Rewards, costs and challenges: the general practitioner's experience of teaching medical students

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CONTEXT Medical student attachments in general practices play an important role in undergraduate medical education internationally. The recruitment by universities of new teaching practices or an increase in the teaching commitment of existing practices will be necessary to address rising medical student numbers. General practitioners (GPs) are likely to weigh the perceived rewards of practice-based teaching against the perceived costs and challenges in deciding whether to accept a student placement and how to teach. These aspects of the 'lived experience' of the GP-teacher have not been adequately investigated.

OBJECTIVES This study aims to enhance understanding of the GP clinical teacher experience in order to inform strategies for the recruitment, retention, training and support of teaching general practices.

METHODS Sixty GP clinical teachers in Brisbane-based urban teaching general practices were interviewed individually face-to-face by the principal investigator, using a semi-structured interview plan. Representativeness was ensured through quota sampling. The interview data were analysed thematically by two of the investigators independently, following member checking of interview transcripts.

RESULTS The results demonstrate a number of key inter-related perceived rewards, costs and challenges of teaching, including intellectual stimulation, cognitive fatigue and student characteristics.

CONCLUSIONS The findings extend reports in the previous literature by offering a richer description of current GP-teacher experience. Participants identified teaching rewards in a manner largely consistent with previous research, with the exception of enhanced practice morale and teamwork. Findings confirm that reduced productivity and increased time pressures remain key perceived negative impacts of teaching, but also reveal a number of other important costs and challenges. They emphasise the diversity of GP experience and practice cultures, and the need for teaching to enhance both GP and patient perceptions of consultation quality without increasing the load on the GP-teacher. Recruitment and retention strategies should promote the rewards of teaching, and teacher training should respond to the costs and challenges of practice-based teaching, and facilitate the growth of GPs in their role as clinical educators.

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INTRODUCTION

Medical student attachments in teaching general practices are an important and successful component of medical school curricula.[1–4] They offer students exposure to the prevention, diagnosis, treatment and palliation of illness in the community, and to general practice as a career. Students have opportunities to receive one-to-one teaching, supervision and mentoring from a senior clinician while observing and actively participating in consultations with patients. The recruitment, retention, training and support of teaching practices are crucial to maintaining the success of these programmes and should be informed by an understanding of the general practitioner (GP)-teacher perspective.

There has been very little published research in the last decade about the experience of GP-teachers, although a model has been developed of the 'lived experience' of becoming and being a clinical educator, which highlights the value of exploring experiences of practice.[5] General practitioner clinical teacher perceptions of the impact of a teaching commitment may have changed since the 1990s for a number of reasons, including changes in the general practice and university environments. Relatively recent international interview studies of the impact of undergraduate teaching on urban GPs have small sample sizes[6,7] and a large 1999 USA survey study had a low response rate.[8] These studies may not be generalisable. Recent Australian research pertains to the teaching experience of rural GP-teachers,[9–11] which may differ in important respects from that of urban GPs as a result of demonstrated differences in Australian general practice activity and patient characteristics. These include lower proportions of concession card holders and older patients, a lower rate of procedures, and greater numbers of psychological and multiple-problem consultations in urban general practice.[12] Additionally, rural GP-teachers are more likely to face the challenges of professional and social isolation and are highly motivated to promote rural health careers,[9] and rural medical students may build stronger relationships with their preceptors' patients during their typically immersion-style placements.[13] This study was undertaken in response to an identified gap in the current research literature about the non-rural GP-teacher experience.

METHODS

General practitioners who accept medical students in Year 3 of the University of Queensland medical programme for their 8-week general practice rotation placements were invited to participate in a 20–30-minute individual, face-to-face, semi-structured interview. Interviews were conducted by the principal investigator, a GP-teacher attached to the Discipline of General Practice. A system of quota sampling (similar to a non-random stratified sample)[14] was used to ensure that the diversity of teaching general practices was represented in the study. The sample included:

- special-interest practitioners (focusing predominantly on Aboriginal health, sexual health, skin cancer or sports medicine);
- private practices (at which no patient payments are sought, practice income being derived from the government Medicare fee for service subsidy), and
- practices in different socio-economic areas.

Participating practices had accepted between one and eight students yearly between 2006 and 2008. The GP participants included: academics; men and women; GPs working full- and part-time, and GPs with a range of teaching experience and student teaching loads. The interviews took place between October 2007 and July 2009 at the participants' general practices.

