Medical student contact with specialty trainees

Missing out in general practice?

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Background and objectives
Medical students on clinical placements value positive experiences with specialty trainees. We aimed to document student contact with general practice registrars and other specialty registrars and any relationship between this contact and student career interests.

Method
Medical students were surveyed following their general practice, general medicine, general surgery, psychiatry and medicine-in-society placements.

Results
One hundred and twenty-four students completed the survey (73% response rate). Participants reported substantially less contact with general practice registrars and rural generalist trainees than with other registrars. Compared with students placed in regional areas, metropolitan students were more likely to have no contact at all with general practice registrars. Interest in specialty careers was correlated with interest in knowing more about specialty training, but not with the extent of contact with registrars or personal connections in any specialty studied.

Discussion
Student exposure to general practice registrars in at least one Australian medical school is relatively low. Opportunities to increase this should be explored. Students themselves may have little influence over their contact with specialty trainees, despite valuing it highly.

EFFECTIVE RECRUITMENT of junior doctors into postgraduate training programs is important for workforce distribution[1] and for medical practitioners themselves. Specialty career choice is likely to be strongly influenced by exposure (particularly extended exposure) to positive clinician teacher role models in the student and junior doctor years.[2–4] Registrar teachers may be sources of high-quality information about training pathways and future careers,[1] and their teaching is valued highly.[5–7] A specialty with trainees less visible to medical students may be at a disadvantage in terms of its teaching impact, recruitment success and resilience to 'bad mouthing',[2,4] compared with other, more visible, specialties.

The cessation in 2014 of the Australian Prevocational General Practice Placements Program (PGPPP)[8] has effectively removed opportunities for junior doctors to work in general practice before committing to general practice specialty training. The medical student years are therefore the final opportunity for contact with general practice registrars for many junior doctors.

Medical student contact with general practice registrars may be reduced, compared with their contact with hospital-based registrars because of the 'closed door' nature of patient consultations in general practice, where general practice registrar work may not be visible to students attached to general practices.[5] There may also be disincentives for general practice registrars to participate in practice-based teaching, including increased patient waiting times for registrars, who often practise more slowly and systematically when a medical student is present during the consultation.[9] In contrast to most general practice supervisors, registrars often receive no payment for teaching,[10] and registrar teachers may resent any loss of income related to a reduced patient load in teaching sessions.[9] Less experienced general practice registrars may also have low self-confidence in teaching while mastering their own general practice skills and find teaching stressful.[9] General practitioner (GP) supervisors may be reluctant to allocate medical student teaching to their registrars because of several concerns, including lack of time, inadequate training as teachers and uncertainty about registrar capability.[10,11]

We are not aware of any Australian data that quantify student–registrar contact in general practice, compared with student contact with other general medical specialties, and that correlate this contact with student interest in pursuing general practice training.

Medical students enrolled in the Doctor of Medicine (MD) program at the University of Queensland rotate through eight-week clinical placements (general practice, general medicine, general surgery, psychiatry and medicine-in-society) in the third year of their four-year program. Medicine-in-society placements are mostly in rural hospitals and/or rural general practices. Approximately 24% of the Australia-based students undertake all third-year placements in regional or rural settings. Students rotate through a further five eight-week clinical placements in their final year (paediatrics, obstetrics and gynaecology, medical specialties, surgical specialties and critical care).

The aim of this study was to collect data about medical student contact with registrars in several specialties, including general practice, and to investigate whether this contact is related to student interest in pursuing these specialties or knowing more about speciality training.

Method

We invited all students rotating through either general practice or medicine-in-society as their final third-year placement (comprising 40% of the total Australia-based third-year cohort) to participate in this study. Students who undertook their third-year placements in North America were excluded from this study. Survey questions included age, gender and clinical placement setting, and the number of contact hours with registrars in general practice, medicine, psychiatry, surgery and/or rural generalism during their medical studies to date. The survey included Likert scales for indicating student interest in specialising and in knowing more about what is involved in pursuing specialty training, in the same five specialties. Students also indicated whether they had close friends or family (personal connections) who were specialists or registrars in those five specialty areas. The survey included a free-text section headed 'How valuable is your contact with registrars? Is there anything you would like to tell us?'

Descriptive statistics (n, %) were calculated for participant characteristics (gender, age group and placement setting). Frequency of contact hours with registrars for each of the five included specialties was calculated. Correlations were calculated between contact hours across specialties and between contact hours, interest in knowing more about specialty training and interest in specialising in particular specialties. Chi-square tests were used to identify any significant gender, age group and/or placement setting differences. To protect against the risk of Type I error resulting from multiple analyses, α <0.01 was used to indicate statistical significance.

A descriptive content analysis was undertaken of the free-text survey responses by both investigators independently, informed by existing literature on medical student views about registrar teaching.

Ethics approval was obtained from the University of Queensland Human Research Ethics Committee (approval number: 2016001344).

