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Medical students' perceptions of barriers to training at a rural clinical school

GI Jones, DE DeWitt, M Cross

School of Rural Health, University of Melbourne, Shepparton, Victoria, Australia

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Jones GI, DeWitt DE, Cross M

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ABSTRACT

Introduction: In response to concerns about the decreasing rural health workforce, the Australian Government has funded a number of clinical schools in rural locations across Australia. The University of Melbourne established its Rural Clinical School (RCS) in 2000, at Shepparton, population 42 000, 175 km north of Melbourne, Victoria. The University of Melbourne also has three metropolitan-based clinical schools. Rural clinical schools in Australia generally have experienced difficulty in recruiting students. This has also been the experience of the University of Melbourne's Shepparton-based RCS. This study focuses on student perceptions in an attempt to understand the reasons behind this difficulty.

Methods: All medical students at The University of Melbourne were sent an internet-based questionnaire and invited to participate in this study. The survey included information-gathering questions focused on the following areas: demographic details, whether or not the student chose to study at the RCS, factors that were of importance to them in selection of a clinical school, and the reasons why they did or did not prefer the RCS. Participants were asked to rank their three most important issues and were then asked to comment on what would make training at the University of Melbourne RCS attractive to them.

Results: The response rate was 49% (n = 785 of 1599). The most common concerns relating to the students' selection of a clinical school were the quality of teaching and education at the school, transport and location issues, and patient access. Other major issues included the ability to obtain the student's preferred internship, family and partner issues, and the lack of incentives, such as financial incentives. The most common issues for students who did not chose the RCS were of a non-clinical nature, such as family and partner commitments, financial issues, and housing commitments. The most common factors students identified as making the RCS more attractive to them were greater financial support and incentives, demonstrating value-added teaching, and teaching that

was seen as better than that available in the metropolitan centres, and improvement in the flow of information, and promotion of the RCS's programs. Finally, students who chose to study at a RCS are more likely to be female, of graduate entry, and of rural origin.

Conclusions: Although little can be done regarding family and financial issues, these remain important concerns for students when considering relocation to a RCS. In addition, academic results and quality of teaching remain important concerns for students, despite evidence that, for the RCS, these are equal to or better than at The University of Melbourne metropolitan clinical schools.

Key words: Australia, rural clinical school, rural origin, undergraduate medical students.

Introduction

In response to concerns about the rural health workforce shortage, the Australian Government funded clinical schools in rural locations across Australia in 2000. One of the aims of this initiative is that, in training students in a rural community, they will be more likely to return to practice in a rural community after graduation. This major effort focuses on long-term placements in rural areas during students' clinical training[1]. There is significant evidence that graduates who have had long placements in rural areas are likely to return to a rural location to practice[2-7]. The University of Melbourne (UoM) established a rural clinical school (RCS) in Shepparton, 175 km north of Melbourne, Victoria in 2001, with other major Victorian sites at Ballarat 110 m west, and Wangaratta 240 km north-east of Melbourne.

The first students commenced their clinical training at the RCS in 2002. The first two intakes were small and limited to students who chose the RCS as their first preference (n = 10 and 14). From 2004, the RCS has met the Commonwealth requirement of 25% of the Australian Commonwealth supported students spending at least 50% of their clinical training at the RCS (48 students per year for three semesters, or 18 months).

This requirement created anxiety among the students, and the majority of medical students placed the RCS as their least preferred option. In 2004 and 2005, only 17 and seven students, respectively, ranked the RCS as their first option. Consequently, 31 and 41 students respectively, who had metropolitan preferences, were allocated to the RCS in 2004-2005. This 'conscription' resulted in the student body expressing significant discontent. This study explores students' reasons for clinical school preferences and their concerns regarding allocation to the RCS.

