The financial costs and revenue associated with teaching and supervision in General Practice

FINAL RESEARCH REPORT

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Abstract

This project aimed to better understand the sustainability of GP supervision by determining the associated financial costs and revenue.

This study included: interviews with supervisors (n=9) and practice managers (n=9); a survey of supervisors (n=238) and practice managers (n=142), and; a cost-revenue analysis. Findings were validated through stakeholder feedback.

There was significant variation in the time invested in training and other costs across practices. This was explained by differences in registrars, practice models and training contexts.

The cost modelling shows that despite the current subsidies provided, on average, practices experience a net financial loss by supporting registrar placements. This financial loss remains, but reduces, over training terms. Rural practices show higher net financial losses.

There was low satisfaction with current financial support, and questions raised in regards to sustainability. This was particularly apparent for those practices that did not retain registrars after training. There were also non-financial opportunities identified for improving practice sustainability, such as ensuring a placement process that prioritises the practice/registrar fit and continuity of registrar placements. Participants also noted non-financial benefits associated with teaching.

The future model for Australian General Practice Training should consider increasing financial support to practices and prioritising other non-financial enablers (eg. practice/registrar fit).

Executive Summary

Aim and Objectives

Teaching practices and supervisors are critical in General Practice (GP) training. However, recent surveys indicate that 83% of supervisors are not satisfied with current financial support, and those planning to retire cited frustration with administrative arrangements and poor financial return. Previous studies found that practices have not been adequately compensated for teaching. However, these studies are dated, and GP training has changed considerably.

This project aims to better understand the sustainability of GP supervision in General Practice by determining the financial costs and revenue associated with teaching and supervision. The research questions were:

1. What are the teaching and supervision activities currently occurring within GP training practices?
2. What are the financial costs and revenue of teaching and supervision in General Practice?

Method

This study used a mixed method design to address the research questions, with three interrelated parts.

- Part 1: Stakeholder interviews- Interviews were undertaken nationally with General Practice (GP) supervisors (n=9) and practice managers (n=9). Interviews focussed on: the types of direct and indirect teaching and supervision activities occurring, perceived benefit of these activities, other costs and revenue associated with registrar placements and factors impacting on the cost of teaching. This information, in combination with input from the project Steering Group, was then used to develop a questionnaire used in Part 2 of this project. The interviews also informed the factors considered in the cost-revenue analysis and the discussion and interpretation of this model.
- Part 2: Stakeholder survey- A national online survey of supervisors (n=238) and practice managers (n=142) was undertaken. The purpose of the survey was to sample a broad range of AGPT teaching practices to understand their practice environment and model, teaching and supervision activities occurring, and perceptions of current practice and teaching financial support.
- Part 3: Cost revenue analysis- To determine the financial costs and revenue of teaching, this part of the study used survey data drawn from teaching activities (Part 2), other publicly available data; and expert advice from the Steering Group and stakeholder interviews (Part 1).

Results and discussion

This study has several key findings. First, it has confirmed that it is important to acknowledge that the whole practice team are involved in supporting registrar placements, with significant contributions from the GP supervisor and practice manager.

A range of costs and revenue were identified and included in the modelling. Costs included: GP supervisor, practice manager and practice nurse time, registrar salary and entitlements (including estimates for reduced productivity of the GP registrar) and the missed opportunity cost resulting from hosting a registrar in the practice instead of a vocationally registered GP. Revenue included: GP registrar income to practice, GP supervisor professional development support payments, teaching allowance and practice reimbursement payments.

The cost modelling shows that despite current subsidies, on average, practices experience a net financial loss by supporting a registrar placement across all training terms, albeit at a reduced rate over time. Overall, this ranged from a net financial loss of $52,760 for a practice hosting a full-time GPT1 registrar for six months, to a loss of $23,900 for a practice hosting a full-time GPT4 registrar for six months. The cost modelling shows that rural practices have higher net financial losses compared with urban practices. The

greatest costs for teaching practices were the time spent by the GPS on direct teaching activities (this ranged from $43,998 for GPT1- $28,814 for GPT4). The other large cost for the practice was the opportunity cost of using a room for GPR training (this ranged from $35,344 for GPT1- $21,972 for GPT4). The highest revenue to the practice was the registrar income (this ranged from $46,862 for GPT1- $60,234 for GPT4). It is acknowledged that this cost model did not include a portion of practice running costs, which may result in an underestimate of cost to the practice. However, this model did include an opportunity cost for the practice, which estimated income foregone by hosting a registrar rather than a GP. It is acknowledged that this may not always be a real cost because there are likely examples where a practice was unable to fill the consulting room used by the registrar with another vocationally registered GP.

There was wide variation in time invested and other costs reported by the practices within both the interviews and the survey. Costs vary depending on the GPR, the practice and training context. Understanding the actual cost to any practice would need to be calculated on an individual practice and placement basis.

While participants flagged the non-financial motivators to teach registrars, such as fulfilling the love of teaching and gaining satisfaction from investing in the next generation of GPs, participants also flagged questions around sustainability of teaching. This was particularly apparent for those practices that did not retain GPRs after training, which is perceived as a longer-term benefit of the investment in training.

Financial and emotional investment in GPR training were both discussed. There was a low level of satisfaction associated with current financial support across practices and questions raised about practice sustainability. All interview participants felt that practices and GPSs wear costs for unfunded activities and resources. From the survey, 71% of GPSs and 46% of PMs indicated the teaching allowance was inadequate. Sixty-four percent (64%) of GPSs and 38% of PMs indicated the practice reimbursement was inadequate. Rural GPSs and PMs were more dissatisfied with the current payment scheme.

There are also opportunities for improving practice sustainability in a future Australian General Practice Training (AGPT) model through: optimising GPR/practice fit through implementation of a fit-for-purpose placement process, ensuring continuity of quality registrars for placement, considering 12-month placements, training and resourcing practices to implement practice-based enablers, and continuing to advocate for the broader challenges facing General Practice.

Implications and Future research

This research is the most current and comprehensive project the authors are aware of that has attempted to identify, describe, and quantify the actual costs, revenue and revenue foregone associated with supporting a GP registrar placement. A strength of this study has been the inclusion of a qualitative element to initially identify the activities and costs to be mindful of in constructing a cost model. This qualitative part of the research also enabled a richer discussion of the context and caveats attached to the final models.

The future model for delivery of AGPT training should consider the findings from this research and seek opportunities to improve financial support to teaching practices and prioritise system level enablers (including implementation of a placement process aimed to maximise GPR/practice fit and continuity of quality registrar placements). The practice and teaching subsidies currently provided do not reflect the variation of training at different levels and in different locations. Moving away from a one-size-fits-all subsidy to account for variation in costs to practices is recommended, particularly across rural and urban based practices. It should also be noted that any increase in requirements of training practices and supervisors in future training models may increase the financial loss to the practice. Future research should consider the financial impact of part-time registrar placements, separate the cost to the practice and supervisor, and further explore the impact and financial benefit of retaining registrars after Fellowship.

1. Background

This project aims to better understand the sustainability of GP supervision in General Practice by determining the financial costs and revenue associated with teaching and supervision in General Practice. The research questions are:

1. What are the teaching and supervision activities currently occurring within GP training practices?
2. What are the financial costs and revenue of teaching and supervision in General Practice?

Context

Teaching practices and GP supervisors (GPS) are critical in the delivery of General Practice training in Australia, which is based on an apprenticeship-style model. Data from the 2019 General Practice Supervisors Association (GPSA) national Supervisor Survey indicated that 83% of GPS were looking for recognition and greater remuneration for supervision in General Practice. The 20% of GPSs who indicated that they were planning to retire in the next five years cited reasons including frustration with the administrative arrangements and poor financial return, particularly those in smaller practices; suggesting that this may impact the sustainability of our supervisors. This theme remains consistent in the more recent GPSA surveys. In order to address the financial viability of supervision, we must gather evidence of the activities and costs associated with teaching and supervision in General Practice.

However, we are also currently in an environment where there are many upcoming changes to the GP training landscape, which may impact on the requirements placed on practices. Changes include the: transition to College-led training by 2023, development of a workplace-based assessment framework for Australian General Practice training, and development of a national supervisor curriculum. These changes may call for more GPS and practice time investment. For example, the Workplace-based Assessment (WBA) Framework report, commissioned by the RACGP in 2019, concluded that "*There is a strong desire for more active supervision, providing numerous snapshots of registrar progression. Increased supervision, facilitated through DOVs, procedural logbooks, EPAs, learning logs, RCA and a safety assessment, all appear to have a robust role in the workplace*."[(1)]

With GPS and practice sustainability already being questioned, it is important for funders to consider how a future model for teaching and supervision in General Practice can be developed that is financially viable, and acceptable to GP registrars (GPRs), GPSs and practices. Therefore, it is important to understand the current evidence for time invested by practices to deliver teaching activities.

While nationally there are calls to consider better practice remuneration, it is difficult to formulate any argument without evidence of costs.

Finally, there are also discussions around different models of employment and remuneration for GPRs, such as the single employer model, which will impact on practice funding opportunities. Before we can model the impact of these changes on the financial viability of supervision, we must have evidence of the costs associated with current models of teaching and supervision in GP.

With supervisor and practice sustainability already being questioned, it is important for funders to consider how a future model for teaching and supervision in GP can be developed that is financially viable and acceptable to GPRs, GPS and practices. Therefore, it is important to understand the time invested by practices to deliver teaching activities.

While nationally there are calls to consider better practice remuneration, it is difficult to formulate any argument without an evidence base.

Literature

In Australia, the approach to GP training is an apprenticeship-style model, where GPRs spend most of their time based in teaching practices under the supervision of experienced and accredited GPs. Within this model, practice and supervisor quality is critical to successful GP training outcomes, including both attraction and retention of doctors within General Practice.

Attraction and retention of doctors to General Practice is more critical than ever. A decline in applications for GP training nationally, is causing concern in regard to future workforce. Recent research investigating factors that influence career decision-making for medical students, prevocational and vocational trainee medical officers found that quality, authentic experiences within General Practice, prior to decision-making, were enablers to choosing General Practice [(2)]. In addition, recent evidence indicates that retention in General Practice beyond Fellowship is influenced by experiencing a positive practice culture, which includes a commitment to teaching[3]. Therefore, in order to attract and retain our future GP workforce and encourage workforce distribution we need to support quality placements both prior to and during AGPT training [(3)].

The literature indicates that quality supervision and training placements are defined through both attributes and activities. Examples of attributes associated with quality GP training include: a strong educational alliance, provision of constructive feedback, expertly assessing and addressing GPR learning needs, use of an evidence-based approach during teaching, facilitating and monitoring learning and GPR wellbeing [(4-11)]. Examples of direct activities associated with higher quality GP training are: GPR orientation, development and implementation of a learning plan with input by the GPS, time to discuss feedback and assessments, provision of time for supervision and teaching, direct observation and feedback by the GPS, corridor teaching, and teaching by other clinical and non-clinical team members [(4 5 8 12)]. There are also indirect teaching activities associated with high quality education, such as adequate preparation time, professional development and teaching resources [(4 5 8 12)].

Evidence and standards support the notion that there are essential attributes and direct and indirect activities required to ensure high quality placements (eg. RACGP and ACRRM Standards for GP Training). However, what does quality cost? Balancing quality with sustainability must be considered in any future model of teaching and supervision in General Practice.

GPSA has developed the General Practice Clinical Learning Environment (GPCLE) Framework, which provides information about important elements associated with creating and maintaining a high quality clinical learning environment in General Practice [(13)]. This Framework draws together evidence from the literature, and feedback from GPSs, to define elements of practice quality and descriptions of essential markers. The Framework describes six key elements for a quality practice, including the practice: values learning, best practice clinical care, a positive learning environment, an effective GP training provider relationship, effective communication process, appropriate resources and facilities.

Evidence shows that to attract and sustain quality practices, supervision must be a viable business model. Studies have found that time, workload, and adequate financial remuneration were prerequisites for motivating GPs to become involved in teaching [(14, 15)]. The amount of policy and paperwork can be a disincentive to engage in supervision [(16)]. Therefore, we need to ensure that activities required of GPSs are important and funded.

Evidence shows that there have been ongoing concerns with Australian supervision and teaching payment models. Previous studies that have explored teaching costs from the practice perspective, found that practices have not been adequately compensated for the cost of teaching [(17-19)]. These studies are now over 10 years old, and the GP training environment has changed considerably. There is no recent evidence within Australia of time invested into teaching and supervision in General Practice and the associated costs. This is an important gap.

Recent qualitative evidence confirms that there are ongoing concerns that GPSs suffer financially by being involved in GPR training [(20)]. The 2019 WBA Framework report documented themes from interviews and

focus groups with 127 GPRs, GPSs and medical educators in regards to WBA [1]. A theme emerged regarding remuneration for teaching and supervision. There was an expectation from participants that practices should be renumerated, and a general dissatisfaction that this was not currently the case. Below a quote from the final report indicates that, despite GPSs' good will, this model may not be sustainable:

"When you are sitting here just losing money doing this, doing it for the good of the country and the good of the community and all this sort of stuff, it wears a bit thin after a while." (p. 157).

This aligns with data disused earlier from the 2019 GPSA National Supervisor Survey indicating that Supervisors feel that the financial viability of supervision is of concern, and both workload and cost were cited as reasons for ceasing supervision.

Thus, while there are ongoing concerns in regards to the financial viability of supervision, there is no recent evidence regarding time invested and the cost of teaching. In addition, we are currently in an environment where there are many upcoming changes to the GP training landscape, which may impact on requirements for teaching practices.

This project aims to better understand the sustainability of supervision in General Practice by determining the financial costs and benefits associated with teaching and supervision in General Practice.

Previous research identifying supervision and teaching activities, time and associated cost indicates that the process needs to be stakeholder driven, seeking feedback from GPSs and practices [17-19 21]. These perspectives will be considered.

Evidence indicates that the costs associated with teaching and supervision may vary according to a number of parameters including: rural vs urban based teaching practices [19], the model used within the practice for delivering teaching [22], the GPR learning needs and level of supervision required [1]. A quote from the WBA Framework report supports this:

"If you've got a registrar that you know is struggling but they're not quite on the remediation pathway and you know that Supervisors are going to need to be putting in extra time, a lot of that at the moment is done on goodwill, from what I can see." (p. 153)

Thus, the project will also explore parameters, which may impact on the costs associated with teaching a supervision and consider how this may impact the financial viability.

The Australian General Practice Training (AGPT) environment

The current teaching practice payment model is funded through subsidies provided by RTOs to practices (practice subsidy), GPSs (teaching allowance) and generation of income by the GPR through their consultation work in practices. Practice payments are delivered to practices by RTOs according to the KPIs and practice agreement.

There are policy and standards documents that dictate acceptable quality within Australian GP training. All training practices in Australia must be accredited against the ACRRM and/or RACGP Standards for General Practice Training [23]. These standards set the minimum requirements for the quality of supervision and placements. The standards focus on the practice environment, education and training provided and assessment. Currently RTOs support and monitor quality according to the RACGP standards, the National Terms and Conditions for the Employment of Registrars (NTCER), and will often have additional policies that set out required attributes and activities for GPSs and practices within their region. Despite national overarching standards, differing regional requirements may explain some of the current variation in practice funding models across RTOs within Australia.

In addition, unlike other medical specialty training programs, the majority of the Australian General Practice Training Program is delivered within independent, private General Practices. Therefore, the individual variation in business models adds to the diversity in the practice-based delivery of AGPT training within regions and the complexity of the AGPT training context.

With the transition of Australian General Practice Training to the Colleges (Australian College of Rural and Remote Medicine [ACRRM] and the Royal Australian College of General Practice [RACGP]), a more nationally consistent training model will be established. Already a new practice payment model has been determined. However, the practice requirements or KPIs for accessing this funding are still being developed.

In the context of low satisfaction with current financial recognition for AGPT teaching practices, this research assists to provide some evidence of:

1. What are the teaching and supervision activities currently occurring within GP training practices?
    - What are the direct and indirect teaching activities?
    - What are the perceived benefits of these activities?
    - How much time is spent on these teaching activities?

2. What are the financial costs and revenue of teaching and supervision in GP?
    - What are the financial costs of direct and indirect teaching activities?
    - What is the revenue for teaching and supervision in General Practice?
    - Do these financial costs and revenue differ for different levels of vocational training?
    - Do these financial costs and revenue differ for urban or rural practices?
    - Do the revenue outweigh the financial costs for teaching and supervision in General Practice?

2. Research design

This study used a mixed method design to address the research questions, with three interrelated parts.

Part 1: Stakeholder interviews

Interviews were undertaken nationally with GPSs (n=9) and practice managers (PMs; n=9). The interviews focussed on: the types of direct and indirect teaching and supervision activities occurring, perceived benefit of these activities, other costs and revenue associated with GPR placements and factors impacting on the cost of teaching.

This information, in combination with input from the project Steering Group, was then used to develop a questionnaire which was used in Part 2 of this project. The interviews also informed the factors considered in the cost-revenue analysis, areas of teaching activities, and the notes developed to accompany and interpret this model.

Part 2: Stakeholder survey

A national online survey of GPSs (n=238) and PMs (n=142) was undertaken. The survey focussed on sampling a broad range of AGPT teaching practices on the practice environment and model, teaching and supervision activities occurring, and perceptions of current practice and teaching financial support.

Part 3: Cost revenue analysis

To determine the financial costs and revenue of teaching, this part of the study used data on teaching activities from the survey (Part 2), other publicly available data, and expert advice from study Steering Group and stakeholder interviews (Part 1).

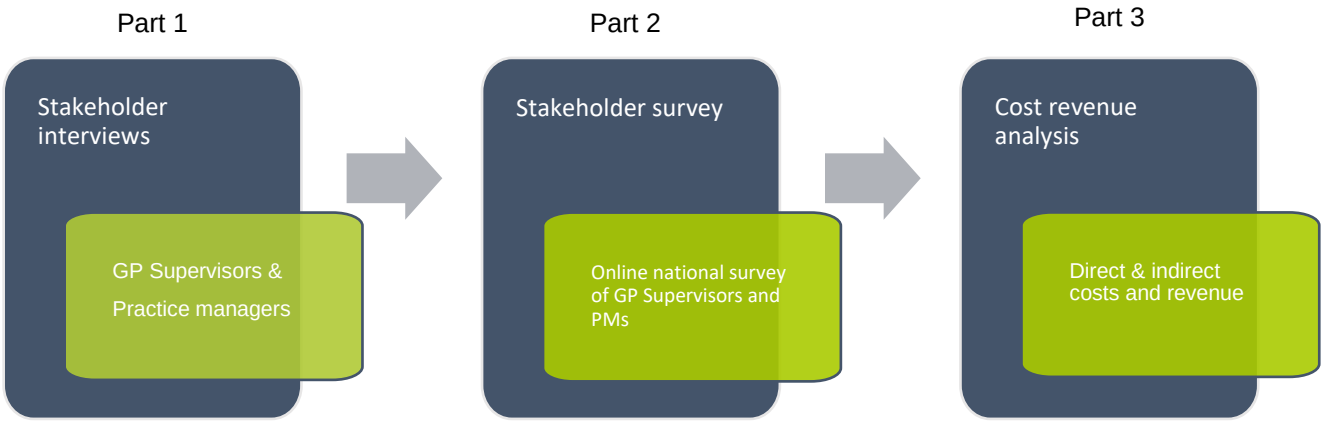
The Findings

Figure 1 shows each of the research parts, which together inform the cost-revenue analysis, interpretation, and discussion.

Findings of the project were presented to a group of stakeholders who had participated in previous parts of the research, and who had indicated their interest in providing feedback on the findings.

This report includes chapters on each part of the research and draws together the findings from all parts to discuss the implications of this research to practice.

Figure 1. Overview of research method



3. Part 1: Stakeholder Interviews

Overview

Part 1 of the research explored the following:

- The types of direct and indirect teaching and supervision activities occurring,
- Perceived benefit of these activities,
- Other costs associated with GPR placements,
- Revenue associated with GPR placements,
- Factors impacting on the cost of teaching, and
- Perceptions of the cost of teaching.

This information, in combination with input from the project Steering Group, was then used to develop a questionnaire which was used in Part 2 of this project. The interviews also informed the factors considered in the cost-revenue analysis and the interpretation and discussion of this model.

Method

Given the complexity associated with supporting a GPR placement, the Steering Group recommended the development and distribution of a pre-interview participant prompt sheet to give participants prior awareness of the types of questions which would be asked and prompt them to reflect on activities they completed: pre-placement, during orientation, during the placement, and other indirect activities (Appendix 1). An interview schedule was also developed in consultation with the project Steering Group focussing on the types of direct and indirect teaching and supervision activities occurring, perceived benefit of these activities, other costs and revenue associated with GPR placements and factors impacting on the cost of teaching (Appendix 2). This schedule was piloted with both urban and rural GPSs and an urban-based PM.

Recruitment of participants occurred through the GPSA national mailing lists and GPEx local mailing lists. A registration of interest online form was developed, which gathered basic information for participants to assist the research team to determine eligibility and gather a maximally representative sample.

Participants were eligible if they were GPSs or PMs with 5 or more years' experience supervising AGPT GPRs. Participants would be from current AGPT GPR training practices. Participants could not be remote supervisors.

Participants were GPSs (n=9) and PMs (n=9) from across Australia. A description of participant demographics is shown in Table 1.

Table 1. Stakeholder interview participant demographics.

	Total	Gender	Practice location	State	Length of experience	Number of doctors	Number of Supervisors in practice	Levels of registrars
Practice managers	9	Women=9	Rural=4 Urban=5	SA=4 Qld=2 NSW=1 WA=1 Vic=1	4-20 years	5-20	2-5	All levels
Supervisors	9	Men=6 Women=5	Rural=5 Urban=4	SA=8 Vic=1	4-19 years	7-16	2-7	All levels

A good variation within the sample was achieved. There was variation within the participant group across both PM and GPS roles, location (rural and urban), number of GPRs supervised in the practice, levels of GPRs supervised currently and previously, number of doctors in the practice/ size of the supervisory team, current level of teaching, state, and gender.

Interviews occurred via zoom and typically lasted 1 hour. Prior to the interview participants were sent the pre-interview participant prompt sheet via email and they were encouraged to have this available during the interview as a prompt. Interviews were recorded and transcribed verbatim. Transcripts were sent to participants to confirm they provided an accurate representation of the interview.

A content and thematic analysis of results was completed for all transcripts using NVIVO. Two coders initially coded a sample of interviews to build a coding scheme aligned with the research questions. A coding book was developed to then code the interviews with code definitions. Interviews were then coded across two coders and an inter-rater agreement process was undertaken. Three rounds of inter-rater agreement and recoding were used, with recoding after each round, to achieve a 100% agreement across coders.

Results

The interview results are reported against the following headings:

- The types of direct and indirect teaching and supervision activities occurring,
- Perceived value of these activities,
- Other costs associated with registrar placements,
- Revenue associated with registrar placements
- Factors impacting on the cost of teaching,
- Perceptions of the cost of teaching,
- Motivators for teaching,
- The role of practice culture,
- Understanding how the cost of teaching fits within the broader GP context.

Themes emerging against each of these are described, with illustrative quotes used throughout.

In addition, the authors have reported numbers to indicate the frequency of certain themes, overall and across both participants groups (PMs and GPS). Most numbers reported refer to the number of interviews in which that theme was coded.

The authors have also included, at times, information on the number of 'coding references'. This terminology refers to the number of times that theme was coded across all transcripts. Some themes were frequently discussed not only across interviews, but also within interviews, and referring to coding references within the results section provides the reader with an understanding of the number of times the theme was coded across, and within, all interviews.

Direct and indirect teaching and supervision activities

Several teaching and supervision activities were identified by interviewees, with many of these activities common across practices. Activities included direct activities (eg. pre-placement activities, orientation activities, and activities occurring during the placement) and indirect teaching activities (eg. teaching practice accreditation and GPS and PM professional development). Figure 2 summarises the activities identified by interviewees. Appendix 3 contains tables describing the above in more detail, including a description of the activities, and the practice staff identified as being involved in those activities. The frequency of the activity coded in the PM and GPS interviews is also included in the table. This enables the reader to see those activities that were discussed more frequently, and how that may have varied between the two stakeholder groups. Some activities were discussed equally across GPS and PM groups, while others were predominantly discussed by one group or the other.

Figure 2. Summary of key teaching and supervision activities currently occurring within GP training practices.

Pre-placement	Orientation	The Placement
Placement process/ determining practice capacity CV review Interviews Contract administration Pre-employment paperwork Preparing for the registrar arrival and orientation Supporting the registrar to come to the community Liaison with RTO and/or registrars	Practice orientation Clinical Orientation (including orientation to other sites eg. nursing home, hospital) Orientation to the nurse role Orientation to the community Registrar sits in with the Supervisor/other doctor Supervisor sits in with the registrar Monitoring and identifying registrar needs Debriefing Regular checking in and responding to registrar clinical queries	Planning for teaching Formal teaching Corridor or opportunistic teaching Assessments Pastoral care Seeking out and responding to registrar needs Liaising with the Regional Training Organisation (RTO) Supervision outside of the practice (eg. nursing homes) Monitoring registrar progress and needs identification Providing feedback to the registrar Coordination, administration, and scheduling
Indirect activities associated with a registrar placement		
General communications with RTOs and other training related stakeholders (unrelated to the placement) RTO required training Practice accreditation/Quality improving the teaching practice	Networking and support activity Managing risks Training and supporting new supervisors	

Perceived activity value and improvement opportunities

Participants were asked to consider if there were any activities they do to support the GPR placement that they feel are valuable or not valuable. Participants also often indicated their suggestions for improvement.

Overall, 10 participants discussed valued activities, seven spoke about activities not valued and 11 spoke about suggestions to improve activities. There was variation in the activities spoken about by the participants. Activities discussed fell into the following categories: teaching and supervision, assessments, and RTO/system supported activities.

Teaching and supervision (6) and direct observation (5) were commonly discussed as valuable activities.

Reducing the administrative burden on practices in relation to online modules and paperwork were commonly discussed.

Several unique suggestions for improvement were made. Improvement opportunities in relation to the placement process were most common (4). These focused on maintaining sustainable access to appropriate GPRs for the practice. Table 2 summarises the frequency of responses, and the views shared.

Table 2. Summary of participants' perceptions of activity value and improvement opportunities.