Results

One hundred and twenty-four students completed the survey (response rate 73%). The responses of nine students were excluded from analysis because they received incorrect instructions for completing the questionnaire. Analyses were conducted on the remaining 115 student responses.

Respondent characteristics are shown in Table 1 (56.9% male, 65.4% aged 20–24 years, 27.9% regional placement setting). Contact hours and Likert scale question relationships are shown in Table 2, including any moderate (r = 0.25–0.55) or strong (r >0.55) correlations.

The registrar contact hours reported by participants differed substantially between different specialties. For example, 36.7% and 41.4% of respondents reported no contact at all with general practice registrars and rural generalists respectively, whereas only 2.7% and 3.6% of respondents reported no contact with psychiatry and medical registrars respectively (Figure 1). By contrast, 69.5% of respondents reported 40 or more contact hours with medical registrars, but only 24.8% of respondents reported the same amount of contact with general practice registrars.

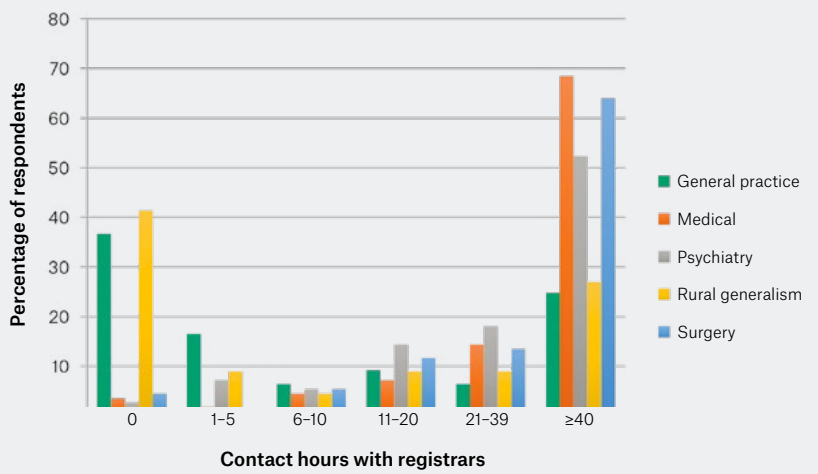

Figure 1. Comparison of registrar contact hours across specialty rotations

Table 1. Respondent characteristics

Characteristic	n (%)
Gender	
Female	44 (43.1)
Male	58 (56.9)
Age	
20–24 years	70 (65.4)
25–29 years	33 (30.8)
30–34 years	2 (1.9)
>34 years	2 (1.9)
Placements setting	
Regional	31 (27.9)
Metropolitan	80 (72.1)
Total	**115**

Table 2. Correlations between registrar contact hours, interest in knowing more about specialty training and interest in specialising across five specialties

		Contact hours				
		General practice	Medicine	Psychiatry	Rural generalism	Surgery
Contact hours	Medicine	−0.026				
	Psychiatry	−0.161	0.578*			
	Rural generalism	0.331*	0.092	0.154		
	Surgery	−0.004	0.635*	0.559*	0.077	
Interest in knowing more about specialty training	General practice	0.076	−0.110	0.016	−0.102	−0.071
	Medicine	−0.149	−0.038	−0.015	−0.042	−0.037
	Psychiatry	−0.114	−0.023	0.146	−0.209	−0.042
	Rural generalism	0.030	0.008	0.013	−0.003	0.007
	Surgery	0.080	−0.124	−0.211	0.024	0.057
Interest in specialising	General practice	0.131	−0.118	−0.075	0.008	−0.086
	Medicine	−0.100	−0.042	−0.084	−0.020	−0.084
	Psychiatry	−0.131	−0.022	0.154	−0.209	−0.042
	Rural generalism	0.126	0.027	−0.036	0.088	−0.017
	Surgery	0.066	−0.084	−0.278†	0.012	−0.049

**P <0.001*
†P <0.01

There were no significant correlations between registrar–student contact hours and either interest in knowing more about training or interest in specialising in any of the various specialties, except for a moderate negative correlation (r = −0.278) between contact hours in psychiatry and interest in specialising in surgery (Table 2). There were strong correlations (r = 0.559–0.635) between student contact hours with psychiatry, medicine and surgery registrars, but no correlation between these and contact hours with either general practice or rural generalist trainees (Table 2). There was also a moderate correlation (r = 0.331) between general practice registrar and rural generalist trainee contact hours.

Interest in one specialty did not correlate with interest in other specialties, except for interest in general practice, which had moderate correlations (r = 0.250 and r = 0.303) with interest in psychiatry and rural generalism, respectively, and a moderate negative correlation (r = −0.303) with interest in surgery. There were strong correlations between student interest in specialising and student interest in knowing more about training in that specialty (0.725–0.921).

