

Choosing final-year placement: Why students decide not to go rural

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Background. Stellenbosch University established a rural clinical school (RCS) in 2011 whereby fifth-year MB,ChB students can choose to spend their final year on a rural platform in the Cape Winelands/Overberg districts, either in traditional, speciality-based rotations or in an integrated programme under the supervision of the district hospital family physician. The present study aims to gain a deeper understanding of the factors influencing medical students' choice of placement.

Methods. A survey questionnaire was designed to determine demographics, future practice intentions and the factors regarded as important in choice of site. A set of open-ended questions was provided regarding students' choice and ways to make the RCS more attractive.

Results. Questionnaires were issued to 168 fifth-year students and completed by 109 (65%) students, all of whom had already decided not to come to the RCS. The students considered that 13 of the 15 factors determining choice of site would be better met in the urban environment, while only two needs were perceived to be better met at the RCS. However, other than access to subspecialist tutorials, opinion was divided about where these needs would be better met. Other issues emerged from open-ended questions: a perceived higher standard of education at the urban teaching hospital, fear of the demands of the RCS, uncertainty about the RCS programme, and a preference for an urban lifestyle.

Conclusion. In addition to family and social reasons for not joining the rural platform, many students still feel they will be placed at an academic disadvantage by choosing the RCS, despite evidence to the contrary. More needs to be done to communicate the maintained academic standards at the RCS.

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The scarcity of healthcare professionals in rural areas is a global concern.^[1] A total of 38% of the South African (SA) population lives in rural areas^[2] while the majority of healthcare professionals are located in the urban districts.

In SA, the poorest districts in the country are largely rural, and have only 5.5 doctors per 100 000 population compared with 35.6 in the more privileged districts.^[1] This shortage poses a serious challenge to equitable healthcare delivery.^[3]

To improve healthcare in rural and underserved areas in SA, the government introduced a system of community services for doctors.^[4] The selection of more rural-origin medical students,^[1] provision of longer and more positive training opportunities in rural areas during medical training,^[5] the provision of bursary schemes and the bringing of specialist services to rural communities have all been shown to be successful strategies in increasing the number of doctors willing to work in rural areas.^[6]

In order to enhance and support rural healthcare delivery, universities in Australia, the UK and USA are recruiting students into rural medicine by expanding clinical undergraduate training using rural clinical schools (RCSs).^[7] However, the prospect of training in a rural setting has created anxiety among students. In a 2005 study only 16% of medical students at Melbourne University named the RCS as their preferred option;^[8] a previous study at this centre had shown that the students' concerns were about academic issues, and these included the quality of rural teachers, access to complex patients and career opportunities.^[9]

Stellenbosch University (SU)'s Faculty of Medical and Health Sciences (FMHS) currently offers a 6-year MB,ChB programme and students in their fifth year are offered the choice between joining the rural platform for their final year and staying on the main urban campus. Rural students may either complete traditional rotations at a rural regional hospital or a longitudinal integrated model (LIM) under the mentorship of a family physician at a

district hospital. At the time of the study, 22 of 179 students had chosen the RCS. In order to ensure the success of the RCS programme, it is necessary to investigate the positive and negative perceptions of potential students about placement in the RCS.

Methods

In 2013, 179 fifth-year MB,ChB students at the main urban campus, Tygerberg Hospital (TBH) were asked to participate in a survey regarding factors determining their choice of final-year platform. A convenience sample was used and 168 questionnaires were distributed to students who were based in rotations at TBH at the time of the survey.

The questionnaire asked about demographics and future practice plans together with a list of possible factors determining choice; students had to indicate which factors were important to them and whether they felt the need would be better met at the urban or the rural site. The list of factors compiled was adapted from the Federation of Australian Medical Educators (FRAME) questionnaire by Krahe *et al.*^[10] The students were also asked to provide comments in response to a set of open questions relating to factors influencing their decisions for attending the RCS and to suggest ways to make the RCS more attractive.

