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A required rural health module increases students' interest in rural health careers

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ABSTRACT

Introduction: The Australian Commonwealth Department of Health and Ageing has funded University Departments of Rural Health (UDRHs) to facilitate student placements with the goal of encouraging students to choose rural health practice. The objective of this article is twofold: first, to report student feedback regarding The University of Melbourne-UDRH required 4 week Rural Health Module based in Shepparton, Victoria, at the School of Rural Health, with placements in communities in rural northeast Victoria; and second, to identify students' attitudes about practising in rural areas at the completion of the course.

Methods: Student evaluations conducted at the completion of the program were analysed utilising both quantitative and qualitative survey questions.

Results: Of 393 students who completed the course, 93% participated in the evaluation. Over half (70%) said that the course increased their interest in rural health issues more than 'somewhat', and 47% stated that the course increased their interest in practising rurally more than 'somewhat'. Students valued their community placements highly but wanted greater clinical focus.

Conclusions: A required community-based rural health course positively influences many medical students' reported intention toward rural practice and increases most students interest in rural health. Rural general practice placements are in short supply. This course offers valuable rural experience to students without depending significantly on GPs, but student feedback has increased efforts to make the course more clinically focussed.

Key words: Australia, rural health module, UDRH, undergraduate medical students.

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Introduction

Only 23% of doctors in Australia practice in rural areas and the number of doctors in significant shortage areas, per head of population, is only 54-65% of that in metropolitan Australia[1-3]. It is well known that medical graduates with rural backgrounds are more likely to practise in rural communities[4], but unless all rural students choose rural medicine, we must recruit metropolitan students to rural practice as well. Most western medical schools offer clinical rural 'electives,' and some offer extended clinical rural placements to select groups of students. Such rural exposure at both the undergraduate and postgraduate level increases interest in rural health careers[5], and experience shows that understanding rural health practice in the context of rural placements for medical students is important[6]. However, participants who elect rural coursework may be biased and thus studies based on elective experiences have intrinsic limitations.

In 2003, the Melbourne University Department of Rural Health (UDRH) developed the 'Rural Health Module' (RHM) as a *required* course for all University of Melbourne medical students, as part of Australian Commonwealth program initiatives to address rural doctor shortages in Australia[7,8]. This logistically ambitious program aimed to expose all medical students at a metropolitan-based medical school to a substantial rural health experiential course, embedded in a contextual framework based on five key concepts: (i) social determinants of health: (ii) confidentiality; (iii) access; (iv) cultural safety; and (v) team practice[9]. Additionally, because of the shortage of rural GPs and specialists, it also attempted to engage students in community rural health and Indigenous health activities without requiring significant GP teaching time.

The purpose of this article was to report student feedback on their experience of the RHM and their attitudes about undertaking rural practice in the future.

Course structure

Each four week rotation begins at the School of Rural Health (SRH), based in Shepparton, North East Victoria, which is ethnically diverse with large Indigenous and refugee populations. Two days of lectures and discussions, focussing on the five key themes precede the start of community placements. Students also attended a 1 day workshop on Indigenous cultural safety issues during the course. Pairs of students attend a short-term community placement (3 days), an Indigenous placement (3 days) and a small rural community placement (2 weeks). Indigenous placements were developed using a community consultation model developed by the school and Indigenous community in partnership[10,11]. The SRH Senior Indigenous Liaison officer organised the Indigenous placements. Shortterm placements in Shepparton included health service agencies such as district nursing, community health services, aged care assessment teams ($n = 12$). Examples of Indigenous community agencies included Aboriginal-controlled health services and child/aged care services ($n = 10$). Twenty-four rural towns and health services in Victoria and New South Wales volunteered to accept students. Time with GPs was limited due to the shortage of GP practices able to take students. Supervisors for community placements were recruited by the SRH team; most were health professionals (not doctors) identified by the participating agencies.

Course assessment included: (i) an oral presentation on the students' experiences, framed as an analysis of rural/urban differentials of the five key concepts; and (ii) a written examination paper.

Methods

Overall, 393 students participated in the RHM during the initial period: 132 students in 2003 (three rotations) and 261 students in 2004 (six rotations). Students completed an optional evaluation, developed by the course committee, at the end of the RHM (Appendix I). The evaluation asked for feedback on placements and RHM educational activities, and

the effect of the experience on students' attitudes toward rural training or practice. To maintain confidentiality, no personal information was collected, and all data were grouped before analysis. The evaluation team (authors/researchers) had no access to rotation schedules or identifying data. Approval was obtained from the University of Melbourne Human Research Ethics Committee.