Category	Activity	Valued activities	Activities not valued	Suggestions to improve	Comments
Overall	All activities	4			Several respondents felt that all activities currently undertaken were valued.
Teaching and supervision	Teaching and supervision	8		1	Paid time to invest in formal or corridor teaching was perceived by several participants as valuable. A suggestion was made to increase paid formal teaching time.
Assessments	Early safety assessment (ESA)	1		1	An ESA was seen as valuable, but making an assessment too early in the term was seen as risky and it was suggested the ESA should be completed later in the semester when the practice has gathered more information to make a robust decision about GPR safety.
	Multisource feedback (MSF)		1	1	It was felt the formal MSF did not provide additional assessment information for a high performing GPR. However, it was also suggested that informally following up patient feedback to gauge how a GPR is performing and being able to provide this feedback to the GPR would be a useful activity for all practices to engage in.
	Direct observation/video reviews	5	2	1	Generally, it was felt that being able to observe the GPR to assess their performance and to give feedback was a valuable activity for practice risk management and for GPR development. It was suggested that the length of orientation should be extended to provide additional paid time to sit in and observe the GPR. There was divided opinion about the usefulness of video reviews. Both participants who indicated they did not value direct observation were commenting specifically about video reviews, and the cumbersome additional administration required to complete these (eg. accessing video equipment, co-ordination, patient consent process, data storage and privacy, organising to review the video recordings).
	Placement process	1		4	The placement process was seen as valuable if the practice was supported to access GPRs and have a choice of GPR. Suggestions for improvements for the placement process were:

Category	Activity	Valued activities	Activities not valued	Suggestions to improve	Comments
RTO /system supported activities					• The practice should have a choice of GPRs and it is not a competition between all practices to attract the same GPRs. • Appropriate time is given to arrange interviews with GPRs prior to selection, because interviews are time consuming to schedule. • Quality training practices are rewarded with GPR supply during the placement process. • Practices should have prior awareness of a GPR experiencing difficulties, before accepting them for a placement.
	RTO workshops	2		1	Provision of external workshops was valued. It was suggested that early workshops should include training for GPRs in consulting skills, so practices do not have to train GPRs early on in how to manage a consultation.
	Online modules/resources		2	1	It was discussed that online modules could be difficult to use and add additional burden. This should be improved so that the online modules are less time consuming and more user friendly.
	Paperwork	0	4	2	The practice did not see the benefit from the high quantity of paperwork, or online forms. It was suggested that the cost of teaching would be reduced by decreasing the paperwork required.

Valued activities are done even though they are not required

Six (6) interviewees felt that activities that were valued by the practice were done even though they weren't a requirement. They all referred to providing additional formal teaching time with the GPR.

> *"We often organise mock OSCE exam. We'll have three rooms and they'll rotate through the rooms and there is three doctors. Pretty full on. So we're all there for three hours leading up to the exam. Again, that's just something that we do to provide the experience. Hopefully a bit better teaching. There is just so many things like that that you would keep doing. It would be nice to get recognised for and paid for."*

(Supervisor 5, rural)

Other costs associated with registrar placements

There were several costs identified by the participants associated with supporting GPR placements. There were financial costs to the practice, the GPS, and the PM. Several participants also spoke about the costs to the practice if the GPR position was not filled, and managing this additional risk.

There were also emotional costs to the practice team, which was not a specific focus of this research, but emerged as a theme.

Costs to the practice

Financial costs to the practice which were identified through the interviews fell into the following categories: Supervisor and practice staff time, resources and infrastructure, and GPR salary and benefits.Table 3 shows that there was high level of agreement between participants for each of these categories, with PMs being more likely to identify and discuss resources and infrastructure associated with the GPR placement.

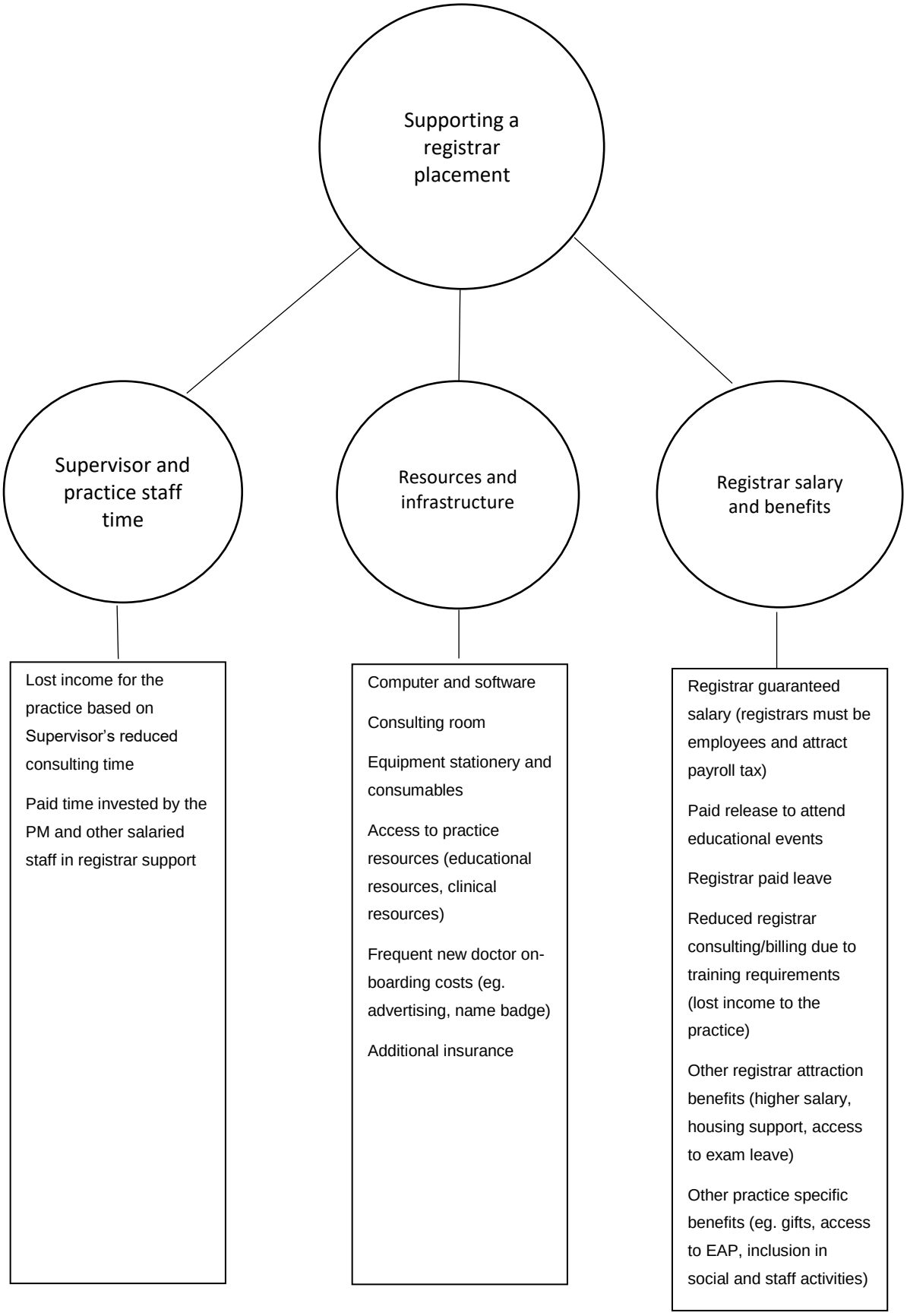
Table 3. Categories of financial costs to the practice.

Cost category	PM interviews	Supervisor interviews	Overall
Supervisor and practice staff time	9	9	18
Resources and infrastructure	7	2	9
Registrar salary and benefits	9	9	18

Figure 3 shows the financial costs to the practice that were identified through the interviews. There was variation between participants with regard to items discussed within each of these categories. The sub-codes that had a high level of agreement between participants (n = 18) were:

- Lost income for the practice based on GPS's reduced consulting time (100% agreement).
- Paid time invested by the PM and other salaried staff in GPR support (100% agreement).
- Reduced GPR consulting/billing due to training requirements (lost income to the practice; 100% agreement).
- GPS out-of-hours work (88% agreement).

Figure 3. Perceived financial costs to the practice associated with supporting a registrar placement.



Supervisor and practice staff time

The codes under this category were associated with salaried practice staff time and GPS time invested in supporting the GPR. The types of activities undertaken by the GPS and the practice team were described in the previous section.

In addition to this, all respondents identified the GPS's missed consulting opportunities, which equates to lost income for the GPS and practice, who would typically retain a proportion of the GPs billings. Participants discussed that GPS consulting time would be blocked out during GPR orientation and throughout the semester to engage in teaching, GPR observation, and also sometimes to catch up during their consulting due to the number of interruptions from the GPR. Missed consulting time could also be as a result of undertaking other required activities to support the GPR placement (such as attending professional development).

> *"…when you start looking at loss - like, for example, the one-on-one training. So, they go, okay, we'll give you this amount of money to support the doctor that's doing that supervision in that one hour or the one and a half hours. But they also - they're not taking into consideration that the practice isn't getting income coming in at that time for the registrar, either, as well as the Supervisor."*

(Practice manager 9, urban)

> *"Payment for a Supervisor to attend a workshop doesn't compensate for what he's lost for the day. So, it doesn't even come close to covering what not only he's lost for the day but the percentage that the practice has lost as well. … So, we've just lost revenue for the entire day. So, practices probably should be remunerated for that as well."*

(Practice manager 3, rural)

Resources and infrastructure

Resources and infrastructure were spoken about as costs predominantly by PM participants. Costs discussed included: computers and software, costs associated with providing a GPR with a consulting room, providing equipment, stationery and consumables, providing access to resources purchased and maintained by the practice (examples included clinical resources, books, online educational modules, recording facilities used for educational purposes, and clinical best practice resources).

One participant indicated that practices might pay additional insurance costs to have GPRs within the practice and another participant spoke about on-boarding costs associated with having a new doctor starting at the practice (such as the frequent onboarding costs, name plates and advertising for a new doctor through their normal channels).

Registrar salary and benefits

While all participants spoke about GPR salary and benefits, the types of codes varied across interviewees. It was identified that the GPR's salary would be a cost to the practice. In particular, issues such as payroll tax and the requirement to pay the GPRs salary when they were not working for the practice (eg. paid leave or attending external educational events).

Practice specific benefits were discussed and seemed to vary depending on the business model and culture of the practice. Examples included: inclusion in social activities, gifts, and access to the employee assistance program. Some participants also spoke about benefits they had decided as a practice to offer GPRs as an incentive to attract them to choose a placement at their practice. This tended to be spoken about more by rural participants and included GPR housing (1/1 was rural), provision of additional exam leave (1/3 was rural) or higher salary (3/4 were rural).

Reduced GPR consulting due to their trainee role and training requirements was spoken about by all participants (18/18) with 93 unique coding references across the transcripts. Given that the GPR is on a guaranteed wage, irrespective of whether they are consulting or not, but the practice only generates income to support the GPR placement when the registrar is consulting and billing, this would result in lost income to the practice. This was spoken about in several ways. Most participants talked about consulting time being blocked off in the GPR's diary to enable them to engage in training requirements (eg. orientation to the practice, administration time, to complete teaching sessions with the GPS, or self-directed learning activities, and Medical Educator visits). Participants often spoke about 'catch-up' time being prospectively included in the GPRs' schedules to assist them to keep to time as they become used to working within the General Practice context and managing consultations (13/18).

> *"Then, there's the time that the registrar goes off and does study outside of the practice. Also, their protected study time, is the additional thing, that we're additionally paying for without the income coming in to support it.…this is probably my biggest bugbear, with regards to registrars, on a financial level and I think it's really unfair. We have to pay for them to attend offsite training. So, we're effectively paying for their wages when they're having - well, that's the other expense. They're not only not earning an income, we're also paying them wages for their training time, which then costs us more money."*

(Practice manager 9, urban)

> *"For example, one of our registrars at the moment, still, she's just about to sit her OSCE and she still runs an hour, hour-and-a-half late, so she still has two appointments blocked out morning and afternoon. Regardless of how hard we try, we just can't break that. So yeah, there's cost involved there."*

(Supervisor 7, rural)

Most participants identified that GPRs often needed longer appointments (13/18) than Fellowed GPs and spoke about blocking out 'catch-ups' in the GPR's calendar. This was especially when GPRs were beginning in General Practice for the first time and also when they start at a new practice to allow time for them to get used to the new practice context, systems and software.

> *"So – and as they learn, they obviously get quicker at things. So, you know – whereas initially they might need a 20 minute consult, a week, a month, two months down the track, they might be able to do 10 minutes like everybody else. But there is no pressure. If they want to do six months of 20 minute consults, that's perfectly fine by us."*

(Practice manager 3, rural)

Initially, when GPRs were not generating enough to access a percentage of billings, but they still must be paid by the practice the guaranteed salary which is at, or above, the NTCER, it was felt the practice was losing money.

> *"…some doctors within two weeks and they're effectively onto percentages rather than their - in regards to the minimum wage. But when we're paying minimum wages, we're losing money. So, sometimes, that can be up to two months of us making a loss by them being in the practice. Because by the time you take, in regards, the minimum wage plus super - so, super's probably the killer, when you're looking at it. The one thing that is really - you've got to be very conscious of, is in regards to - you don't want to negotiate too much money for your registrars in regards to them coming onboard. Because it's a fine line between them being a registrar and then moving over to a contractor. The reason - once they've Fellowed, moving over to a contractor, because you're not - once they become a contractor, they have to pay their own taxes. They have to pay their own superannuation."*

(Practice manager 9, urban)

Costs to the Supervisor

As discussed above, participants spoke about reduced GPS consulting time to enable supervision, which was discussed above as a cost to the practice, can also be allocated as a cost to the GPS, reducing their earnings.

In addition, 16/18 participants talked about GPSs engaging in out of hours work to support the GPR. This included coming in on days rostered off, starting earlier or finishing later, and working during allocated breaks.

Costs to the Practice manager

Four (4) PMs and two (2) GPS also commented on the PM doing out of hours work to support GPR placements. This was typically associated with pastoral care for the registrar or participating in the interview and selection process.

Emotional investment

Eight (8) of the eighteen (18) participants spoke about the emotional investment the practice staff had in hosting GPR placements. This was equally spoken about by PMs (4) and GPSs (4).

Participants spoke about being emotionally invested in the success and journey of the GPRs.

> *"So, we spent a fair bit of time with that registrar. I mean, he was an absolute delight and as I say, he still works here now. It was never an issue and we were – I literally cried my heart out when he passed the exam. I was so relieved for him. As was everyone. We were all crying."*

(Practice manager 2, urban)

Participants also spoke about the emotional exhaustion or burnout that could be felt as a result of difficult GPR experiences.

> *"We've just recently had a bad run at work….. we had a very difficult one one year, then we had a really insecure one the next year, and then we had this unlikeable one in the third year. So, it's kind of - and it actually - it's actually made it - it's had a big effect on the other doctors, because they just don't want to get involved. So, then anyone who was involved was involved a lot more, and then you go through this - you know, burnout is not the right term, but people just are going, oh, I don't think I want to keep doing this as much as I have to do."*

(Supervisor 1, urban)

…. not having a GPR placed at the practice,

> *"This is the first time in my history of being here, that we've not had a registrar on our - in our practice. So, where that hurts us, is we're now booked seven to eight days in advance for appointments. So, our patients are really, really struggling. Our doctors that are left behind, are burnt out."*

(Practice manager 9, urban)

…or continuously investing in registrar training but not retaining GPRs…

> *"(Interviewer: I can hear it in every word that you say. You've got a real passion for supervising, mentoring, teaching and nurturing that next generation.) Participant: Yeah, I have. I really have and I've always had that and I don't feel that it's getting us anywhere. I feel a bit despondent about it. …… So, it's retention is the biggest issue. If the registrars came*

to us and stayed or they came to us from other clinics and we got that payback, we'd be happy after qualified but we don't get it. We don't get a thing."

(Supervisor 10, rural)

Revenue associated with registrar placements

The interviews confirmed several revenue streams associated with hosting a GPR. These included:

- GPR earnings
- Supervisor and practice payments (from the RTO)
- Additional financial support for remediation
- Additional payments (eg. WIP and rural practices spoke about available rural workforce agency payments)

Participants indicated that teaching and practice payments from the RTO were managed differently according to the practice's internal business model, decision-making and governance. In some cases, teaching payments were made directly to the GPS/s. In other cases, they were shared across the practice. One practice indicated they chose to pay the GPSs at a higher rate than that offered through the RTO payment.

Factors impacting on the cost of teaching

Participants discussed several factors which can vary and are perceived to impact on the cost of teaching. Factors were identified by participants at the GPR-level, the practice-level, and the AGPT system-level.

Practice flexibility

Overall, a common code in the interviews focused on the practices being flexible depending on the registrar need (16/18). Within this code, participants spoke about the practice actively monitoring registrar needs, communicating with the registrar, and adapting the support and teaching provided according to those needs (this included both clinical and personal needs).

"They will start consulting but they'll do it a very slower pace. So they might only have a handful of patients just to start getting used to the process. I suppose I sort of basically pop in and out when I've got free time. Certainly at the end of the time, sometimes I like wait around, you know, if they're running a bit late, I'll just do paperwork. Then I'll catch up with them at the end of [unclear]. I try and do that at least for the first couple of weeks. So then after that, it depends on how much they need assistance as to how frequently I will stay back. Sometimes I might just catch them at lunchtime and check in."

(Supervisor 8, urban)

"Or just we may even have a teaching session where the first half of the structured teaching is really around how they're going and what tweaking needs to be made to that structure. They might say, oh look I'd like some more direct observation or I really, really want to focus on structuring the consultation and so we can adapt it to them, so those sort of things."

(Supervisor 4, urban)

"….we have a lot of informal conversations. So, it must just be [the registrar's] door's open, I'll pop in, how's everything going? You know, I'm doing really good. I reckon I could cut down to 15 minutes and I'll say all right. Well, I'll go and check with [Supervisor] and I'll get back to you. If [Supervisor] says yeah, they're doing really awesome, cut them back down then we'll do that. So, it's always sort of in consult with the three of us or we might just be in the lunchroom and – I mean, if we need to have a formal meeting, we certainly will but yeah, we tend to have a lot more informal ones as such."

(Practice manager 3, rural)

Participants also spoke about practices being flexible with scheduling and appointments based on GPR need.

> *"We give them plenty of time, plenty of catchups. Because we're so busy we can do it last minute and they'll fill. We have a luxury in that sense that we can do that if we can set them up in an afternoon and we can fill patients. Sometimes we might swap patients in there. [The Supervisor] might say I'll do some of my paperwork, you have my patient. So, there's that sort of stuff. We can do that very last minute, so that's what we do depending on how they're going. If they're don't – if we don't feel they're ready, then we'll just chuck them in with another Supervisor again. A different Supervisor."*
>
> (Practice manager 4, urban)
>
> *"There is often where a registrar runs late, especially early on and the only way we know that we're going to avert some complaints is that we just grab one off their list and just see the patient and get it sorted. [Laughs] So that's just because they're inexperienced and unfamiliar with working in the area …"*
>
> (Supervisor 9, rural)

Registrar variation

At the GPR level, interviewees provided several examples of different GPR characteristics that were thought to be associated with differing levels of support and supervision.

> *"Well, it really depends on which term they are. Are they term one, term two, term three, an extension term, where they've been in in the past. Have they used your software?"*
>
> (Supervisor 6, rural)

These are detailed in Table 4.

Table 4. Registrar factors identified as impacting on the activity required (n = 18).

Factor identified as impacting on the activity required	Number of participants	Notes	Quotes
Stage of training	17	Typically more time is invested in GPT1/2 when the GPRs are learning to work for the first time in a General Practice setting with different business, clinical, and consultation models compared with the hospital environment. Participants spoke about investing additional time in the following activities: orientation, monitoring (may include direct observations or random case audits etc.), teaching, corridor teaching, and supervision. It was noted that there was little variation in the pre-placement on-boarding investment made by the practice across the GPR levels.	*"I think with GPT1s, they've never really worked in a General Practice before. So, they're not familiar with how General Practice works with the ones that we've – I think I've only ever had one GPT1 actually. So, they just needed a lot more hand holding and they needed a lot more reassurance and they had a lot more questions opposed to those obviously that have already done six months somewhere. That you know they sort of had an idea. That's probably the main difference."* (Practice manager 3, rural)
Competence	15	The more competent the GPR, the less time spent by the practice to provide teaching and supervision, and monitor competence. This was seen as being independent of the stage of training, with examples given of GPRs who were in GPT3 or 4 but still required additional time and support due to a lack of competence, or sometimes exam failure and remediation.	*"That was particularly highlighted for us recently with the succession of people who have taken two and three and four goes to pass their exam. They need lots of supervision and support. But they're all GPT-3 plus and so you get a pittance or nothing at all for looking after them."* (Supervisor 5, rural)

Factor identified as impacting on the activity required	Number of participants	Notes	Quotes
Registrar wellbeing	9	Poor GPR wellbeing was spoken about as being associated with increased burden on the practice. Participants talked about the time associated with the pastoral care role of the GPS and PM increasing. In addition, the wider impact on the practice team in regard to juggling patients and appointments in the event that leave with short notice was required, or increasing the amount of protected paid time and reducing their number of consultations.	*"So you know she's needed a lot of emotional support and financial support which we gladly do, don't get me wrong, but it's just – yeah, it's taken a lot of time and effort and re-juggling of patients."* (Practice manager 5, rural)
Registrar organisation and professionalism	9	Participants discussed that if there were concerns with GPR's organisational skills or professionalism this increased the burden on the practice. This included the GPR not engaging with their training requirements or assessments, not being able to manage time in consulting, or not acting in a professional manner.	*"Time management was just really crappy and there was some concerns about decision making and there were concerns about over ordering lots and lots of tests. So [the Supervisor] really felt that at one stage, he actually was pretty much checking every single patient because she wasn't seeing that many"* (Supervisor 4, urban)
Previous placement experience	8	GPRs' previous experience could either reduce or increase the training and support activity required. In some cases, participants talked about GPRs having good previous placement experiences and coming to them with a good set of skills and knowledge. In other cases, participants talked about GPRs potentially missing foundational skills.	*"Whereas another registrar we had, the one that's now a GPT4, it took two weeks for her to be able to see a patient on her own. She was so nervous and so I sat in with her an awful lot in that time when she would have one patient an hour. (Facilitator: So, it's not necessarily a stage of training always. It can be other things as well.)* *It really depends on previous experience. She had a traumatic time, she was coming through some - she'd had a rough time. She'd not done well at one clinic so she came to us. So, I had to then rebuild this doctor almost it felt like who had been destroyed and she's got - she's brilliant now but it took a lot of effort."* (Supervisor 10, rural)
Personality	7	Participants talked about the fit of the GPR's personality into the practice and about GPRs who were less likely to share if they had a problem or concern being problematic.	*"It depends on their personality sometimes too. Are they are a sharer or are they not a sharer, sometimes you have to tease that out of them a bit. Because they don't know you either,*

Factor identified as impacting on the activity required	Number of participants	Notes	Quotes
			they don't know how you work and we're pretty nosy in here [laughs]." (Practice manager 4, urban)
Knowledge of practice software	5	Participants noted that additional orientation and support is required early in the placement if the GPR hasn't previously used the practice software, irrespective of the training term.	*"Certainly, if they've done it before - so if they're even a two not so much but even a three you notice they don't ask as many questions, particularly if they've used the same software. Because they know the software. Half the questions are software in the beginning. They know the software. Clinical and they're a bit better in how to manage their clinical because they've got a year under their belt, but they still have the questions about where to refer to."* (Practice manager 4, urban)
Level of support required to integrate into the community/location	4	Participants talked about some GPRs needing more support from the practice to integrate into the community. Overall, it was discussed that local medical graduates with local knowledge and experience reduced the level of support required. In addition, for rural GPRs, those with partners, families or pets may need additional support from the practice to find accommodation, and local schools, connections, and services.	*"You know specialists that our GPs would routinely use that are in the area. It's more difficult if they come from interstate. But if they have come through a South Australian university and hospitals, they're a bit more familiar with the areas and it's a bit easier for them but we still like to give them that cheat sheet so that that gives them a bit of hand with that."* (Practice manager 11, urban)
FTE	3	Some participants felt part-time GPRs may need more support compared with those training full time. It may be more GPS support is required or more administrative juggling of patients and rooms available.	*"Her limited hours mean limited face-to-face and so limited confidence and experience and so they need a lot more hand holding than somebody who has been full time for the whole time."* (Practice manager 11, urban)
Registrar is sitting exams	3	Some participants commented on additional support being provided by the practice to GPRs sitting for their exams.	*"Sometimes when it comes up to their exams, we would put two half hour sessions in the diary just to make sure that the registrar was okay. So, their usual half hour to talk about general consult issues and then half an hour for them to talk about their study. How's the study going? Those sorts of*

Factor identified as impacting on the activity required	Number of participants	Notes	Quotes
			conversations. On a Friday, we also do case study sessions as well." (Practice manager 2, urban)
Registrar with procedural skills	1	One participant noted that supervising GPR procedural skills increased the amount of time they need to be on-call to supervise that GPR.	

Practice and system level enablers and barriers

Practice level and AGPT-system level factors were discussed by participants as enabling a placement. Table 5 below details these factors and the frequency at which they were discussed across interviews.

Table 5. Barriers and enablers of supervision and placements (n = 18).

System level		**Practice level**		**Both system and practice level**	
Enabler/barrier	***n***	***Enabler/barrier***	***n***	***Enabler/barrier***	***n***
Registrar-practice fit (placement process)	10	Strength of relationship with registrar	7	Suite of resources to support teaching/placements	8
Continuity of registrar placements	4	Appropriate patient scheduling	6	Multiple registrars	2
Twelve month placements	3	Teaching ethical billing early on	4		
		Maintaining experienced practice staff and supervisors	3		

(*N= number of transcripts containing this code)

Ten participants spoke about the importance of GPR/practice fit, achieved through the placement process. Practices spoke about being able to initially assess the GPR/practice fit from the placement interview process. Participants felt that the training provider had a role to play in ensuring practices were able to choose appropriate GPRs.

> *"Certainly the ones that have come to us have maybe mostly, had a bit of country background and wanted to be there. Not just there. That's where the training organisation is so important to get it right too. To know who would fit and who wouldn't fit, to a certain extent. Not that you can probably pick and choose. But I'm sure that there must be - they must look at somebody and think they've got a partner that has to work within a 100k zone. They're not going to send them to [Practice name]. They are going to put them in [location] or something like that, aren't they? Because to me, it's the training program that needs to get it partly right as well."*
>
> (Practice manager 10, rural)

Participants also talked about the importance of GPR/practice fit in retaining GPRs.

> *"You know how you – we've got a really close team here. We do a lot of socialising after work and things like that and she just didn't click really with anybody. She was just her own person and just one of those people that no matter how many things you invited her to or anything like that, she just didn't want to have a bar of anyone or anything. So luckily, she was only here for six months [laughs]. So, there was nothing – I mean, she was – I couldn't fault her clinical skills or anything like that. I guess just personality. She just – yeah, didn't click."*
>
> (Practice manager 3, rural)

Four participants spoke about the importance of continuity of GPR placements and the costs to a practice if the GPR position was not filled. These were all PMs. They spoke about the logistical difficulties, uncertainty, and risks of not maintaining regular GPR placements on the practice team and underlying costs.