A phenomenological approach was chosen to explore the experiences of GP-teachers.[15] Participants were invited to identify the perceived benefits ('Can you tell me about the rewards of teaching? What do you like about teaching medical students?') and disadvantages ('Tell me about the difficulties of teaching, the challenges?') of their teaching. Reflective listening techniques and open questions were used to clarify responses and to facilitate the emergence of a richer understanding of the GP experience; exploration was restricted to aspects raised by the participants themselves. No survey-style questionnaire or pre-identified themes were used in order to minimise the impact of researcher preconceptions on data collection and analysis.

Detailed handwritten notes were taken by the interviewer during the interviews and later typed. Member checking[14] of the interview transcripts confirmed their accuracy. At the conclusion of the interviews, the interview data were submitted to independent general thematic and content analysis[16] by two of the researchers (NS, PR), who reached complete agreement regarding the major themes emerging from participant responses. The research was carried out in accordance with the Declaration of Helsinki and approved by the University of Queensland Ethical Review Committee.

RESULTS

Twenty-eight of the 29 practices (96%) approached to participate in the study agreed to take part. The practice that declined to be involved cited a prohibitively high GP workload. One GP later withdrew from the study, leaving a total of 60 participating GPs, of whom 26 were female, eight were predominantly special-interest GPs, three were solo GPs and 48 shared the student teaching with colleagues in their practices.

A number of themes emerged as participants identified the rewards of teaching (Table 1) and many participants nominated more than one theme. Fewer than 10% of participants mentioned eligibility for University of Queensland clinical academic titles, continuing professional development points or government payment (AU$100 per teaching session[17]) as bonuses of teaching. Teaching challenges were also identified (Table 2). Examples of participant views for each of these major themes are shown in Table 3.

The intellectual stimulation of teaching was the most consistently valued reward; participants appreciated being kept 'on the ball' and 'sharp'. However, mental fatigue was also the third most commonly identified challenge of teaching and the additional mental workload was described as 'arduous', 'hard work' and 'wearying'. The increase in self-reflection, which was generally embraced by GPs, was also described by six participants as potentially 'confronting' or even 'intimidating', especially in situations in which clinical uncertainty is exposed.

Table 1 Rewards of teaching themes and content analysis (number of participants nominating each theme) (n = 60)

Theme	*n* (%)
Intellectual stimulation	31 (52)
Intrinsic satisfaction of teaching	26 (43)
Having the company of young, enthusiastic students	20 (33)
Having exposure to students' knowledge	19 (32)
Having the opportunity to showcase general practice favourably	17 (28)
Discharging an obligation to teach	15 (25)
Advantages for patients who participate in teaching consultations	13 (22)

Table 2 Costs and challenges of teaching themes, and content analysis (number of participants nominating each theme) (n = 60)

Theme	*n* (%)
Time management	50 (83)
Concerns about patients	28 (47)
Mental fatigue	25 (42)
Challenges intrinsic to practice-based teaching	24 (40)
Adverse student factors	22 (37)
Exposing general practice	15 (25)

Participants were enthusiastic about teaching; however, many also described challenges intrinsic to practice-based teaching. These included:

- providing, and consenting patients to, active learning opportunities for students;
- finding opportunities to communicate with, and coordinate teaching between, teaching colleagues;
- establishing appropriate expectations of student competence and knowledge;
- providing sufficient context for students participating in a single consultation when general practice diagnosis and management may unfold over multiple consultations (sometimes over several years), and
- evaluating their teaching.

Many participants (20/54, 37%) usually had access to a spare room at the practice for student consultation or study, but most (34/54, 63%) could access a spare room only occasionally or sometimes. The consistent availability of a student consulting or study room was highly valued by participants. Over 50% of participants were assisted in their teaching by practice nurses or other non-medical practice staff; a small number reported difficulty recruiting other GP colleagues in their practices to contribute to teaching.

A tendency not to use heuristics when teaching students, described as practising 'good and pure', 'down the line' and with 'no short cuts', was mentioned favourably by 17 participants (28%). However, time management was also the most frequently reported challenge of teaching, with

Table 3 Views of general practitioners about practice-based medical student teaching