Quantitative data were entered into SPSS. Factors that were cited as important in students' decision-making regarding not attending the RCS were expressed as percentages; career intentions between students of rural and urban origin were compared using a χ^2 test to calculate 2-tail *p*-value using 0.05 as a level of significance. Rural and urban origin were self-described as the students had to make a choice on the survey of their origin. The answers to the open-ended questions were coded using ATLAS.ti and were used for qualitative analysis by searching for main themes and patterns which connect in a logical way.^[11]

Ethics approval for the study was obtained from the Human Research Ethics Committee of SU.

Results

A total of 168 students were issued with questionnaires and 109 responded (response rate 65%). All of the students who completed the questionnaire had opted to stay at the urban site.

Most of the students (70.6%) had an urban background while just over a quarter (28.4%) were of rural origin. Demographic data are shown in Table 1.

Factors influencing students' decisions about whether to attend the RCS or the urban teaching hospital (TBH) are shown in Table 2.

The factor considered important by most students was 'access to subspecialist tutorials' and 97% felt that this need would be better met in the urban environment. The second most widely cited factor determining site was 'clinical skills'; however only 55.7% felt this need would be better met at the urban teaching hospital. The two next most important factors, procedural skills and tutoring, were felt to be better met in the rural setting.

Preferred place of future medical practice is shown in Fig. 1.

The data confirm that the majority (64.2%) of this group of students would prefer to locate to the urban setting in SA. When preference for urban or rural locations for future medical practice was compared between rural- and urban-origin

students, significantly more rural-origin students intended future rural practice (Table 3).

Choice of specialisation

Eighty-four per cent of students intended to specialise. The four most popular areas of specialisation included internal medicine ($n=20$) and paediatrics ($n=14$), followed equally by obstetrics and gynaecology ($n=7$) and family medicine ($n=7$). No difference was found when intention to specialise was compared between urban and rural-origin students (Table 3).

Main source of information

The main source of information for students about the RCS is shown in Table 4.

Reasons for remaining at urban campus

Students were asked in a set of open questions why they had chosen to remain to stay at the main urban campus and 62 responded. Six themes emerged from the students' responses and the excerpts are presented below. (Responses given in Afrikaans were translated into English and translated comments are indicated by square brackets.)

1. Teaching, learning and quality of education at the urban teaching hospital

The students chose to remain at the main urban campus because they associated the urban teaching hospital with academic excellence. The comments included:

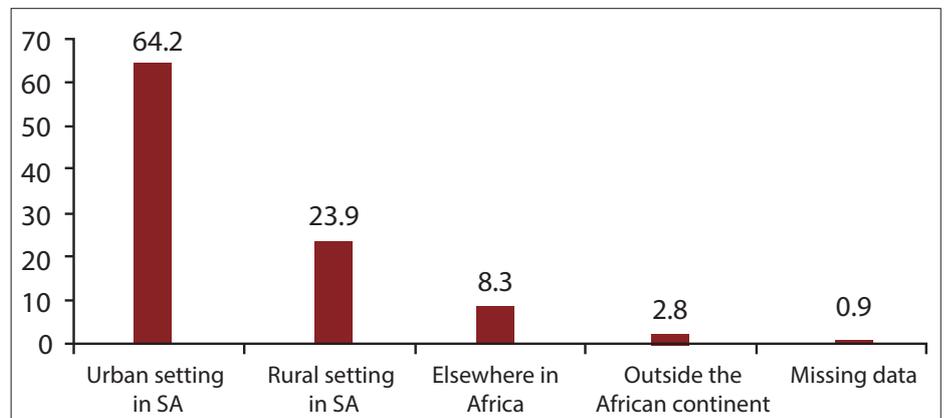


Fig 1. Preferred place of future medical practice.