> *"Okay, ultimately you shouldn't be relying on registrars to service your patient base but we had been because that's the way it worked every year. So that was a huge shock, the big change from,… five to*

one?....So we tried our best for a few months and nothing - we just realised that we were running at a loss, so we had to let staff go, which was very traumatic; like awful, beyond awful."

(Practice manager 5, rural)

"Well, it will also impact the rosters because with an extra GP, I have to roster extra nurses, extra reception staff. It will – it puts a lot more pressure on the doctors already within the practice because if they were wanting to take leave, I might potentially say to them can you just wait until next month when the registrar starts and then you can have your time off? So, you know, it affects their lives. The amount of patients that we can't fit in. So obviously, with another doctor, there's 20, 30, 40 more patients we can get every day. So again, bottom line."

(Practice manager 3, rural)

Twelve-month placements were spoken about by three participants as advantageous. They were thought to be advantageous to patients at the practice to enable access better continuity of care, and for the GPR to be able to engage in extended education because they do not require two orientations over the 12-month period. The practice also avoids the cost associated with a second orientation over the twelve months.

The strength of relationship with the GPR was spoken about by 7 participants, both PMs and GPSs.

"Part of it is getting that trust and credibility from the registrar, but also creating that, I guess, an alliance where you're also happy for them to watch you and feedback. So I think that's why I do the part where they watch me."

(Supervisor 3, urban)

Appropriate patient scheduling was seen as an activity which could be undertaken by the practice to set the GPR, and practice, up for success. A number of participants talked about the practice staff using their knowledge of patients to determine who would be appropriate to schedule with the new GPR beginning at the practice in regard to personality as well as existing medical history and complexity. Participants spoke about actively consulting with the GPR and GPS and managing the patient load and mix appropriately throughout the placement. While this required an investment of time it was thought to offset additional costs associated with GPR's running late, patient complaints, and issues regarding competency development.

Teaching ethical billing early on was a strategy discussed by four participants, both GPS and PMs. It was acknowledged that when a GPR starts in the practice, especially in GPT1, there is a steep learning curve in regard to how to bill, developing an understanding of the business of General Practice, and giving them confidence to value their time.

"But I think if you teach them to bill adequately, so value their time and teach them about why – well again, this is my bias, why private billing seems to be more feasible generally in terms of sustainable practice, then they tend to learn to value themselves as well."

(Supervisor 3, urban)

Interviewees often talked about the importance of maintaining experienced staff and GPSs and access to a suite of resources to support teaching and placements. Experienced GPSs tended to build up a repertoire of teaching experience and aids which they felt reduced the preparation time they needed to invest in registrar training. In addition, both GPSs and PMs talked about the use of resources to efficiently deliver training. This included examples such as orientation checklists, GPR manuals, a repository of GPR resources in the practice, and external resources such as GPSA lesson plans and RTO resources.

"I've been doing it for so long. It depends really what we're going to do. So, I might - if we're talking about consultation skills and models, I'll prepare some plans for them which I've actually already got planned on the system. I just print them off. Or email them to them and do it electronically……. I was a member of the GPSA for a long time and now I use some of their resources."

(Supervisor 10, rural)

Finally, two participants indicated that having multiple registrars may benefit the practice because they could provide peer support to each other, and teaching time could be shared.

Perceptions of the Cost of Teaching

There were several comments within the interviews about perceptions of the cost of teaching. These were unprompted and emerged naturally during the conversations with all of the participants. Key themes and their frequency across interviews are shown in Table 6.

Table 6. Key themes related to perceptions of the cost of teaching (n = 18).

Theme	n
Practices don't make money from registrar placements	5
The time associated with supporting a registrar is difficult to quantify	7
Practices and supervisors wear costs for unfunded activities and resources	18
Registrars may not understand the costs to the practice	2
Practice and supervisor payments should be improved	6
GP needs to be seen as a business	2
The current model may not be sustainable	4

First, several participants commented that they felt practices did not make money from hosting GPR placements, and that this may vary depending on the GPR.

> *"It's just more looking at that funding bucket and appreciating that most of your practices would be - if you were to get down to the nuts and crux of it and calculated it all, rather than just looking at wages and income coming in from the registrar. If you nutted it down, you would, I think, be very close at losing money to have registrars."*
>
> (Practice manager 9, urban)
>
> *"Yeah. So, we haven't done this recently, but, a number of years ago, we kind of - we looked at that at our practice, and it depended a little bit on the registrar. So, some registrars would cost a practice, and very few registrars were revenue raising. It was - is virtually cost-neutral, but also not taking into account all costs."*
>
> (Supervisor 1, urban)

Several participants felt that the time associated with supporting a GPR was difficult to quantify, particularly in relation to corridor teaching and GPR ad-hoc questions.

> *"One of the things is because our [GPT1 seven] move around, and quite often the practice will get some [second] - probably gets a more qualified registrar. I think that's one of the biggest costs in all those hidden costs of when we [talk to the registrar] you lose five minutes of productivity. Nobody really adds those up, but you know clearly that those things are far more common with somebody in their first two terms than they are in their third or fourth terms. By the third and fourth terms, they'd do [unclear] billing [R based] payments, certainly nowhere near the difference between what it does and managed support by even the first year [terms], and I think a lot of them underestimate how much every time they ring up their minute here or two minutes here and the five minutes there, how much that actually all adds up."*
>
> (Supervisor 6, rural)

All participants commented on practices and/or GPSs wearing the costs of unfunded activities and resources. This included the losses to the GPS and the practice for GPS and other doctor reduced consulting time.

> *"But there is nothing that goes back into the practice to cover what the other doctors are doing"*

(Practice manager 10, rural)

"There is a payment for teaching. But there isn't any payment for supervision. The supervision is all provided by doctors for free. That was particularly highlighted for us recently with the succession of people who have taken two and three and four goes to pass their exam. They need lots of supervision and support. But they're all GPT-3 plus and so you get a pittance or nothing at all for looking after them."

(Supervisor 5, rural)

The unrecognized time invested by the PM was seen as significant by both GPS and PMs.

"…practice management time is way under-valued and that's not me saying - blowing my own trumpet. I have the registrars calling me on weekends, afterhours, because I'm approachable; so they just know that when they're seeing patients, it's hard to sometimes talk about something. So they just ring at 8 o'clock at night."

(Practice manager 5, rural)

"….if we didn't have [name] as our Practice manager, she's like three people in one. She's amazing. So yeah, she has probably administratively as big a role as [supervisor name]."

(Supervisor 4, urban)

It also included the notion that while funding is reduced for senior registrar training, practices still provide substantial support, including exam preparation support.

"Well yeah. I think the fact that the payment gets less over time, doesn't reflect the reality of the stress levels and the amount of work that's required to get registrars to the exam. You are not doing less work. You are not doing less supervision. You are not doing less teaching. We often organise mock OSCE exam. … Pretty full on."

(Supervisor 5, rural)

Some participants discussed that GPRs may not understand the costs to the practice when they are advocating for increased salary and conditions.

"…because they don't understand the real cost of practice, they just think that they're [really] this amount of billing, so therefore they should get paid for them. They don't take into account the supervisor days, the costs of having the whole practice and setups and all the rest of it, and also the cost of the fact that you're [vicariously] liable for them."

(Supervisor 6, rural)

Several participants commented that practice and supervisor payments should be improved.

"So, I think there needs to be an overhaul of the budget. Where that money comes from, obviously, [laughs] I get that that's all difficult. But - obviously, not my area. But the - I think, the budget is something that does need to have a little bit of a play with."

(Practice manager 9, urban)

The point that General Practices are businesses, they cannot run at a loss, and that this needs to be considered in a future costing model was made.

"So, yes, there's income coming in but this is not a charity, we are not doing this to only help train, we're doing this because we have a business. So yes, it's a practice but it's a business. Without the income, we cannot hire people. Without the income, we fold. Without the cash flow to run, we just go, closed sign, we are out of here, and off we go to [the capital city] ourselves."

(Practice manager 5, rural)

The sustainability of supervision and GPR placements was bought up by four participants. The notion that the cost of hosting the GPR was greater than the return for practices was discussed.

"Registrars on the whole we break even; overseas trained doctors we will make money and they stay with us longer. So, from a practical point of view, the registrars don't have a future in rural General Practice is how I see it unless something changes and I don't know what that change is at the moment. It's sad."

(Supervisor 10, rural)

"For the first time ever, we've actually just gone, you know, where are we at for next year? Do we want to do this? We've done 19. The complexities and the time and the expense - which is such a shame because we've got a passionate practice with a patient base who actively need doctors, but are feeling just exhausted and flattened by the fact that it's been so time-consuming. Yeah, there's profit in it but then that's not quite understood necessarily by the registrars."

(Practice manager 5, rural)

The notion of GPSs not being able to supervise because of the lack of payment was also discussed.

"So one of the things I think that one of the hesitations in supervisor uptake, I think, is payment. Some of it is payment, like the practice and from a business perspective, but some of it is contractors taking on that because then they don't get any payment, so if they're not seeing patients, then they're not getting paid or if they block off an hour, the amount the teaching gives you is much less. I think for the supervisors that take it up, they do it because it's their passion. But there will still be some people where I'll talk to some of my female colleagues, it is their passion, but they're limited because they've got a young family, they only work a couple of days a week and they need to maximise whatever. But even though they're in this challenging position of do I take up supervision and add things onto my plate that I don't really get paid for, giving up family time? So yeah, that concept is really important."

(Supervisor 3, urban)

Motivators for Teaching

Participants also noted several non-financial motivators for practices and GPSs to support GPR placements. These included:

- Keeping GPRs at the practice after training (10),
- Producing our future GPs (7),
- Teaching for the love of it (7),
- Keeping up to date (4).

For several practices, retaining GPRs after training in their practice was a motivator to continue supporting GPR placements. Placements enable practices to check the GPR's fit in the practice before committing to them as a practice team member for the longer term. The concept of a GPR placement being a long job interview and offsetting other recruitment costs was discussed.

"Well, see if you can employ them at the end, you save yourself $20,000 of searching for a doctor. I mean I think it's that hidden revenue that if you can keep your registrar there, you're not going to have to do any advertising or recruitment, and that's got to be big. I mean, I jokingly say it but it is the longest job interview, and if I can keep a registrar I don't have to advertise, I don't have that stress. They seamlessly fit into a room so I'm not searching for a doctor and it's expensive to recruit doctors. It's a lot of time for Practice managers. If you're using an agency, it's hideously expensive, and it's stressful [laughs]. It is quite stressful not having enough doctors because then you're admin staff are cranky because there's not enough appointments. You lose – you've got an empty room. Do you then fill it with allied health and then you've got to find allied health and whatever. I think that's one of the hidden things that if you're a good teaching practice and you have good – and you can keep your registrar, it saves you a lot of heartache and money in the long run."

(Practice manager 4, urban)

"He puts a lot of work into trying to choose registrars, I guess from a selfish point of view that we think might have a chance of actually coming back and staying long term."

(Supervisor 4, urban)

Alongside perceptions of the cost of teaching, there were also practices who were demotivated because they had not seen retention of GPRs after training, despite their ongoing investment in GPR training (2).

"So, it's retention is the biggest issue. If the registrars came to us and stayed or they came to us from other clinics and we got that payback, we'd be happy after qualified but we don't get it. We don't get a thing."

(Supervisor 10, rural)

"Although we're helping the future of GPS - some of them, yes, they do stay on at our practice. But as a general, we're just there for them to become GPs, not to recruit them into our practice. It's different if you're paying that money towards a staff member knowing that that's going to benefit you in the long run. But it's not always going to benefit you. Then you've got this out-of-pocket expense. When they attend full day training days, even if it's their rostered day off, you still have to give them time-in-lieu, at another date. Which means you're losing a whole day's pay - income coming in, plus you're also paying for them to attend training that, effectively, is not for the future of your business."

(Practice manager 9, urban)

Some PM participants commented more generically or altruistically about teaching because they wanted to contribute to growing the next generation of GPs.

"I personally feel and I'm pretty sure that my supervisor feels the same, if we don't invest this time into them now to create great GPs there are not going to be great GPs out there. So the value is not in the dollar value, the value is in creating a well-rounded, happy, confident GP. That's the value in training them."

(Practice manager 11, urban)

GPSs and PMs spoke about their love of teaching as a motivator or a reward for supporting GPR placements.

"The reward is I feel warm and fuzzy because I've trained a doctor. That's the reward [laughs]."

(Supervisor 10, rural)

"No. We don't use our registrars to buffer our workforce. We do it because we - it's, hand-on-heart, I generally love teaching. We're a teaching practice. We enjoy - well, it's - we enjoy the GPT1s. They're a lot more work, but it's been a cultural thing with this practice that we've - we encourage it."

(Practice manager 7, urban)

The role of practice culture

While not specifically prompted to do so, several participants described two common key elements about their practice culture. First, a culture valuing teaching and learning was discussed (11/18). Participants spoke about the practices' valuing teaching and learning. Teaching was spoken about as a part of the regular practice activity – a part of the 'practice DNA'. Teaching and learning were spoken about as occurring across the practice team- not just between the GPR and GPS/s. For example, the practice may have team-wide teaching sessions, regular case discussions, or training. The practice encourages and gives feedback, may view mistakes as learning opportunities, and may discuss the importance of 'staying up to date' and quality improvement.

"So, with – we have a mandate that all our partners – we have five partners – have to be supervisors, so that's why we have five supervisors. It's just part of what we do. …… Then we have what we call an open door policy so the registrars can ask anyone in the practice any question. Our doctors are more than happy and appreciate and welcome to do that."

(Practice manager 4, urban)

"They're actually really good because they get the idea really quickly. Nobody gets cross when they ring for help. It's not a problem. We'll always go and have a look at whatever they're asking you to look at. … I just think it's a really good culture works really well."

(Supervisor 4, urban)

Second, a team-based culture was often described (16/18). Teamwork and valuing team members were discussed as important in the practice culture. The practice team were emotionally invested in the GPR succeeding and offer support. Practice culture encourages everyone to seek support and give support to others (eg. permission is given to access GPS/others whenever needed).

"I mean, we genuinely love it. We love having the registrars here. We feel like we're on that journey with them when they go through the exams and like I say, we're all talking about Thursday. Some - you kind of gauge which ones just don't talk to me about it. I don't want to know. We often send them little text messages on Thursday morning with fingers crossed emojis and all sorts of things hoping that they're going to do really well. We celebrate the wins here. It's like – we'll have a little party for them when they've passed and celebrate and it's just lovely. It's a genuine work family because everybody supports each other and I think that through educating the non-clinical staff on what a stressful journey this is for our registrars really helps to make it that little bit easier for them I hope. That's generally the feedback we get from our registrars and we are so lucky that the majority of them stay with us once they've fellowed."

(Practice manager 2, rural)

"We only have one registrar. They've been a part-time registrar for the last couple of cycles. We're got a variety of - a number of supervisors, so we do tend to try to rotate supervision amongst - so, we try to rotate primary supervision amongst our cohort of supervisors, and we've got a roster for corridor questions throughout the week."

(Supervisor 1, urban)

Understanding how the cost of teaching fits within the broader GP context

While it was not prompted by the interview schedule, participants described the broader context of General Practice as important to acknowledge as an influence on the cost of teaching and supporting GPR placements. Participants described several competing pressures currently being managed including: the difficulty of attracting GPRs as applicant numbers decline, retaining doctors and GPSs, government policies (such as the Medicare freeze), concurrently supervising IMGs, managing an increasing GP workload, managing patient expectations with GPR placement uncertainty, and sourcing accommodation for rural GPRs.

"Interviewer: our conversation today, is obviously focused on registrar training and costs involved...

PM: ... But that is a part of a very complex puzzle. That's a piece of it."

(Practice manager 5, rural)

Discussion

Information provided in these interviews was used to inform the development of a questionnaire (Part 2) and the development of a costing model (Part 3). In addition, themes emerging, both prompted and unprompted, assist to understand and explain the complexity of the cost of teaching in General Practice.

It's not just the supervision and teaching

It was clear from the interview themes that supervision and teaching are important to recognise as significant activities associated with a GPR placement. However, there were also several activities outside of supervision and teaching. Activities begin before the placement and include orientation, ongoing supervision and teaching throughout the placement, as well as pastoral care, quality improvement, team leadership and communication, administrative support, scheduling and monitoring and other indirect teaching activities (such as practice accreditation, professional development, GPR specific-quality improvement etc). There seems to be an understanding that because GPRs are in training, and have evolving needs, that consistent monitoring is required to ensure patient, practice and GPR safety and delivery of needs-based experiential and formal learning. Consequently, PMs and most GPSs talked about a significant investment in monitoring, coordination, administration, and scheduling to support GPR placements. This broad investment of time outside of the teaching and supervision may not have been recognised in previous costing models, and identification of this from the qualitative interviews is a strength of this research.

There was strong awareness of some activities across both PM and GPS interviews such as: placement interviews, formal teaching, and corridor teaching. However, there are many activities that were only noted by one stakeholder group. This emphasises the importance of including both perspectives within this research project to gather a more comprehensive understanding of the extent of activity associated with supporting a GPR in the practice.

It was also clear that there were several other costs to the practice. In this context, infrastructure and equipment were mentioned, although not frequently, which may indicate that it is not often front of mind when considering the cost to a practice of hosting a GPR. The point that practices and GPSs also lose potential income was made. This related to the GPS's earnings and the percentage of the GPS's salary that the practice would keep which is reduced when the GPS was investing time in GPR training, or the GPR reduced consulting due to orientation, GPR competence and wellbeing, involvement in assessments such as direct observation visits, and paid time out of the practice such as education release days, leave etc. These costs informed the design of the survey and the costing model.

Teaching a registrar takes a village

It takes a whole team to support a GPR placement, including the GPS, PM, other doctors, nurses, reception and admin staff, and other allied health staff. This may not have been fully recognised in previous research regarding the cost of teaching. The significant and diverse role of the PM in supporting a GPR placement has been described in this research. In addition, PMs provided additional details indicating the roles of others within the practice including practice nurses, administration staff, and other doctors. The survey conducted in the next stage of this research will capture feedback from the two main roles identified through the interviews as being associated with GPR training: the PM and GPS/s. They will also be asked to estimate the time spent by the practice nurse, because this role was often mentioned across interviews as contributing to the training.

More training and less administration

There was a wide range of perceptions of activity value and improvement opportunities. Activities associated with teaching and supervision were seen as most valuable, and administrative activities as less valuable. Reducing the administration and technical difficulties experienced through use of online learning and administration systems required for teaching practices was recommended. Participants commented that practices also highly valued the continuation of teaching beyond GPT1 and 2, which is not currently funded, and felt the provision of exam support by the practice was important to consider in future funding.

One size does not fit all

A clear notion from the interviews is that hosting a GPR is not a 'one-size-fits-all' model. It is interesting to note the large number of activities that were spoken about by only a small number of participants. This variation is described in the interviews as being dependent on GPR factors, but also on factors related to the practice and training context. Understanding the cost of teaching is complex and will depend on the interaction between the training context, the practice, and the GPR (Figure 4).

Figure 4. The interaction between registrar factors, practice factors and training context factors associated with the cost of teaching.

First, cost seems to vary according to GPR need. A clear and consistent theme through interviews was the flexible approach taken by practices to ensure they were able to understand and meet the needs of the GPR and support the GPR to practice safely within the practice. This flexible approach includes ongoing monitoring, communication between the PM, the GPS and the GPR and adaptation of teaching and support provided. This aligns with the requirements for flexibility, needs assessment, and needs based training outlined in the RACGP Standards for Training Practices.

Interviews seemed to support the notion that activities associated with supporting a GPR varied according to the GPR's stage of training. Typically, GPRs in early stages of training required more time investment by the GPS, PM and teaching team compared to those in later stages of training. In particular, the intense support required by the practice for the GPT1 orientation to the practice was mentioned. It was noted that, despite the level of GPR, there was little variation in the pre-placement and on-boarding investment made by the practice. It is likely that the cost to a practice for hosting a GPT1 registrar is substantially higher than subsequent terms, and the time spent to orientate and assess the safety of a GPT1 registrar should be acknowledged.

It was clear from interviews though that variation was caused by more than just stage of training. Other common GPR factors which resulted in variation included the GPR's level of confidence and competence, their identified needs, scope of practice, previous experience, and wellbeing. This is important to understand because, to date, placement processes have varied substantially across regions and in some cases, practices have had little choice of the GPR placed at their practice. Participants also noted that practices with a reputation for providing high quality placements and good GPR

support are often approached to support 'struggling' GPRs, who require additional investment. This can then lead to ongoing increased costs to high quality teaching practices. Interviewees suggested rewarding those practices identified as high quality teaching practices with prioritised registrar placements.

Second, cost may vary depending on factors related to the practice. We know that the GP environment is diverse in regard to business models and structures, and it follows that training will look different across different sites. It was clear from the interviews that the distribution of the activities was different across the team. Some reported that supervision and teaching were delivered primarily by the GPS/s while others commented that all doctors, other specialists and/or allied health staff were also involved in the teaching and support of the GPR. It was also quite varied as to who was involved in the decision-making in regard to selecting a GPR for placement. In some cases, this was the responsibility of one or more GPSs, in other cases the GPS and the PM, and in others it could also involve a separate practice owner. The variation in activities and responsibility for activities across practices is important because it has implications for implementing any standard model for delivery of AGPT training and funding of practices. It also has implications for each practice to consider their own unique business model and costs associated with supporting a registrar placement.

Finally, variation was described depending in the training context. This included: the practice location, training requirements and support structure of the Regional Training Organisation, the local services available to the practice and scope of practice (eg. hospital, nursing home). This was commonly discussed for rural and urban-based practices. Some additional activities were spoken about by rural practices including:

- Assisting registrars to find accommodation and settle into the community,
- Orientation and support with Hospital work, and on-call,
- Rural practices may have fewer GPSs and hence less able to spread the load of supervision (eg. may be on-call for the GPR all the time), and
- Time spent to get to RTO training for GPSs and PMs.

It was also noted that registrar training should be viewed in the broader context of General Practice, which currently faces several challenges including concern over GP wages, rural doctor shortages, and pressures on practices as front-line managers of COVID etc. This acknowledges that while this research focuses on our teaching practices specifically, there may also be important opportunities to advocate for the broader discipline of General Practice.

Overall, it is important to acknowledge the variation arising from the GPR, practice, and training context level. While this variation will be quantified within a survey, it will be flattened in an eventual costing model. However, modelling will be performed to compare rural and urban practices, given previous research that has identified varying costs across these contexts. It should be noted that individual practice costs will vary depending on a range of factors, and that understanding the actual cost to any practice would need to be calculated on an individual practice and placement basis.

Barriers and enablers may impact on cost

An important theme was that there are also several barriers and enablers which can mitigate additional costs. At a system level, enablers were:

- Implementing a placement process to maximize opportunities for GPR/practice fit, and
- Providing twelve-month placement options.

Currently, placement models vary across Australia. There are several challenges in determining a placement process that will meet the needs of the practice, the GPR, the training provider, and the communities. Some placement models offer both practices and GPRs some choice in placement, while managing equitable distribution, others may give limited choice to the practice or GPR. According to this research, the concept of GPR/practice fit is an important factor in mitigating increasing costs to the practice of a placement, and the importance of the practice having some choice in the GPR placed there is integral to ensure this fit.

Placement length varies across regions, and is usually 6-12 months. The RACGP prefers that GPRs have trained at more than one practice during their training to experience a broader scope of practice and exposure to different models and contexts of General Practice. Hosting a GPR for 12 months was thought to be an advantage to the practice to avoid some

costs associated with pre-placement and orientation on a 6-monthly basis. This was only an advantage if the placement was going well. This concept of extending placements to 12 months for practices and GPRs who request this extension should be considered in the future placement model.

At a practice level, enablers were:

- Focusing on establishing a strong relationship with the GPR,
- Appropriate patient scheduling,
- Teaching ethical billing early on, and
- Developing and maintaining an experienced practice team and GPSs.

Previous research indicates that the strength of the educational alliance between the GPR and GPS can significantly impact on outcomes. This research suggests that it may also impact on the cost of teaching. There are existing tools to measure and identify opportunities for improving the educational alliance which can be promoted to and shared with practices, GPSs, and GPRs (ref). In addition, a placement process which enables practices and GPRs to have informed choice in placement will assist to appropriately organise placements with best chances for success.

Appropriate patient scheduling was seen as an activity which could be undertaken by the practice to set the GPR, and practice, up for success both in orientation to the practice and ongoing throughout the practice. It may be that this is a strategy which is easier for larger practices with more doctors and appointment flexibility to accommodate but could be a suggestion in new practice orientation.

Participants felt that teaching ethical billing early in the placement was important to assist the GPR to understand the importance of billing in regard to the sustainability of the business of General Practice as well as improving confidence to value their own time. When a GPR begins in General Practice, they are mastering the lowest rung of Maslow's hierarchy, survival, and GPR and patient safety are priorities. There is an ongoing challenge in General Practice to manage GPR and patient safety and maintain practice financial sustainability. Provision of simple resources to practices and GPRs to support the development of ethical billing early on may be beneficial.

Developing and maintaining an experienced practice team and GPSs and accessing a suite of resources to support teaching and placements were discussed as enablers to practices to engage more efficiently in supporting GPR placements. Currently, GPSs and PMs have access to a range of resources to support training through their regional training provider and this varies according to their region. GPSA provides an extensive suite of resources and training to practices (including a suite of teaching plans). Participants also spoke about building up their own internal library of contextualized resources, such as a GPR manual which assists registrars to orientate themselves to the practice and the community. Given that the model for training will become nationally consistent, it is important that resources are not lost, but reconciled and best practice resources are selected, collated, and curated in an easy to access manner for GPSs and practices. In addition, strategies to encourage retention of experienced GPSs and teaching practice staff are important. Given the potential for emotional exhaustion and burnout of GPSs through difficult placement experiences, this again indicates that a robust placement process which optimises the opportunity for a good GPR/practice fit is integral. In addition, support for the GPS and practice when supporting more difficult placements is important and this is also reflected as a priority identified by GPSs in the 2021 GPSA Supervisor survey.

Providing practices opportunities to host multiple registrars was also identified by two participants as a useful enabler. Whether this is an enabler will vary according to practice capacity and need, but should be considered.

Motivators are important for sustainability

Practices spoke about four motivating factors for continuing to support GPR placements. These were: the hope of retaining graduates at the practice after training, taking pride in contributing to producing our future GP profession, having a love of teaching, and helping them to keep 'up to date'. To offset the investment in training a GPR, the financial benefit of retaining a good GP who fits already within the culture of the practice is seen as potential payoff (uncosted in this study). Several interview participants spoke positively about the experience of retaining GPRs after training. However, the sustainability of teaching practices that are not retaining GPRs after Fellowship was questioned by participants who did not have this experience.