Methods

Previously published survey questions were refined by the authors through discussion and common agreement[8]. The study design and questionnaire were approved by UoM Human Research Ethics Committee. All medical students at UoM were invited by email to participate in an internet-based survey in late 2005. A reminder invitation was sent to the students, then in years 2 to 6 of the medical course, in early 2006. A total of 1599 students were contacted. Participants voluntarily accessed the internet-based questionnaire (Catalyst Tools; University of Washington, Seattle, WA, USA). Of 1599 students surveyed, 785 responses were received. Forty-four emails were returned as either 'address unknown' or the student was unable to be contacted, and these students were excluded from the analysis. The adjusted response rate was 51% (785 of 1555).

The response rate of 51% appears low, but not unusually so for an internet-based survey. Leece et al.[9] and Balter et al.[10] both reported response rates of 13-14% lower for internet surveys, compared with written surveys. The survey

(Appendix I) focused on four areas: (i) demographic information; (ii) the factors important in the student's selection of a clinical school (Likert scale 1 [strongly disagree] to 9 [strongly agree] and ranking of the three items of greatest importance to the individual); (iii) factors important to students who did not rank the RCS as their first preference; (iv) suggested ways to make the RCS more attractive.

Data analysis

Responses were downloaded from the internet, de-identified, coded and analysed. Open-ended questions were coded and themed using standard qualitative methods [11]. Statistical analysis was done using parametric statistics in SPSS (SPSS Inc; Chicago, IL, USA). Responses were cross-tabulated by gender; rural versus urban background; Australian versus international residency; school leaver or graduate entry to medical school.

Results

Of the total student cohort studied, 48% were of school-leaver entry and 20% graduate entry into the course. In addition, 32% of the cohort was of international origin. Rural-origin students, defined as those coming from towns of RRMA classification 3-7 accounted for 7% of the total cohort. This equated to 10% of the Australian students.

Of the total number of respondents, 12% (n = 785) had either chosen the RCS or indicated an intention to do so for their clinical placement. Of respondents, 28% indicated they were international students, and because the RCS is required to take only Commonwealth Supported Place (CSP) students to meet the requirement of funding, these respondents were removed from the sample, giving a percentage of CSP students preferring the RCS as 16% (n = 90 of 567 CSP students).

Table 1 shows the factors rated most important by all UoM medical students in their selection of clinical school. They were asked: 'The following factors will be/were important in my selection of clinical school'. Clearly, student perceptions relating to clinical education, transport/location and patient access had a significant influence on the students' clinical school selection.

Students were asked to list the three main issues most important to students in clinical school selection. The most frequently reported issues fell into two categories, education and social (largely family/relationship), as shown (Table 2). Students who did not rank the RCS as their first choice of clinical school were asked to rank their three main concerns about the RCS. The five most common concerns are shown (Table 3). Finally, students were asked to comment on possible changes that would make the rural clinical school more attractive to the individual student (Table 4).

Discussion

In 2004 we studied the barriers reported by students who were allocated to train at UoM RCS in that year[8]. Although the major concern expressed by the students was a preference for training at a metropolitan clinical school, the major barriers identified were social rather than educational, in particular related to family and partner commitments, transport, and financial concerns. A significant concern was that training in a rural location would negatively impact on the student's future career, including the chance of attaining a preferred location for internship, and hence entry to their preferred specialist training program. To broaden our understanding of barriers, we designed this study to explore the concerns of the whole medical student cohort.

Issues of concern to students in clinical school selection

In the present study it was found that students were predominantly concerned about learning and experiential issues, the standard of clinical education, and patient access. The ability to obtain a preferred place of internship was also a common concern. Other issues were of a more personal nature with the location of the school, transportation, and family and partner issues rating highly.

Table 1: Factors rated most important by all University of Melbourne medical students in their selection of clinical school

Issue	Mean	SD
Clinical education at the school	8.03	1.69
Transport/location	7.73	1.83
Patient access at the school	7.39	2.11
Financial	6.53	2.53
Ability to get preferred internship	6.48	2.49
Housing	6.31	2.63
Family/partner	5.66	2.85
Friends' choice	5.38	2.55
Social/sporting/music	5.13	2.72
Research opportunities at the school	3.86	2.26
Religious issues/places of worship	2.75	2.30

Table 2: University of Melbourne medical students' three main issues most important in clinical school selection