Theme	Typical examples
Intellectual stimulation and reflection	'It keeps you up to date. Makes you concentrate on what you do – challenges you to think it through' (GP16) 'It makes you think about the way you manage things, become more analytical. Consultations are complex things and you can get feedback from students' (GP17) 'Teaching produces its own learning. It's a review of old knowledge' (GP507)
Cognitive overload	'I'm more tired and weary after teaching students and need a break between teaching rotations' (GP19) 'My brain is ringing at the end of the day' (GP11) 'I found teaching more difficult initially with no teaching experience... It's challenging to engage students, knowing when to interrupt a consultation to engage the student... I find it challenging to be concentrating on two skills at once – consulting and teaching' (GP24)
Intrinsic satisfactions of teaching	'It's putting something back – you do teaching if you enjoy it' (GP16) 'I love the kids, I want to do it. It's an opportunity to be positive to the student, they are exposed to a lot of negativity; students get excited when you give to them' (GP12) 'I enjoy the interchange with students. I like teaching. Students can be helpful and make themselves part of the practice' (GP13) 'I enjoy teaching. Doctor actually means teacher; it's part of the job' (GP607) 'It keeps you fresh and gives you personal satisfaction. It feels good when you see someone learning' (GP1807)
Intrinsic difficulties of teaching	'Sometimes I worry that a student is missing out or getting bored' (GP14) 'I can feel bad about a student not getting enough quality cases' (GP9) 'I'm unsure as to what students are expected to be learning, how much detail, how much depth' (GP22) 'I hope I'm doing the right thing. It's rushed and difficult to judge how much responsibility to give a student' (GP407) 'It's more stressful because you're constantly aware of the needs of a third person. And there's pressure to be a positive role model' (GP1) 'Rural practices may be able to offer a different experience… but patient expectations are different in a professional practice with patients paying top dollar' (GP4)
Good company	'It's fresh faces, and connections with new people. Often there's no opportunity to speak to my colleagues. We can work through things together, bounce off ideas' (GP907) 'I've liked most of the students. Students have a database not invented in our day; they can be very well read, and young brains can be stimulating' (GP2007) 'Students bring freshness and interest. I enjoy it, and sharing my passion for general practice' (GP1607) 'I keep in touch with young people, the student world, their issues... and student feedback can be more reliable than [that of] patients' (GP2407) 'I'm enthusiastic about enthusiastic students' (GP1407) 'I enjoy the interaction. It can be challenging, although there aren't a lot of surprises. The company is enjoyable; it can be a lonely job' (GP807)
Less good company	'I had a rude student who said to me, ''General practice is just about patting people on the back – you don't really do anything, do you?'' I found this offensive…he had no insight' (GP2108) 'Occasionally a student is uninterested or dismissive, and I feel I have to defend my practice – which I don't enjoy' (GP14) 'How difficult it is depends on the personality of the student – bored, uninvolved students are very difficult' (GP6) 'It's hard work if the student has no sense of humour, or no initiative' (GP2308) 'The occasional student is hard work, say one in 10 students' (GP18) 'On a previous rotation a student openly contradicted me in front of a patient; so now I discourage any student input during a consultation' (GP9) 'The student who sucks it out of you can be terrible… general practice is already an arduous mental exercise' (GP2407)

Table 3 (Continued)

Theme	Typical examples
Positive impact on patients	'Patients appreciate the banter; they can see the process. Patients love the student being involved' (GP9) 'Teaching students will benefit my patients in the future' (GP107) 'A lot of patients like it. It puts one on one's best behaviour' (GP507) 'Teaching can improve your relationship with a patient... I tend to amplify the conversation with a patient for the student's benefit' (GP607) 'Patients perceive the practice as a quality practice. Patients love having the student involved in their case – adding value' (GP2507) 'My patients regard themselves as teachers of medical students, they may expand the history for the student's benefit... a patient came in today and said, ''Where's the student? I've got something good for him today''' (GP3008)
Negative impact on patients	'I may need to ask a patient to return to discuss other issues which I didn't have time to cover in the consultation. The patient can hold back when there's a student present, maybe not raise important psychosocial or emotional issues, even if they were the primary reason for presenting. I may raise them at a later consultation when the student is not present' (GP2308) 'My patients have come to me to do the excision – half the time they want to see the plastic surgeon! I had a student close a patient's excision a few weeks ago, and I heard him say in the waiting room: ''I've got the student version''' (GP3008)
Celebrating general practice	'I love having them. They're polite, prompt. I'm keen to lure good students into general practice – and especially rural practice' (GP1107) 'It makes me more enthusiastic about general practice, reminds me what a highly privileged position a GP has' (GP1007) 'You can show that general practice isn't limited to coughs and colds, show how a GP can create their own practice niche' (GP14)
Exposing general practice	'Students may see general practice as ''too hard'' – but this may be realistic' (GP12) 'Having a student highlights the gap between how you actually practise and practice guidelines, or other teaching... you can feel exposed... find yourself justifying your practice or at least highlighting the difference between teaching and practice... sometimes I think that the quieter students are more critical' (GP24)
Exposure to student knowledge	'Students are someone to bounce ideas off, can keep you on the ball with their recent knowledge. Or students can help by researching a problem diagnosis' (GP15) 'From students, I get refreshing ideas, ''new stuff'', e.g. about hospital treatment; student questions can be challenging; it keeps you on your toes; their comments can be helpful' (GP808)
Obligation to teach	'I think we should teach. Medicine is an apprenticeship; learning is by experience; if you don't get taught you are dangerous when you practise. You can learn about disease in a textbook, but not about patients and their families' (GP10) 'Teaching is an obligation – people did it for us' (GP11)
Time management	'It's extra stress. It takes an extra 30–60 minutes a session to do it properly, although you can make up time with a good student seeing a patient while you see another one' (GP15) 'It's difficult to do the non-consultation tasks – phone calls, reading' (GP1) 'There's more after-hours work once the student has gone, like typing up notes' (GP23) 'I miss out on the micro-breaks; there's no time to chill between patients' (GP24) 'It does slow you down, including getting consent. I often run late and get stressed. There's additional stress, but students need to see what stress, busyness is all about – how you deal with it' (GP5) 'The procedures are the hardest to manage – they take a lot more time' (GP24) 'There's the stress of running behind. I pride myself on keeping to time, and I tend to be further behind with more interested students – good students get better teaching' (GP18)