Participants also spoke about the emotional exhaustion or burnout that could be felt because of difficult GPR experiences, or continuously investing in GPR training but not retaining GPRs. It was commented that rural practices may

have fewer GPSs and are less able to spread the load of supervision (may be on-call for the GPR all the time), and while this would not add to the financial cost it may increase the burden and emotional exhaustion.

There seemed to be a feeling that supporting GPR placements is worthwhile if it will reap rewards for the practice in the longer term, with some GPRs staying on after training, but it can take its toll if GPRs are not retained despite the ongoing financial and emotional investment.

It is important to further explore how we can support practices who are investing in providing quality GPR placements to entice GPRs to continue in these practice environments. Evidence shows that quality placement experiences can lead to retention of GPRs post Fellowship, but this tends to favor urban practices over rural practices. Strategies such as prioritising placements for GPRs with an intention to stay on post Fellowship, or exploring additional support for practices who consistently demonstrate quality placements but do not retain GPRs and working with all practices to continuously improve may be considered.

The role of practice culture

Participants commonly spoke about a teaching and learning culture within the practice and a team-based culture which meant that teaching was valued and embedded into regular practice policies and processes and that the practice worked as a team. Both of these cultural elements, if embedded into a practice, seemed to enable GPR placements because GPRs would join into already existing activities and resources set up by the practice, and teams would work together with an attitude of 'pitching in' and supporting one another to deliver the supervision and teaching required. It also seemed to be a motivator for investment in training because teaching and learning was valued across the organisation.

Evidence suggests that practice culture can be associated with educational outcomes and retention of GPRs after Fellowship. Valuing learners and education is also a core element in the GPSA General Practice Clinical Learning Environment Framework. It is important that these elements of quality are considered in the selection, accreditation, feedback, training, and support of AGPT teaching practices. Existing practices who consistently demonstrate a positive practice culture should be recognised, rewarded, and invited to share their experiences.

Strengths and limitations

The qualitative data drawn from this research has identified several costs and sources of revenue which will inform the development of a survey for dissemination in Part 2. In addition, this research has described the broader context associated with the cost of teaching in General Practice. It has identified factors at the GPR, practice, and training level associated with variation in activity and cost of teaching. It has also provided information about enablers and barriers which may mitigate cost and should be considered. Perceptions of the cost of teaching have been described.

The interview phase viewed alone has several limitations. It should be noted that while a diverse sample of GPSs and PMs was recruited from both rural and urban settings across Australia, it is acknowledged that the diversity within General Practice across Australia is great. These results may not necessarily represent a comprehensive summary of the activities, costs and opinions of all PMs and GPSs, but provide a useful snapshot to inform Part 2 of this project.

While time was invested to develop and provide a prompt sheet to all participants prior to the interview to ensure they were able to reflect beforehand and prepare for the interview, it is acknowledged that the activity associated with hosting a GPR placement in the practice is complex and some of the variation in activities reported in the themes could be due to participants missing some details from their description of their experience.

A strength of this qualitative study was that despite the variation within General Practice and small sample size, saturation of data was high, and many of the themes were supported by most participants.

4. Part 2 and 3: Stakeholder survey and cost-revenue analysis

This section details the method and results from the stakeholder survey and the cost-revenue analysis.

Methods

The costing analysis comprises two interrelated parts: a survey of GPS and PMs, and a cost revenue analysis. The survey was used to collect data that would be used to inform the cost revenue analysis. The methods for each of these parts is outlined below.

Survey

A questionnaire-based survey was conducted of GPS and PMs who were involved in teaching GPRs through the GPT program in Australia in 2021.

The questionnaires were developed in consultation with the Study's Steering group and results from the Stakeholder interviews in Part A of the study. The questionnaires included information about the teaching practice; GPS; activities associated with teaching; and support for teaching.

The GPSs' questionnaire consisted of three parts: Part 1 sought information regarding the practice and teaching environment; Part 2 sought information on the individual teaching activities provided by GPS; and Part 3 sought views on current teaching support and suggestions for new models of reimbursement.

The PMs' questionnaire consisted of two parts: Part 1 sought information regarding the practice and teaching environment, and Part 2 sought information on the activities provided by Practice Mangers to support GP training.

Copies of the two questionnaires used are provided in Appendices 4 and 5.

Survey participant inclusion and exclusion criteria

As the study focused on private General Practice, specialist practices such as Indigenous practices (n=8) were excluded from the survey. The inclusion criteria for the two groups were:

GPS group:

- GPs who currently work as a GPS in an AGPT teaching practice
- GPS who had five or more years experience supervising a registrar
- Aged over 18 years

PM group:

- PMs who work in a AGPT teaching practice that has hosted a registrar in the last two years
- Aged over 18 years

Questionnaire distribution

Invitations to GPS and PMs to participate in the online survey were distributed through several sources including the GPSA membership list and four RTO mailing lists who agreed to assist the study. In addition, the study was promoted through relevant newsletters, social media platforms and networks.

In order to maximise the questionnaire response rates, strategies suggested by Dillman et al (2014) were used [24]. This included: sending an initial invitation out with a link to the questionnaire, followed by two reminder emails; and offering small financial incentive. Participants could also enter a draw for one of eight vouchers valued between $100 and $1000.

The survey ran from mid-August to mid-October 2021.

Survey data preparation and analyses

Descriptive analysis of the survey results was undertaken using Stata SE15 (StataCorp, College Station, Texas, USA).

The survey results were analysed by participant group and by geographic location of the main practice. Sub-group analysis based on geographic location was undertaken on the variables to identify any differences in responses. The definition used to determine rural and urban location was based on 2016 Australian Statistical Geography Standards - Remoteness Areas (ASGS-RA) [25]. This classification system has five categories (RA1 to RA5) and for this study they were collapsed into two: RA1 (Major cities), defined as urban and RA2-RA5 (Inner regional, Outer regional, Remote and Very remote), defined as rural. This approach is commonly used for a broad definition of urban and rural areas in Australia. For this analysis, location was based on the postcode of the main practice reported in the survey questionnaires.

Costing analysis

A cost and revenue analysis was performed on the costs of teaching per semester across all levels of GP training in private General Practice in Australia. Applying a practice perspective, financial costs were calculated by quantifying the resources used to teach and assigning a specific unit cost to these resources. The revenue associated with teaching was calculated using data collected on teaching subsidies provided by RTOs to teaching practices and estimations of income generated by GPRs. Fees and charges were used as proxies for opportunity cost. No discounting occurred as data were all collected in one year.

Data on the financial costs of teaching were obtained from the survey of GPs and PMs who were involved in teaching GPRs through the AGPT program in Australia in 2021. Details of the survey method are provided in Section 1.1. Additional data needed to determine some unit costs was obtained from a sample of GPS and PMs, who participated in the Stakeholder interviews in Part A of the study and agreed to provide this information. This group is referred as the 'Stakeholder group'.

Cost and revenue (net financial effect) for the traditional teaching model was operationalised as one GPS teaching one 1.0 FTE GPR at any level of training. This was calculated across all practices and by rural and urban practices. The levels of training refer to Terms 1 to Term 4 and equate to GPT1/CGT1 to GPT4/CGT4.

Financial costs

Resource use data were collected in 2021 from practices and GPS. Unit costs and the source of volume data collected for each training level are provided in Table 7. Where possible all financial costs are reported in 2021 Australia dollars ($) as this covered the period for the survey.

Information on the estimated mean time spent on the various activities associated with teaching was obtained from the GPS and PM questionnaires and a cost was applied to this time. The analysis is based on teaching a 1.0 FTE GPR, therefore, time estimates were weighted where respondents reported GPRs working less than full time.

The financial costs were grouped into five categories: direct teaching costs; administrative costs; education up-skilling; GPR costs; and opportunity costs. The types of activities included in each category and the method to calculate the costs associated with the activities are outlined below and summarised in Table 7.

<u>Direct teaching costs</u>

Direct teaching costs included activities such as:

- Preparation time for teaching
- Corridor or opportunistic teaching
- Supervision and teaching in the practice, scheduled and ad hoc
- Supervision and teaching outside the practice (eg. nursing home visits)
- Other supervisory activities such as mentoring, coaching
- Specialist teaching outside formal teaching (eg. procedural skills)
- Other assessment tasks (eg. multisource feedback)

For each teaching activity undertaken by the GPS, the cost per hour was based on a GP hourly wage rate. The GP hourly wage rate was calculated using the number of consultations per hour, typical types of consultations (Level B) and consultation fees using the MBS July 2021 Schedule [26] and 2020 AMA recommended fees for GP consultations [27]. Based data from the MABEL survey [28] an average of four consultations per hour was used. With 64% of GPs reporting

that their patients are bulkbilled [29], three consultations were costed at 100% MBS fee plus the bulk billing fee (rural or urban) and one consultation was costed at the AMA fee rate.

This approach was also applied to costing other GPS activities associated with teaching such as GP administrative time, time spent at up-skilling, opportunity costs and periodic activities such as teaching accreditation.

Upskilling costs

The time GPS and PMs spent on up-skilling their teaching skills and registrar support was also determined for each training level and estimated using the mean hours spent per semester as reported in the survey.

Pre-placement/orientation and administration costs

Costs under this category included staff and GPS administration time related to teaching and included:

- Pre-placement activities such as CV reviews and contract administration
- Practice orientation
- Administrative activities such as practice agreements and RTO reporting

The average time to undertake administrative tasks associated with teaching for the practice staff was obtained from the survey and a cost per hour was calculated based on the mean hourly wage rate for PMs obtained from the Stakeholder group. This group also provided data on hourly wage rate for a practice nurse and the mean rate was used in this analysis (see Appendix 6).

GPR costs

During a semester, there are periods where the GPR has a reduced consulting load which results in a loss of income for the practice. These periods include educational release days, sick and annual leave, weekday public holidays, orientation to the practice where consultations may be reduced, ECT visits (two per semester) and administration time. These costs were calculated as the time spent by the GPRs on these activities. Time was based on those included in the NTCER, stakeholder feedback and College training standards. A cost was then applied to this time using the GPR hourly wage rate. The GPR hourly wage rate was based on the median salary reported in the 2019 GPRA Benchmarking report [30] for Terms 1-4. This was then used to calculate an hourly rate based on a 38 hour week [31]. The rate and times used are provided in Table 7.

Other costs

The opportunity cost of having a GPR in a consulting room was calculated as the difference between income generated for the practice by a qualified GP using a consulting room and that generated for the practice by a GP registrar using the consulting room.

Table 7: Details of resource use data, unit costs and source for financial cost analysis 2021

Category of resources	Resource item used	Source of Unit cost	Cost	Source of Volume
Direct Teaching	Preparation, opportunistic teaching, supervision, specialist teaching & assessment tasks	AMA[27] Medicare Australia [32]	Hourly rate of based on 4 Level B items - $230 per hour 3 x MBS fee ($39.10) + 100% bulkbilling item ($7.65 urban location or $11.60 rural location) + 1 x AMA fee $84	GP Supervisor survey
Upskilling	GP CPD	AMA[27] Medicare[32]	Hourly rate of based on 4 Level B items - $230 per hour 3 x MBS fee ($39.10) + 100% bulkbilling item ($7.65 urban location or $11.60 rural location) + 1 x AMA fee $84	GP Supervisor survey
	PM CPD	Stakeholder group	Mean hourly rate	PM Supervisor survey
Administration	GP Administration	AMA[27] Medicare Australia [32]	Hourly rate of based on 4 Level B items - $230 per hour 3 x MBS fee ($39.10) + 100% bulkbilling item ($7.65 urban location or $11.60 rural location) + 1 x AMA fee $84	GP Supervisor survey
	PM Administration	Stakeholder group	Mean hourly rate	PM survey
	Practice Nurse Administration	Stakeholder group	Mean hourly rate	GP survey
Registrar reduced consulting time	Leave (sick, annual & public holidays)	GPRA([30] NTCER[33]	Median hourly rate: T1/T2 - $46.07 T3/T4 - $59.21 10 days annual leave per semester 5 days sick leave per semester 11 days weekday public holidays	
	Admin time	GPRA[30] NTCER[33]	Median hourly rate: T1/T2 - $46.07 T3/T4 - $59.21 2.5 hours per week	
	Education release	GPRA[30] RACGP[34]	Median hourly rate: T1/T2 - $46.07 T3/T4 - $59.21 125 hours mandated by RACGP proportioned across training levels:	

			56 hours per semester T1 56 hours per semester T2 6 hours per semester T3 6 hours per semester T4	
	In practice teaching	GPRA[30] RACGP[34]	Median hourly rate: T1/T2 - $46.07 T3/T4 - $59.21 3 hours per week T1 1.5 hours per weekT2	
	Reduced consulting during orientation	GPRA[30]	Median hourly rate: T1/T2 - $46.07 T3/T4 - $59.21 Reduced consulting time T1 -351 hours T2 -308 hours T3/4- 176 hours	GPEx Practice manager workshop
	ECT visits		Reduced consulting time 3 hours per semester for T1-4	Stakeholder Group
Other costs	Opportunity costs	AMA[27] Medicare Australia[32] GPRA[30]	Income lost to practice for not using room for GP	Steering Group

Revenue

The revenue associated with teaching at the various GP training levels included in the analysis were: the practice component of income generated by the GP Registrar; subsidies for teaching (teaching allowance and practice subsidy); and teacher up-skilling subsidies (see

Table 8).

The subsidies and payments available for GPSs for teaching vary depending on the level taught, which vary between RTOs. For this analysis the subsidy payments paid for GP training were based on the 2021 average rates across the nine RTOs. Teaching allowances are per semester for training levels T1 to T4. Practice Subsidies are paid per semester for training levels T1 and T2 (see

Table 8).

Education upskilling support related to teaching GPRs were sourced from the RTOs and used to determine an average support value across a semester. Not all RTOs provided information on the amount of CPD per year for GPSs and so only data from five RTOs was used in this analysis. CPD payments to GPSs are not based on a training level or term so the annual payment was allocated to a term as a proportion of the total payment per year.

To attribute an income for the GPRs, a weekly billing rate was determined based on median salary reported in the GPRA benchmarking report[7]. This was then used to estimate the total billings generated by the GPR per semester before their salary and proportion of these billings retained by the practice were removed. The latter percentage was based on the recommended rates for each level of training in the GPRA/GPSA/AMA NTCER 2021 Addendum [(31)]. The recommended rate for GPR levels 1-4 is 49.27% of billings. Therefore, the percentage of billings retained by the teaching practice used for this analysis was 50.73%.

Table 8: Details of resource use data, revenue and source for revenue analysis 2021 ($ AUD)

Category of resources	Resource item used	Source of Unit benefit	Revenue	Data source
RTO Teaching payments	Average teaching allowance	RTOs	T1 -$10,561 per semester*	RTON**/Dept of Health
			T2 – $5,625 per semester*	
			T3 - $1,713 per semester*	
			T4 - $492 per semester*	
	Average Practice subsidy	RTOs	T1 - $14,070 per semester*	RTON**/Dept of Health
			T2 - $7,118 per semester*	
			T3 - $156 per semester*	
Upskilling subsidy	Average subsidy	RTOs	$6,353 per year - proportioned across the terms - $637 per term	RTON**/Dept of Health
Income generated for the practice	GP registrar weekly billings	GPRA[30]	Weekly billings based on median salary rates T1-T3/4	
	Income retained by practice (%)	NTCER[31]	50.73% T1-T3+	Steering Group

**semester =26 weeks; **RTON=Australian Regional Training Organisation Network*

Costs and revenue not included in the analysis

Some costs and revenue that were identified as associated with teaching were not included in this analysis for several reasons. The reasons included:

- The difficulty in obtaining accurate information to assign a cost or revenue value.
- The diversity of teaching practices and management structures.
- The size of the cost contribution to the overall model.
- The inability in proportioning costs or revenue to teaching accurately.

The costs that were recognised but not included were fixed costs such as: IT licensing; additional staff support such as Practice nurses and receptionist; and costs based on the practice revenue or staff numbers such as public liability insurance.

While the study recognised other revenue to a teaching practice that may be generated from having a GP such as Practice Incentive Payments and Workforce Incentive Payments, it was not included in the cost and revenue model.

Validation of methods

To derive costs and revenue, several options were available for the study. These options were presented to the Steering Group and a decision made on the most appropriate method to use. However, it was also decided to validate the selected approach taken for some costs and revenue by benchmarking the results against other possible methods and by getting feedback from experienced GPS. The variables which were benchmarked were:

- Stakeholder reported PM hourly rate compared with AAPM Annual Salary Survey.
- Stakeholder reported Practice nurse hourly rate compared with APNA rates.

- GP hourly rate compared to Stakeholder reports and MABEL reported GP income.
- Stakeholder reported % of billings retained by GPRs compared to survey results.

Costing model assumptions

Underpinning any model are the assumptions applied. The key assumptions used in the cost and revenue teaching model are provided in Table 9. The assumptions were based on published research, trends in GP workforce and input from the stakeholder group and the Steering Group. Where possible the assumptions were validated through the methods outlined above.

Table 9: Base costing model assumptions

Component	Assumption
Supervisory model	1:1 teaching – 1 GPR and 1 GPS Other models and efficiencies in teaching were not developed.
Teaching setting	The model focuses on teaching activities related to the practice and does not include cost and revenue generated for other activities such as hospital.
FTE rates	1.0 FTE GPR for base model. Where times were reported for less than 1.0 FTE these were then weighted.
	1.0 FTE GP for base model
GPR hours per week	38 hours across both rural and urban location based on the NTCER.
GP consultations per hour	4 consultations per hour, with 64% of consultations bulkbilled.
GP Registrar hourly rate	Based on data reported in the 2019 GPRA Benchmarking Survey but GPR could earn above or below this. The rate used for the GPR was the same for working in a rural or urban practice.
GPs/GPS	All are vocationally registered.
Upskilling payments	All upskilling payments are paid to the practice and not the individual GPS or PM.
Nurse time	Data was collected from GPS and PMs on the estimated time during orientation with practice nurses. These rates varied and decision was to use the PM reported times.
Reduced GPR income to practice	The reduced GPR income to the practice was the same for urban and rural practices
Term length	26 weeks
Rural and urban definition	RA1= urban RA2-RA5=rural
Opportunity cost	Cost assumed the consulting room would be filled by a 1.0 FTE Vocationally Registered GP
Periodic activities	Periodic activities such as time spent on accreditation was the same for each teaching term
GST	No GST if applied to costs or revenue

Statistical analysis

The financial costs and revenue were calculated for a traditional teaching model of a GP supervisor teaching in a 1:1 arrangement in the practice with a 1.0 FTE GPR (Term 1-4 and other levels eg remediation). While data was collected on activities associated with other terms such as a remediation term, this term was excluded due to a lack of sufficient data.

Weighted means for each financial cost and revenue category were estimated within each of the teaching levels, which were then summed to estimate the net financial impact of teaching. To analyse the uncertainty around the mean estimates, confidence intervals (CIs) were estimated for parameters describing time spent teaching and administering GPRs, 1,000 bootstrap samples were generated to determine estimated mean and CIs.

No confidence intervals were estimated for the fixed costs and revenue such as the opportunity costs, CPD subsidy, teaching allowance and practice subsidy.

An investigation into outliers for time spent of activities was undertaken. One observation was removed due to its magnitude of variation from other reported times.

This analysis was undertaken using Stata SE15 (StataCorp, College Station, Texas, USA).

Sensitivity analysis

A sensitivity analysis was undertaken on the total cost and revenue and net financial effect. Due to the wide variation reported on GP annual salaries and hourly rates, the Steering Group recommended the sensitivity analysis to be applied to this cost. Two scenarios were undertaken using the base model. Scenario 1 increased the GPS base hourly rate by 30% from $230 per hour to $299 per hour and Scenario 2 increased the GPS base hourly rate by 40% to $322 per hour. The percentage increases chosen were informed by input from the Steering Group, a review of reported hourly rates for GPs and were seen as within a realistic range.

Ethics approval

Ethical approval for this study was provided by the University of Adelaide Human Research Ethics Committee (H-2021-016).

Results

The results are presented in four parts. The first part presents the survey results related to the teaching practices. The second part presents the teaching activities reported by the survey respondents. Part three presents the results for survey participant views on current financial support for teaching. The final part presents the results of the analysis on the estimated cost and revenue of teaching in GP.

A total of 381 survey responses were received, 241 from GPS and 146 from PMs. Response rates for questions varied due to the design of the survey that asked for responses on the activities related to the current or most GPR and their training level.

Teaching practices

In terms of location, there was similar distribution between urban and rural respondents, with 52% of GPS and 54% of PM practices located in an urban area (Table 10). More than half of the rural based respondents were in an Inner regional (RA2) area for both GPS (55%) and PMs (60%). Nearly one third of respondents were from South Australia or NSW/ACT and the fewest respondents were from the NT (2%).

Table 10: Practice location by respondent group

Practice location		GP Supervisors (n=238)		Practice managers (n=142)		Total (n=381)	
		Freq	%	Freq	%	Freq	%
Location	Urban	123	51.7	77	54.2	200	52.6
	Rural	115	48.3	65	45.8	180	47.4
ASGS classification	RA1	123	51.7	77	54.2	200	52.5
	RA2	63	26.5	39	27.5	103	27.0
	RA3	42	17.7	21	14.8	63	16.5
	RA4	8	3.4	4	2.8	12	3.1
	RA5	2	0.8	1	0.7	3	0.8
State	NSW/ACT	65	27.3	43	30.3	108	28.3
	Vic	40	16.8	15	10.6	55	14.4
	Qld	38	16.0	17	12.0	55	14.4
	SA	64	26.9	52	36.6	116	30.4
	WA	7	2.9	10	7.0	17	4.5
	Tas	19	8.0	4	2.8	24	6.3
	NT	5	2.1	1	0.7	6	1.6

The characteristics of GPS practices is shown in

Table 11. Overall, the average size of the GPS practices was 9.6 GPs, with practices being larger in urban areas compared rural areas (10.3 versus 8.3, respectively). On average, GPS urban practices had a larger number of part-time GPs than rural GPS practices (

Table 11).

The GPS reported that on average their practices had been involved in teaching for over 15 years, with rural practices having a longer involvement in teaching than urban practices. An average of 4.3 GPs were involved in teaching in these practices, and this was similar for both rural and urban GPS practices (4.4 GPs versus 3.9 GPs, respectively).

The types of teaching reported by GPS ranged from medical students to interns and GPRs (

Table 11). The most common type of teaching for the practices was medical students and GPRs (58%) followed by GPR teaching only. Nearly 10% of rural GPS reported their practice taught at all three levels of training (

Table 11).

Table 11: Characteristics of GP Supervisor practices by practice location

Characteristics		Urban		Rural		Total*	
		Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Practice size	Mean no. of full time GPs	4.3	3.5	4.1	2.8	4.4	3.4
	Mean no. of part time GPs	6.6	5.8	4.5	3.5	5.7	4.9
	Mean no. of GPs	10.3	8.0	8.3	4.1	9.6	6.7
Teaching involvement	Mean no. of years practice involved in teaching	14.6	10.8	17.0	9.7	15.8	10.2
	Mean No. of GPs involved in teaching in each practice	3.9	3.1	4.4	3.0	4.3	3.3
		Freq	**%**	**Freq**	**%**	**Freq**	**%**
Types of teaching	Medical students only**	1	0.8	1	0.9	2	0.8
	Interns only	0	0.0	0	0.0	0	0.0
	GP registrars only	48	40.0	25	22.1	73	30.8
	Medical students + Interns	0	0.0	0	0.0	0	0.0
	Medical students + GP registrars	71	59.2	63	55.8	138	58.2
	Interns + GP registrars	0	0.0	1	0.9	1	0.4
	Medical students + Interns + GP registrars	0	0.0	23	20.4	23	9.7

** total may not equal subtotals due to missing data on practice location; 2 GPS reported they taught medical students but not GPR but reported data on GPR activity.*

The characteristics of PM practices is shown in

Table 12 Overall, the average size of the PM practices was 10.2 GPs, with practices being larger in urban areas compared rural areas (11 versus 9.2). As with the GPS practice, on average the PM urban practices had a higher number of part-time GPs than rural practices (

Table 12).

The pattern of teaching reported by the GPS respondents was similar for the PM respondents with the most common type of teaching being GPRs followed by medical students, although an additional two urban PM respondents also reported teaching at all three levels (

Table 12).

Table 12: Characteristics of Practice managers' practices by practice location

Characteristics		Urban		Rural		Total*	
		Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Practice size (no. of GPs)	Mean no. of full time GPs	5.1	3.8	4.7	3.9	4.9	3.8
	Mean no. of part time GPs	6.2	3.7	5.5	5.0	5.9	4.4
	Mean no. of GPs	11.0	5.0	9.1	5.0	10.1	5.1
Teaching involvement	Mean no. of years practice involved in teaching	12.8	8.8	16.0	10.2	14.0	9.6
	Mean No. of GPs involved in teaching in each practice	4.6	4.0	5.7	4.9	5.2	4.4
		Freq	**%**	**Freq**	**%**	**Freq**	**%**
Types of teaching	Medical students only**	1	1.3	3	4.4	4	2.8
	Interns only	0	0.0	0	0.0	0	0.0
	GP registrars only	34	45.3	15	22.1	49	34.3
	Medical students + Interns	0	0.0	0	0.0	0	0.0
	Medical students + GP registrars	38	50.7	44	64.7	82	57.3
	Interns + GP registrars	0	0.0	0	0.0	0	0.0
	Medical students + Interns + GP registrars	2	2.7	6	8.8	8	5.6

**total may not equal subtotals due to missing data on practice location; **PMs only reported teaching medical students but provided data on GPR activities.*

The characteristics of the GPS respondents are shown in Table 13. Overall, there was an even proportion of men and women GPS in total, with a higher proportion of women GPs found in urban practices. The majority of GPS (58%) were principals or partners in the practice although this proportion was higher in rural practices (63%) compared to urban practices (53%) (Table 13).

Nearly two thirds of the GPS respondents reported teaching GPRs for six or more years, while only 1% reported five or less years of GPR teaching experience. Nearly half of the rural based GPS reported teaching GPRs for more than 10 years while only 40% of urban based GPS reported this level of experience (Table 13).

The reported mean number of hours of clinical work in a usual week for GPS was 34.7 hours overall, with rural GPS working 35.8 hours while urban GPs worked an average of 33.5 hours per week (Table 13).