Data analysis

Five point ordinal (Likert) scale responses were analysed using SPSS v 11.0.1 and 12.0 (SPSS Inc, Chicago, IL, USA). Discrete variables and means of different groups were compared using χ^2 tests and *t*-tests, respectively. Statistical significance was set at 5% and all tests were two-tailed. Qualitative analysis of open-ended questions used standard qualitative methods[12], with common response themes identified and coded independently by two researchers. Final coding was based on review of discrepancies and common agreement.

Results

The RHM evaluation was completed by 368 students (93%) of 393 RHM participants. Some respondents did not answer all questions. Thus, analysis was done on the basis of a varied *n* (range: 122 to 368). Since no significant demographic differences were found amongst the nine rotations of students (Table 1), the data from all rotations were combined. Of all participants, 57% were female, and most (86%) had come from urban backgrounds. The majority (79%) were school leavers; 63% were Australian students; and 21% reported belonging to the student 'OUTLOOK' rural health club. (OUTLOOK is a multidisciplinary student organisation committed to raising awareness of the health needs of under-resourced communities. Such communities include rural and Iindigenous Australia and developing countries. Members of OUTLOOK represent all health disciplines taught at The University of Melbourne, including physiotherapy, dentistry, nursing and medicine).

Educational Activities

Students rated the lectures and tutorials introducing the five key concepts (Table 2) from 'fair' (2) to 'very good' (4), with a mean of 2.96. The majority of participants rated their placements as 'good' or better, with a mean of 2.93. Seventy-five percent of students rated their rural community placement 'good' to 'excellent', and 59% rated their Indigenous placements similarly. Sixty-nine percent of students reported a 'good' to 'excellent' understanding of the five key concepts. However, only 35% percent of students agreed that their learning objectives were met 'well' or 'very well' (4-5 on a 5-point scale).

The RHM learning experience (Table 3) was rated with a 5 point Likert scale. Students reported that the RHM helped them understand rural health issues 'well' and that it increased (their) interest in rural health issues; 60% rated this in the top two categories (4 or 5). Fifty-three percent of students rated their learning experience as worthwhile (4-5); 49% identified that they would be interested in training in a rural area. Importantly, only 12% of students said that the RHM did not increase their interest in rural practice 'at all' (1); 40% reported that the RHM increased the possibility that they would practice in a rural area 'a little bit' or 'somewhat' (2 or 3) and 48% agreed that it increased the possibility that they would practice rurally (4 or 5).

Qualitative results

Open-ended questions addressed topics such as: how to improve the RHM; how the experience affected their consideration of rural practice; and what factors that would encourage them to practice in a rural environment. Respondents made multiple comments. Fifteen themes were identified from 553 comments ($n = 342$) identifying the 'best things' about the RHM. Welcoming/community experiences and community integration (37%), community placements (33%); and first hand experience of rural practice (20%); Indigenous placements (18%), rural life (12%), and understanding rural health (10%) were identified most frequently.

Table 1: Demographics of Medical Students Participating in the Rural Health Module.

Demographics		*N* (%)
Sex	Male	155 (43)
	Female	209 (57)
	Total	364
Background	Rural	47 (14)
	Urban	300 (86)
	Total	347
Entry status	School leaver	254 (79)
	Graduate	69 (21)
	Total	323
Origin	Australian	192 (63)
	Overseas	111 (37)
	Total	303
Member of OUTLOOK†	Yes	73 (21)
	No	278 (79)
	Total	351

†OUTLOOK, The University of Melbourne rural student club.

Table 2: Student Perceptions of the Rural Health Module

RHM Educational Experiences	Mean†	Standard deviation
RHM lectures and tutorials	2.96	0.13
RHM placements		
Rural community	3.33	1.18
Indigenous	2.86	1.24
Shepparton health agency	2.61	1.15
RHM reported value/understanding		
Understanding of 5 key concepts	3.11	1.28
Amount learned during RHM	2.86	1.19
Learning objectives were met	3.03	1.02
Workbook was clear	3.11	1.03
Wrap-up assessment added to the experience	3.25	1.23
Wrap-up was a fair way to assess my knowledge and skills	3.36	1.08

† 1= Poor; 2= fair; 3= good; 4=very good; 5 = excellent.
RHM, Rural health module.

Table 3: Students Attitudes about the RHM and Rural Health

Attitude	Mean†	Standard Deviation
RMH was enjoyable	3.81	1.00
RMH was a worthwhile learning experience	3.44	1.10
RMH helped me understand rural health issues	3.70	0.92
RMH increased my interest in rural health issues	3.80	1.01
RMH made me more interested in training in rural area	3.34	1.07
RMH increased the possibility that I will practice in a rural area	3.28	1.23

† 1= Not at all; 2= a little bit; 3= somewhat; 4= well; 5= very well.
RHM, Rural health module.