half-day (usually 3–5 hours) GP sessions extended by ≤ 30 minutes (3/35, 9%), by 30–60 minutes (19/35, 54%) and by ≥ 60 minutes (13/35, 37%). Extra time was also spent on briefing and debriefing students before and after consultations, and on conducting longer joint consultations, which included student practice of history taking, physical examination or procedural skills under supervision. Opportunistic teaching also took place during 'breaks' that would otherwise be used to read mail, make telephone calls, write prescriptions or referrals and attend to other duties.

The implications of this extra teaching time included increased patient waiting times, which were stressful for patients, receptionists and doctors. Doctors commented that they felt their teaching was 'rushed' and that they were sometimes obliged to shorten consultations in order to catch up, with implications for patient satisfaction. Fifteen doctors (25%) reported booking out protected teaching appointment slots (between every fourth and sixth slots) and one doctor estimated that she saw '30–50% less patients' [sic] when she had a student. However, participants also reported that their receptionists felt under pressure to take these 'protected' appointment slots for patients and several GPs considered that formally booking out dedicated teaching time was not viable in view of the pressures imposed by patient load and income generation.

Participants frequently described a desire to showcase general practice favourably, sometimes explicitly to encourage students to pursue it as a career, but more often to make students aware of perceived differences between general practice and hospital or other specialist medicine. The two most commonly identified differences concerned the diversity of general practice niches and personal styles, and the centrality of good communication skills. Participants also mentioned differences between general practice and academic general practice teaching and other clinical guidelines.

Several perceived benefits to patients of involvement in teaching consultations were identified, including insights into medical knowledge and clinical reasoning. However, many also reported concerns about negative impacts on patients. These included an imposition on their time, adverse patient outcomes because of student inexperience or inappropriateness, failure to meet patient needs, and patient perceptions of student participation as inappropriate. Those GPs with less teaching experience, and those in private billing practices, tended to report more anxiety about patient attitudes. One participant reported that his patients came to accept and enjoy the practice's teaching culture over time, despite initial concerns about confidentiality. Several participants (10/60, 17%) mentioned that they found consenting, and teaching with, patients in mental health consultations particularly difficult. Lower rates of patient consent to gynaecological consultations were also reported (14/60, 23%). A few participants also admitted to uncertainty about the medico-legal implications of their teaching.

Participants enjoyed the young, enthusiastic company of most students. However, student attributes that made teaching 'hard work' included:

- poor interpersonal skills;
- undue timidity or intrusiveness;
- lack of enthusiasm, interest and responsiveness;
- low levels of knowledge or competence, and
- failure to respect clinical subtlety or expertise.

Weaker students were also less likely to be invited to perform useful clinical tasks that might save the GP time.

DISCUSSION

This study provides new, rich, qualitative data about the experience of a diverse range of urban general practice-based teachers, including their motivations to teach, the challenges they encounter, and their perceptions of the impact of medical student teaching on high workloads and other pressures that reduce job satisfaction and impact on patient care. The phenomenological approach of this study has facilitated the emergence of a complex picture of inter-related and complementary perceived rewards, costs and challenges. The findings confirm previous conclusions that key motivators for GP-teachers are the intrinsic rewards of teaching, and that key barriers are time and workload pressures.[18] However, other aspects not previously explored also appear to be important, including some intrinsic difficulties of teaching, and anxieties about patient attitudes. The findings also emphasise the diversity of GP views.