Table 13: Characteristics of GP supervisor respondents by practice location

		Urban (n=119)		**Rural (n=111)**		**Total***	
		Freq	**%**	**Freq**	**%**	**Freq**	**%**
Gender (n=234)	Men	53	44.5	60	54.1	117	50.0
	Women	66	55.5	51	46.0	117	50.0
Role in practice (n=234)	Principal/Partner	63	52.9	70	63.1	137	58.6
	Independent contractor/Associate	46	38.7	26	23.4	72	30.8
	Other	10	8.4	15	13.5	25	10.7
Years involved teaching GP registrars (n=232)	5 years or less	41	34.5	39	35.8	80	34.5
	6-10 years	31	26.1	20	18.4	51	22.0
	More than 10 years	47	39.5	50	45.9	101	43.5
Clinical hours (n=234)	Mean hours in clinical practice in a usual week (SD)	33.5 (11.8)		35.8 (13.0)		34.7 (12.3)	

**total may not equal subtotals due to missing data on practice location*

Most PMs were women and this pattern was similar for both rural and urban PMs (

Table 14). More than a third of PMs reported having five or less years of GPR teaching (38%) or more than 10 years involvement in teaching GPRs (38%). These levels of experience were also similar across rural and urban PMs.

Table 14: Characteristics of Practice manager respondents by practice location

		Urban (n=77)		Rural (n=68)		Total* (n=145)	
		Freq	**%**	**Freq**	**%**	**Freq**	**%**
Gender	Men	9	11.7	9	13.2	18	12.4
	Women	68	88.3	59	86.8	127	87.6
Years involved teaching GP registrars	5 years or less	31	40.3	24	35.3	55	37.9
	6-10 years	18	23.4	17	25.0	35	24.1
	More than 10 years	28	36.4	27	39.7	55	37.9

**total may not equal subtotals due to missing data on practice location*

Teaching activities

The following tables present the time spent on activities associated with teaching for different levels of GPR training reported by GPSs and PMs across semesters for 1.0 FTE GPR. The estimated bootstrapped mean time for these activities and corresponding confidence intervals are in Appendix 7.

Both PMs and GPSs reported that the average time on most teaching activities decreased with the seniority of the GPR.

The average amount of time spent on pre-placement activities and orientation by GPs and other practice staff decreased as the GPR moved through the training levels (Table 15). PMs reported they spent more time on pre-placement and orientation activities than GPS and this time was highest for Term 1 GPRs.

In terms of direct teaching activities, GPSs reported spending most of their time on opportunity or corridor teaching and teaching within the consulting room for all the training levels. However, this time was highest for Term 1 GPRs, more than double the other training terms (Table 15). As with the preparation and orientation activities, time spent on direct teaching decreased across the terms, with the least time spent on these activities in Term 4 GPRs.

For assessment tasks related to GP training, GPSs reported spending more time on these than PMs. PMs reported more than double the amount of time on administrative activities than GPSs, with these being highest for Term 1 and 2 GPRs (Table 15). The reported time spent on teacher upskilling by GPSs and PMs was more consistent across the training levels.

The combined GPS and PM mean time spent on the various types of teaching activities is shown in Figure 5. This clearly illustrates that for most activities, the time reduces with the increasing seniority of the GPR. The exception is time spent on direct teaching activities for GPR in Term 5.

The pattern of time spent on teaching activities reported by GPSs and PMs was similar for rural and urban based practices, although there were some differences (Table 16 and

Table 17). Rural GPSs and PMs reported a larger amount of time spent on pre-preparation activities for Term 4 GPRs than urban practices (9.4 hours versus 4.3 for GPS and 15.6 versus 8.6 hours for PMs, respectively). Rural GPSs reported much greater time spent on direct teaching activities, particularly teaching that occurred outside the clinic, specialist teaching and other activities compared to urban GPSs across all training levels. Additionally rural PMs reported spending more time on administrative activities than their urban counterparts (Table 16 and

Table 17).

Table 15: Average weighted time (hours) spent by practices on activities associated with teaching GP Registrars per semester by training level – all respondents

Category	**Mean (SD)**	**Term 1**		**Term 2**		**Term 3**		**Term 4**		**Other term**	
	Hours per semester	N	Mean (SD) Range	N	Mean (SD) *Range*	N	Mean (SD) *Range*	N	Mean (SD) *Range*	N	Mean (SD) *Range*
Pre-placement	GP time	48	9.6 (15.0) *1-100*	67	7.0 (13.8) *0-100*	65	6.4 (14.2) *0-100*	67	6.8 (14.4) *0-104*	21	4.6 (6.3) *0-30*
	Practice manager time – reported by PMs	33	19.2 (27.0) *1-130*	42	12.8 (14.2) *1-80*	35	10.0 (7.8) 2-30	42	11.5 (15.1) *0-80*	5	8.0 (4.8) *3-15*
Practice Orientation	GP time	46	15.6 (22.9) *1-100*	67	9.3 (14.0) *0-96*	65	8.5 (15.8) *0-96*	66	6.5 (9.8) *0-52*	21	7.9 (14.8) *0-52*
	Practice Nurse time– reported by GP supervisors	44	6.3 (7.2) *0-30*	66	6.1 (8.6) *0-40*	61	5.4 (7.5) *0-30*	62	4.8 (7.8) *0-52*	21	3.2 (3.6) *0-13*
	Practice manager time	33	18.5	42	19.2	36	10.4	42	15.1	5	7.2

			(27.3) 1-130		(28.3) *0-130*		(14.2) *0-80*		(18.5) *0-80*		(4.9) *2-15*
	Practice Nurse time– reported by PMs	32	12.2 (16.9) *2-80*	40	14.1 (27.3) *0-150*	36	7.7 (14.7) *0-80*	42	9.2 (14.7) *0-80*	5	6.6 (2.4) *4-10*
Direct teaching activities	Preparation time	25	28.8 (21.8) *0-104*	38	25.6 (27.9) *0-130*	27	28.8 (42.5) *0-195*	36	23.2 (26.7) *0-104*	11	18.6 (22.5) *0-65*
	Opportunistic/corridor teaching	26	45.4 (30.4) *13-130*	40	46.5 (31.5) *13-130*	31	40.1 (27.6) *3-130*	38	32.8 (19.3) *6-78*	11	59.5 (88.7) *16-325*
	All other teaching & supervision in the practice room	26	74.3 (53.5) *13-195*	40	51.2 (43.7) *0-217*	30	47.9 (50.5) *3-260*	39	26.8 (22.6) *0-130*	12	56.6 (36.8) *29-130*
	Teaching time outside the GP clinic	23	15.7 (22.7) *0-104*	32	26 (70.6) *0-390*	25	21.3 (56.7) *0-260*	33	17.7 (61.3) *0-347*	10	84.5 (193.5) *0-264*
	Specialist teaching outside formal teaching	23	20.4 (24.0) *0-104*	32	17.8 (23.00	26	18.8 (29.1)	32	10.3 (15.3)	10	8.0 (13.2)

					0-87		*0-130*		*0-52*		*0-33*
	Other supervision activities	24	24.3 (21.4) *0-104*	37	31.6 (27.8) *0-130*	30	37.8 (24.0) *3-130*	35	24.0 (17.1) *0-65*	11	29.5 (18.4) *0-65*
Assessment tasks	GP time	22	19.3 (11.8) *0-52*	36	37.0 (74.6) *0-433*	29	30.9 (40.6) *0-195*	35	28.8 (42.2) *0-217*	10	23.0 (21.9) *0-65*
	Practice manager time	33	10.3 (10.1) 0-40	41	20.6 (50.9) *0-300*	36	16.3 (100.6) *2-200*	42	8.4 (10.0) *0-48*	5	22.7 (25.7) *6-67*
Other administrative activities	Practice manager time	33	50.8 (167.9) 2-975	40	49.4 (107.9) *0-500*	37	43.9 () *2-390*	41	22.4 (60.5) *0-390*	4	17.8 (28.2) *2-60*
	GPS time	47	18.3 39.1 (1-251)	66	16.5 (29.2) *0-205*	63	18.5 (27.9) *0-180*	66	9.5 (12.1) *0-60*	20	14.3 (14.1) *0-50*
Upskilling	GPS time	47	10.7 (7.3) *1-35*	67	13.5 (17.4) *1-120*	66	9.6 (7.1) *2-33*	66	7.6 (6.4) *0-40*	19	7.6 (5.0) *0-20*

	Practice manager time	33	10.2 (9.5) 0-50	41	11.2 (9.9) *0-56*	34	8.9 (6.9) *0-25*	40	9.9 (8.0) *0-48*	5	7.4 (7.9) *0-20*

Figure 5: GP supervisor and Practice manager combined weighted mean times spent on teaching activities by term and activity type for 1.0 FTE GPR

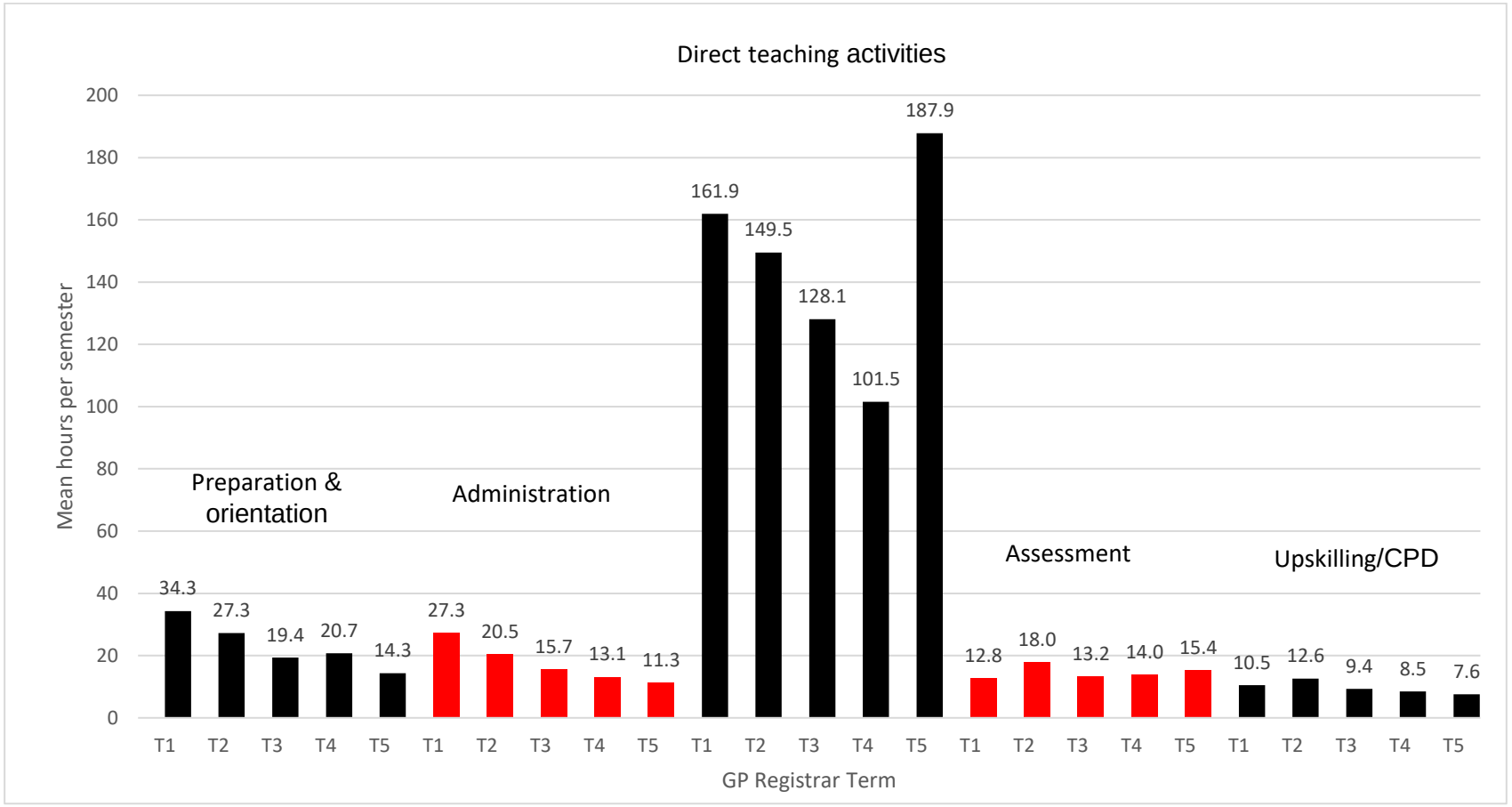


Table 16: Average weighted time (hours) spent by practices on activities associated with teaching GP Registrars per semester by training level – urban respondents

Category		**Term 1**		**Term 2**		**Term 3**		**Term 4**		**Other term**	
	Hours per semester	N	Mean (SD) Range	N	Mean (SD) *Range*	N	Mean (SD) *Range*	N	Mean (SD) *Range*	N	Mean (SD) *Range*
Pre-placement	GPS time	24	11.3 (20.3) *1-100*	28	4.3 (7.0) *0-35*	36	7.5 (17.1) *0-100*	34	4.3 (6.3) *0-30*	3	2.0 (1.0) *1-3*
	Practice manager time – reported by PMs	11	17.5 (21.6) *3-75*	20	10.1 (9.3) *3-38*	15	8.5 (6.6) *2-20*	25	8.6 (9.0) *0-38*	1	8
Practice Orientation	GPS time	24	18.1 (29.3) *1-100*	29	5.2 (6.4) *1-25*	36	4.7 (7.2) *0-40*	34	4.6 (5.7) *0-30*	3	4.7 (3.5) *1-8*
	Practice Nurse time– reported by GP supervisors	24	5.8 (8.0) *1-30*	28	2.3 (2.0) *0-10*	33	2.9 (3.9) *0-20*	31	3.2 (3.5) *0-16*	3	1.7 (0.6) *1-2*
	Practice manager time	11	22.6	20	21.6	16	6.4	25	12.4	1	8

			(37.2) *1-130*		(34.6) 2-130		(6.4) *0-26*		(13.9) *0-50*		
	Practice Nurse time– reported by PMs	11	11.6 (18.1) *2-65*	19	15.6 (35.4) *1-150*	16	4.3 (6.5) *0-26*	25	7.3 (11.3) *0-50*	1	8
Direct teaching activities	Preparation time	12	33.4 (26.6) *0-104*	16	20.9 (24.6) *0-104*	15	16.8 (14.5) *0-52*	14	16.8 (19.8) *0-52*	1	16.3
	Opportunistic/corridor teaching	14	53.7 (26.4) *14-104*	18	40.5 (18.6) *13-78*	19	42.4 (24.1) *10-108*	16	31.4 (21.7) *6-78*	1	16.3
	All other teaching & supervision in the practice room	14	102.7 (54.8 *29-195*	17	40.7 (40.3) *0-179*	19	41.9 (27.2) *7-130*	17	23.6 (15.2) *0-52*	2	81.3 (69) *33-130*
	Teaching time outside the GP clinic	12	16.5 (30.0) *0-104*	12	3.1 (9.4) *0-33*	14	5.6 (12.7) *0-43*	12	0.00 (0.00) *0*	0	-
	Specialist teaching outside formal teaching	12	26.5 (30.9)	12	12.0 (15.3)	14	11.6 (15.3)	12	8.0 (16.1)	0	-

			0-104		*0-43*		*0-43*		*0-52*		
	Other supervision activities	13	35.7 (24.7) *13-104*	17	29.4 (16.6) *8-65*	18	37.2 (31.0) *2-130*	14	21.1 (14.7) *0-52*	1	32.5
Assessment tasks	GPS time	11	33.0 (26.0) *13-104*	15	48.1 (107.5) *0-433*	17	23.4 (13.9) *0-52*	14	15.2 (17.1) *0-52*	0	-
	Practice manager time	11	12.7 (10.0) *2-30*	20	8.0 (8.8) *1-40*	18	14.3 (28.1) *0-120*	25	8.8 (11.9) *0-48*	1	66.7
Other administrative activities	Practice manager time	11	29.1 (35.1) *3-130*	19	29.0 (36.9) *0-130*	19	23.8 (28.6) *2-120*	24	16.8 (20.8) *0-83*	0	-
	GPS time	24	25.9 (50.6) *2-251*	29	16.5 (38.3) *0-205*	36	15.7 (20.6) *0-75*	34	9.4 (14.2) *0-60*	3	9.6 (13.4) *1-25*
Upskilling	GPS time	24	12.0 (6.9) *2-30*	28	9.6 (6.4) *1-25*	37	9.5 (6.9) *2-30*	33	7.9 (7.6) *0-40*	3	9.0 (7.5) *1-16*

	Practice manager time	11	6.9 (3.6) *2-10*	19	8.5 (5.1) *2-20*	15	8.4 (6.6) *0-20*	24	9.4 (7.3) *2-30*	1	20

Table 17: Average weighted time (hours) spent by practices on activities associated with teaching GP Registrars per semester by training level – rural respondents

Category		Term 1		Term 2		Term 3		Term 4		Other term	
	Hours per semester	N	Mean (SD) Range	N	Mean (SD) *Range*	N	Mean (SD) *Range*	N	Mean (SD) *Range*	N	Mean (SD) *Range*
Pre-placement	GPS time	24	7.8 (6.4) *1-20*	39	8.9 (17.0) *0-100*	29	5.0 (9.4) *0-50*	33	9.4 (19.3) *0-104*	18	5.1 (6.7) *0-30*
	Practice manager time – reported by PMs	22	20.1 (29.8) *1-130*	22	15.3 (17.4) *1-80*	18	11.4 (9.0) *2-30*	17	15.6 (20.8) *2-80*	4	8.0 (5.6) *3-15*
Practice Orientation	GP time	22	12.9 (12.9) *2-52*	38	12.4 (17.2) *0-96*	29	13.2 (21.5) *0-96*	32	8.5 (12.6) *0-52*	18	8.4 (16.0) *0-52*
	Practice Nurse time– reported by GP supervisors	20	6.9 (6.2) *0-24*	38	8.9 (10.3) *0-40*	28	8.4 (9.5) *0-30*	31	6.4 (10.4) *0-52*	18	3.5 (3.8) *0-13*
	Practice manager time	22	16.5 (21.6) 2-80	22	17.1 (21.6) *0-80*	18	14.8 (18.4) *3-80*	17	19.2 (23.6) *0-80*	4	7.0 (5.6) *2-15*

	Practice Nurse time– reported by PMs	21	12.5 (16.7) *2-80*	21	12.7 (17.9) *0-80*	18	11.4 (19.4) *0-80*	17	12.0 (18.7) *0-80*	4	6.3 (2.6) *4-10*
Direct teaching activities	Preparation time	13	24.5 (16.0) *1-96*	22	29.0 (30.2) *0-130*	12	43.7 (59.7) *0-195*	22	27.2 (30.0) 0-104	10	16.7 (123.7) 0-65
	Opportunistic/corridor teaching	12	35.7 (33.0) *13-130*	22	51.5 (38.7) *13-130*	12	36.5 (33.3) *3-130*	22	33.8 (17.9) *7-65*	10	63.8 (92.2) *22-325*
	All other teaching & supervision in the practice room	12	35.7 (33.0) *13-130*	23	59.0 (45.2) *5-217*	11	58.3 (76.7) *3-260*	22	29.2 (27.1) *0-130*	10	51.6 (31.0) *29-130*
	Teaching time outside the GP clinic	11	14.8 (11.7) *0-26*	20	39.8 (86.9) *0-390*	11	41.4 (82.0) *0-260*	21	27.9 (75.6) *0-347*	10	84.5 (193.5) *0-624*
	Specialist teaching outside formal teaching	11	14.0 (11.2) *0-29*	20	21.2 (26.4) *0-87*	12	27.2 (38.8) *0-130*	20	11.7 (15.0) *0-52*	10	29.2 (19.4) *0-65*

	Other supervision activities	11	20.5 (18.2) *0-52*	20	33.5 (34.9) *0-130*	12	38.8 (36.0) *3-130*	21	26.0 (18.6) *0-65*	10	87.0 (21.9) *0-65*
Assessment tasks	GPS time	11	15.5 (10.5) *0-29*	21	29.1 (38.7) *0-144*	12	41.5 (60.8) *0-195*	21	37.9 (51.2) *0-217*	10	23.0 (17.1) *0-52*
	Practice manager time	22	8.0 (9.9) *0-40*	22	14.2 (17.9) *0-72*	18	7.5 (10.1) *0-40*	17	6.8 (6.8) *2-26*	4	9.8 (10.1) *2-24*
Other administrative activities	Practice manager time	22	51.3 (164.0) *2-780*	22	36.8 (80.9) *2-390*	18	37.5 (89.3) *2-390*	17	37.6 (92.2) *2-390*	4	17.8 (28.2) *2-60*
	GPS time	23	10.4 (19.7) *1-96*	37	16.5 (20.0) *0-80*	27	22.4 (35.6) *0-180*	32	9.7 (9.5) *0-36*	17	15.2 (14.5) *0-50*
Upskilling	GPS time	23	9.3 (7.6) *1-35*	39	16.3 (21.8) *1-120*	29	9.8 (7.6) *2-33*	33	7.3 (5.0) *0-20*	16	7.4 (4.7) *0-20*
	Practice manager time	22	11.9	22	13.5	17	9.4	16	10.7	4	4.3

			(11.0) *0-50*		(12.3) *0-56*		(7.7) *0-25*		(9.0) *0-36*		(4.2) *0-10*

In addition to the time spent on teaching activities each semester, GPSs and PMs reported the time they spent on periodic activities related to teaching such as preparation for accreditation for teaching (Table 18). On average, GPSs spent 10 hours a year on these activities, and this was similar for both rural and urban GPSs. PMs reported spending more time than GPSs on these activities (16.1 hours a year) and rural PMs spent more time than urban PMs (23.6 hours versus 10.2 hours a year, respectively).

Table 18: Average number of hours spent on periodic activities independent of training level by type of respondent

	Category	*N*	Mean	SD	Range
All respondents	GP supervisor time (hours per year)	145	9.9	15.3	0-120
	Practice manager (hours per year)	80	16.1	24.4	0-156
Urban respondents	GP supervisor time (hours per year)	72	9.7	14.2	0-100
	Practice manager (hours per year)	42	9.9	16.9	0-100
Rural respondents	GP supervisor time (hours per year)	73	10.2	16.5	0-120
	Practice manager (hours per year)	37	23.6	29.6	0-156

Financial support for teaching

GPSs and PMs were asked to rate the adequacy of the current support provided to practices for GPR teaching by RTOs. In terms of practice reimbursements, 64% of GPSs reported that practice reimbursements were inadequate and 71% reported that teaching allowances were inadequate to compensate for the teaching they undertook (Table 19). Compared to urban GPSs, a higher proportion of rural GPSs rated the practice reimbursements (73% versus 52%, respectively) and the teaching allowance (76% versus 64%, respectively) as inadequate.

Overall, a lower proportion of PMs rated the reimbursement (38%) and allowance (46%) as inadequate compared to GPSs. However, 50% of rural PMs rated the practice subsidy as inadequate compared to 26% of urban PMs, while over half the urban and rural PMs reported the teaching allowance as inadequate (Table 19).

Table 19: Adequacy of financial support for teaching by practice location and role

(1=inadequate, 5=adequate)

Role		Practice Reimbursement %	Teaching Allowance %
All GP supervisors	1-2 (inadequate)	64.0	70.7
	3	16.8	14.6
	4-5 (adequate)	19.2	14.6
Urban GP supervisors	1-2 (inadequate)	51.9	64.2
	3	22.2	17.0
	4-5 (adequate)	25.9	18.9
Rural GP supervisors	1-2 (inadequate)	73.2	75.7
	3	12.7	12.9
	4-5 (adequate)	14.0	11.4
All Practice Mangers	1-2 (inadequate)	38.2	46.1
	3	32.9	31.6
	4-5 (adequate)	29.0	22.4
Urban Practice managers)	1-2 (inadequate)	26.3	52.8
	3	36.8	25.0
	4-5 (adequate)	36.8	22.2
Rural Practice managers	1-2 (inadequate)	50.0	57.9
	3	29.0	26.3
	4-5 (adequate)	21.1	15.8

Cost and revenue analysis

The financial costs and revenue associated with teaching a 1.0 FTE GPR in General Practice are shown in Table 20,

Table 21 and

Table 22, and in

Figure 6, Figure 7 and

Figure 8.

Financial costs

The greatest costs for teaching across training levels were for direct teaching activities (Table 20), with highest costs occurring in Term 1 ($43,998) and reducing to $28,814 per semester for Term 4.

The opportunity cost of using a consulting room for training rather than being used by a qualified GP was the next highest cost associated with teaching. While this cost reduced as the GPR became more experienced, the costs ranged from $35,344 in Term 1 and 2 to $21,972 in Terms 3 and 4.

The GPR costs to the practice for times when the GPR was less productive was also a high cost in Terms 1 and 2 ($16,440 and $14,459, respectively) but had reduced by Term 4 ($13,197).

Administrative costs associated with teaching for GPSs and PMs was similar across Terms 1 to 3 before decreasing in Term 4 (Table 20). The lowest costs per semester were associated with periodic costs such as accreditation and upskilling of GPSs and PMs.

The highest total cost to practices for teaching GPRs occurred in Term 1 ($124,889) and the lowest costs were in Term 4 ($85,262) (

Figure 6).

All the activities associated with teaching in a rural location were associated with a higher cost than teaching in an urban practice (

Table 21 and

Table 22, respectively). For both settings, the costs reduced over the training terms.

Revenue

For practices the highest revenue source was income generated for the practice by the GPR (Table 20 and

Figure 6). This revenue increased with the terms, with the lowest income generated in Terms 1 and 2 ($46,862 per semester) and the highest in Terms 3 and 4 ($60,234 per semester). Teaching allowances and practice subsidies provided by RTOs were highest in Term 1 and lowest in Term 4 (Table 20).

Teaching allowance and practice subsidies were highest in Term 1 ($10,561 and $14,070, respectively), reducing each term to the lowest in Term 4 ($492 and $0, respectively).

Overall, total revenue from teaching for a practice was highest in Term 1 ($72,129) and lowest in Term 2 ($60,241) (Table 20). The revenue generated by teaching was the same across urban and rural locations (

Table 21 and

Table 22, respectively).

Net financial effect

There was a net financial loss for practices teaching GPRs across all terms and locations. The largest net financial loss was associated with teaching Term 2 GPRs (-$60,530 per semester) and the smallest net financial loss was associated with teaching Term 4 GPRs (-$23,900 per semester) (Table 20 and

Figure 6).

The pattern of losses for urban and rural teaching practices differed for teaching terms. For example, for Term 1, urban practices had a greater loss than rural practices (-$64,784 versus -$40,087, respectively) (

Table 21 and

Table 22). For rural practices, the net financial loss was greatest in Term 2, nearly twice that of an urban practice (-$80,202 versus -$41,289 respectively) (

Table 21 and

Table 22 and Figure 7 and

Figure 8). For both locations, the net financial effect reduced across the training terms, with the smallest loss found in Term 4.

