

## ORIGINAL RESEARCH

## PERCEPTIONS OF METROPOLITAN INTERNS PRIOR TO UNDERTAKING RURAL CLINICAL ROTATIONS

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## ABSTRACT

**Objectives:** The objective of this study was to assess the perceptions of recently-graduated junior medical staff prior to rotating to a rural clinical term. **Methods:** A self-administered, anonymous survey was provided by the postgraduate medical education unit in a tertiary referral centre which rotates interns out to one of three rural and regional sites. All interns undertaking a rural rotation were invited to participate. The structured questionnaire assessed perceptions of interns with respect to rural clinical rotations and compared students from a rural background with students from a non-rural background. **Results:** The participant response rate was 100% (n = 45). Participant responses were positive with respect to general perceptions of working in a rural health environment, practical matters relating to experience, education and supervision, plans to undertake further rural training/work and the change of environment in a rural health environment. Participants from a rural background were more likely to express plans to work in a rural location during and following their vocational training, were more likely to have an interest in rural medicine and were less concerned there may be cross-cultural barriers when working in rural areas. **Conclusions:** Recently-graduated junior medical staff tended to have a positive outlook when it comes to undertaking rural clinical rotations. This may further encourage research into rotation of junior medical staff in Australian metropolitan hospitals to more remote and regional areas.

**Key Words:** Employment; Medical education; Rural health; Australia.

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## INTRODUCTION

In Australia, junior medical staff are frequently required to rotate to regional and remote rural health centres as part of their initial training requirements and employment contracts with metropolitan hospitals. While there have been a number of qualitative studies evaluating the perceptions of junior medical staff following exposure to rural clinical rotations, there has been minimal local research evaluating the baseline perceptions of junior metropolitan doctors prior to working in rural communities. Recent literature has suggested several barriers influencing the ability of junior doctors to practice confidently when rotating to regional and rural communities (Smith 2005; Mugford 2001). These perceived barriers include lack of clinical supervision and experience, limited access to education and the influence of isolation from the junior doctors' parent hospital (Smith 2005; Mugford 2001). Furthermore, medical students from a metropolitan background have been shown to be more likely to have negative perceptions of rural health compared to those from a rural background as a consequence of adverse media reports (Azer et al 2001).

This notwithstanding, rural community training, at both the undergraduate and postgraduate levels, has been shown to positively influence junior doctors' choices with respect to embarking on further rural training and undertaking rural careers (Dunbabin et al 2006; Nichols et al 2004; Dunbabin and Levitt 2003). In particular, future rural career intention has been shown to be a significant influence for students from a rural background compared to a metropolitan one (Spencer et

al 2008; Azer et al 2001). We designed a pilot study implementing a structured questionnaire to assess the perceptions of recently-graduated junior medical staff prior to rotating to a rural clinical term in their intern year.

## METHODS

## Setting

Alfred Health in Melbourne, Victoria, is a metropolitan university affiliated health service which employs between approximately forty-five to fifty medical interns per year. Interns with Alfred Health rotate to numerous rural locations in Victoria including the Central Gippsland Health Service, a 70 acute bed service servicing an immediate population of 42000; Goulburn Valley Health, a 280 acute bed service; and Heyfield Medical Centre, a general practice clinic. For the purposes of this study, a rural term was defined as a relevant rotation in a location classified as any between RA2 (inner regional Australia) to RA5 (very remote Australia) inclusive as determined by the Australian Standard Geographical Classification- Remoteness Areas (ASGC-RA) system.

## Ethics

This study was approved by the Alfred Hospital Research & Ethics Committee prior to commencement of data collection. As the postgraduate medical education unit is directly linked to the medical workforce unit at Alfred Health, responses were completely de-identified in order to preserve anonymity.

### Data collection

Following peer-review consisting of junior medical staff, senior medical staff and the medical education officer a structured questionnaire was constructed and distributed to all interns at the beginning of the academic year of 2009. Participants were invited to respond either in an introductory presentation at the commencement of the year or throughout the course of the year prior to commencing their rotation. Respondents were

asked to indicate on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, 5 = strongly agree) the extent to which they agreed or disagreed with 16 statements provided. Scores above 3 indicated a positive response, with scores lower than 3 indicating a negative response to the question asked. Statements were divided into four Themes, which are listed and described in Table 1.

