

A qualitative exploratory study: Using medical students' experiences to review the role of a rural clinical attachment in KwaZulu-Natal

Mc Neill PD, MBChB, MFamMed

Facilitator at the Centre for Rural Health, University of KwaZulu-Natal

Campbell LM, PhD, MBChB, MFamMed, MMedSci, MPhil(PallMed)

Post-Doctoral Scholar, School of Education, University of KwaZulu-Natal

Correspondence to: Patrick McNeill, e-mail: mcneill@ukzn.ac.za

Keywords: rural clinical attachment, family medicine rotation, medical students, experiences, Force Field Model

Abstract

Objectives: There are challenges when it is considered that a main role of a rural clinical attachment for medical students is to encourage students to return after graduation to practise in rural areas. This view may lead to the relative neglect of other potential valuable roles with regard to rural exposure. This paper draws on the Force Field Model of teacher development to describe medical students' experiences, illustrate the complexity of interacting factors during rural exposure, caution that experiences cannot be predicted and highlight the positive incentives of a rural clinical attachment.

Design: The design was explorative, descriptive and qualitative.

Setting: The study setting was a district hospital in rural KwaZulu-Natal.

Subjects: The participants were four final-year medical students who had completed a compulsory attachment during their Family Medicine rotation.

Outcome measures: Data were collected using photo elicitation and analysed using the Force Field Model.

Results: The participants felt that overall the experience was positive. The effect of biography and contextual forces were not as strong as expected. Institutional forces were important and programmatic forces tended to have a negative effect on experiences. The participants particularly enjoyed being acknowledged and felt empathy for the difficult tasks of doctors.

Conclusion: The potential role of a clinical attachment may go beyond attracting students to practise in rural areas. The experience can be beneficial, irrespective of where the student decides to practise after graduation. There is a need for a review of the rural attachment curriculum and pedagogy. Caution should be used when screening medical students for suitability to work in rural areas prior to rural exposure.

Peer reviewed. (Submitted: 2012-08-23. Accepted: 2012-10-09.) © SAAFP

S Afr Fam Pract 2013;55(3):258-263

Introduction

The literature on rural clinical attachments for undergraduate healthcare professionals generally supports the view that the role of a rural attachment is to expose students to positive experiences so they will choose to practise in a rural area.^{1,2} In the South African context, the literature advocates that "exposure to a rural setting during training and education, which emphasises rural health issues, can positively influence health professionals towards working in rural areas".³ However, for a number of reasons, the evidence that rural exposure will positively incentivise students to take up rural practice is inconclusive.⁴

This paper advocates that a rural clinical attachment can be of value to undergraduate students, irrespective of

whether or not a student intends to, or will, practise in a rural area. This incentive of rural clinical attachment is set against a tendency in South Africa towards a deficit-based perspective of rural health. Rural areas are frequently described in terms of what they lack, rather than what they have.⁵ The paper supports studies from the developed world that the pedagogical importance of rural placements should not be underestimated.⁴

According to the literature, a rural clinical attachment can equip students with the necessary skills needed to practise in a rural location.⁶ This paper argues that, in South Africa, rural clinical attachment can also equip doctors with the relevant skills to practise more emphatically and knowledgeably in an urban area.

There is recognition of the importance of qualitative research on incentives to attract doctors to practise in rural areas, and that qualitative reviews take cognisance of a multitude of factors that influence such decisions.³ Being aware of the need for qualitative research, the premise for the paper is based on the Force Field Model of teacher development,⁷ which suggests that educators should consider that multiple forces influence experiences and that experiences cannot be predicted.

The Force Field Model can be adapted from teacher development, as it can be used to encourage medical educators to consider medical students to be essential components in the transformation of rural healthcare systems. The model also advocates that students need to be nurtured and supported as the individuals who they are.

This paper will describe the rural clinical attachment experiences of medical students, illustrate that forces affecting such experiences cannot be predicted readily, and highlight that a rural clinical attachment can be of value, irrespective of whether or not the student chooses to practise in a rural area.