Table 20: Cost and revenue per 1.0 FTE registrar by training level per semester – prices ($), all locations

COSTS	**GPT1**	**GPT2**	**GPT3**	**GPT4**
Pre-placement & orientation activities	11630	8211	6536	6825
Direct teaching activities	43998	41843	41691	28814
Assessment activities	6112	9560	7938	7060
Administrative activities	6796	6131	6499	3591
Upskilling activities	3013	3667	2663	2247
GPR costs	16440	14459	13316	13197
Opportunity costs	35344	35344	21972	21972
Accreditation costs	1556	1556	1556	1556
Total costs	**124889**	**120771**	**102176**	**85262**
REVENUE				
GPR income to practice	46862	46862	60234	60234
Teacher CPD support	637	637	637	637
Teaching allowance	10561	5625	1713	492
Practice subsidy	14070	7118	156	0
Total revenue	**72129**	**60241**	**62738**	**61362**
COST - REVENUE				
Total revenue	72129	60241	62738	61362

Total costs	124889	120771	102176	85262
Net financial effect	**-52760**	**-60530**	**-39438**	**-23900**

Figure 6: Financial costs and revenue for practices teaching GPRs by training term ($ per semester) – all locations

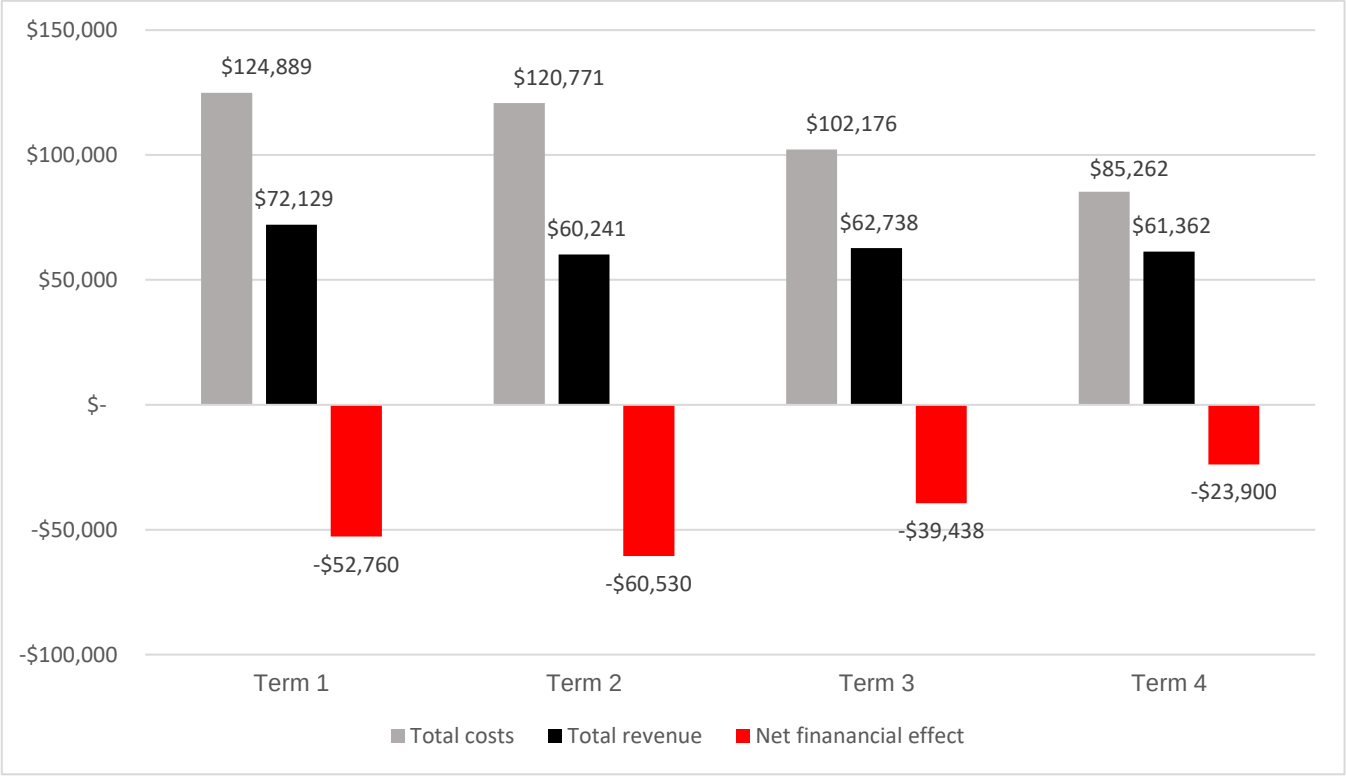


Table 21: Cost and revenue per 1.0 FTE registrar by training level per semester – prices ($), urban locations

COSTS	**GPT1**	**GPT2**	**GPT3**	**GPT4**
Pre-placement & orientation activities	12383	6200	5189	4938
Direct teaching activities	58688	31154	33496	20731
Assessment activities	8246	11470	6118	3950
Administrative activities	7438	5277	4815	3019
Upskilling activities	3383	2635	2607	2291
GPR costs	16440	14459	13316	13197
Opportunity costs	28975	28975	15603	15603
Accreditation costs	1361	1361	1361	1361
Total costs	**136913**	**101530**	**82504**	**65089**
REVENUE				
GPR income to practice	46862	46862	60234	60234
Upskilling support	637	637	637	637
Teaching allowance	10561	5625	1713	492
Practice subsidy	14070	7118	156	0
Total revenue	**72129**	**60241**	**62738**	**61362**
COST - REVENUE				
Total revenue	72129	60241	62738	61362
Total costs	136913	101530	82504	65089
Net financial effect	**-64784**	**-41289**	**-19766**	**-3727**

Figure 7: Financial costs and revenue of teaching GPRs by training term ($ per semester) - urban locations

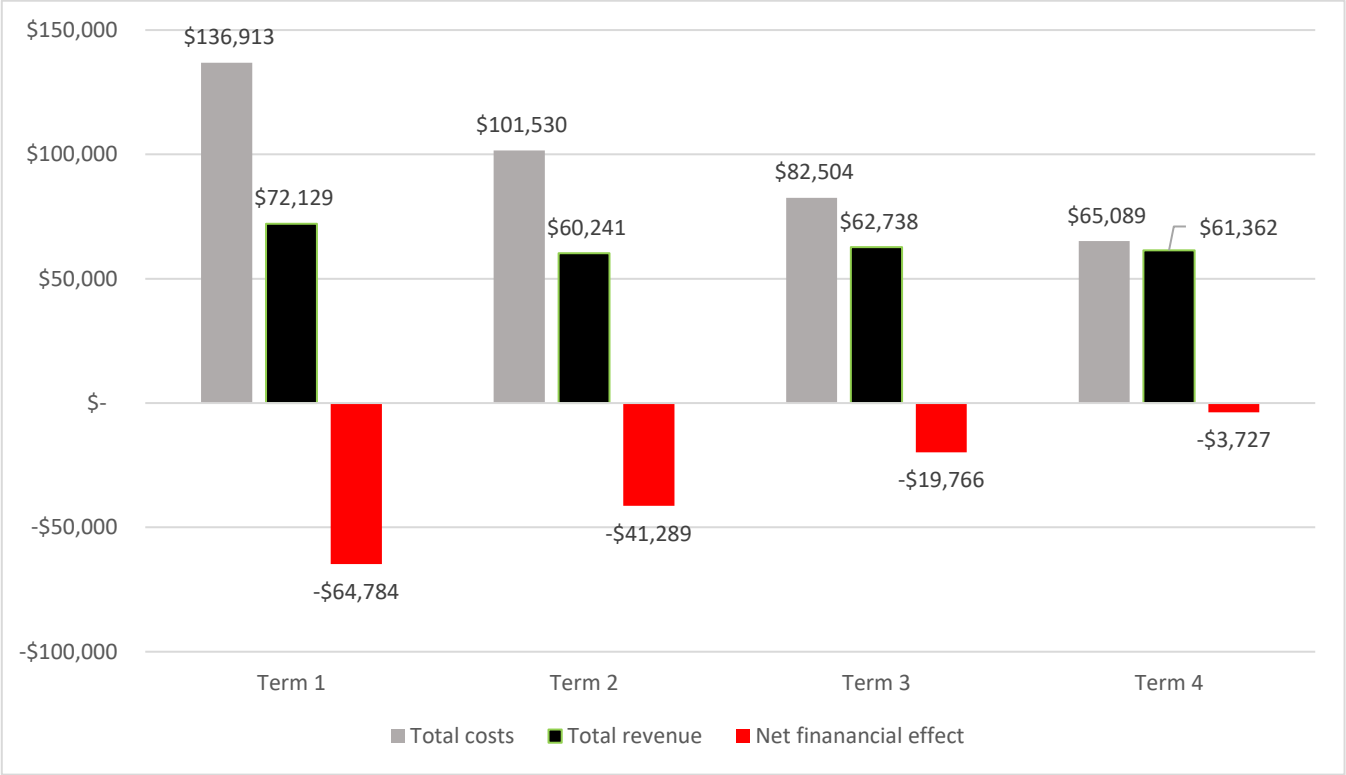
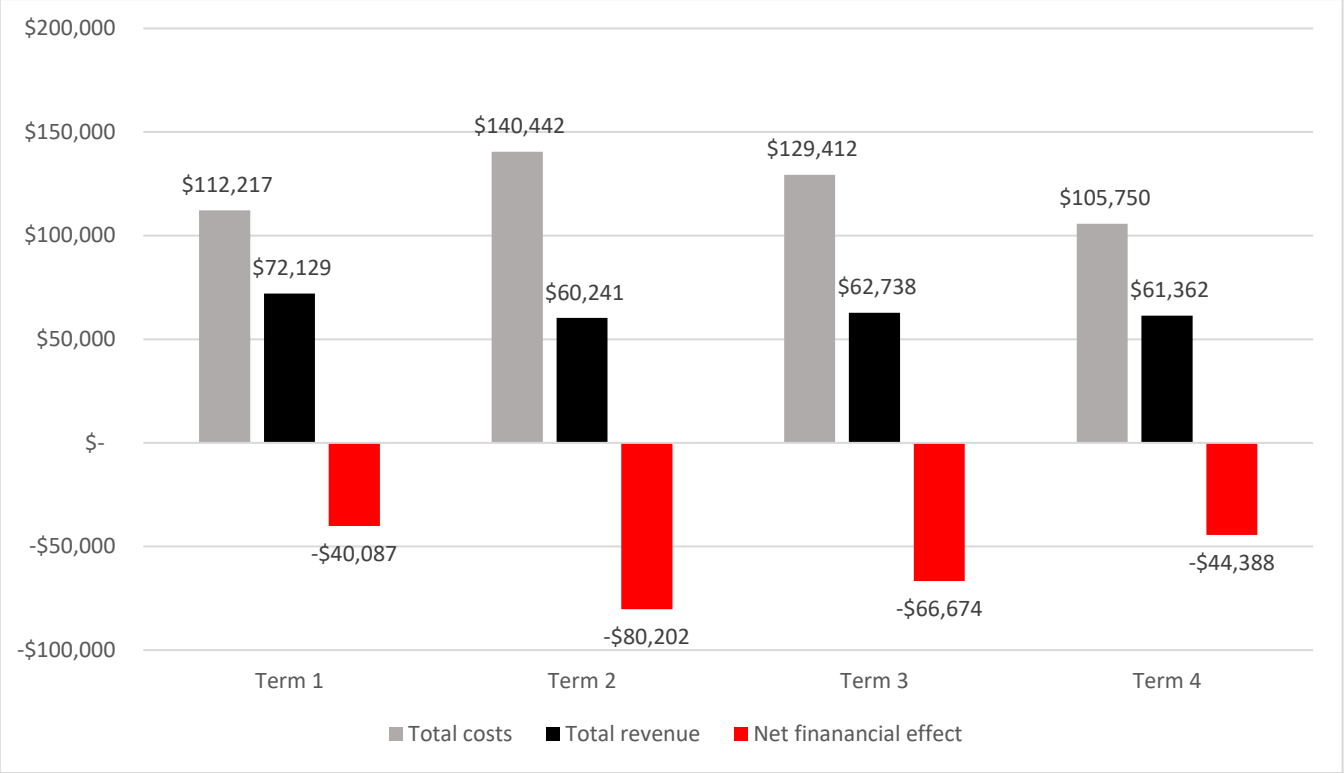


Table 22: Cost and revenue per 1.0 FTE registrar by training level per semester – prices ($), rural locations

COSTS	**GPT1**	**GPT2**	**GPT3**	**GPT4**
Pre-placement & orientation activities	10716	9785	7683	9166
Direct teaching activities	29308	50209	54666	35060
Assessment activities	4040	8348	10345	9117
Administrative activities	3110	7238	8075	4388
Teacher CPD activities	2626	4427	2722	2217
GPR costs	16440	14459	13316	13197
Opportunity costs	44233	44233	30861	30861
Accreditation costs	1744	1744	1744	1744
Total costs	**112217**	**140442**	**129412**	**105750**
REVENUE				
GPR income to practice	46862	46862	60234	60234
Upskilling support	637	637	637	637
Teaching allowance	10561	5625	1713	492
Practice subsidy	14070	7118	156	0
Total revenue	**72129**	**60241**	**62738**	**61362**
COST - REVENUE				
Total revenue	72129	60241	62738	61362
Total costs	112217	140442	129412	105750
Net financial effect	**-40087**	**-80202**	**-66674**	**-44388**

Figure 8: Financial costs and revenue of teaching GPRs by training term ($ per semester) - rural locations



Sensitivity analysis

The two scenarios used in the sensitivity analysis that varied the GPS hourly wage rate are shown in

Table 23. These analyses show that an increase in the GPS salary of 30% and 40% produces a large increase in the net financial loss for a teaching practice. The sensitivity analysis for urban and rural practices is shown in Appendix 8. For scenario 1, the impact of the 30% increase was shown by percentage difference in the NFE, shows that the financial loss to a practice increased by 38% for Term 1 and up to 58% for Term 4. For scenario 2, this impact was even greater, with an increased loss of 51% in Term 1 and 77% in Term 4 (

Table 23).

Table 23: Sensitivity analysis by training level per semester – prices ($), all locations

COSTS	GPT1	GPT2	GPT3	GPT4
BASE MODEL				
Total revenue	72129	60241	62738	61362
Total costs	124889	120771	102176	85262
Net financial effect	**-52760**	**-60530**	**-39438**	**-23900**
SCENARIO 1 – 30% INCREASE GPS HOURLY RATE				
Total revenue	72129	60241	62738	61362
Total costs	145179	140244	120822	99132
Net financial effect	**-73050**	**-80003**	**-58084**	**-37770**
Sensitivity (% difference between base model NFE and scenario 1 NFE)	**38.5%**	**32.2%**	**47.3%**	**58.0%**
SCENARIO 2 – 40% INCREASE GPS HOURLY RATE				
Total revenue	72129	60241	62738	61362
Total costs	151942	146735	127037	103755
Net financial effect	**-79813**	**-86494**	**-64299**	**-42394**
Sensitivity (% difference between base model NFE and scenario 2 NFE)	**51.3%**	**42.9%**	**63.0%**	**77.4%**

NFE=Net financial effect

Summary

This analysis has shown that when comparing the costs and revenue of one GPS teaching 1.0 FTE GPR, there was a net financial loss for teaching practices. These losses varied by training level and also differed between urban and rural practices. This study built on previous research in this area [18,19, 35, 36] and expanded to incorporate the role of PMs in teaching GPRs by estimating the cost, in time and resources, for their contribution to training. It also estimated other

costs not previously included such as reduced productivity of GPRs when commencing in a teaching practice and attendance at internal and external training sessions.

We found that the greatest costs for teaching practices was the time spent by GPSs on direct teaching activities, which is not a surprising result. The other large cost for the practice was the opportunity cost of using a room for GPR training.

It is clear from this study that the highest costs for a practice occur in Term 1 of GPR training, where time spent on supervision and practice support is the highest and practice revenue generated by the GPR is the lowest. However, the impact on GPS and PM productivity reduces as the GPR moves towards more independent practice and requires less support and supervision. This result was similar to that found by Laurence et al's studies in South Australia [18] and Western Australia [19].

We also found that costs and revenue varied between locations, with higher costs estimated for practices located in rural locations compared to those in urban settings. This is not surprising in that scope of rural practice and teaching requirements differ to those of urban practices. For example, rural GPSs reported spending more time on specialist teaching and teaching time outside the practice, reflecting emergency and procedural training and supervision needed in a rural area and the hospital workload. Qualitative data from interviews (Part 1) also showed that rural practices discussed additional scheduling and administration associated with work across multiple sites and on-call as well as often additional orientation to the local community.

The wide amount of variation reported in time spent by stakeholders supporting the GPRs may be attributable to different requirements across states and RTOs for registrar training. As we progress to a nationally consistent model of training, there is opportunity to standardise baseline expectations for practices to inform future reviews of practice payments. However, in addition to the variation at a state level, it was also noted in the interviews that practices reported a wide variety of models for supporting GPR placements which aligned with their individual business models, and their practice culture. These could be above and beyond the minimum standards and requirements set.

The findings also highlight the important role PMs have in supporting GP training in a practice and this study is the first to document their contribution in terms of resourcing. This role is particularly high during pre-placement and orientation, as well as the ongoing administrative activities that occur during a term.

The analysis also highlighted the revenue generated by subsidies and allowances to support practices and GPSs involved in GPR training, but showed that these did not offset the costs sustained by a teaching practice. Moreover, the standard rate of these subsidies across all teaching practices does not account for the much higher costs incurred by rural teaching practices, suggesting the need to change the current one-model fits all approach to practice support for GP training.

Limitations

This analysis has several limitations. This study only focused on teaching GPRs through the AGPT Training program and did not include other levels of training (such as medical students or interns) that a practice may be involved in. It is possible that the involvement of different levels of training may lead to efficiencies in teaching that may reduce the costs and increase the revenue for a practice.

In addition, this analysis assumed a 1:1 registrar to supervisor ratio and it is acknowledged that often practices will have multiple registrars which could lead to efficiencies in teaching and reduce the costs.

Data was collected for this analysis through a survey and the response rate was low. The low response rate was not unexpected as the survey coincided a period when GPs and practices were under increased workloads due to COVID-19. Moreover, GP responses to surveys are traditionally low. Despite the low response rate, we received good representation from urban and rural practices.

The costing analysis was based on self-reported data by GPSs and PMs; accordingly, estimated time on activities associated with teaching may be over or under-estimated. The scope of the study did not allow for a formal triangulation of the results using a time and motion study. This needs to be considered when interpreting the results. However, the data was reviewed by the study's Steering Group and a group of stakeholders who assessed the results as valid.

While this study endeavoured to capture all the costs and revenue associated with teaching GPRs in a practice, some costs and revenue were not included due to difficulties in obtaining data from practices and allocating a proportion of costs and revenue to GPR training. As such the results may underestimate all the practice costs and revenue associated with teaching a GPR. Also, some costs could not be attributed to a training term and so a flat rate was used which again may not reflect the variation that occurs in a practice by training term.

Finally, the analysis did not include the intangible benefits or costs of teaching for a practice and GPS. For example, the stakeholder interviews reported the benefit of training a future GP for the practice and the resultant savings in recruitment costs. The inclusion of long-term benefits would be worthy of consideration in any future study on the costs and revenue of teaching GPRs.

5. Stakeholder feedback

Supervisors and practice managers who participated in interviews, or indicated an interest in further involvement through the survey, were invited to attend a webinar where key results from the qualitative work, the costing method and the final costing model were presented. Stakeholders were asked to reflect on:

- A description of whether the model resonated with their experience.
- Areas of variation between the model and their experience.
- Feedback on the trends observed overall and across rural and urban practices.

Key messages recorded from this group were as follows:

- Overall, the model resonated with the participants experience and they felt:
    - The model provided a fair, generic description of the costs associated with teaching a GPR, but it was emphasized that the time invested and costs vary across practices.
    - It was good that the model covered costs not typically recognized such as time taken interviewing GPRs before the placement and the impact of assessments such as direct observation visits and completion of patient encounter tracking and learning tools (such as ReCEnT).
    - The overall trends observed, with most net loss to the practice in GPT1, and least in GPT4, resonated with the participants.
    - The trend of increasing net loss in GPT2 for rural practices was supported because it was thought that at this stage the work associated with supporting a GPR is still significant, but the payments to support this work reduce. In addition, it was felt that practices would typically value quality training and safety over income, and would not expect GPRs to see more patients than they are ready for to increase the income.
- Suggestions identified by participants to be acknowledged in the final discussion:
    - The report should acknowledge that the costs of running a practice (including infrastructure costs) are not included in the model. This cost would be paid by the government in the context of other hospital-based specialist training.
    - Opportunity cost may not be a cost for all practices, who may not be able to attract another full-time GP easily. This should be acknowledged, but it is important to consider.
    - Some practices that are supportive, high quality teaching practices tend to attract GPRs that need additional support such as: part-time GPRs, GPRs with poor wellbeing, or requiring additional teaching to develop competence. Therefore, they may tend to have additional costs compared to those practices who are not typically approached to support GPRs requiring additional investment.
    - The intangible benefits as well as the cost of teaching should be acknowledged. Practices do not just teach GPRs ‘for the money’. Practices do love to teach. In addition, an important factor to explain ongoing practice motivation to teach in a landscape where there are mounting costs to a practice to support a GPR placement, is the ability for practices to trial GPRs within the practice during training, and to retain good doctors, who are suited to the practice culture, after Fellowship. Where this is achieved, it is a benefit to the practice. Barriers to achieving this can be if the practice has limited control over GPRs, and a good fit between the practice and the GPR cannot be achieved. Where practices are not seeing GPRs choose to stay after Fellowship, the investment in teaching seems less sustainable.
    - There is political pressure on rural practices to host trainees across all levels, (eg. medical students, prevocational doctors, and GPRs) and they do not get the same level of uptake of Fellows choosing to work there post training.
    - The idea that investing time in interviewing to get the right GPR fit for the practice was emphasised, to reduce the effort required during the placement and to increase the potential for retaining the GPR after Fellowship.
    - Part-time GPRs were thought to take more time to support, compared to full-time GPRs.
    - The impact on a business of continually having changeover of GPRs should be acknowledged and include consideration of the patient response and consequent financial impact on the practice. While it is difficult to cost, it may impact the bottom line.

    - As we see increasing numbers of practices where the GPS/s are not owners of the practice, it becomes increasingly important to acknowledge that there is a cost to the GPS, and a cost to the practice for supporting a GPR. They are separate costs.
    - Twelve-month placements may be more cost-efficient because a GPR has settled in and orientation is not required again after six months.
- Practical recommendations discussed by the stakeholder group included:
    - There was a desire that this research be used for advocacy for increasing practice support for practices going forward.
    - Tailored subsidies should be offered for rural and urban practices because of different scope of practice requiring supervision.
    - The report should also include recommendations to ensure there are other enablers, aside from practice and teaching funding incorporated into the future model of AGPT (eg. placement process maximising the opportunity for GPR/practice fit).
- Future research could include:
    - Cost-modelling for part-time GPRs.
    - Determining the cost-benefit if a GPR is retained post Fellowship.
    - Understanding the difference in cost if a GPR is retained for a 12-month placement.
    - Teasing out the cost to the GPS separately to the cost to the practice.

6. Summary, Key Findings and Recommendations

Key findings

Drawing together each of the three parts of the project (interviews, survey, and cost model), the key findings are summarised below.

The GP Supervisor, Practice manager, and the practice team support registrar placements

- GPSs invest a substantial amount of time each semester supporting GPR placements. We found that the greatest costs for teaching practices was the time spent by GPSs on direct teaching activities.
- This study also highlights the important role PMs have in supporting GP training, not acknowledged in previous studies. The PMs involvement was particularly high during pre-placement and orientation, as well as through the ongoing co-ordination and administrative activities that occur during a placement.
- The qualitative component of this research revealed that while the GPS and PM were most involved in supporting the registrar placement, that often contributions would also be made by the broader practice team including: other doctors, practice nurses, practice owners, reception and admin staff, and other allied health staff.
- A team-based culture, supportive of teaching and learning, was described across interviews.

A range of costs and revenue have been identified and included in the modelling

- The cost modelling template used in this project incorporates several important factors for practices to consider when calculating the cost of hosting a GPR placement.
- The cost modelling process included costs associated with:
  - GPS, PM, and practice nurse time invested in supporting a GPR placement,
  - GPR salary and entitlements, including estimates for reduced productivity of GPRs when commencing in a teaching practice, taking paid leave, and attending internal and external training sessions.
  - The missed opportunity cost resulting from hosting a GPR in practice instead of a vocationally registered GP.
- The revenue considered in the cost modelling included:
  - GPR income to practice,
  - GPS professional development support payments,
  - Teaching allowance and practice reimbursement payments.

Cost-modelling indicates that practices supporting a registrar placement experience a net financial loss

- The cost modelling shows that despite current subsidies, on average, practices experience a net financial loss by supporting a registrar placement across all training terms, albeit at a reduced rate over time. Overall, this ranged from a net financial loss of $52,760 for a practice hosting a full-time GPT1 registrar, to a loss of $23,900 for a practice hosting a full-time GPT4 registrar.
- The greatest costs for teaching practices were the time spent by the GPS on direct teaching activities (this ranged from $43,998 for GPT1- $28,814 for GPT4). The other large cost for the practice was the opportunity cost of using a room for GPR training (this ranged from $35,344 for GPT1- $21,972 for GPT4).
- The highest revenue to the practice was the registrar income (this ranged from $46,862 for GPT1- $60,234 for GPT4). PMs and GPS spoke about supporting registrars to learn to ethically bill, but it was noted that GPRs are still developing this skill early in training, which impacts revenue.
- It is clear from this study that the highest costs for a practice occur in Term 1 of GPR training, where time spent on supervision and practice support is highest and practice revenue generated by the GPR is lowest.
- The net financial loss varied by training level and differed between urban and rural practices.
- Costs were higher for rural practices and thus net financial losses were greater than for urban practices, with the greatest loss being reported in Term 2 ($80,202). This resonated with the stakeholder group and Steering Group.
- A number of evidence-based assumptions were made to inform the charge out rates used within the costing model, but results should be viewed in the context that there can be a large amount of variation in regard to individual GPS and PM time investment and charge out rate.

- It is acknowledged that this cost model did not include a portion of practice running costs, which would increase the cost to the practice.
- This model did include an opportunity cost for the practice, which may not be a real cost if the practice was unable to fill the consulting room used by the GPR with another vocationally registered GP. However, even with opportunity cost removed from the model, there remains a net loss to the practice for GPT1, 2 and 3.