Many participants reported having at least one friend or family member who had specialised, or was pursuing speciality training, in at least one specialty (42.5% for medicine, 42% for surgery, 37.4% for general practice, 24.3% for psychiatry and 18.7% for rural generalism). Participants with a personal connection in a specialty (including general practice) were likely to have personal connections in the other four specialities (r = 0.323–0.620). There were no significant correlations between personal connections and interest in specialising in that specialty, except for rural generalism (r = 0.261).

The only effect of gender was found in personal connection with rural generalists, which was higher in male participants (26.8% vs 9.5%, $c^2(4) = 13.42$; $P = 0.009$). Students placed for their third year in regional settings were much less likely to report no contact with general practice registrars (10% vs 46.8%, $c^2(5) = 21.70$; $P = 0.001$).

Sixty-seven students (58%) commented in the free-text section of the survey. The investigators were in agreement about the key issues raised by participants.

A majority (61/67) of these participants indicated that their contact with registrars was valuable, with a few participants commenting that teaching from medicine and rural generalism registrars had been particularly helpful. Many participants (20/67) reported that some registrars appeared more enthusiastic about teaching than others, so that it 'really depends who you get'. Registrars were perceived to be credible ('very good source of real-world information') and knowledgeable ('up to date with current practice'). Participants reported that their teaching was often

pitched at the right 'level'. Two students commented that contact with registrars was useful for them in deciding on their own career paths ('very valuable & relevant in helping me decide my specialty'). Refer to Table 3 for illustrative quotations.

Discussion

Our finding that medical student contact with general practice registrars is less than for other major specialities was not unexpected, although we do not believe that this has been previously documented. It was perhaps more surprising and concerning that 36.7% of participants reported no contact at all with general practice registrars and that this was more common in metropolitan settings. Fewer metropolitan teaching practices may consistently host registrars, as most registrar placements are outside capital cities due to the compulsory non-metropolitan training placement requirement.[12]

It may be that students with less general practice registrar contact have more contact with experienced GPs, and our data does not explore the relative merits of these. We acknowledge that general practice registrars train in both hospitals and general practice: students may not identify some hospital-based registrars as general practice registrars, and some student contact with general practice registrars may be in hospital settings. Our findings do not represent the total exposure of University of Queensland medical students to specialty trainees, as they do not include hospital placement in students' fourth year. However, the participants would have had no subsequent opportunities for further contact with general practice registrars working in general practice.

We have not attempted to explore the quality of registrar contact, and we did not restrict contact to time being actively taught. Contact with registrars was framed in the survey as 'the number of contact hours you have had during your medical studies to date (including time observing registrars at work)'. Further investigation of both the quantity and quality of registrar contact would be important.

It is perhaps surprising that there were no correlations between registrar contact hours and student interest in pursuing a specialty career in particular specialties. We do not interpret this as demonstrating that registrar contact is irrelevant in career choices. The finding that students interested in pursuing various careers were more likely to want to know more about those training pathways suggests that training information and advice from specialist trainees would have been valued. However, students may have little ability to influence their level of contact with trainees.

We also found no correlation between having family and friends in a specialty and interest in pursuing careers in that specialty. Previous literature has not reported a consistent influence of family member GPs on career choice.[4,13]

The data is self-reported from students at a single institution. Findings should be confirmed at other Australian medical schools. We did not define rural generalism in the survey. Rural generalist training equips doctors for rural hospital practice and primary care, and is most established in Queensland.[14] Students' understanding of rural generalism, and the relationship between rural generalism and general practice, are not explored. We suggest that our data about rural generalist exposure should be interpreted with these caveats.

Student comments about teaching from registrars resonate strongly with previous literature, including findings that medical students were 'overwhelmingly positive' about learning from general practice registrars[5] and that general practice registrars were perceived to be more 'in tune' with what medical students 'need to know' and 'a little more up to date on some things',[7] with more methodical approaches to consultations.[5] It has also been previously reported in studies of medical student experiences of hospital-based registrars that the registrar 'makes or breaks the term'.[15]

Implications for general practice

Medical students reported substantially less contact time with general practice registrars than with registrars in other, hospital-based specialties. Given the potential importance of student exposure to registrar teaching and training pathways, for both learning experiences

Table 3. Illustrative quotations from free-text responses

Valuable
Registrars are probably the most valuable people I've worked with.
I greatly appreciate many registrars who have helped and supported me.
Variable
If registrars are motivated to teach, they are the greatest resource during the rotation. If they are not interested in teaching it can greatly impact the overall experience, more so than an unmotivated consultant.
It was very valuable but experience [sic] vary greatly. Some love to teach while others are extremely busy and ignore us.
At the right level
They are also learning so know exactly what is important.
They don't go overboard and try to tell us too much; they are good at keeping it simple.
They are often the best teachers as they are closer to our level than consultants but more knowledgeable than junior doctors.
They do things more thoroughly than consultants, they give us an immediate goal to work towards (vs consultants who are experts and know where they can take short cuts).

and career choices, future research is indicated across a number of institutions to understand the effect of this disparity and explore opportunities for extending and enhancing medical student contact with general practice registrars, especially in metropolitan settings.

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