Background

The shortage of healthcare professionals in rural areas is a global phenomenon and staffing in rural and remote areas in middle- and low-income countries remains problematic.⁸ In South Africa, the shortage of healthcare professionals is a serious challenge to equitable healthcare delivery. Interventions to increase the number of doctors who practise in rural areas include decentralisation of the location of the undergraduate training institute to a rural area, the introduction of medical student recruitment quotas to select students from rural areas, and rural exposure during medical training.

In South Africa, some universities support compulsory rural exposure during medical undergraduate training, and medical students derive from diverse cultural, religious, ethnic and geographical backgrounds. Compulsory undergraduate rural exposure is challenging for students, as well as the doctors who supervise and mentor them in the rural areas. For example, students may be very reluctant to work in a rural area and doctors may simply be too busy to encourage, supervise and mentor unenthusiastic students. An Australian study reported that some students felt that rural exposure had influenced them away from a career in rural medicine.⁹

Therefore, screening and encouraging students who intend to or are most likely to work in rural areas might be useful, as well as giving them corresponding career guidance on rural work. For example, the literature suggests that medical schools should screen, identify and encourage students,

and that this identification should be based on the results of a personality test (Myers-Briggs Type Indicator assessment). It is recommended that students who have extroverted personalities should be guided towards working in rural areas.¹⁰ This premise is limited as it renders a complex decision, such as practising in a rural area, dependent on an attribute, such as personality type; and secondly does not take into account that identification of the likelihood of working in a rural area could occur after rural exposure.

The Force Field Model recognises the complexity and unpredictability of human nature and points out that identity and experiences can be the result of four primary forces: biographical, contextual, institutional and programmatic.

Biographical forces

The forces of a student's biography are regarded as being important in influencing his or her experiences in a rural situation. Biography can be described as personal lived experiences. For example, the experiences of a female Muslim medical student would be expected to differ from those of a male Christian student.

Contextual forces

Contextual forces are considered to be the uniqueness of the macro social, political and cultural environment. For example, in apartheid South Africa, black African medical students may have experienced more fear and hostility than white medical students.

Institutional forces

Institutional forces draw on the experiences of the student within a particular institutional setting. For example, a more positive experience might result if there was a charismatic doctor at a rural hospital.

Programmatic forces

Programmatic forces can also be interpreted as a curriculum intervention force. For example, the curriculum may require that students should carry out a number of practical procedures during their rural attachment.

Method

Study site

The study site was a rural district-level hospital in KwaZulu-Natal. Final-year medical students compulsorily attend rural hospitals as part of their Family Medicine rotation.

Study participants

The study participants were four final-year medical students who had just completed a compulsory two-week attachment.

Study design

The design was exploratory, qualitative and descriptive.

Data collection method

The data were collected using photo elicitation.¹⁰ The researchers presented the students with disposable cameras and asked them to take photographs during their attachment of issues that they felt were of importance to them. The researchers held discussions with the students about why they had taken particular photographs. The discussions lasted one hour on average, and were tape recorded. The recordings were later transcribed into text.

Sampling technique

A purposeful sampling technique was employed, from which interesting and information-rich cases were selected for in-depth study.¹¹

Scientific rigour

In qualitative research, it is expected that people's experiences will differ.¹¹ This exploratory study does not claim that its findings may be replicated or generalised. It has been said that one of the important strengths of qualitative research is a potential for generativity, that is, the study constructs new ways of understanding a phenomenon or event.¹¹ The study method employed scientific rigour through exemplarity, transparency, authenticity and trustworthiness.¹¹

Data analysis

The data analysis involved the consideration of themes that could be described as forces within the Force Field Model, and included five steps: familiarisation and immersion, inducing themes, coding, elaboration and interpretation and checking. These steps are fully explained in the literature.¹¹

Ethical considerations

Ethical clearance was obtained from the Humanities and Social Sciences Research Ethics Committee at a local tertiary education institution in KwaZulu-Natal (Reference Number: SS/0076/012). Written permission to conduct the study was obtained from the participants.

The researchers explained the aims of the study to the students, and prior to giving written consent, the participants were fully informed of their right to anonymity and confidentiality. Photographs of patients could only be taken after obtaining informed verbal consent from patients, and no photographs with identifying features were permitted to appear in any reports.

Results

The results are presented to illustrate biographical, contextual, institutional and programmatic forces. The data

are also presented around the participants' views of their rural experience, and predominately from interviews with two Muslim females who wore burkas.

