increasing knowledge base is obvious to the GP, nurse manager, midwife or consultant, to the extent that they feel comfortable for the student to take an active role in the patient's consultation, management and treatment. At this stage the GP, health professional or consultant also 'gets something back' for the investment of time and energy that they put into the student. One GP reported it took time 'before they moved from being a nuisance to being a contributor to the practice'.

Students become useful to the community as a result of the longer rotation as they participate in a wider range of professional activities including taking slots in ED, taking an active role in assessing patients and seeing patients alone under supervision. Some students reported excellent learning

opportunities after being 'called in' to ED during particularly busy Saturday evenings, assisting with triage and looking after the lower risk patients.

Some UWA RCS students also reported that it took more than 4 months to become sufficiently acculturated to the particular Aboriginal community at their site before they perceived themselves to be useful in the medical setting. They also reported that it took time to become sensitive to the differences between different Aboriginal communities in the one geographical district. Similar comments were also made by medical and nursing colleagues. One student also recognised that she needed to be acculturated to the different expectations and mores of the rural white culture so that she didn't expect them to be the same as city people.

Students of SGRHS in 2003 found that the constant moving meant that they were always having to re-establish their credentials, and their teaching and learning approach was very similar to that of their colleagues in the tertiary hospital setting.

**Social benefits:** Students in the 2003 and 2004 UWA RCS and 2004 SGRHS cohort have actively participated in a wide range of community activities outside their role as medical students. These include students undertaking community roles such as surf lifesavers, coaches and strapping services for sports teams as well as participating in local sports teams as player and spectator, joining clubs (eg motokana, bridge, table tennis, wine appreciation society), gyms and swimming pools and participating in a wide range of outdoor activities (eg jogging, fishing, bushwalking, beach weekends, 4-wheel driving).

Students have also frequently dined with doctors and other health professionals in their home community, and have found it easy to make friends both with health professionals and, more widely, through their 'outside' interests.



## *Impact of rotations from a home base*

When rotating away from their home sites students have reported that they only take books and clothes relevant to that period, leaving their room at their home community furnished. They 'didn't bother' to participate in social activities during their 3-6 week rotations because the short period of attendance prevented them making a meaningful contribution.

Students in some instances maintained their social relationship with their home community throughout their time away, for example by travelling weekly to continue to play competitive sport, a round trip of 400 km.

Students reported that returning to their home community after a rotation away was easy to do. The doctors and practice staff were pleased to see them, and they fitted back into their previous routines seamlessly. They reported (with one exception) that they welcomed the focused learning at the specialist rotation sites, and rather enjoyed being with other students different from the group in their home community, reporting that no matter how solid their friendship was with the other students with whom they were living and learning, there was benefit in a short break away.

## *Impact of rotations without a home base*

At the SGRHS, in 2003, students found that they needed to work around, rather than with, the 6 week rotation system to become more embedded into the social aspects of the community, and the learning opportunities. They found that no sooner were they becoming useful in the healthcare setting than they had to move on, once again, re-establishing trust, and level of prior learning with their preceptors. Students also did not develop the self-directed learning style of the home-base students, expecting instead that the rotation would provide them with all the experience they needed.

Socially, they found that they often did not bother to join in with ongoing events because they considered themselves a hindrance to a team, rather than an asset. A few students

managed to negotiate a longer period in one place in order to make a work or sporting commitment but this was not frequent.

Twelve months after concluding their year in the SGRHS, the 10 students in the 2003 cohort still believed that the least desirable aspect of their year was the constant moving and relocation. They praised the SGRHS reorganisation of the year to permit students to reside in a home community with short rotations out in the community.

## *Orientation and integration into their home base*

The UWA RCS students spend the first 2 weeks in their new home base being introduced to their rural setting. In 2003 the students balked at this requirement, preferring to go 'straight to work and not waste time'. The coordinators in each site responded to the request and allowed this to occur. By 3 months into the study year the students were complaining that they hadn't had time to find out all they needed to know in their rural area. Some had not located key shopping facilities, others wanted to know more about sporting opportunities and others to know more about the industry which contributed to the economy (and illnesses) of the community. They indicated they had insufficient information to integrate fully into 'their' rural community.

As a result in 2004 students were required to participate in a fortnight's induction into their local area. Again, they complained about the lack of relevance and wanted 'to get down to study immediately'. However, by June, the complaints had turned to praise. The students realised the relevance and importance of what they had experienced in that first fortnight. They knew what they needed to know in order to become more connected to the people and institutions of their community.

In 2003 and 2004, students studying in the SGRHS commenced their year together with a week 'Orientation to Living and Learning Rurally' conducted in one of the SGRHS learning centres. Students then moved off to their home communities or their first rotation from this orientation



week. Students met their academic coordinator at their practice or clinic and they stepped students through an orientation to the clinical setting.

An evaluation of the orientation weeks in 2004 revealed that students desired to go directly to their home community for this orientation, moving to the shorter specialist rotations after they had settled into their house, community and health setting. They found it confusing and a little frightening to turn up for the first time 6 weeks after the year started when seemingly everyone else knew how everything worked, where everything was located, and had made contact with the local community groups they wished to join. All the focus in the home communities was on welcoming students at the beginning of the year, not 6 weeks after it had started.

## Discussion and Conclusion

The Federal Government of Australia has implemented its Regional Health Strategy, funding medical schools for the establishment of RCS on a national basis with the hope and expectation that an increasing number of medical graduates will spend at least some of their working life in rural and remote areas.

Evaluation from these two rural schools has shown that short rotations are likely to be less optimal than longer rotations for meeting these broader goals of the RCS. While it is confidently expected that students will receive training of sufficient standards to graduate, less is known about the likelihood of achieving the workforce outcomes that are sought.

What we know from the literature is that students need to believe that they could be personally happy and professionally productive in order to consider rural internships and rural practice. The challenge is iterative and multi-factorial. We suggest that one opportunity to acculturate students into the rural lifestyle is lost when students' placements are insufficiently long for them to put down roots in their

community, and to understand how to 'live' there more broadly. Good rural experiences and teaching and learning opportunities are not sufficient in themselves. Students' emotional attachment to rural living comes from experience related to time and the connection to local people that comes as a result of time spent in the community. Students on short rotations do not make that local connection. They treat their time on rotation as a study block with a summative assessment at the end.

The limitations of the study relate in part to the fact that these findings have been incidental to the main purpose of the evaluation studies out of which the data have come. We did not set out to explore the comparative usefulness of different types of rotations, but rather to evaluate and improve teaching and learning opportunities in a new setting. As such, some caution needs to be taken as to how far the conclusions can be generalised to other settings.

While the link between RCS program experience and subsequent repatriation to rural areas is currently unknown due to the infancy of the program<sup>2</sup>, this evaluation study adds to the body of knowledge of 'what has worked and what didn't work'. The fact that similar findings were found in two schools suggests some generalisability across Australian rural settings.

It must, however, be remembered that while RCS have been specifically funded in the hope and expectation of meeting workforce needs in the future, they are also training generic doctors<sup>11</sup>. Research is indicating that these students are as academically successful as their metropolitan counterparts<sup>5</sup>. A proportion of these doctors will become metropolitan based and their rural experience will be carried with them into their careers in which many of them will care for rural patients. The greater understanding of the dynamics of rural communities, and the opportunities for primary health care within those communities, will become one of the substantial legacies of the RCS training program.



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