Background
There is currently a shortage of general practitioners and an increase in the number of medical students and general practice trainees. The expanded involvement of general practice registrars in teaching roles has been suggested as part of the solution to increasing the number of teaching roles in general practice.

Methods
Survey and interviews of 273 GPs and 84 registrars mapping barriers to, and potential for, general practice registrar teaching capacity in Western Australia.

Results
Results showed that 52.1% of GPs and 77.1% of registrars agreed that general practice registrars could increase teaching roles in general practice settings, but the two groups differed in their views about the scope of such teaching.

Discussion
This study reports on the congruence and difference in views between GPs and registrars concerning the capacity for and scope of general practice registrar teaching in the general practice setting. There is a need to negotiate and identify the most appropriate general practice registrar teaching roles with both groups.

There is a shortage of general practitioners, particularly in outer suburban and rural areas, while at the same time the increase in the numbers of medical students and general practice registrars is placing pressure on teaching capacity. The limitations of the current Australian medical education system to respond to these workforce changes are expected to present challenges until at least 2012, despite the opening of new medical schools and the introduction of full fee paying students.1–5

Expanding teaching roles for general practice registrars has been suggested as part of a possible response to increasing medical student teaching requirements, reflecting the precedent found in the hospital system, where registrars traditionally provide tuition for most junior staff.6

Methods
Qualitative interviews and survey methods were used to collect data. General practitioners and general practice registrars identified from existing databases of Western Australian GPs held by the University of Western Australia, the University of Notre Dame, Australia, and the Western Australian regional training provider Western Australian General Practice Education and Training (WAGPET) were invited to participate in the study.

Ethics approval was obtained from the University of Western Australia Human Research Ethics Committee.

Qualitative interviews
In depth, individual interviews were conducted with 16 GPs from practices in Perth, Western Australia, and in regional towns and rural areas in the same state. General practitioners were purposively selected from GP teaching databases held by the universities so as
to include GPs in rural, inner and outer metropolitan areas, male and female GPs, and teaching and currently nonteaching GPs.

General practitioners were sent a letter of invitation for interview with a research information sheet and consent form explaining the purpose of the research. They were invited to participate in an interview at a time and place of their choosing. Most interviews were conducted in the GP’s office or home. Rural GPs were interviewed by telephone.

Semistructured interviews explored factors motivating the GPs to teach and the GPs’ views on general practice registrar teaching in general practice. Interviews were audiotaped and transcribed in full. Transcripts were analysed using a ‘constant comparison’ approach to identify major themes and subthemes. A summary of each interview transcript was sent to all participants for feedback and accuracy checking.

**Survey**

The items in the survey instrument were developed on the basis of the major themes identified from the qualitative data. Replies to each item were made on 5 point Likert-style scales. The survey was mailed with a reply paid envelope and small book token as an incentive to complete the survey.

The sample of 500 GPs was randomly selected from the universities databases and nonteaching practices identified by the lead author. All 131 general practice registrars who were registered with WAGPET in Western Australia were sent surveys. Survey data were analysed using the SPSS14 statistical package for Windows.

**Results**

Sixteen GPs were interviewed for the qualitative study. A total of 273 GP surveys were returned (54.6% response rate). Of the 131 general practice registrars to whom surveys were sent, 84 completed the questionnaire (62.2% response rate). Table 1 and 2 present the demographic profiles of survey and interview participants.

Approximately half of GPs and 77.1% of registrars supported a teaching role for general practice registrars, although a greater proportion of registrars agreed or strongly agreed with the statement that ‘general practice registrars can teach in general practice’ (Table 3). Responses to this item were further examined according to whether the GP taught medical students or registrars. Sixty-two percent of GP survey respondents who taught general practice registrars disagreed that registrars could teach in general practice.

Results showed 52.1% of GPs and 77.1% of registrars agreed that general practice registrars have the potential to take on teaching roles; 47.6% of total GP respondents were either undecided or disagreed with this view (Table 3).

Perceived major barriers to GPs implementing general practice registrar teaching in their current practice included:

- funding (47.3%)
- time and patient load (46.2%)
- the need for teacher training (39.9%)

**Discussion**

Our research demonstrates that although 39.2% of GPs reported concerns about the individual capabilities of general practice registrars to take on teaching roles, most of these GPs were concerned about practice viability, time and patient loads, and a lack of appropriate space. This perception is consistent with other
study findings that have identified these barriers as major issues for teaching in general practice more broadly.3,5,7,8

Although the implementation of the proposed GP super clinics may address some of these concerns through the provision of resources and space for dedicated teaching practices, these will not meet all teacher training needs.9 State and federal governments will also need to work with other types of general practice business models to improve systems and methods of reimbursing both GP supervisors and general practice registrars for the costs associated with general practice registrars taking on teaching roles. Although GPs can claim Practice Incentive Payments (PIP), these payments only partially cover costs associated with teaching and are considered cumbersome and time consuming to claim.9 General practice registrars are currently unable to directly claim PIP.8

This study highlights the congruence and difference in views between GPs and registrars concerning general practice registrar teaching roles. As suggested by another study,3 there is a need to acknowledge the unique capabilities of supervisors and general practice registrars and work closely with both groups to negotiate and identify the most appropriate general practice registrar teaching roles. Key medical organisations also need to respond to the concerns of GPs and registrars about appropriate teacher training for general practice registrars.8

Our findings reveal there is a need for more in depth research and consultation with GPs to tease out what is underpinning the reticence of a significant minority about the individual capabilities of general practice registrars, particularly when the registrars in this study and others seem generally well motivated and confident about taking on teaching roles.3,8,10,11 Other studies have reported that advantages of both groups include an improved sense of collegiality and better academic results.10,11

A useful way forward may be qualitative research which explored in greater depth the factors underpinning the attitudes of GPs about the capabilities of general practice registrars and how they can expand their teaching role. This method is more likely to uncover specific reservations about expanding the teaching role of general practice registrars and the factors that encourage registrar teaching in the general practice setting. Focus groups with GPs who currently teach general practice registrars might identify common factors that both enable and act as barriers to expanding general practice registrar teaching roles. Further research might also explore in greater depth any gendered differences in attitudes toward teaching.

### Limitations of this study

This study was limited by time and funding constraints which prevented the researchers from interviewing or conducting focus groups with general practice registrars. The sample of 500 GPs is relatively small, and teaching and rural practices were overrepresented in the databases, with the result that the sample is not strictly representative. The sample does include and canvasses the views of a diverse range of teaching and nonteaching, male and female GPs from inner metropolitan, outer metropolitan and rural areas – so the sample is comprehensive, if not representative in a statistical sense.

A further limitation is that not all registrars had general practice experience – the inclusion of their views about teaching may have contributed to a more positive view due to their lack of knowledge about general practice settings. The higher percentage of female registrars may also have a bearing on attitudes toward teaching, although due to differences in the proportions of women in the GP and registrar samples cannot be established from this study. A larger study that specifically examined this question would need to be conducted.

### Conclusion

The majority of GP and registrar study participants were broadly supportive of the potential for general practical registrars to take on teaching roles in general practice settings. Our research has uncovered some important differences in viewpoints between GPs and registrars about the capacity of general practice registrars to take on particular teaching roles and the scope of that teaching. These competing viewpoints should receive due consideration from governments and key organisations involved in medical education as plans are developed to respond to the increase in numbers of medical students and junior doctors in Australia.
Conflict of interest: none declared.

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References