**Table 1:** Themes and statements comprising the structured questionnaire.

<p><b>Theme I: General perceptions of working in a rural health environment</b></p> <ol style="list-style-type: none"> <li>1. I think I will enjoy my rural rotation.</li> <li>2. I think I will gain valuable clinical experience from my rural rotation.</li> <li>3. I feel confident this will be a successful rotation.</li> <li>4. I think my rural rotation will be more challenging than my non-rural rotations.</li> <li>5. I have an interest in rural medicine.</li> </ol>
<p><b>Theme II: Practical matters relating to experience, education and supervision</b></p> <ol style="list-style-type: none"> <li>1. Preparation by my parent hospital for my rural placement will be satisfactory.</li> <li>2. I feel I have enough clinical experience to undertake my rural placement.</li> <li>3. I will receive adequate clinical supervision on my rural placement.</li> <li>4. I feel that I will be well supported by my consultant on rural placement.</li> <li>5. I feel that I will be well supported by my registrars on rural placement.</li> <li>6. I will receive adequate medical education away from my parent hospital.</li> </ol>
<p><b>Theme III: Plans to undertake further rural health training/work</b></p> <ol style="list-style-type: none"> <li>1. I plan to work in a rural location during my vocational training.</li> <li>2. I plan to work in a rural location following my vocational training.</li> </ol>
<p><b>Theme IV: Change of environment in a rural location</b></p> <ol style="list-style-type: none"> <li>1. I am concerned about leaving my friends/family to undertake a rural placement.</li> <li>2. I am concerned that there may be cross-cultural barriers when working in rural areas.</li> <li>3. There will not be adequate recreational outlets in the rural community when not working.</li> </ol>

Furthermore, interns were asked to indicate their gender, whether they had undertaken a rural placement as a medical student prior to graduating from medical school, and whether they had previously lived in a rural environment for a period of greater than six months.

### Data analysis

Participants' responses were analysed quantitatively using SPSS software. We compared participants' perceptions (rural background versus non-rural background) using Student t-test or Mann Whitney U test as appropriate. A p-value less than 0.05 was considered statistically significant. Data collection and data analysis were undertaken independently by separate researchers.

### RESULTS

Forty-five interns who had been scheduled to undertake a rural clinical rotation were invited to participate in the survey prior to undertaking their rural clinical rotation. The response rate was 100%. Of the respondents 63.4% (26 of 41) were female, 48.8% (20 of 41) had previously lived in a rural area for longer than six months and 92.7% (38 of 41) had previously undertaken a rural term as a medical student.

#### Theme I: General perceptions of working in a rural health environment

Most interns were of the belief that they would enjoy their rural rotation [mean 4.2 (SD 0.4)] and thought that they would gain a

valuable clinical experience from their rural rotation [mean 4.7 (SD 0.5)]. Although they felt that their rural rotation would be more challenging than their non-rural rotations [mean 3.7 (SD 1.2)], they also felt confident that their rural rotation would be a successful one [mean 4.0 (SD 0.6)]. Participants responses varied as to whether they had a pre-existing interest in rural medicine [mean 2.9 (SD 1.3)](Table 2).

#### Theme II: Practical matters relating to experience, education and supervision

As a response to the survey, most interns believed that preparation by their parent hospital for their rural placement would be satisfactory [mean 3.5 (SD 0.7)], would receive enough clinical supervision on their rural placement [mean 3.5 (SD 0.8)] and in particular would be well supported by both their supervising registrar [mean 3.6 (SD 0.9)] and consultant [mean 3.7 (SD 0.8)] whilst on placement. The majority of participants felt that they had enough clinical experience to undertake their rural clinical placement [mean 3.7 (SD 0.7)] and that they would receive adequate medical education whilst away from their parent hospital [mean 3.3 (SD 0.8)](Table 2).

#### Theme III: Plans to undertake further rural health training/work

Before undertaking a rural clinical rotation, participant responses varied with respect to their pre-existing plans to work in a rural location both during vocational training [mean 2.9 (SD 1.1)] and following vocational training [mean 2.5 (SD 1.3)](Table 2).

**Table 2:** Participants' averaged perceptions about undertaking rural clinical placements (n=45). Responses were assessed on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, 5 = strongly agree).