Issue	*N*† (%)	Ranking		
		First *n* (%)	Second *n* (%)	Third *n* (%)
Clinical education at the school	596 (76)	369 (47)	154 (20)	73 (10)
Transportation, location	368 (47)	100 (13)	105 (13)	163 (21)
Patient access	282 (36)	44 (6)	152 (20)	86 (11)
Family, partner issues	241 (31)	103 (13)	69 (9)	69 (9)
Ability to obtain preferred internship	228 (29)	44 (6)	77 (10)	107 (13)

†*N* = 785

Table 3: Five most common concerns of University of Melbourne medical students' three main concerns about the rural clinical school

Issue	*N*† (%)	Ranking		
		First *n* (%)	Second *n* (%)	Third *n* (%)
Family, partner issues	339 (48.8)	178 (23)	83 (11)	78 (10)
Financial issues	331 (47.6)	114 (15)	128 (16)	89 (11)
Housing, commitments	282 (40.6)	76 (10)	111 (14)	95 (12)
Ability to obtain preferred internship	230 (33.1)	65 (8)	75 (10)	90 (12)
Social, sporting, music commitments	225 (32.4)	60 (8)	65 (8)	100 (13)

†*N* = 785

Table 4: Possible changes that would make the rural clinical school more attractive to the individual student

Theme	Responses† *n* (%)
Greater financial support and incentives	236 (30.1%)
Teaching, learning and quality of education at the RCS (eg better than metropolitan teaching, value added, adequate specialists)	167 (21.2%)
Improved information flow, promotion of the program, transparency within the RCS	105 (13.4%)
Lifestyle issues (eg family, partner, social, employment factors)	73 (9.3%)
Nothing will lead me to consider	66 (8.4%)
Shorter placements – two semesters, one semester for all students	64 (8.1%)
The RCS should accept international students	50 (6.4%)
Location – too far from the city, move it closer	42 (5.4%)

†Total = 86 comments from the total number of respondents (*n* = 785). Students could make more than one comment; comments regarding the students' own barriers or situation were excluded from analysis.
RCS, Rural clinical school.

Denz-Penhey et al reported significant levels of stress in a survey of the first cohort of RCS students in Western Australia, related to curriculum content, delivery and assessment, among other factors[12]. Our findings also revealed students' anxiety about academic standards, illustrating that access to patients and the ability to obtain a preferred internship were also major issues for UoM students. In addition, many students expressed concern about the lack of rural specialists to teach (Table 4). Areas of particular concern were the sub-specialties, particularly haematology, oncology, infectious diseases and neurology. These specialties are either not represented in the local specialist workforce or are provided by a visiting service, usually once a month or less. Visiting specialists generally have a heavy consulting workload in their sessions, making it extremely difficult for them to provide extra time to teach students.

Strategies to address the students' concerns regarding the lack of specialists to teach their sub-specialty areas can be satisfactorily addressed. Strategies include using generalist physicians and surgeons, GPs with particular areas of interest and expertise, and the use of video-conferencing of tutorials from metropolitan tertiary centres. We also found that good access to inpatients and out-patient clinics provides the opportunity to see and learn from a satisfactory number of patients if spread over the full year, rather than attempting to access these patients in the small time allocated to learning such specialties. We have also organized sessions in which selected patients with particular conditions are sourced from general practices for teaching purposes. This has been particularly successful in neurology.

These concerns are consistent with issues reported among students both in Australia and internationally. Silagy and Piterman[13] reported on the attitudes of Australian final year medical students to the location of their postgraduate training. Most graduates preferred metropolitan internships, perceiving that they would have access to better training and educational opportunities. Orpin (Tasmania, Australia)[14] and Crump (USA)[15] reported similar concerns. However a study from the University of Newcastle, New South Wales, Australia[16] revealed significant problems with patient access for medical students in a group of four large teaching hospitals. This differs from our students' repeated anecdotal comments about excellent access to patients in our RCS-affiliated hospitals.