Costs vary depending on factors related to the registrar, practice, and training context

- Practices reported a wide variety of models for supporting GPR placements, which aligned with the ACRRM and RACGP standards, the policies set by the DoH and Regional Training Organisations (RTOs), but also with the practices individual business models, and their practice cultures.
- There was variation across practices in the type of activities reported and the time invested in these activities. This was clear from both the interviews and survey.
- From the interviews, it was clear that variation in cost depended on the GPR, the practice, and the training context. Common GPR factors which resulted in variation included: the GPR level of confidence and competence, their identified needs, stage of training, scope of practice, previous experience, and wellbeing. Variation was also observed at the practice level in regard to activities, costs and personnel involved. Finally, variation emerged at the training context and level and this included: the practice location, training requirements and support structure of the RTO, the local services available to the practice, and scope of practice (eg. hospital, nursing home).
- We also found that costs and revenue varied between locations, with higher costs estimated for practices located in rural locations compared to those in urban settings. Some additional activities in rural practices included: assisting GPRs to find accommodation and settle into the community, orientation and support with hospital work, and on-call and time spent to travel to RTO training for GPSs and PMs.
- It should be noted that individual practice costs will vary, and that understanding the actual cost of training to any practice would need to be calculated on an individual practice and placement basis.

There is a low level of satisfaction associated with current financial support

- All interview participants felt that practices and GPSs wear costs for unfunded activities and resources. Some participants also felt that practice and teaching payments should be improved, that practices do not make money from GPR placements and that the current model of funding may not be sustainable.
- From the survey, there was low satisfaction with the current teaching allowance and practice reimbursements. Seventy-one percent (71%) of GPSs and 46% of PMs felt the teaching allowance was inadequate. Sixty-four percent (64%) of GPSs and 38% of PMs felt the practice reimbursement was inadequate. Rural GPSs and PMs were more dissatisfied with the current payment scheme.

Teaching practice sustainability is questioned and opportunities are identified for support

- The data suggest the perception that supporting GPR placements is sustainable if it will reap rewards for the practice in the longer term, with GPRs staying on after training. However, it can take a toll on practices if GPRs are not retained despite the ongoing financial and emotional investment.
- In a future model of AGPT, stakeholders would like to see the time required by practices in administration related to training reduced. This would reduce the workload associated with GPR placements and increase the intrinsic motivation.
- There are also several barriers (and enablers) which can mitigate additional costs. These were at a:
    - System level (GPR/practice fit and 12-month placement options, providing a suite of resources to support teaching and placements, and providing practices opportunities to host multiple GPRs), and
    - Practice level (strength of relationship with GPR, appropriate patient scheduling, teaching of ethical billing early on and developing and maintaining an experienced practice team and GPSs).
- Implementation of a placement process that gives practices a choice of GPRs to give best possible opportunity for GPR/practice fit, decreasing practice burden, and increasing the chance of sustaining GPRs after training is seen as important.

- Teaching practices are also impacted by the broader General Practice context and challenges, and to improve teaching practice sustainability, advocacy for the broader challenges facing General Practice is also important.

Recommendations

The following recommendations are made in response to the findings from this report:

Funding for practices

- Review opportunities to reward practices better financially for investment in training, while also maintaining a consistent stream of quality GPRs to fill teaching practice placements to minimise costs and stress associated with unfilled places and reduced opportunities to attract registrars to stay at the practice post Fellowship.
- Funding to practices needs to consider that costs vary according to the GPR, practice, and training context. While not all of these differences can be catered for in a national funding model, payments for differing scope of practice in both rural and urban environments should be recognised. In addition, there should be an opportunity for practices to access additional funding and support for the 'GPR at risk'.
- Financial recognition for practices who consistently provide quality experiences for GPRs, but who do not retain GPRs should be considered.
- Time spent to orientate and assess the safety of a GPT1 registrar should be acknowledged.

Practice non-financial support

- Practices should be supported to understand their actual cost for registrar training. This would need to be calculated on an individual practice and placement basis. A cost calculator, based on the variables identified in this project, should be developed to assist practices to understand and calculate their own costs for supporting GPR placements.
- Incorporate training on the practice 'enablers' for GP placements into new practice and GPS orientations.
- Emphasise the importance of establishing strong relationships between the GPS/s, the GPRs and also the practice team by providing Frameworks (such as GPCLE), training and tools (such as the GP-SRMR and the GP-SRMS) to practices and GPRs.
- Continue to share resources and training for GPSs and PMs to assist the delivery of safe and high quality GPR placements. Current RTO resources should be collated, curated and managed in an easily accessible and user-friendly environment. This will mean each new practice does not need to invest as much time in developing and maintaining their own resources.
    - Ensure practices have resources to support teaching of ethical billing to GPRs early on in their placements.
    - Support practices to develop and maintain an experienced practice team and GPSs by continuing to offer a repository of resources and training to new teaching practice staff: this includes new GPS training, new teaching practice PM training and practice staff training and resources.
- Support practices to develop and sustain a team-based culture which values teaching and learning by using Frameworks such as GPCLE and providing related resources and support.

Other recommendations for a future AGPT training model:

- A placement process needs to be implemented which considers the needs of the practices that have emerged through this research including:
    - A placement process that gives practices and GPRs a choice of placement should be implemented to give the best possible opportunity for GPR/practice fit to be achieved.
    - GPR interviews are important in optimising the chance for a successful placement and retention. Appropriate time needs to be given to arrange interviews with GPRs prior to selection, because interviews are time consuming to schedule.
    - Quality training practices should be rewarded with GPR supply during the placement process.
    - Explore options for sharing GPRs who require additional investment across practices.

    - Prioritise GPRs for placements where there is a clear intent for staying on after Fellowship.
    - Enable 12-month placements where mutually agreed to by the practice and GPR.
    - Provide practices with opportunities to host multiple GPRs, where desired and practical.
    - Consider registrar placement continuity for practices and work with practices to attract and sustain a continuous pipeline of GP registrars.
- Reduce the administrative burden on practices where possible, including reporting, forms and user friendly IT solutions.
- Consider the time already invested in activities by practices in the design of a new training model and workplace-based assessment framework. Any increase in requirements of training practices and supervisors is likely to increase the financial loss to the practice or supervisor, and may impact practice sustainability.
- It is important that practice quality is considered in the selection, accreditation, feedback, training, and support of AGPT teaching practices. Existing practices who consistently demonstrate a positive practice culture should be recognised, rewarded, and invited to share their experiences.

Strengths, Limitations and Future Research

While this research was completed during the COVID pandemic, which has impacted research participation within General Practice, reasonable participation in both the qualitative and quantitative elements of research have been achieved. A high level of inter-coder agreement was achieved in the qualitative analysis, and the final costing model has been supported by the stakeholder group as a realistic representation of their experience.

A strength of this research is that it has used interviews to initially inform the development of a survey to quantify time investment and development of a costing model. This enabled development of a comprehensive survey to gather data to inform the costing model. This qualitative work has also assisted to interpret and explain the results.

This study has built substantially on the costing models previously published. By including PMs within the interviews, additional activities and information were able to be considered within the modelling. For example, time estimates for activities undertaken by PMs and practice nurses were included in this cost model. In addition, the project has collected data across a wide range of practices and regions nationally. Input from a committed Steering Group, including expertise in GP supervision, practice management, practice finance, delivery of Australian General Practice training and research has enabled a blended skill-set and knowledge to inform the final model. As a result, a more comprehensive list of costs and revenue have been included within this model, compared with previous studies.

The authors acknowledge that the costs of running a practice are not included in the model. This is an important cost to consider in the future because it would be paid by the government in the context of other hospital-based specialist training. In addition, there may be other potential revenue such as WIPs, which were unable to be included due to difficulty in collecting or accessing already published data. Future research should consider this additional cost and revenue.

This costing model includes time invested by the GPS/s, PMs and practice nurse as reported in the surveys. However, it is acknowledged through the qualitative interviews that other team members such as reception staff, practice owners and allied health were mentioned as contributing at various stages to GPR placements. While they were discussed as having more minimal involvement, it is important to acknowledge that this time may not have been captured. A future time in motion study could be done to capture a more detailed description of time and other costs invested across the whole practice team. To complete a time and motion study that would capture the breadth of General Practice in Australia was impossible within the time and financial constraints of this research.

It is acknowledged that the opportunity cost may not be an actual cost for all practices. Some practices may not be able to attract another full-time GP easily and have a choice to use their resources to support a GP instead of a GPR. It is however important revenue foregone to consider for many practices.

It has been highlighted by the stakeholder group that the impact on a business of continually managing GPR changeover should be acknowledged. This study does not account for the financial impact that regular GPR turnover, based on 6-month placements, may have for a practice. This should be a focus for future research.

It has been suggested by the stakeholder group that part-time GPRs may cost more compared with a full-time GPR. Future research should determine comparative cost modelling for part-time GPRs.

Participants and the stakeholder group spoke about the hope of retaining GPRs after Fellowship as a motivator for GPR teaching. This retention may also save the practice cost in the longer term, which has not been factored into this model and could be explored in future research.

Stakeholders commented that this research does not separate out the cost to the GPS as separate from the cost to the practice. In the changing GP landscape where GPSs are not always practice owners, separating out these costs to understand the comparative effect on both the practice and the GPS will be an important question for future research.

Finally, it was clear from the interview and survey analysis that there was broad variation in the time invested and staff involved across practices. The costing model flattens this variation. While modelling was performed across rural and urban practices, it is important to acknowledge that there will be several other variables which are likely to provide different costs, which have not been calculated within the scope of this project. It should be noted that individual practice costs will vary depending on a range of factors, and that understanding the actual cost to any practice would need to be calculated on an individual practice and placement basis.

Conclusion

This research is the most current and comprehensive project the authors are aware of that has attempted to identify, describe, and quantify the actual costs, revenue and income foregone associated with supporting a GPR placement. A strength of this study has been the inclusion of a qualitative element to initially identify the activities and costs. This qualitative part of the research has also enabled a richer discussion of the context and caveats attached to the final models.

This study has confirmed that it is important to acknowledge that the whole practice team are involved in supporting GPR placements, with significant contributions from the GPS and PM.

A range of costs and revenue were identified and included in the modelling. Costs include: GPS, PM and practice nurse time, GPR salary and entitlements (including estimates for reduced productivity of GP registrar), and the missed opportunity cost resulting from hosting a GPR in the practice instead of a vocationally registered GP. Revenue includes: GPR income to practice, GPS professional development support payments, teaching allowance and practice reimbursement payments.

The cost modelling shows that despite current practice and teaching payments, on average, practices experience a net financial loss by supporting a GPR placement. Overall, this reduces over training terms. The cost modelling shows that rural practices have higher net financial losses compared with urban practices. It is acknowledged that this cost model did not include a portion of practice running costs, which may result in an underestimate of the cost to the practice. However, this model did include an opportunity cost for the practice, which estimated income foregone by hosting a registrar rather than a GP. It is acknowledged that this may not always be a real cost because there are likely examples where a practice was unable to fill the consulting room used by the registrar with another vocationally registered GP.

There was wide variation in costs reported by the practices within both the interviews and the survey. Costs vary depending on the GPR, the practice and training context. Understanding the actual cost to any practice would need to be calculated on an individual practice and placement basis.

While participants flagged the non-financial motivators to teach registrars, such as fulfilling the love of teaching and gaining satisfaction from investing in the next generation of GPs, participants also flagged questions around sustainability of teaching. Financial and emotional investment in GPR training were both discussed. There was a low level of satisfaction associated with current financial support across practices and questions raised about practice sustainability. This was particularly apparent for those practices that did not retain GPRs after training, which is perceived as a longer-term benefit of the investment in training.

The practice and teaching subsidies currently provided do not reflect the variation of training at different levels and in different locations. Moving away from a one-size-fits-all subsidy to account for variation in costs to practices is recommended, particularly across rural and urban based practices. It should also be noted that any increase in

requirements of training practices and supervisors in future training models may increase the financial loss to the practice.

There are opportunities for improving practice sustainability in a future AGPT model through: optimising GPR/practice fit through implementation of a fit-for-purpose placement process, ensuring continuity of quality registrars for placement, considering 12-month placements, training and resourcing practices to implement practice-based enablers, and continuing to advocate for the broader challenges facing General Practice.

The future model for delivery of AGPT should consider the findings from this research and seek opportunities to improve financial support to teaching practices and prioritise system level enablers (including implementation of a placement process aimed to maximise GPR/practice fit and continuity of quality registrar placements).

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Appendices

Appendix 1- Interview participant prompt sheet

The financial costs and revenue associated with teaching and supervision in general practice: Interview pre-briefing

Background

Thank you for agreeing to participate in an interview for this project. Because we understand that developing a complete picture of the direct and indirect costs associated with teaching and supervision is complex, we provide this handout prior to the interview to enable your thoughtful consideration. This handout provides an overview of the types of questions we will cover during the interview. You may find it helpful to speak with others in your practice to assist you to prepare.

Our objectives by the end of the interview are to understand:

- Direct and indirect activities/ costs of teaching a registrar in practice.
- How activities and costs may vary between levels of registrar/ types of registrar.
- The range of sources of revenue associated with registrar placements.

Interview Approach

SECTION 1: Model for supervision and teaching used within the practice

- How many registrars/learners are in the practice.
- Who is involved in supervision and teaching.
- Others involved in supporting the registrar placement.

SECTION 2: Description of the activities/costs required to facilitate a registrar placement.

- What are the activities required.
    - Prior to placement, during placement, after placement - see Table over page with prompts.
    - Are there other activities occurring that the interviewee is not a part of
- What needs to be done to complete each activity.
- Others involved in these activities and supporting a registrar placement.
    - Who and what do they do.
- Variation depending on the type of registrar (eg. GPT level, struggling registrar).
- Other things that might impact on these activities and how (eg. COVID).
- Activities currently done that are not perceived by supervisors to be valuable for the placement- Why?
- Activities not currently done which would be beneficial to the quality of the teaching- Why?
    - What are the current barriers?

Table 1. Prompts for possible activities / costs to consider

	Possible activities and costs
Before the placement starts	• Selection of registrar for the practice • Pre-commencement paperwork • Preparing the clinic for a new registrar • Other
Orientation phase of the placement	• Orientation (practice, clinical, educational, community, hospital) • Planning for learning • Other
Teaching and supervision (direct)	• Teaching (formal/ informal/ ad hoc) • Supervision (during consulting/ after hours) • Observation and feedback • Completing other assessments and feedback • Meeting with Medical educators (eg. After a direct observation visit) • Hospital/ community exposure to registrars (e.g. Nursing home visits) • Other
Teaching and supervision (indirect)	• Supervisor/ Practice manager professional development • Practice and supervisor accreditation • GP training communications (RTO communications) • Other administration associated with teaching and supervision (e.g. Random case reviews, gathering feedback from practice staff, preparing for teaching, reviewing registrar feedback from MEs and others) • Administration associated with being a training practice (eg. Practice agreements, educational scheduling and support) • Other
Other activities or costs	• Consulting room and equipment • Resources for registrar • Other costs associated with employment of a registrar • Other costs

SECTION 3: Calculating revenue

- Confirming revenue streams gained from having registrar placement- see Table 2 overleaf.
- Variation depending on the type of registrar (eg. GPT level, struggling registrar)

Table 2. Prompts for revenue streams associated with registrar placement for discussion

Revenue	Description
Teaching allowance	Allowances paid to the supervisors for direct teaching of registrars
Practice subsidy	Allowance to practice for indirect costs
Teacher upskilling subsidy	Funding for attendance to upskilling workshops/sessions
Income generated for practice	Medicare billings (% retained) Practice incentives (eg. WIP) Other?

Appendix 2- Interview Schedule

The financial costs and revenue associated with teaching and supervision in General Practice: Interview Script/Notes

Introduction

Thanks for your time today. As you know we are really interested in having a chat to better understand the cost of teaching for Supervisors and General Practices.

I have a series of questions today which will help me to better understand from your perspective

- Direct and indirect activities/ costs of teaching a registrar in practice.
- How activities and costs may vary between levels of registrar/ types of registrar.
- The range of sources of revenue associated with registrar placements.

SECTION 1: Model for supervision and teaching used within the practice

1. First I want to ask a few questions to understand teaching and supervision in your practice?
    - How many registrars?
    - Who else in the practice is involved in supervision and teaching?
    - Are there others involved in supporting the registrar placement?

<u>SECTION 2:</u> Description of the activities/costs required to facilitate a registrar placement.

The next few questions I am going to ask are in an effort to understand the activities involved in teaching and supervision think about your time –

2. First I'd like you to walk me through from **<u>before the placement</u>**

Overall questions- Before the placement starts	**Prompts /notes**
During this stage what the kinds of activities that you are involved in? *(Let Supervisor respond and probe for more detail according to the prompts Interview pre-briefing sheet provided)*	<u>Prompts:</u> • Selection of registrar for the practice • Pre-commencement paperwork • Preparing the clinic for a new registrar • Other
<u>Define the activity:</u> • What do you need to do to complete this activity? • Are there others involved in these activities? Who and what do they do? • Are there other activities occurring that you are not a part of? ○ What are they and who does them?	

3. Next I'd like you to walk me through the **orientation phase of the placement**

Overall questions- Orientation	**Prompts /notes**
During this stage what the kinds of activities that you are involved in? *(Let Supervisor respond and probe for more detail according to the prompts Interview pre-briefing sheet provided)*	<u>Prompts:</u> • Orientation (practice, clinical, educational, community, hospital) • Planning for learning • Other
<u>Define the activity:</u> • What do you need to do to complete this activity? • Are there others involved in these activities? Who and what do they do? • Are there other activities occurring that you are not a part of? ○ What are they and who does them?	

4. Next I'd like you to walk me through the **teaching and supervision in the practice** during the semester and the kinds of activities that you are involved in.

Overall questions- Teaching and supervision (direct)	**Prompts /notes**
During this stage what the kinds of activities that you are involved in? *(Let Supervisor respond and probe for more detail according to the prompts Interview pre-briefing sheet provided)*	<u>Prompts:</u> • Teaching (formal/ informal/ ad hoc) • Supervision (during consulting/ after hours) • Observation and feedback • Completing other assessments and feedback • Meeting with Medical educators (eg. After a direct observation visit) • Hospital/ community exposure to registrars (e.g. Nursing home visits) • Other
<u>Define the activity:</u> • What do you need to do to complete this activity? • Are there others involved in these activities? Who and what do they do? • Are there other activities occurring that you are not a part of? ○ What are they and who does them?	

5. Next I'd like you to walk me through the **other activities required of Supervisors and the practice that are indirectly related** to teaching and supervision in the practice?

Overall questions- Teaching and supervision (indirect)	**Prompts /notes**
During this stage what the kinds of activities that you are involved in? *(Let Supervisor respond and probe for more detail according to the prompts Interview pre-briefing sheet provided)*	Prompts: • Supervisor/ Practice manager professional development • Practice and Supervisor accreditation • GP training communications (RTO communications) • Other administration associated with teaching and supervision (e.g. Random case reviews, gathering feedback from practice staff, preparing for teaching, reviewing registrar feedback from MEs and others) • Administration associated with being a training practice (eg. Practice agreements, educational scheduling and support) • Other
Define the activity: • What do you need to do to complete this activity? • Are there others involved in these activities? Who and what do they do? • Are there other activities occurring that you are not a part of? ○ What are they and who does them?	

6. Variation:

Thinking about all of the activities we have just discussed, can you reflect on whether any of these might change depending on the type of registrar (GPT level, struggling registrar)?

- How might they change?
- What would this mean for your practice investment in the registrar placement?

Are there other things that might impact on these activities (eg. COVID)?

- What impact would this have?

What happens when something goes wrong? Do you have an example you can walk me through?

7. Value and barriers:

Are there any of the activities you have mentioned above that you feel are not valuable or required for the placement?

- Why?

Are there other activities which you think would be beneficial to the quality of the teaching that you would like to do before the placement starts but do not currently?

- What are the barriers?

8. Are there **any other activities or costs** which you would like to add that are required to support a registrar placement in your practice?
    - Consulting room and equipment
    - Resources for registrar
    - Other costs associated with employment of a registrar
    - How does your practice cost this?

SECTION 3: Calculating revenue

We have listed in the Table on your pre-reading a number of common streams of revenue to support a registrar placement:

- Do these align with your practice's revenue streams for a registrar placement?
- Is there anything missing?
- Is there variation depending on the type of registrar (eg. GPT level, struggling registrar)?

Revenue	Description
Teaching allowance	Allowances paid to the Supervisors for direct teaching of registrars
Practice subsidy	Allowance to practice for indirect costs
Teacher upskilling subsidy	Funding for attendance to upskilling workshops/sessions
Income generated for practice	Medicare billings (% retained) Practice incentives (eg. WIP) Other?

Any other comments

Appendix 3– Tables describing direct and indirect teaching activities

Table 24. Description of activities related to pre-placement.

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses	Admin staff	Practice owner			
Placement process/ determining practice capacity	Y	Y			Y	The cycle for placing a registrar in a teaching practice begins with the placement process. Typically, PMs manage the process, paperwork, and communication. Practice capacity for registrar placements is typically determined by GPS, and may be in consultation with practice owners. • Supervisors • Practice managers • Practice owners	 2 6 3	 1 4 2
CV Review	Y	Y			Y	CV review is typically completed by the GPS and PM, with occasional input from practice owners. • Supervisors • Practice managers • Practice owners	 3 5 2	 4 2 1

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses	Admin staff	Practice owner			
Interviews	Y	Y		Y	Y	There was consensus that GPS and PMs are involved in conducting interviews. On occasion, practice owners/partners were also involved. PMs or administration staff were often involved in scheduling interviews, which could be difficult to find a time suitable for all parties and may be scheduled outside of typical work hours in some instances. • Supervisor • PM • Administration staff • Practice owners	 9 9 2 2	 9 6 0 2
Contract administration		Y		Y	Y	Typically, PMs coordinated contract administration with registrars, sometimes with support by administration staff. Practice owners may also be involved in oversight and approval of this process. • PM • Administration staff • Practice Owner	 6 2 1	 1 0 0

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses	Admin staff	Practice owner			
Pre-commencement paperwork	Y	Y		Y		The PM typically managed the pre-commencement paperwork including Medicare forms, credentialing etc. • Administration staff may also provide assistance. • Supervisors may also be involved, particularly to sign off the paperwork.	7 2 2	5 0 1
Preparing for the registrar arrival and orientation	Y	Y	Y	Y		There was consensus that the PM and their team managed the planning and preparation, with oversight by the GPS who would also prepare/update the clinical/teaching plan and educational resources. The GPS would also plan orientation tailored to the needs of the registrar. Other preparation and administration activities managed by the PM and supported by the administration staff and practice nurse/s included: preparing a consulting room, organising IT set up, ordering new staff resources (eg. clinical equipment or supplies, name-tags etc), setting up diaries for the registrar, GPS and other staff to ensure orientation and other requirements can be met. • Supervisor • PM • Nurses • Administration staff	 0 9 0 2	 4 4 1 0

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses	Admin staff	Practice owner			
Supporting the registrar to come to the community		Y				PMs from rural practices reported helping registrars find accommodation and assisting them with other information and support required to enable them to move to, and integrate into, the community (such as joining sports clubs).	1	2
Liaison with RTO and/or registrars		Y				PMs typically liaise with the RTO and registrars about the placement process, conversations related to pre-placement administration, and contracts and preparing to begin the placement.	8	4

Table 25. Description of activities related to registrar orientation.

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Practice orientation	Y	Y		Y		Often the PM would lead and co-ordinate the orientation to the practice and this could also involve other administrative members of the practice team. Participants talked about the orientation including an introduction to the building, resources and team. A standard orientation checklist was often spoken about to ensure that all relevant policies, information and procedures were included. An IT orientation was also often spoken about, which included an introduction to the systems. Often an introduction to billings and the business of General Practice was also discussed. In some cases Supervisors were also involved in aspects of the practice orientation, including use of systems and billings.	9	8
Clinical orientation	Y				Y	Participants spoke about the GPS orientating the registrar to the clinical aspects of working in the practice, and other associated clinical sites (such as nursing homes or the Hospital). Participants spoke about covering things such as: the consultation process, scripting, pathology referrals, referral pathways etc. Other doctors with special skills in certain areas may also be involved in the orientation.	7	8
Orientation to the nurse role			Y			The majority of participants talked about registrars having an orientation to the nurse role. This may include sitting and observing the nurse/s, an introduction to care plans and the treatment room, and exposure to practical skills such as blood taking.	6	7

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Orientation to the community	Y	Y		Y		An orientation to the local community was spoken about by most practices and this was predominantly mentioned by rural participants. Typically, this involved driving the registrar around the local community to ensure they knew the local services that their patients may experience. It could include visiting the nursing home, Hospital or other key clinical sites associated with the placement. In addition, in rural practices introduction to the accommodation and local services the registrar will need to use such as shopping centres, cafes etc.	5	7
Registrar sits in with the Supervisor/other doctor	Y				Y	Participants frequently talked about registrars sitting in and observing their GPS and in some cases other doctors in the orientation to learn through observation how the processes and systems worked in the practice and to prompt questions, before the registrar began their own consulting. This practice was discussed as slowing down the rate of the Supervisor's consulting.	7	6
Supervisor sits in with the registrar	Y					A number of participants spoke about the GPS sitting in with the registrar early on in the placement. This gives the registrar back-up for consulting and assistance to learn how to consult in that practice environment, and how to access and use the resources they require. It also enables the GPS to gauge the registrar safety and skill.	2	4
Monitoring and identifying registrar needs	Y	Y			Y	Both PMs and GPS spoke about both roles monitoring and identifying registrar needs during the orientation. Needs may include monitoring if the pace of the information giving was appropriate, whether the registrar was ready to begin consulting, whether the time allocated to registrar consultations was reasonable and they were managing etc.	4	2

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Debriefing	Y	Y				Both the PMs and the GPS spoke about both roles paying attention to debriefing with the registrar during their orientation to seek feedback and provide encouragement and support.	3	2
Regular checking in and responding to registrar clinical queries	Y				Y	Both participant groups spoke about the GPS regularly checking in with the registrar and responding to clinical queries during orientation. This may be to provide input during consultations (if needed by the registrar), or to troubleshoot clinical queries during breaks or corridor consultations.	3	7

Table 26. Description of activities related to the registrar placement.