Statement	Mean (SD)
I think I will enjoy my rural rotation.	4.2 (0.4)
I think I will gain valuable clinical experience from my rural rotation.	4.7 (0.5)
I feel confident that this will be a successful rotation.	3.7 (1.2)
I think my rural rotation will be more challenging than my non-rural rotation.	4.0 (0.6)
I think I have an interest in rural medicine.	2.9 (1.3)
Preparation by my parent hospital for my rural rotation will be satisfactory.	3.5 (0.7)
I feel I have enough clinical experience to undertake my rural placement.	3.7 (0.7)
I will receive adequate clinical supervision on my rural placement.	3.5 (0.8)
I feel that I will be well supported by my consultant on rural placement.	3.7 (0.8)
I feel that I will be well supported by my registrar on rural placement.	3.6 (0.9)
I will receive adequate medical education away from my parent hospital.	3.3 (0.8)
I plan to work in a rural location following my vocational training.	2.5 (1.3)
I plan to work in a rural location during my vocational training.	2.9 (1.1)
I am concerned about leaving my friends/family to undertake a rural placement.	2.9 (1.4)
I am concerned that there may be cross-cultural barriers when working in rural areas	2.0 (1.1)
There will not be adequate recreational outlets in the rural community when not working	2.5 (1.2)

SD = Standard deviation

**Table 3:** Differences in averaged responses between rural & non-rural participants.

Statement	Rural background (n=20)	Non-rural background (n=21)	p-value
I plan to work in a rural location following my vocational training.	3.2 (1.2)	2.0 (0.9)	P=0.002
I have an interest in rural medicine.	3.5 (1.2)	2.4 (1.1)	P=0.004
I plan to work in a rural location during my vocational training.	3.3 (1.2)	2.6 (1.0)	P=0.030
I am concerned there may be cross-cultural barriers when working in rural areas.	1.7 (0.8)	2.5 (1.3)	P=0.040

Data are mean and standard deviation (SD).

#### Theme IV: Change of environment in a rural health location

Participant responses were also varied with respect to whether they had concerns about leaving friends/family to undertake a rural placement [mean 2.9 (SD 1.4)]. On average, they were less concerned about whether there would be adequate recreational outlet and facilities in the rural community when not working [mean 2.5 (SD 1.2)] or whether they were concerned there may be cross-cultural barriers when working in rural areas [mean 2.0 (SD 1.1)](Table 2).

#### Comparison of responses from participants with a rural background versus non-rural background

When analysing responses between participants from a rural background and participants from a non-rural background, participants from a rural background were statistically significantly more likely to express plans to work in a rural location during and following their vocational training, were more likely to have an interest in rural medicine and were less concerned there may be cross-cultural barriers when working in rural areas (Table 3). No other statements asked were found to be statistically significant in participant responses when groups were compared.

#### DISCUSSION

Our study revealed that participants within this health network had an early optimistic outlook on their first rural clinical rotation prior to undertaking it. They felt that they would enjoy it, gain a valuable clinical experience and that the rotation would be successful. Although participants thought that the rural rotation would be more challenging than their non-rural rotations throughout the year, they also felt that they were well prepared

in terms of clinical experience to undertake their rural clinical rotation. This contrasts with the results of other studies that suggested, on the basis of interviews conducted involving various clinical and administrative stakeholders, that current hospital and education based training programs were not adequately preparing junior doctors for rural practice (Smith 2005). Baseline interest in rural medicine, and expectations of training and working in a rural environment was variable in this sample of metropolitan interns before undertaking their rural term. It has been suggested that undertaking work-placed training in a rural environment during the early postgraduate years might provide an effective link between medical school and future rural practice (Dunbabin et al 2006, Nichols et al 2004).

Issues often seen as hampering interest in rural rotations, such as social and cultural isolation met with varying responses. Whilst perhaps not perceived barriers for all participants, addressing these issues at the outset with junior metropolitan doctors, potentially during parent-hospital orientation programs, may be an innovative way to address these perceived barriers and target further research. The finding that junior medical staff from a rural background were more likely than those from a non-rural background to expect to train and work in a rural area in the future is in keeping with previously published work in the medical student population (Azer 2006), and it may be informative to stakeholders involved in addressing workforce shortage issues in rural areas that these perceptions seem to continue from medical school into the junior medical workforce.

Only small participant numbers were used in this study, within one single parent institution. As such, the results of this study

are specific to this particular health network. Practices may vary between secondment rural rotations, rural and parent hospitals and health networks, which may affect applicability of these results. Larger sample sizes, potentially across multiple parent institutions with varying rural secondments, may yield further results. Furthermore, assessing perception of study participants using Likert-type scales such as the one implemented in this study may skew participant responses for a variety of reasons (Greenleaf 1992, Flakerud 1998, Dawis 1987) and this must also be taken into account when interpreting results.

Although this study provides an interesting view of junior doctors' perceptions of rural practice before undertaking a rural clinical rotation, a large, multicentre study with matched participants and a research team independent of the employing hospital might reveal further information with respect to the effect of participants' rural experiences. Nonetheless, these findings may further encourage rotation of junior medical staff in Australian metropolitan hospitals to more remote and regional areas.

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