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How do rural placements affect urban-based Australian junior doctors' perceptions of working in a rural area?

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Abstract

Objectives. The aim of the present study was to provide qualitative insights from urban-based junior doctors (graduation to completion of speciality training) of the effect of rural placements and rotations on career aspirations for work in non-metropolitan practices.

Methods. A qualitative study was performed of junior doctors based in Adelaide, Brisbane and Melbourne. Individual face-to-face or telephone semistructured interviews were held between August and October 2014. Thematic analysis focusing on participants' experience of placements and subsequent attitudes to rural practice was undertaken.

Results. Most participants undertook rural placements in the first 2 years after graduation. Although experiences varied, positive perceptions of placements were consistently linked with the degree of supervision and professional support provided. These experiences were linked to attitudes about working outside metropolitan areas. Participants expressed concerns about being 'forced' to work in non-metropolitan hospitals in their first postgraduate year; many received little warning of the location or clinical expectations of the placement, causing anxiety and concern.

Conclusions. Adequate professional support and supervision in rural placements is essential to encourage junior doctors' interests in rural medicine. Having a degree of choice about placements and a positive and supported learning experience increases the likelihood of a positive experience. Doctors open to working outside a metropolitan area should be preferentially allocated an intern position in a non-metropolitan hospital and rotated to more rural locations.

What is known about the topic? The maldistribution of the Australian medical workforce has led to the introduction of several initiatives to provide regional and rural experiences for medical students and junior doctors. Although there have been studies outlining the effects of rural background and rural exposure on rural career aspirations, little research has focused on what hinders urban-trained junior doctors from pursuing a rural career.

What does this paper add? Exposure to medical practice in regional or rural areas modified and changed the longer-term career aspirations of some junior doctors. Positive experiences increased the openness to and the likelihood of regional or rural practice. However, junior doctors were unlikely to aspire to non-metropolitan practice if they felt they had little control over and were unprepared for a rural placement, had a negative experience or were poorly supported by other clinicians or health services.

What are the implications for practitioners? Changes to the process of allocating junior doctors to rural placements so that the doctors felt they had some choice, and ensuring these placements are well supervised and supported, would have a positive impact on junior doctors' attitudes to non-metropolitan practice.

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Introduction

Medical practitioner workforce maldistribution in Australia, particularly in regional, rural and remote areas, has concerned governments and health workforce organisations for many years. The Australian Government has attempted to address this issue by increasing medical student places and instituting programs to provide medical students and junior doctors (from graduation to completion of speciality training) with a rural experience.

These initiatives resulted in an increase of 10% in the full-time equivalent (FTE) clinical workforce from 2008 to 2012.[1] However, there are still significant differences in the ratios of FTE medical practitioners per 100 000 population between major cities (395.8) and inner regional (267.2), outer regional (253.5) and remote and very remote (243.2) areas.[1] This is particularly evident for specialist services, with ratios of 122 : 100 000 population in urban areas compared with 16 : 100 000 in remote areas.[1]

In Australia, medical students are enrolled in either undergraduate (5–6 years) or graduate (4 years) programs. Many Australian medical schools have rural clinical schools or university departments of rural health in regional or rural areas where students may spend several months or years of their training. All but two medical schools also run short-term rural placements for Australian medical students. Following graduation, all doctors must complete a preregistration intern year (postgraduate year (PGY) 1) in which they rotate through several specialties within a hospital. Specialist training programs (including general practitioner (GP) training) of at least 3 and often ≥6 years often do not commence until PGY2 or PGY3. Doctors in specialist training programs are called registrars.

In 2012, only 19% of medical students, 18% of doctors in their intern year and 22% of doctors in PGY3 intended to practice outside of capital cities or major urban areas.[2] Medical student intention predicts subsequent practice location, but does not preclude other doctors from choosing non-metropolitan practice at some point following graduation.[3]

Those medical students[4,5] and doctors in speciality training programs[6,7] who are more likely to intend to work outside metropolitan areas come from a rural background. Medical school rural placements (ranging from 4 weeks to more than 2 years) also influence career decisions.[3] However, the impact of these 'rural exposures' vary according to the length of the placement and other factors unique to the placement itself. Students who voluntarily undertake these longer-term rural placements through rural clinical schools view the placements positively[8] and are more likely to practice in rural locations following graduation,[9–13] although these results may be due to selection bias rather than the placement itself. The longer the placement, the higher the intent to practice rurally.[13–15] Short-term placements for both urban- and rural-based students are also viewed positively,[16] but there are little data to assess their effect on attitudes to rural practice.[17]