Positive role models were listed by 285 respondents (340 comments). Twenty-nine percent (n = 107) of students identified a rural GP or doctor as someone who enhanced their experience and served as a positive role model. Other health care workers (15%), community nurses (10%), hospital managers/staff (5%), local elderly (4%) and school of rural health staff (4%), were also listed as positive role models. Specific suggestions were made (n = 328 respondents; 559 comments) about improving the RHM. Importantly, many students (35%) wanted more contact with doctors, for example GP activities (n = 115). Given the workforce shortage issues relating to Indigenous health, it is notable that 26 students requested more time with Indigenous communities. Comments included: 'more Koori and small town, less regional centre placements'; and 'lengthen the period in the Koori community.'

The question, 'Would you consider rural practice after this experience? Why or why not?' generated 397 responses from 284 respondents: 49 participants (13%) said they had always considered rural practice, while 93 respondents (25%) said that they would consider rural practice for a short period of time, and another 49 (13%) would consider rural practice in the future. Students' reasons for considering rural practice included: rural lifestyle/small community (8%), to improve/contribute to rural/community health (7%), the breadth of rural practice (5%) and wanting to be near family and friends (3%). Only 7% of students who made comments stated that the RHM had not changed their thoughts about pursuing rural practice. Reasons cited for not considering rural practice in the future included: the slow pace of life; fewer specialist training opportunities; perceived pressure from the community to perform; lack of employment opportunities for spouse; and that the rural community was not welcoming. One student identified the 'lack of infrastructure e.g. swimming pool, gym, movies' in the small town and that 'the community was not welcoming of newcomers – I spoke to a counsellor who had come from Melbourne and she said it took a long time to make new friends'. Another student commented that 'the lifestyle just does not suit me' and a student identified the experience as 'overwhelming' when explaining why she would not consider rural practice. Of the 47 students from a rural background undertaking the RHM, 8% identified that they had enjoyed the rotation.

When asked, 'What things would encourage you to practice in a rural environment?' 282 participants made 448 comments. Of 35 identified themes, the most important were: community support, social opportunities and a friendly environment (20%); financial incentives and compensation (11%); rural lifestyle (11%); collegial/professional support (10%); diversity of experiences/careers (9%); professional development and training opportunities (9%); and the presence of family and friends (6%).

Discussion

Student responses in this study showed that a required 4 week rural experiential health course, with a theoretical

framework, increased students' self-reported understanding of rural health. Almost half of respondents (47%) indicated that the course increased their interest in rural practice, and over half of the students (51%) indicated that they plan to practise rurally, would consider it for a short time or seriously consider it in the future. These findings are remarkable because all participants are from a metropolitan university that has historically emphasized research, and most students taking this required course identified as having urban backgrounds (86%). Only one previous study has examined the quantitative effects of a *required* rural undergraduate 'clerkship' (clinical rotation)[13]. Their first two cohorts were 'unhappy' that the course was required (anecdotally, many students in our cohort felt similarly) and the authors did not show an increased preference toward rural practice in the first 2 years (9.1% *vs* 11.8% reporting a rural preference prior to the course, *vs* national preferences of 15.3%)[13]. Thus, our findings of 13% saying they had always considered rural practice with another 38% saying they would practise rurally for a short time or consider it strongly in the future, after the RHM, are encouraging compared with the only published standard available. The same study states that students required to do a rural course were more likely to rate their experience in 'public health and community medicine' as 'excessive'[13]. Since RHM placements are largely community based, rather than clinically based, one might expect significantly less enthusiasm from our students who do the RHM during their clinical years.

Our data regarding students' suggestions about what would encourage them to want to practise rurally are consistent with those from other studies[5,14,15]. Students' comments highlight the importance of rural- and GP-associated clinical experiences, as well as the need for positive role models and welcoming communities.

As Australian medical student numbers increase, rural health placements, especially in general practice (and Indigenous health placements), will become an increasingly scarce resource. Due to concern about the stress the RHM student load might place on GPs, the RHM originally used only community health agency placements. Despite limited access to doctors, 29% of RHM students identified a rural doctor as a positive role model. Since the inception of the course, increases in the Practice Incentive Payment (PIP) have enabled GPs to offset the costs of teaching more appropriately, and they are now more willing to have students in their practices. Lack of infrastructure (rooms for teaching and consultation) in rural practices is a major barrier to further implementation of such a course for large numbers of students.