Biographical forces

The participants came from urban areas and lived with their families. This was their first experience away from home. They found it challenging to have to cook and clean for themselves. Generally, they enjoyed order and structure in their daily lives. Some expressed an intention to specialise in an academic environment after graduation.

These points are illustrated in the quotations below:

"It is because of my Dad that I attended this university close to my home. He is quite strict. He wouldn't let me stay away from home."

"When I was accepted here (at this university) I choose to accept because it is a comfort to live at home. It is easier to stay here."

"We are not used to being away from home. We are sheltered at home. I have a kind of obsessive compulsive disorder. I am a perfectionist. Everything should be in its place. I am an only child. Personally, I like structure. I like to know where I must be and when I must be there. I want to specialise in cardiothoracic surgery".

Contextual forces

The participants were placed in rural areas where there may have been unrest or violence.

These challenges were alluded to in the data:

"I did not tell my father that there is a taxi rank behind our accommodation."

"There was a strike by the taxi rank outside our room and we were frightened".

Institutional forces

Institutional forces are regarded as positive or negative. Positive institutional factors revolve around the physical location of the hospital, the organisation of the hospital, a view that the hospital was patient-centred and participants' perceptions of their acknowledgement and acceptance. The participants were impressed with the resourcefulness of the staff.

Data concerning positive institutional factors are presented below:

"The hospital windows are amazing. The view was amazing. You get the rolling hills and the thunder."

"The hospital was well organised. Everything was labelled and stocked, which I found fascinating."

"On our first day here, the doctors asked me my name. I was shocked because the consultants do not ask your name unless they want to shout or scream at you."

"This is a picture of the doctor's room because this is where you feel part of the team."

"What I found fascinating was that the same people were doing eye pathology who were reducing fractures. We think in the box, in paediatrics, in obstetrics and gynaecology. We have been trained to think in the box. It is actually interesting that you are not sucked into one speciality, but get exposure to everything."

"The boiler was not working, so we could not clean the equipment. We have never thought about anything like that before. We were battling and we were shocked. The doctor just had to figure out who needed the Caesarean section the most urgently."

"What was fascinating was that they had no light, but the babies had to be delivered, so they moved the patient bed by the window so we had natural light".

Negative institutional forces revolved around a lack of space and time allocated by doctors to the students:

"The hospital has narrow corridors and a pathway to get to the medical ward. The X-ray machine can't get down the corridors."

"The casualty cubicles only have enough space for the patient, doctor and nurses. There was no space for students there."

"The doctors have such a high workload and having students there just heightens the problem".

Programmatic forces

Programmatic forces allude to the aims and objectives of the rural attachment curriculum. The participants found their attachment to be useful because they practised clinical skills. However, they felt that their learning was generally unsupervised. In addition, they believed that their training at university had been too theoretical and had not prepared them adequately for work in a rural area:

"We got to do a lot of biopsies. We don't get to do this in urban hospitals because students are at the bottom of the heap. The work was more practical, than academic. I think there needs to be an academic programme in place. Teaching was not structured."

"I felt I was not stimulated. At the university hospital, the interns are asked questions on the ward round and you are expected to know your stuff. You are challenged. You are asked to present things at the university hospital."

"At the rural hospital, it was basically planning for yourself. You need to decide where to go and what to do. All of a

sudden you are left alone with patients. The doctors did not really want to teach the students."

"Our education to date has been too academic and has not prepared us to work in a rural hospital".

Participants' views on the rural attachment

An analysis of the data concerning participants' views indicated that the rural attachment had consequences that were perhaps not intended by the educators at the medical school. For example, after the attachment, the participants reported that they were proud of their achievements and felt more resilient and exposed to the real-life circumstances of their patients. Some also said that their parents' negative attitudes towards rural placement had changed:

"We had messages from students who were here before us telling us that we would not manage, not be able to deal with it. This experience was good because it exposes you to the other half of the world. It shows us what it is like to have no electricity. Instead of breaking down and crying, we said: 'OK, let us go and find somewhere where we can make our food hot'."

"There are a lot of students who say: 'Oh my God, we will never live in that hospital', but I told them: 'Guys, it was an honest experience'."