Rural exposure for junior doctors is less defined or consistent compared with medical students. Approaches to rural placements include being 'balloted' to a rural location for the intern year, rotations from metropolitan hospitals to rural health facilities, the Prevocational General Practice Placements Program (PGPPP; a 10- to 13-week placement in general practice) and voluntary or compulsory rotations during speciality training. Of the two studies reporting on the effect of rural placements on junior doctors' attitudes to non-metropolitan practice, one found that participants valued the experience and the placement positively influenced their career decision making.[18] The other study of mainly urban-based GP registrars completing a compulsory rural term reported that some found the placement extremely stressful and anxiety provoking, negatively affecting their attitudes to practicing in a rural area.[19]

Doctors continue to make career decisions during their early postgraduate years. Although there is some information about the career aspirations of doctors from rural backgrounds and those based in regional or rural areas, less is known about what hinders urban-based doctors from pursuing a rural career. Because experiences at this stage of a person's medical career may have a long-lasting effect on attitudes towards type and location of practice, the aim of the present study was to provide qualitative insights from urban-based junior doctors on the effect of postgraduation rural placements and rotations on their view of non-metropolitan practice.

Methods

The present qualitative study of junior doctors used individual face-to-face or telephone semistructured interviews conducted between August and October 2014 as part of a larger study that also included interviews and focus groups with medical students.

Participants

Participants were 41 junior doctors who graduated from Australian medical schools between 1 and 6 years before the study and were based in a metropolitan hospital. The three study sites, Adelaide, Brisbane and Melbourne, encompassed different geographic and population distributions.

Procedure

Junior doctors were initially recruited through personal contacts. These contacts, as well as study participants, were invited to recruit colleagues to participate. The study was also advertised through an email to junior doctors at the Royal Brisbane and Women's Hospital (with permission), an email database held by Rural Health Workforce Australia and by a market research company. Interested junior doctors contacted the researchers for further information and to arrange a face-to-face or telephone interview. A participant information sheet was forwarded to potential participants before the interview and a consent form was signed at interview or verbal consent was given (and recorded) at the start of telephone interviews. All interviews were recorded and transcribed verbatim before being deidentified.

Ethics approval was obtained from the University of Queensland's Behavioural and Social Sciences Ethical Review Committee.

Materials

Participants were asked about rural experiences before, during and after their medical school training, career aspirations, including attitudes to working rurally, sources of information about working in rural areas and their career decision-making process (Table 1).

Data analysis

Interviews were coded using NVivo10 (QSR International, Melbourne, Vic., Australia). Thematic coding focused on participants' experience of placements and subsequent attitudes to rural practice. Thematic analysis of positive and negative aspects of placement experience and attitudes to rural practice yielded consistent patterns that were either common across interviews or varied consistently in association with placement

Table 1. Interview outline

General questions	First of all, before you started medicine, did you have any idea of what type of practice you thought you may end up in?
	Can you tell me if you have ever thought about or considered practicing outside a metropolitan area?
	Can you tell me a bit more about that?
Your background	Have you ever lived in a non-metropolitan area for a period of time (not to do with medicine)? (For example, lived with parents etc., worked (or had work experience) in a rural area previously, visited family or friends in rural areas for holidays etc.)
	Did you have any other qualifications before you began medicine?
	Can you tell me where you undertook your medical training and when you completed it?
	Are you officially in a training program now or have you a definite idea of what you want to do with your medical career?
	Where are you working now?
	Which hospital?
	What has happened between finishing medicine and now with regards to the jobs you have had and where they have been situated?
	What made you choose the hospitals where you have worked or where you applied to go?
	Did you do a rural term or were you rotated to a non-metropolitan hospital during your medical training or since you graduated?
	If yes, where? For how long? What term (i.e. medical training/subsequently, rural rotation, surgery etc.)?
	• Requirement, or your choice?
	• How did you feel about going before you went?
	• What were the positives and negatives about the experiences and was it what you expected? Has it altered your thoughts about working outside a metropolitan area?
	If no, could you tell me about any opportunities there were during your medical training or subsequently to work outside a metropolitan area (i.e. rural term or other rotations or years)?
	• If there were opportunities and you did not go, why?
	• If you are going rural in the future, where do you intend to go?
	• How do you feel about (a) undertaking a rural rotation or (b) not being able to do a rural rotation?
	• Do you think being rotated to a non-metropolitan site would alter your perceptions of where you would like to eventually practice?
Decision making	What factors did you take into consideration when deciding where you would apply for positions (this may be for your hospital years, or following your vocational training)?
	Who did you consult or talk to about these decisions?
	Do you think these are the same considerations you would take into account when deciding where you will work in the future?
	Are there any personal or family factors that are or may be important to your decision making?
	Do you have any friends or others in your cohort who have made a decision to 'go rural' and what do you think about that?
	What do you know about non-metropolitan practice in your particular speciality?
	OR Do you see any conflict between specialisation and non-metropolitan practice?
	Do you feel that having more information about rural opportunities would help your decision-making process?
	Do you think of medical practice in a non-metropolitan area as necessarily a lifetime commitment?
Demographics	How old are you?
	Where were you born?
	How would you describe your ethnicity?

characteristics. These patterns are reported below with illustrative quotes.