Participants described mental fatigue, anxiety and increased pressure as a consequence of teaching. Fatigue is known to increase clinical error and burnout, and overload in GPs has become more common during the last few decades.[19] A recent UK review of general practice involvement in undergraduate medical education suggested that teaching

was becoming a greater source of professional stress for GPs.[20] In a large USA survey study, 47% of participating primary care doctors agreed with the statement: 'Precepting a student in my practice increases my overall stress level.'[8] By contrast, a 2006 systematic literature review of research into job satisfaction among GPs reported that involvement in medical student teaching, especially lecturing to medical students, was one of three key positive factors.[21] A British study of London 'learning practices' reported lower vacancy rates than in comparable non-teaching practices.[22] Grant and Robling[6] reported that the introduction of medical student teaching boosted the morale of other members of the health care team and the team ethic of the practice, and Howe[23] also emphasised the team-building benefits of teaching in her UK-based study of the introduction of a new multidisciplinary, primary care-based undergraduate module. Interestingly, none of our participants identified team enhancement as a benefit of teaching. We found that student factors may have a considerable impact on GPs' satisfaction with practice-based teaching and our participants identified a number of aspects that may be modifiable by appropriate student orientation.

Participants perceived that a major source of additional stress concerned the extra time required to teach. References to teaching prolonging both consultations and the working day are widely found in the literature, and are cited as a factor appreciated by patients.[7,24] However, recent Australian research showed that consultation length did not increase for rural GPs when they used the parallel consulting ('wave') model (in which the student begins consulting with a patient in his or her own consulting room while the GP-preceptor sees a patient in the adjacent consulting room and then joins the student and patient to complete the precepting consultation).[25] Urban GPs may make less use of this model because of their lack of consistent access to a dedicated student room and because of perceptions of patient resistance.

Does the literature on patient views challenge these GP perceptions of negative patient attitudes towards teaching? It appears that international and Australian research lends them some support. More than 40% of patients in an Australian urban practice study said they would not accept students consulting alone[26] and over 50% of Australian rural practice patients would not accept a student conducting some part of the consultation alone.[27] This contrasts interestingly with earlier, more reassuring, UK research on patient acceptance of the parallel consulting model.[28] Patients may also be concerned about student access to their medical records.[29,30] Findings about patient attitudes to teaching within consultations are also conflicting. In recent UK research,[29] a significant minority of consenting urban general practice patients had a negative attitude towards the presence of the student. In an earlier UK survey study, one-third of patients preferred to see the doctor alone, one-third found it difficult to talk about personal problems in the presence of the student, and one-tenth reported leaving without saying what they had wanted to because of the student's presence.[31] Despite these caveats, patients are generally positive about student teaching in general practice and there is some evidence that GPs underestimate patient willingness to be involved in student teaching partnerships.[27]

Many of the GP-teachers identified a need to match their teaching to their own particular practice niche and to individual patient characteristics. Trainers of GP-teachers need to acknowledge that successful teaching strategies may vary across different GPs and practices. However, practice and patient attitudes to teaching may also change over time as a more active teaching culture develops in the practice and it will be important to identify factors and strategies that facilitate this transition. Future research might also usefully be directed at identifying which teaching and administrative strategies are associated with an improved practice team ethic, enhanced stakeholder satisfaction with teaching partnerships, and improved patient outcomes.

This interview-based study achieved an excellent response rate. However, a random rather than semi-purposive process for selecting the general practices invited to participate in the research might have elicited different responses. The interviewer was struck by the altruism and enthusiasm of participants, their willingness to reflect candidly about their teaching, and the diversity of views. However, she may have been perceived by the participants as having a quality assurance role because of her position in the Discipline of General Practice, thereby increasing the reluctance of some participants to appear negative or unconfident about their teaching. Many participants may also have judged it unnecessary or indelicate to mention payment for teaching.

Our findings highlight factors that impact on GP satisfaction with teaching. They are relevant to the international context of recruitment and training of community teaching practices. They resonate with aspects of Higgs and McAllister's model of the lived

experience of the clinical educator, particularly the dimension of growing or developing in the role, which suggests that our findings are relevant to clinical education in other disciplines.[5] Strategies for teaching practice recruitment and retention, and GP-teacher training and support, should acknowledge the difficulties GPs encounter, but also promote the aspects of teaching that GPs identify as satisfying and enjoyable. New strategies will need to be evaluated in terms of both health educator satisfaction, and patient and educational outcomes.

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