"When you start medicine, you always wonder how you will manage and serve people. But you feel like you lose something. You just block yourself out from thinking. You cut yourself out and do not know the people. You just do not know their background. In a rural hospital, there is a small community. You can see how they live and play outside. You feel part of that community. You realise that they are people. You are actually making a difference. We now know why doctors from here have to refer some patients to another hospital."

"My mom kept telling me: 'You will not survive'. I went there, I survived and I loved it."

"I think you need to be exposed. It was a growing experience for all; living away from our comfort zone in an area where it scary."

"You hear in our meetings at university that the patient has come from here and there, but you do not realise where they are coming from. Now we can picture in our head that this patient cannot honestly be managed in a rural hospital."

"We passed through the nurses' home and they said: 'Oh no, you are leaving now', and they gave us a big hug."

"You walk in the ward and everyone says: 'Good morning', even though you are a student."

"My dad was fascinated that I had the opportunity and he was so excited. He thought that I had grown up and am tough enough to live in South Africa".

Discussion

The findings illustrate the multiple and intricate forces that can interplay in a student's experience of a rural clinical attachment. Such complexities of experience are reflected in other studies, which highlight that factors influencing attraction and retention in rural areas are "multifaceted and complex".¹²

The literature cautions that strategies for rural medicine are not comprehensive and are often limited to addressing a single, or limited, number of factors.¹² It could be argued, for example, that in selecting medical students who come from rural areas, the biographical force of their upbringing is relatively favoured above that of other forces. The Force Field Model proposes that the biography of students can act as an "inertial force" towards which a student will retreat when other forces are too powerfully negative. In selecting medical students from rural areas, there is perhaps an implicit assumption that the forces of biographical upbringing are positive, and that a student will want to return to the familiarity of his or her upbringing.

The findings of this study highlight that the effect of biographical forces cannot be predicted. An unfounded assumption could have been made that biographical forces relating to female Muslim medical students, who had no prior experience of living away from home, would have caused them to wish to retreat to the perceived safety of their urban upbringing. A desire to return to urban safety may have been compounded by the profound contextual forces that they experienced, e.g. the civil unrest of a taxi strike. However, although biographical and contextual forces were present and powerful, other forces, such as institutional forces, overcame the biographical and contextual forces, leaving the student with an overall positive experience.

In this study, the importance of institutional forces was at the forefront. This finding is supported by other South African studies, which have highlighted the importance of the institution. For example, the tranquil rural surrounding and good management were found to be valuable.³ The diversity of tasks, as identified by the students in this study, was also considered to an important positive institutional force in other studies.³ The literature describes that students "appear to be energised by the experience of working in rural areas, and even when a situation is dire and disheartening, significant learning is to be gained from the experience".⁵

Of particular concern in the findings was the apparent relative negativity of the programmatic force. Students were unsure of how to react in a new learning environment and

the doctors were uncertain how or too busy to meet their learning expectations. The need for universities and rural hospitals in this study area to interact to revise a curriculum and paedagogy for rural health is indicated. A curriculum based on theory, such as workplace paedagogy or critical paedagogy, may equip doctors at rural hospitals to guide, supervise and mentor students.⁵

Of particular relevance in this study was the finding that the experiences of medical students went beyond the explicit aims and objectives of a medical curriculum. For example, students were given an opportunity to experience generalist-type care, they felt that they were valued members of a team, and were able to empathise deeply with their patients and with the plight of the busy doctors who worked in the isolated area. Although these medical students may never return to work in a rural area, they gained insight into and empathy for the challenges experienced by their rural colleagues, and such experiences should prove to be useful, even if they choose to practise in an urban area. Such experiences may also be beneficial, if in the future they have to practise as interns or as community service doctors in areas not of their choosing.