The strengths of this study include a high response rate. The limitations include single-institution data that may not be representative. However, a report from another metro-based university in Australia notes that students 'valued the experiences and the insights into rural practice issues obtained through the [rural] attachments'[5] with the major differences being the required nature and non-doctor oriented nature of our program. Self-reported data were collected only at the end of the course, and thus despite asking students whether their attitudes had been changed by the module, their responses theoretically reflect only single point attitudes, which may not represent the effect of the course or lead to more students truly considering or choosing rural practice.

In response to student feedback, the course is being modified to become: (i) more clinically focussed; (ii) community- or research-project oriented; and (iii) the course has recently begun to require cultural safety workshops for all students (anecdotally reported as one of the best things about the course).

Conclusion

Requiring all medical students at a major metropolitan medical school to complete a community-based rural health course can improve their reported interest in rural health, and in rural training and practice. However, significant barriers to sustaining such a course exist, including lack of rural clinical placements and concern remains about placement

fatigue for both GPs and Indigenous communities. The course was expensive and logistically difficult to implement and, thus, may not be the best way to increase numbers of students choosing rural practice. Further research is needed to investigate whether the investment of time and effort into a required course, including students who do not elect or want a rural health experience, is justified. This must be compared with outcomes from more accepted strategies, such as recruiting students from rural origins into medicine or providing clinical electives for students interested in rural health.

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Appendix I

Rural Health Module Evaluation

Please circle the demographic options that apply to you.

Gender: Male **OR** Female **Background**: Rural **OR** Urban

Clinical School: Austin **OR** RCS **OR** RMH **OR** St. V's

Status: School leaver **OR** Gradua te entry Australian Student **OR** Overseas Student

Are you a member of OUTLOOK? Yes **OR** No

The *arrangements* for the Rural Health Module were	**Poor**	**Fair**	**Good**	**V.good**	**Excellent**
Pre-RHM instructions/information	1	2	3	4	5
Scheduling	1	2	3	4	5
Accommodation	1	2	3	4	5
Transport to & from placements	1	2	3	4	5
Communication with staff	1	2	3	4	5
RHM workbook instructions	1	2	3	4	5
Town packs and maps	1	2	3	4	5
Community placement (specify site)_____	1	2	3	4	5
Koori placement (specify site)_____	1	2	3	4	5
Shepparton activities (specify site)_____	1	2	3	4	5
The RHM *learning activities* were	**Poor**	**Fair**	**Good**	**V.good**	**Excellent**
Lecture – Rural Determinants of Health	1	2	3	4	5
Lecture- Confidentiality and rurality	1	2	3	4	5
Lecture- Access	1	2	3	4	5
Lecture- Rural Consumer Perspectives	1	2	3	4	5
Lecture- Cultural Safety	1	2	3	4	5
Lecture- Team Practice	1	2	3	4	5
Lecture- Koori Communities	1	2	3	4	5
Tutorial-Cultural Safety	1	2	3	4	5
Tutorial-Team Practice	1	2	3	4	5
Community Placement	1	2	3	4	5
Koori Placement	1	2	3	4	5

Shepparton activities	1	2	3	4	5
Online Learning	1	2	3	4	5
Rural Health Module Workbook	1	2	3	4	5
Required Readings	1	2	3	4	5
The 5 key concepts as a framework for understanding Rural health	1	2	3	4	5
Overall RHM learning experience	1	2	3	4	5

Please evaluate the following using:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My learning objectives were met	1	2	3	4	5
The workbook was clear and well-organized	1	2	3	4	5
The wrap-up assessment added to the experience	1	2	3	4	5
The wrap-up was a fair way to assess my knowledge and skills	1	2	3	4	5
The RHM					
was a worthwhile learning experience	1	2	3	4	5
helped me understand rural health issues	1	2	3	4	5
improved my understanding of indigenous issues	1	2	3	4	5
increased my interest in rural health issues	1	2	3	4	5
made me more interested in training in a rural area	1	2	3	4	5
increased the possibility that I will practice in a rural area	1	2	3	4	5
was enjoyable	1	2	3	4	5

What were the best things about your RHM experience?

Was there anyone who became a role model for you or who particularly contributed to your experience in a positive way?

What could we do to improve the RHM in the future?

Would you consider rural practice after this experience? Why or why not?

What things would encourage you to practice in a rural environment?

Do you have other comments or concerns?

Thank you for your help in improving the RHM!
Please contact any of us if you would like to give us more feedback in person