Results

Quotes are identified by gender (M, male; F, female), age, level of employment (intern, PGY2–3, registrar) and site (X, Y and Z to maintain anonymity).

Participant characteristics

Forty-one junior doctors were interviewed: 15 from Adelaide, 14 from Brisbane and 12 from Melbourne. The mean age of junior doctors was 29.7 years (median 27 years; range 24–49 years). Further demographic information is given in Table 2.

Eighteen participants (44%) were enrolled in vocational or speciality training programs (e.g. GP or surgical training), with the remainder having graduated within the previous 3 years and yet to formally enrol in a training program. Most intern and PGY2–3 doctors had already made career decisions about speciality training, with some entering a training program in 2015. Intended specialties for study participants were general practice, radiology, anaesthetics, paediatrics, pathology, adult medicine, dermatology, neurosurgery and general surgery.

Intern allocation

Interns generally have little choice about working in a non-metropolitan area, and may be allocated through a ballot or computer-matching system to a regional hospital for their intern year or for a rural term. The experiences gained and the effect of the rotations varied widely among participants.

No one chose a regional site for his or her intern year. However, one woman was allocated to a regional city (population ~100 000) as an intern and it changed her perception of where she wanted to work long-term:

> The people were more friendly. The hospital was more friendly than the city hospitals. . .Rather than feeling like a stupid medical student like I did in the city, I felt like part of the team. . .and then I stayed on for another year and actually my husband and I bought some property nearby, so we're still part of the time in the city and part of the time out there. (F, 34, Registrar, Y)

Table 2. Characteristics of study participants
Data show the number of subjects in each group. PGY, postgraduate year; ERP, extended rural placement (at least 12 months) as a medical student

	Adelaide	Brisbane	Melbourne	Total
Gender				
Male	2	3	5	10 (24%)
Female	13	11	7	31 (76%)
Level of training				
Intern	5	5	2	12 (29%)
PGY2–3	2	4	5	11 (27%)
Registrar	8	5	5	18 (44%)
Rural background	4	4	3	11 (27%)
ERP	6	1	5	12 (29%)

Other participants discussed the negative aspects of compulsory intern allocation to rural sites, and thought that it should be avoided if at all possible:

> Those interns that were, what they called 'shafted', out to a rural area were often very unhappy. It was more the fact that they were forced to go somewhere. A lot of them are still going to try and come back [to the city]. (M, 35, PGY2, X)

Rural rotations from metropolitan hospitals

Rural rotations from metropolitan hospitals were common. At some sites these rotations began during the intern year, whereas in other sites junior doctors were not sent rurally until PGY2. Several participants reported that they had very little warning about where they were going and what would be expected of them. This led to anxiety and left little time to prepare, up-skill and become more confident in working without direct supervision.

One participant at the end of her PGY2 year felt very unprepared to undertake her rural rotation:

> My rural term is actually next. I don't know [where I will be going] yet. We find out about a week before we are sent off. I'm pretty worried. . .I don't think we're really qualified enough to be the only doctor in a town. (F, 28, PGY2, X)

The view that a rural rotation was outside the expertise of junior doctors was reiterated by several participants:

> They send you out to woopwoop for 6 or 8 weeks to relieve, but that's just like pure survival, pure 'Rome is burning' survival. It's not a good exposure to what rural practice can be like. (F, 33, Registrar, X)

Professional support provided during the rotation was the factor that most affected the junior doctors' experience. One participant who was sent to a regional town (population ~20 000) during her intern year found it a very satisfying experience that strengthened positive attitudes to rural practice:

> I certainly didn't [feel out of my depth]. . .not in [regional town] because it's a bigger centre so in the general practice you always basically talked about whatever you'd seen with your supervisor. In the emergency department. . .we were always supervised and supported by the staff there. (F, 26, Registrar, Z)

Another participant who was rotated to a small rural town (population ~1500) found that although it was challenging, she had adequate support to assist her:

> I guess a bit scary the first couple of times that I was on-call for [the emergency department] and anything that came through was my responsibility. . .A really good learning experience. I certainly did feel thrown in the deep end a few times, but there was support. You just needed to call somebody. (F, 29, PGY2, X)

In contrast, a lack of professional support can have a very negative impact on the likelihood of a rural career choice. One doctor who had anticipated a rural career was rotated to a small rural town (population ~3500) in her intern year and her experiences changed her views about rural practice. She found that:

> I ended up in a rural hospital with no support with very unwell people, which I didn't feel confident managing. I had a couple of experiences with extremely sick patients and just me, or me and one other person. . .looking after them. It certainly put me off working there as a more senior person, because I found that just highly anxiety-making.
>
> . . .So I find it a bit terrifying that I was with one other person with people intubated and sedated, for five hours waiting for a helicopter to come and pick them up. I think that's something that would. . .change my decision making process [about working in rural areas]. (F, 31, Registrar, Z)

Another participant, who also planned a rural career, undertook two rotations to the same medium-sized country town (population ~25 000) in two consecutive years. In her first rotation she had adequate supervision and enjoyed it. The second rotation was marred by poor supervision and a lack of professional support, and she found it a very negative experience that altered her career intentions:

> The surgical one [intern] was challenging, but the emergency rotation [PGY2] was a very bad one. It was very unsupported. As someone who had been a doctor for slightly over a year, I was the most senior person in the emergency department overnight and asked to supervise two people who were more junior than myself. . . (F, 27, PGY2, Y)

PGPPP

The PGPPP was mentioned by several participants as a very worthwhile experience, especially as a preview to rural general practice. However there was concern that this program is no longer being funded:

> When I worked in the PGPPP [my stint] in the country really cemented my viewpoint of rural medicine. There was that continuity of care. You see them coming to the hospital, you treat them with your skills, emergency skills, you stabilise them. (M, 30, PGY3, Y)
>
> I think it's a real shame that the funding for the PGPPP placements has been pulled. I think that was a really vital source of exposure for junior [resident medical officers]

to the country placements and GP settings and a very different feeling to being there as a medical student. (F, 27, Registrar, Z)

Discussion

The present study is the first qualitative evaluation of the rural experiences of a broad range of urban-based Australian junior doctors. We found that rural exposure modified and changed the longer-term career aspirations of some of the doctors, with positive experiences increasing the openness to and the likelihood of rural or regional practice. In contrast, negative or poorly supported experiences shifted the aspirations of several junior doctors away from practicing in non-metropolitan locations.

Rural placements for junior doctors are often for the convenience of the healthcare system to enable staffing of smaller regional and rural health services rather than as an initiative for increasing the long-term rural workforce. Regardless, these 'rural exposures' may have an effect (positive or negative) on career intentions for doctors who have already expressed a desire to work in rural areas and for those who are open to 'going rural'. For doctors who would never choose to work in rural areas, these experiences improve the understanding of contextual issues of working and living in rural areas.

The use of ballots or computer-matching systems to place interns results in some interns being allocated to hospitals where they do not wish to work. For some participants in the present study, the opportunity provided unexpected benefits that resulted in changes in attitudes to working in non-metropolitan areas, even as a specialist. However, this outcome was not universal with other doctors in similar situations wanting to return to metropolitan hospitals as soon as possible.

Most junior doctors based in metropolitan hospitals expected to be rotated to a rural area for several weeks in their PGY 1 and/or PGY2 years. Many were anxious and apprehensive about practicing in a relatively unsupported environment. It is concerning that some junior doctors interested in a rural career changed their minds after their rural rotation. These doctors may have had unrealistic expectations of non-metropolitan medical practice and would not have pursued a rural career in the long term. However, most had little clinical experience before being sent rurally, resulting in feelings of extreme vulnerability when faced with unexpected or life-threating situations with little backup. Allowing them to build clinical expertise in a more supportive environment before being exposed to these situations may have resulted in very different outcomes. There must also be sufficient supervision and/or professional support, either in person, online or by telemedicine, to provide these doctors with confidence that they have the support they need and to ensure patient safety.

Our findings of negative effects on rural practice intentions from rural placements are similar to those found in a small qualitative study of GP registrars on a compulsory rural rotation.[19] That study found registrars who were open to new experiences and resilient to additional responsibilities and workload had positive experiences, whereas others found it stressful and reduced the likelihood of them working rurally.[19]

One of the initiatives designed to attract junior doctors to a rural general practice (PGPPP) was enthusiastically supported by our participants. However, funding for this scheme is no longer available, resulting in reduced opportunities for junior doctors to experience general practice in their formative years.

Limitations

The present study included a relatively small number of junior doctors from three urban jurisdictions in Australia and our findings may not be generalisable to all areas, especially because health systems and structures vary between states. However, our findings were consistent across the three study sites. These views do not necessarily represent those of non-urban-based junior doctors. Our sample is also over-represented by women.

Conclusion

Although intern and other junior doctor places in rural and regional areas must be filled to enable efficient functioning of health services, thought must be given to the mechanism by which allocations and placements are made. Doctors who are open to working outside a metropolitan area, at least for a short time, should be preferentially allocated an intern position in non-metropolitan hospitals and rotated to more rural locations. Sufficient supervision and/or professional support is also essential. To encourage interest in rural medicine from junior doctor placements, the junior doctors should feel that they have some degree of choice and must have a positive and supported learning experience.

Competing interests

None declared.

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