Table 1. Demographics of students responding to the questionnaire (N=109)

| Variables | Students, n (%) |
|-----------------------------|-----------------|
| Gender | |
| Men | 31 (28.4) |
| Women | 78 (71.6) |
| Age (years)* | |
| 20 - 24 | 89 (81.7) |
| 25 - 29 | 14 (12.8) |
| 30 - 34 | 3 (2.8) |
| Marital status | |
| Single | 103 (94.5) |
| Married/living with partner | 6 (5.5) |
| Dependents | |
| Yes | 5 (4.6) |
| No | 104 (95.4) |
| Background† | |
| Urban | 77 (70.6) |
| Rural | 31 (28.4) |
| *Missing data | 3 (2.8) |
| †Missing data | 1 (0.9) |

Table 2. Factors reported to have influenced students' decisions to attend the RCS or metropolitan-based hospital

| Factors | Responses | Cited as important n (%) | Direction of preference if cited as important (%) |
|----------------------------|-----------|--------------------------|---|
| Subspecialist tutorials | 108 | 100 (92.6) | Urban (97.0) |
| Clinical skills | 106 | 97 (91.5) | Urban (55.7) |
| Procedural skills | 106 | 94 (88.7) | Rural (61.7) |
| Tutoring | 104 | 92 (88.5) | Rural (61.5) |
| Social opportunities | 103 | 83 (80.6) | Urban (96.4) |
| Examine patients | 106 | 84 (79.2) | Urban (55.9) |
| Social support | 106 | 84 (79.2) | Urban (97.6) |
| Extracurricular activities | 103 | 74 (71.8) | Urban (95.9) |
| Travel costs | 106 | 67 (63.2) | Urban (91.0) |
| Cultural religions | 100 | 45 (45.0) | Urban (95.6) |
| Other family needs | 102 | 45 (44.1) | Urban (95.6) |
| Partner/spouse's needs | 101 | 40 (39.6) | Urban (95.0) |
| Internet access | 103 | 33 (32.0) | Urban (72.7) |
| Cheap accommodation | 99 | 30 (30.3) | Urban (60.0) |
| Children's needs | 94 | 10 (10.6) | Urban (80.0) |

Table 3. Rural and urban students' preference for rural or urban practice and generalists or specialists

| | Rural practice | Urban practice | p-value | Generalist | Specialist | p-value |
|----------------|----------------|----------------|---------|------------|------------|---------|
| Rural students | 16 | 12 | 0.0001 | 7 | 21 | 0.119 |
| Urban students | 10 | 58 | | 8 | 63 | |

Table 4. Main source of information for the RCS

| Main source of information | Responses (N=109) n (%) |
|--|----------------------------|
| Formal presentations by the faculty through talks, emails and letters | 64 (58.7) |
| Informal discussions with students at main urban campus | 24 (22.0) |
| Informal discussions with interns who attend/have attended the RCS | 17 (15.6) |
| Informal discussions with interns/doctors who attend/have attended the RCS | 3 (2.8) |
| Missing | 1 (0.9) |

'[I know that the best academic training takes place at TBH]

'World-class consultants'

2. Financial implications

The students considered financial constraints on themselves and their parents. Students living at home felt that it would be expensive to relocate and cheaper to remain at the urban campus. The comments included:

'Cost implications. Cheaper to stay at home.'

'Stay at home. TBH is the best option. Cost would be more at RCS than at home.'

3. Family and social support

The students considered family and social support as important factors in deciding to remain at the urban campus. Their support system was in Cape Town where family and friends reside. Relocating would mean a weaker support structure for them. The comments included:

'My support system is based in Cape Town.'

'Rural school was not an option for me seeing that I live in my parents' home and this would have meant extra expenses for me to move out.'

4. Fear of the demands of the RCS

The students associated pressure with relocating to the RCS. They felt they would not be able to manage the changes of a different environment and were not well prepared to handle the pressure. The comments included:

'Did not feel prepared enough to handle the pressure.'