There is a significant body of evidence to support the concept that training undergraduates in a rural location has a positive effect on the number of medical graduates who will eventually practice in a rural area. In addition, longer periods of training in a rural location also have a positive influence on the retention of rural medical practitioners[2,6]. There is

also strong evidence that students of rural origin are more likely to practice in a rural area[7,17]. This evidence underpins the Australian Government's support and funding of RCSs as part of a wide-ranging strategy of rural incentives[1].

Issues of concern to students who did not or plan to not chose the RCS

The common concerns among students who did not select the RCS were mainly of a non-clinical nature: family and partner, and financial and housing commitments, consistent with the findings of our previous study[8]. Almost 49% of respondents reported family and partner issues as their main issue. There are several significant contributing factors, including the large number of students of metropolitan background (75%), previous commitments to housing (mortgage, rental bonds) and employment commitments. In addition, selection for clinical schools occurs late in third year, by which time many students have established firm bonds and a base in the city.

These concerns were reflected in the responses to the question 'What changes would make the Rural Clinical School more attractive to you?' The major factors were financial support, and evidence that teaching, learning and experience at the RCS was at least equal to that in the metropolitan schools.

Student financial support at the RCS is significant. Quality, fully furnished accommodation is provided at all three RCS sites for a nominal rent of AU$40 per week. The compares very favorably with average rental prices for single bedroom accommodation in the vicinity of the metropolitan campus of $110-180[18]. Accommodation for compulsory weeks of learning in the metropolitan area is fully funded. Student bursaries are offered to students with demonstrated financial hardship. Resident Student Advisor positions are offered at each site. These students provide a range of contact and support services to the student accommodation. In return, their accommodation is provided rent free. Finally, transport to some more remote training locations is subsidized. Evidence from RCS students also suggests that costs of living in the RCS compares favorably with costs in the metropolitan area[19].

Academic performance is of great importance to the students, and over the 4 years of the school's operation, results in assessment have been comparable with the metropolitan schools. Statistical analysis performed by the School of Medicine of the overall assessments of UoM medical students has shown no statistical difference among the four clinical schools, except for the graduating class of 2006. In this year, the mean final mark for RCS students was 74.3% compared with an overall mean of 71.8%

Conclusion

This study confirmed that the major issues of concern to UoM medical students in choosing RCSs are the quality of education and experience at the school, and social aspects related to re-location to a distant site. Although little can be done regarding family and financial issues, these remain important concerns for students when considering relocation to a RCS. In addition, academic results, quality of teaching, and ability to gain a preferred internship placement remain important concerns for students despite evidence that these are equal or better at the UoM RCS, compared with the metropolitan clinical schools.

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Appendix 1

Clinical School selection.

Section 1.

Please select the demographic options that apply to you.

Gender O M O F

Background O Rural O Urban

Status O School leaver O Graduate

O Australian O Overseas

Are you a member of outlook? O Yes O No

Did / Will you rank RCS as your first choice? O Yes O No O unsure

Your current Semester (Circle) 1 2 3 4 5 6

7 8 9 10 11 12

Section 2

The following factors will be / were important in my selection of clinical school.

	Disagree Strongly		Disagree Somewhat		Neutral	Agree Some		Agree Strongly	
Clinical Education at the School	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9
Patient access at the school	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9
Ability to get preferred Internship	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9
Family / partner	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9
Friends' choices	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9
Religious issues – access to worship	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9
Social / sporting / music	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9
Financial (job, cost to move)	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9
Housing (Commitments)	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9
Transportation / location	O 1	O 2	O 3	O 4	O 5	O 6	O 7	O 8	O 9

List in order the top three issues of importance to you from the list above, or others.

First	
Second	
Third	

Section 3.

If you **DID NOT** rank the RCS first, what was your main concern? (click as many as you wish)

↑ Clinical education at the school

↑ Patient access at the school

↑ Ability to get internship of your choice

↑ Family / partner

↑ Friends' choices

↑ Ability to practice religion in rural area

↑ Social / sporting / music

↑ Financial (job, can't afford to move away)

↑ Housing

↑ Other

Section 4.

What could we do to make the RCS more attractive to you?