Therefore, the authors advocate that encouraging students to practise in rural areas after graduation, so that they will return there after graduation to practise, should not be seen as the primary role of a rural attachment. This is supported by the literature, which purports that "the reasons for promoting medical undergraduate education in rural communities should not be based solely on medical workforce imperatives".⁴

The findings also caution against screening and encouraging medical students to make career choices based on an attribute, such as a personality type. Reviewing personality types suggests that students are fixed in their ways of thinking, and does not take cognisance of the multiple, complex and interrelated forces that can influence and change their choices about their future place of work. Personality-type testing has been criticised, as it is possible to falsify the results, depending on the value that perceived to reside in a certain personality type.¹³

Limitations

The authors note that the participants' overall positive experience of a rural clinical attachment may have been influenced by the research, and in particular, by the data collection method. The participants may have enjoyed taking photographs and the feeling that their experiences would be of value to others. The photographic method could have encouraged them to engage more with patients and doctors than they otherwise would have done.

The study employed a small sample size. It is recommended that further research on the topic should be carried out as reviewing the experiences of other students may further help to determine the support needed during rural attachments, as well as guide curriculum development in this context. In addition, the views of the doctors who work in rural areas, and those of the educators who design the curricula, should also be explored.

The authors note the necessity of future research on the forces that influence doctors from rural areas. In particular, there should be research into those who select not to return to practise in rural areas. For example, biographical forces, such as an impoverished upbringing, may be overwhelmingly more negative than other forces.

The results may have been biased by "researcher bias"¹¹ in that the participants might have reported what they thought the researchers wished to hear. However, the researchers were not involved with the teaching nor support of these students during their rural clinical attachment.

Conclusion

The findings advocate that the main role of a rural clinical attachment should not be to attract students to practise in rural areas, although it is acknowledged that this aspect is of great importance. The experiences of students during a rural clinical attachment may prove to be useful, even if the student never returns to practise in a rural area.

Assumptions should also not be made about how a student will react in a rural situation. The positive experiences of a compulsory rural experience may stretch well beyond the intended expectations of the medical curricula.

The potentially powerful role of institutional forces was highlighted in this study. Attention should be paid to supporting rural doctors on how to acknowledge and value the medical students as they greatly appreciated the doctors' interest in them.

Importantly, programmatic forces need attention in this context. Interaction between educators and doctors who work in rural hospitals could clarify the purpose of the attachment and determine the curriculum and pedagogy required for medical students during this crucial rural attachment.

Screening medical students for appropriateness to work in rural areas, prior to their rural clinical attachment, may act to simplify a complex issue that relates to decisions on whether or not to work in rural areas.

References

1. Rouke T.J. Politics of rural healthcare: recruitment and retention of physicians. *CMAJ*. 1993;148(8):1281-1287.
2. Wise AL, Hays RB, Adkins PB, et al. Training for rural practice. *Med J Aust*. 1994;161(5):314-318.
3. Couper ID, Hugo JF, Conradie H, et al. Influences on the choice of health professionals to practice in rural areas. *S Afr Med J*. 2007;97(11):1082-1086.
4. Ranmuthugala G, Humphreys J, Solarsh B, et al. Where is the evidence that rural exposure increases uptake of rural medical practice? *Aust J Rural Health*. 2007;15(5):285-288.
5. Reid SJ. Pedagogy for rural health. *Education for Health*. 2011;24(1):1-9.
6. Leven G, Wilkinson D. Rural doctors and rural backgrounds: how strong is the evidence? A systematic review. *Aust J Rural Health*. 2003;11(6):277-284.
7. Samuels M. Accountability to whom? For what? Teacher identity and the Force Field Model of teacher development. *Perspectives in Education*. 2008;26(2):3-16.
8. Lehmann U, Dieleman M, Martineau T. Staffing remote rural areas in middle and in low income countries: a literature review of attraction and retention. *BMC Health Serv Res*. 2009;8:19.
9. Orpin P, Gabriel M. Recruiting undergraduates to rural practice: what the students can tell us. *Rural Remote Health*. 2005;5(412):1-8.
10. Campbell L. Experiences of nurses practising home-based palliative care in a rural South African setting. *Int J Palliat Nurs*. 2011;17(12):593-539.
11. Cohen L, Mannon L, Morrison K. *Research methods in education*. London: Routledge; 2011.
12. Wilson NM, Couper ID, De Vries, et al. A critical review of interventions to redress the inequitable distribution of healthcare professionals to rural and remote areas. *Rural Remote Health* 2009;9(2):1060.
13. Hogan J, Bartett P, Hogan R. Personality measurement, faking, and employment selection. *J Appl Psychol*. 2007;92(5):1270-1285.