'I did not want a major change ... of the fear that it could unsettle me...'

5. Comfortable lifestyle

Students at the main urban campus were becoming familiar with and settled in their surroundings. Since being there for almost 5 years, they had become integrated into the culture of student life at main campus and did not want to exchange that for the RCS. The comments included:

'I became comfortable and used to the lifestyle, work and studying while at TBH and campus and living in Cape Town, and didn't want a major change, because of the fear that it could unsettle me, affecting my student internship year.'

'Main deciding factor was that my life is based near Tygerberg and I would not be able to cope in Worcester with all the driving.'

6. RCS programme is too young

The students were apprehensive about joining a newly developed programme:

[Rural school is still too young in existence.]

'The programme is still very new and I would definitely have done it in a few years' time if the system was more mature and better evaluated.'

The students were asked in the open questions to list factors that would make the RCS a more attractive option to select in their final year of clinical training. Their responses included improving on education, accommodation, extracurricular activities, incentives, providing more information about the RCS and feedback from current students, social support, transport and tutorials.

Discussion

The convenience sampling technique used meant that none of the 22 students who had chosen the RCS and who saw a clear advantage in rural

placement had been included in this sample, and the data need to be interpreted in this light. In addition, students who remained at the urban campus primarily for personal or social reasons may have wished to justify their choice with academic or clinical reasons. However, useful lessons can still be drawn from this group of students.

Medical students in this study reported that academic and non-academic reasons were important when choosing to remain at the main urban campus. The most widely cited factor was access to subspecialist tutorials, and this is consistent with the finding of Jones *et al.*,^[9] who also indicated that students are concerned about the lack of access to rural specialists.

The development of clinical skills was cited as the second most important factor, followed by procedural skills and tutoring, although opinion was much more mixed regarding the site of choice for these factors. Over 60% of students felt that the RCS offered an advantage for tutoring and the teaching of procedural skills, while a small majority felt that clinical skills would be better taught at the urban campus. There is evidence that students at the RCS are not placed at an academic disadvantage (see Van Schalkwyk *et al.*^[12] elsewhere in this edition) and this needs to be communicated to the student body.

Students indicated that their main source of information regarding the RCS and its programme was through talks, emails and letters. It is interesting that few students reported the opportunity for informal discussions with interns/doctors who attend or who have attended the RCS, and in the open-ended questions, several students expressed a wish for more information about the RCS programme and feedback from students. Our finding that students want detailed information about relocation to the RCS is supported by Mihalynuk *et al.*,^[13] who state that medical schools should provide students with detailed information regarding relocation to the rural sites. Hearing or reading personal experiences from previous students and more detailed information may result in more positive perceptions, less uncertainty and perhaps encourage more students to apply for the RCS. At the time of writing, only 68 students have graduated since the inception of the RCS and this would require a structured process.

Students suggested ways to make the RCS more attractive. Responses included good, safe and affordable accommodation and more focus on teaching and training. Currently, the accommodation at the RCS is of a high standard

and is less expensive than that on the urban campus. In addition, students receive free lap-top computers for the year. This finding indicates that students may not be aware of the advantages of the RCS. Private transport back to the city was also requested. This finding is consistent with other studies reporting that financial support, subsidised accommodation and transport and education are regarded as important to students.^[8] Although RCS accommodation is less expensive than that on the urban campus, there are financial implications for students living at home with their parents, who would not otherwise need to fund costs for board and upkeep.

Although all the students in this sample had chosen to remain on the main urban campus for their final year, our findings support literature suggesting that students of rural origin are more likely to have rural practice intentions.^[1,3,9]

Conclusion

Medical students are influenced by both academic and non-academic factors when considering placement at an RCS, although academic factors are cited as the most important. Views were mixed about whether some of the academic factors would be better met in the urban or the rural setting. Communication about the maintained academic standards and exam performances of students and reduction of uncertainty are likely to make the RCS a more popular choice in the future.

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