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied	Admin staff	Other doctors			
Planning for teaching	Y					Supervisors typically invested time in planning for teaching. Some spoke about having existing teaching plans, lessons manuals and resources that could be drawn on, as well as accessing external teaching resources (such as GPSA teaching plans). More experienced Supervisors indicated the spent less time on preparation. They usually had built up their own library of resources to draw on, reducing preparation required.	0	5
Formal teaching	Y	Y	Y		Y	Supervisors deliver the vast majority of teaching in the practice. Additionally, in many cases, several other members of the practice team also contribute specialist knowledge or skills and help spread the load. These include other doctors, other specialist doctors, nurses, pharmacists, or other allied health professionals. The types of teaching described in the interviews included: tutorials, case discussions, exam preparation support, observation and feedback, procedural skills teaching, and random case analysis. PMs were involved teaching practice-related topics such as the business of GP and Medicare billings. Observation of the Supervisor or other doctors was also discussed as a teaching technique.		
						• Formal teaching provided by GPS was discussed in all interviews (82 coding references)	9	9
						• Teaching provided by other doctors	5	0
						• Teaching provided by Practice managers	4	0
						• Teaching provided by nurses or allied health	5	3

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Corridor or opportunistic teaching	Y				Y	There was consensus that corridor or opportunistic teaching was mainly completed by the GPSs. Additionally, in several practices other doctors were also willing to support the registrar as needed. During orientation, Supervisors talked about regular checking in and responding to registrar clinical queries. Time spent engaged in corridor or opportunistic teaching continued throughout the placement and was difficult to quantify but perceived as time consuming. In some practices, a roster was drawn up so that the registrar would know which doctor to approach with their ongoing clinical queries arising from consultations. • Supervisors involved in corridor/opportunistic teaching • Other doctors involved in corridor/opportunistic teaching	 8 5	 7 2
Assessments	Y	Y		Y	Y	Supervisors discussed the time they spent to complete registrar assessments.	3	8
						PMs typically reported leading the multisource feedback assessment. The practice team, which may include other doctors, nurses and administration staff, would provide feedback.	4	2
						Administration staff were involved in co-ordinating consent from patients for direct observations, the logistics behind video reviews, and/or providing feedback.	5	0
						Some participants noted that the obligatory external direct observation visits impacted on the practice team in terms of liaison with the RTO, juggling scheduling, consenting patients and GPS and PM time during the visit.	1	2

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Pastoral care	Y	Y				Supervisors and PMs reported having substantial involvement in pastoral care, which was described as showing empathy and care for the wellbeing or mental health of the registrar/s. This included both checking on how the registrar was coping, providing social support, and assisting them to manage their wellbeing.		
						• PMs checking in with registrars and adapting their workloads to meet their wellbeing needs	7	2
						• Supervisors checking in with registrars, and providing social support	3	6

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Seeking out and responding to registrar needs		Y				PMs spoke about being actively engaged in seeking out and responding to registrar needs, such as inquiring about their training needs/requirements, satisfaction with patient load and diversity etc.	6	0
Liaising with the RTO	Y	Y				PMs and GPSs reported liaising with RTOs throughout the semester to discuss training requirements and processes, which intensified when issues or difficulties emerged in the placement (examples included exam failure, registrar-practice conflict). PMs also spoke about submitting reports to the RTO (such as patient logs).	5	1
Supervision outside of the practice	Y				Y	Participants spoke about Supervisors and other doctors taking registrars out of the practice and supporting their exposure to hospital or nursing home visits.	4	1

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Monitoring registrar progress and needs identification	Y					Supervisors talked about monitoring registrar progress and identifying their needs. This was done in several ways including seeking feedback from staff and patients, random case audits/reviews and/or observing interactions with the registrar.	6	5
Providing feedback to the registrar	Y	Y	Y	Y	Y	While the registrar was given feedback from the Supervisor, often feedback was gathered from patients and across the team.	3	1

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Coordination, administration, and scheduling- *Practice managers*		Y		Y		PMs were typically involved in co-ordination, administration, and scheduling activities throughout the placement. Coordination and scheduling activities may be prompted by: identifying new registrar needs, receiving new information from the RTO regarding registrar requirements, or release from practice, or receiving feedback from the registrar in regard to any difficulties experienced, patient load or diversity requirements. PMs typically had an important role as a central communication hub for Supervisors, registrars, and other team members to ensure a smooth placement. PMs also make logistical arrangements to adapt and provide additional support, and supervision when needed.	8	5

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Coordination, administration, and scheduling- ***administration staff***						Reception staff also help juggle patients/appointments, be mindful of booking a diversity of patients into the registrars appointment book, support registrar additional administration, follow up and pre-brief registrars prior to appointments with specific relevant patient details.	4	0

Table 27. Description of indirect teaching activities.

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Communications with RTOs and other training related stakeholders	Y	Y				A number of participants also mentioned keeping up to date with communications from RTOs and other stakeholders related to registrar training- but not related to the registrar placement (eg. GPSA, RDWA) • Supervisors • Practice managers	 0 2	 3 0
RTO required training	Y	Y				Supervisors and PMs spoke about training including workshops (face to face and online) and other online training required to be completed for the RTO. • Supervisors • Practice managers	 6 7	 9 1
Practice accreditation	Y	Y				Supervisors and PMs spoke about being involved in activities associated with accreditation of the practice as a teaching practice (not General Practice accreditation). • Practice manager • Supervisor	 4 2	 2 2

Activities noted	Staff involved					Description	Discussed in PM interviews	Discussed in Supervisor interviews
	Supervisor	PM	Nurses/other allied health	Admin staff	Other doctors			
Quality improving the teaching practice	Y	Y				Supervisors and PMs spoke about being involved in seeking feedback from registrars and using it to quality improve the training practice. This included activities such as completing exit interviews with registrars, staff feedback and training and continuously updating resources and manuals. • Practice manager • Supervisor	 3 1	 0 2
Networking and support activity	Y	Y				PMs and Supervisors discussed using online portals, networks and/or other activities to network and support them to support registrars. This included non-mandated professional development • Practice manager • Supervisor	 4 0	 1 1
Managing risks						Supervisors and PMs provided some examples of risks associated with having a registrar which required management and time investment. These included managing practice reputation and patient complaints. • Practice manager • Supervisor	 1 0	 0 3
Training and supporting new Supervisors						Supervisors talked about the additional workload associated with training /mentoring new Supervisors.	0	4

Appendix 4- GP Supervisor questionnaire

Start of Block: Participant information and consent

Introduction

GP Supervisor Survey

Thank you for clicking on the link to complete the survey for the financial costs & revenue associated with teaching GP registrars' study.

Further information on the study is available on the Participant Information Sheet which is available by clicking on this link

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Consent

By completing and submitting this questionnaire, I understand that I am consenting to participate in the research.

○ I agree (1)

Extended consent

I hereby provide 'extended' consent for the use of my data from this survey in future research projects that are:

	Yes (1)	No (2)
(i) an extension of, or closely related to, the original project: (1)	○	○
(ii) in the same general area of research (eg GP teaching): (2)	○	○

Information

Purpose of this questionnaire

The aim of this questionnaire is to gain information on the teaching and administrative activities associated with teaching GP registrars in your practice and the time you spend on these activities. The information gained from this survey will be used to inform the cost-modelling of these activities. The results from this project will be shared broadly with the aim to inform future discussions regarding practice support for GP training.

Management and Security of Data

The information that you provide in this questionnaire is entirely confidential. Data will only be accessible to project staff and results will only be reported in an aggregated format. At no time will identifiable individual data be reported.

Consent

Your participation is voluntary and your consent to participate in this study is implied by the submission of this questionnaire.

Instructions

This questionnaire has two main parts. The first part relates to information on your practice as a whole. The second part relates to the teaching and the activities associated with this.

The questionnaire should take approximately 15 minutes to complete.

If you have any queries, please do not hesitate to contact Taryn Elliott ph: (08) 8490 0400 or email: taryn.elliott@gpex.com.au

This study is being undertaken by GPEx, in association with the University of Adelaide and GPSA. This research project is supported by The Royal Australian College of General Practitioners with funding from the Australian General Practice Training Program: An Australian Government initiative.

End of Block: Participant information and consent

Start of Block: Practice component

Q1.1 **ABOUT YOUR PRACTICE**

Main Practice Postcode:

_____

Q1.2 How many GP's are in your practice?

- ○ Number of Full time GP's (0.9 and above FTE) (1) _____
- ○ Number of Part time GP's (2) _____

Q1.3 How many of the GP's are currently participating in teaching and at what level?

	Number of GP's (1)
Medical students (1)	
Interns (2)	
GP Registrars (3)	
Total number of GP's involved in teaching (4)	

Q1.4 How many years has your practice been involved in teaching?

_____

End of Block: Practice component

Start of Block: ABOUT YOU

Q2.1 **ABOUT YOU**

What is your gender?

- Male (1)
- Female (2)
- Other / Non-binary (3)

Q2.2 Role in your practice

- Principal / Partner (1)
- Independent contractor / Associate (2)
- Other (please specify) (3) _____

Q2.3 How many years have you been teaching GP Registrars?

- ○ 5 years or less (1)
- ○ 6 - 10 years (2)
- ○ > 10 years (3)

Q2.4 How many hours do you work in clinical practice in a usual week?

_____

End of Block: ABOUT YOU

Start of Block: ABOUT YOU

Q3.1 **ABOUT REGISTRAR TEACHING IN YOUR PRACTICE**

What percentage of gross billings does your practice typically pay registrars for regular hours (including superannuation etc.) but excluding hospital hours, weekends and on-call?

	N/A (1)	% (1)	Unsure (1)

Term 1 Registrar (GPT/CGT 1) (1)	○		○
Term 2 Registrar (GPT/CGT 2) (2)	○		○
Term 3 Registrar (GPT/CGT 3) (3)	○		○
Term 4 Registrar (GPT/CGT 4) (4)	○		○
Remediation Registrar (5)	○		○

End of Block: ABOUT YOU

Start of Block: Registrar Support

Q4.1 **ABOUT YOUR TEACHING OF GP REGISTRARS**

This section relates to your teaching of your <u>current* or most recent</u> GP Registrar(s)

**If you do not have a registrar placed with you currently, please consider the last semester in which you had one or more registrars placed in your practice.*

What level was the GP registrar(s) (select as many as apply)

- [ ] Term 1 Registrar/s (GPT/CGT 1) Full-time/part-time (1)
- [ ] Term 2 Registrar/s (GPT/CGT 2) Full-time/part-time (2)
- [ ] Term 3 Registrar/s (GPT/CGT 3) Full-time/part-time (3)
- [ ] Term 4 Registrar/s (GPT/CGT 4) Full-time/part-time (4)
- [ ] Other (e.g. remediation) Registrar/s (5) _____

End of Block: Registrar Support

Start of Block: Block 5

Q5.1 **Time spent on activities associated with teaching current/recent GP Registrars**

You've indicated that you currently have/most recently have had one or more **${lm://Field/1}.** Please estimate the amount of time spent on the following activities for <u>just one registrar</u>.

Please indicate this registrar's FTE here:

▼ 0.1 (1) ... 1 (11)

Q5.2 **In a <u>teaching semester</u>, how much time do you spend on the following activities for this registrar:**

Pre-placement activities

Such as: CV review, interviews, contract administration, pre-placement rostering and preparation.

○ Hours per semester for you as GP Supervisor (1) _____

Q5.3 **Practice orientation**

Such as: Clinical, cultural, educational, practice, community/health service orientation and other additional support of new registrar (eg. observation, blocked off consultations).

	(1)
Hours per semester for you as GP Supervisor (1)	
Hours per semester for your Practice nurse/s (2)	

Q5.4 **Administrative activities**

Such as: Practice agreements, RTO reporting, reimbursement forms; internal communication & training; additional employment requirements; monitoring registrar needs & adjusting support and registrar-related communications (RTOs/other).

○ Hours per semester for you as GP Supervisor (1) _____

Q5.5 **Upskilling**

Such as: Supervisor workshops (preparation, attendance, travel time) and other education related to teaching registrars.

○ Hours per semester for you as GP Supervisor (1) _____

Q5.6 In a usual teaching week, how much time do you spend on the following **direct teaching activities:**

	Hours per week (1)
Preparation time for teaching e.g. reviewing learning plans, planning for teaching (4)	
Opportunistic or corridor teaching (6)	
All other supervision and teaching in the practice (scheduled and ad-hoc) (9)	
Supervision and teaching outside the GP clinic (on call, in-hospital, nursing home etc.) (7)	
Other supervision activities (e.g. coaching, mentoring, debriefing, advocating, consultation note reviews, prescribing investigations) (8)	
Specialist teaching outside formal teaching (e.g. procedural skills) (10)	

Other assessment tasks (e.g. multi-source feedback, observation and feedback, supervisor feedback reports etc.) (11)	

End of Block: Block 5

Start of Block: Block 7

Q6.1 How much time do you spend on periodic activities required for teaching such as **GPEx/College accreditation administration** for teaching registrars?

○ Hours per year for you as GP Supervisor (4) _____

End of Block: Block 7

Start of Block: Block 6

Q7.1 **ABOUT CURRENT FINANCIAL SUPPORT FOR TEACHING GP REGISTRARS**

Are you aware of the financial support provided to supervisors and practices from RTOs to support teaching GP registrars?

○ Yes (1)

○ No (2)

Skip To: Q7.4 If ABOUT CURRENT FINANCIAL SUPPORT FOR TEACHING GP REGISTRARS Are you aware of the financial support... = No

Display This Question:

If ABOUT CURRENT FINANCIAL SUPPORT FOR TEACHING GP REGISTRARS Are you aware of the financial support... = Yes

Q7.2 How do you rate the adequacy of the current financial support that is paid for teaching GP registrars in your practice?

	Inadequate (1)	(2)	(3)	(4)	Adequate (5)
Practice subsidy (registrars) (1)	○	○	○	○	○
Teaching allowance (registrars) (2)	○	○	○	○	○

Q7.3 Do you have any comments related to your answers in the previous question?

_____

_____

_____

_____

_____

Q7.4 Have you any suggestions on how the reimbursement model for GP registrar teaching could be improved?

_____

_____

_____

_____

_____

Q7.5 Please feel free to provide any other comments which you think may be useful for this study:

_____

_____

_____

_____

_____

End of Block: Block 6

Appendix 5 – Practice manager questionnaire

Start of Block: Participant information and consent

Introduction

Practice Manager Survey

Thank you for clicking on the link to complete the survey for the financial costs & revenue associated with teaching GP registrars' study.

Further information on the study is available on the Participant information sheet which is available by clicking on this link

Consent

By completing and submitting this questionnaire, I understand that I am consenting to participate in the research.

○ I agree (1)

Extended consent

I hereby provide 'extended' consent for the use of my data from this survey in future research projects that are:

	Yes (1)	No (2)
(i) an extension of, or closely related to, the original project: (1)	○	○
(ii) in the same general area of research (eg GP teaching): (2)	○	○

Instructions

Purpose of this questionnaire

The aim of this questionnaire is to gain information on the type of teaching and administrative activities associated with teaching GP registrars in your practice and the time you spend on these activities. The information gained from this survey will be used to inform the cost-modelling of these activities. The results from this project will be shared broadly with the aim to inform future discussions regarding practice support for GP training.

Management and Security of Data

The information that you provide in this questionnaire is entirely confidential. Data will only be accessible to project staff and results will only be reported in an aggregated format. At no time will identifiable individual data be reported.

Consent

Your participation is voluntary and your consent to participate in this study is implied by the submission of this questionnaire.

Instructions

This questionnaire has two main parts. The first part relates to information on your practice as a whole. The second part relates to the teaching and the activities associated with this. The questionnaire should take approximately 15 minutes to complete. If you have any queries, please do not hesitate to contact Taryn Elliott ph (08) 8490 0400 or email: taryn.elliott@gpex.com.au

This study is being undertaken by GPEx, in association with the University of Adelaide and GPSA. This research project is supported by The Royal Australian College of General Practitioners with funding from the Australian General Practice Training Program: An Australian Government initiative.

End of Block: Participant information and consent

Start of Block: Practice Component

Q1.1 **ABOUT YOUR PRACTICE**

Main Practice Postcode:

_____

Q1.2 How many GP's are in your practice?

○ Number of Full time GP's (0.9 and above FTE) (1) _____

○ Number of Part time GP's (2) _____

Q1.3 How many of the GP's are currently participating in teaching and at what level?

	Number of GP's (1)
Medical students (1)	
Interns (2)	
GP Registrars (3)	
Total number of GP's involved in teaching (4)	

Q1.4 How many years has your practice been involved in teaching?

_____

End of Block: Practice Component

Start of Block: ABOUT YOU

Q2.1 **ABOUT YOU**

What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Other / Non-binary (3)

Q2.2 How many years have you been supporting GP Registrars?

- ○ 5 years or less (1)
- ○ 6 - 10 years (2)
- ○ > 10 years (3)

End of Block: ABOUT YOU

Start of Block: ABOUT YOU

Q3.1 **ABOUT REGISTRAR TEACHING IN YOUR PRACTICE**

What percentage of gross billings does your practice typically pay registrars for regular hours (including superannuation etc.) but excluding hospital hours, weekends and on-call?

	Unsure (1)	% (1)	N/A (1)
Term 1 Registrar (GPT/CGT 1) (1)	○		○
Term 2 Registrar (GPT/CGT 2) (2)	○		○
Term 3 Registrar (GPT/CGT 3) (3)	○		○
Term 4 Registrar (GPT/CGT 4) (4)	○		○
Remediation Registrar (5)	○		○

End of Block: ABOUT YOU

Start of Block: Registrar Support

Q4.1 **ABOUT YOUR SUPPORT OF GP REGISTRARS**

This section relates to <u>your current* or most recent</u> GP Registrars

**If you do not have a registrar placed with you currently, please consider the last semester in which you had one or more registrars placed in your practice.*

What level was the GP registrar(s) (select as many as apply)

- ☐ Term 1 Registrar/s (GPT/CGT 1) Full-time/part-time (1)
- ☐ Term 2 Registrar/s (GPT/CGT 2) Full-time/part-time (2)
- ☐ Term 3 Registrar/s (GPT/CGT 3) Full-time/part-time (3)
- ☐ Term 4 Registrar/s (GPT/CGT 4) Full-time/part-time (4)
- ☐ Other (e.g. remediation) Registrar/s (5) _____

End of Block: Registrar Support

Start of Block: Block 5

Q5.1 **Time spent on activities associated with teaching current / recent GP Registrars**

You've indicated that you currently have/most recently have had one or more **${lm://Field/1}.**

Please estimate the amount of time spent on the following activities for **<u>just one registrar</u>**.

Please indicate this registrar's FTE here:

▼ 0.1 (2) ... 1 (11)

Q5.2 In a teaching semester, how much time do **you (or your delegate)*** spend on the following activities for this registrar:

**We understand that in some practices these tasks may be delegated by the practice manager to other members of the practice team-please also include this time.*

Pre-placement activities

Such as: CV review, interviews, contract administration, pre-placement rostering and preparation.

○ Hours per semester (1) _____

Q5.3 **Practice orientation**

Such as: Clinical, cultural, educational, practice (eg. systems, billing, HR) community/health service orientation and other additional support of new registrar/s.

	(1)
Hours per semester for you (1)	
Hours per semester for your Practice nurse/s (2)	

Q5.4 **Administrative activities**

Such as: Practice agreements, RTO reporting, reimbursement forms; internal communication and training; additional employment requirements; monitoring registrar needs and adjusting support and registrar-related communications (RTOs/other).

○ Hours per semester (1) _____

Q5.5 **Upskilling**

Such as: Practice manager workshops (preparation, attendance, travel time) and other education related to supporting registrars

○ Hours per semester (1) _____

Q5.6 **Teaching and assessment activities**

Such as: Completion of assessment activities required by the RTO (eg. multi-source feedback).

○ Hours per semester (1) _____

End of Block: Block 5

Start of Block: Block 7

Q6.1 How much time do you spend on periodic activities required for teaching such as **GPEx/College accreditation** for teaching registrars?

○ Hours per year (1) _____

End of Block: Block 7

Start of Block: Block 6

Q7.1 **ABOUT CURRENT FINANCIAL SUPPORT FOR TEACHING GP REGISTRARS**

Are you aware of the financial support provided to supervisors and practices from RTOs to support teaching GP registrars?

- ○ Yes (1)
- ○ No (2)

Skip To: Q7.4 If ABOUT CURRENT FINANCIAL SUPPORT FOR TEACHING GP REGISTRARS Are you aware of the financial support... = No

Display This Question:

If ABOUT CURRENT FINANCIAL SUPPORT FOR TEACHING GP REGISTRARS Are you aware of the financial support... = Yes

Q7.2 How do you rate the adequacy of the current financial support that is paid for teaching GP registrars in your practice? (please select the appropriate answer)

	Inadequate (1)	(2)	(3)	(4)	Adequate (5)
Practice subsidy (registrars) (1)	○	○	○	○	○
Teaching allowance (registrars) (2)	○	○	○	○	○

Q7.3 Do you have any comments related to your answers in the previous question?

_____

_____

_____

_____

_____

Q7.4 Have you any suggestions on how the reimbursement model for GP registrar teaching could be improved?

_____

_____

_____

_____

_____

Q7.5 Please feel free to provide any other comments which you think may be useful for this study:

_____

_____

_____

_____

_____

End of Block: Block 6

Appendix 6 –Stakeholder Group data collection

STAKEHOLDER DATA

Introduction

To determine the costs and revenue generated by teaching GP registrars, we need to collect data that will be used to inform the costing model used in the Cost of Teaching Study. The Study's Steering Group and Working group, identified the variables needed for the study and also the method to be used for calculating key variables. Some of the data has been collected through an Australia wide survey of GP Supervisors, but other data will be collected from a sample of practices which will be used to calculate particular variables.

All the data we collect will remain confidential and used in formulate key variables based on data collected from the survey. No individual data will be used only aggregated means.

We are asking you to collect data from your practice for four areas:

- GP hourly wage rate
- GP registrar hourly wage rate
- Practice manager hourly wage rate
- GP Practice nurse hourly wage rate

For each area, we explain the reason we need this information, what is to be collected and where necessary, instructions on how to obtain this data. Once you have obtained the data you enter it on the tables in the attached data collection sheet.

For some of the data, we are asking for data that reflects a usual practice week in the last two months.

INSTRUCTIONS

1. GP hourly wage rate

To cost the time a GP Supervisor spends on activities associated with teaching GP registrars, we need to assign a $ value to their time – that is an hourly wage rate.

Data to be collected

GP billings and number of patients seen over a 4 week period.

Instructions

For up to five GPs in the practice you will need to record the number of patients seen by each GP and the billings generated for these patients for a 4 week period. Record the results on the Table 1 below

In selecting the 4 weeks, please use a period that reflects your usual in practice consulting and note a period when on leave or away from the practice or conducting high through put activities such as immunisation clinics.

STAKEHOLDER DATA COLLECTION SHEET

Table 1: GP hourly wage rate data recording sheet

Weeks commencing:……..

GP in practice	**Role in practice**	**GP Supervisor**	**Number of sessions per week**	**Week 1**		**Week 2**		**Week 3**		**Week 4**		**% of billings retained by GP**
				Total Patients seen	**Total Billings**	**Total Patients seen**	**Total Billings**	**Total Patients seen**	**Total Billings**	**Total Patients seen**	**Total Billings**	
GP 1	☐ Principal/Partner ☐ Independent contractor/Associate ☐Other……	☐ Yes ☐ No										
GP 2	☐ Principal/Partner ☐ Independent contractor/Associate ☐Other……	☐ Yes ☐ No										
GP 3	☐ Principal/Partner ☐ Independent contractor/Associate ☐Other……	☐ Yes ☐ No										
GP4	☐ Principal/Partner	☐ Yes										

	☐ Independent contractor/Associate ☐Other……	☐ No										
GP5	☐ Principal/Partner ☐ Independent contractor/Associate ☐Other……	☐ Yes ☐ No										

2. GP Registrar hourly wage rate

To determine the revenue generated for the practice by a Registrar, we need to determine an hourly wage rate for GP Registrars.

Data to be collected

GP Registrar billings and number of patients seen over a 4 week period.

Instructions

For each GP Registrar currently in your practice, you will need to record the number of patients seen by each GP Registrars and the billings generated for these patients for a 4 week period. Record the results on the Table 2 below.

In selecting the 4 weeks, please use a period that reflects your usual in practice consulting and note a period when on leave or away from the practice or conducting high through put activities such as immunisation clinics**.**

Table 2: GP Registrar hourly wage rate data recording sheet

Weeks commencing:……..

Registrar	**GP Registrar level**	**Number of sessions per week**	**Week 1**		**Week 2**		**Week 3**		**Week 4**		**% of billings retained by the Registrar**
			Total Patients seen	**Total Billings**	**Total Patients seen**	**Total Billings**	**Total Patients seen**	**Total Billings**	**Total Patients seen**	**Total Billings**	
GP Registrar 1	☐ Term 1 Registrar (GPT1/CGT1) ☐ Term 2 Registrar (GPT2/CGT2) ☐ Term 3 Registrar (GPT3/CGT3)										

	☐ Term 4 Registrar (GPT4/CGT4) or above ☐ Remediation Registrar										
GP Registrar 2	☐ Term 1 Registrar (GPT1/CGT1) ☐ Term 2 Registrar (GPT2/CGT2) ☐ Term 3 Registrar (GPT3/CGT3) ☐ Term 4 Registrar (GPT4/CGT4) or above ☐ Remediation Registrar										
GP Registrar 3	☐ Term 1 Registrar (GPT1/CGT1) ☐ Term 2 Registrar (GPT2/CGT2) ☐ Term 3 Registrar (GPT3/CGT3) ☐ Term 4 Registrar (GPT4/CGT4) or above ☐ Remediation Registrar										
GP Registrar 4	☐ Term 1 Registrar (GPT1/CGT1) ☐ Term 2 Registrar (GPT2/CGT2) ☐ Term 3 Registrar (GPT3/CGT3) ☐ Term 4 Registrar (GPT4/CGT4) or above ☐ Remediation Registrar										
GP Registrar 5	☐ Term 1 Registrar (GPT1/CGT1) ☐ Term 2 Registrar (GPT2/CGT2)										

	☐ Term 3 Registrar (GPT3/CGT3) ☐ Term 4 Registrar (GPT4/CGT4) or above ☐ Remediation Registrar										

3. Practice manager hourly wage rate and GP nurse hourly wage rate

In addition to the time GP Supervisors spend on teaching activities, Practice managers undertake several administrative activities related to GP registrar teaching. Practice Nurses also have role in the teaching of GP registrar. We need to include this work in included in our costing model and so we need to assign a $ value to their time – that is an hourly wage rate.

Data to be collected

Practice manager and GP Nurse base hourly rates (do not use casual rates) used in your practice

Record the results on Table 3 below.

Table 3: Practice manager hourly wage rate and GP nurse hourly wage rate recording sheet

Position	**Level**	**Hourly rate**
Practice manager	n/a	
GP Nurse 1	☐ Enrolled ☐ Registered	
GP Nurse 2	☐ Enrolled ☐ Registered	

Appendix 7 – Bootstrapped estimated means for teaching activities

Table 28: Bootstrapped weighted mean times per semester on teaching activities by training levels 1-4– all locations - 95% CIs

Activities		GPT1		GPT2		GPT3		GPT4	
		Mean	95% CIs	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs
Pre-placement & orientation activities	GP Supervisors	24.5	16.1-35.4	16.0	11.7-21.5	14.9	9.5-21.4	13.2	8.6-20.0
	Practice managers	36.6	24.0-52.3	24.4	15.6-34.8	16.4	10.4-24.3	19.8	14.0-27.7
	Practice Nurses	12.2	7.2-18.6	14.1	7.1-23.5	7.4	3.6-12.2	9.2	5.3-14.4
Direct teaching activities	GP Supervisors	191.2	152.8-234.8	181.8	145.1-224.7	181.1	123.6-252.8	125.2	96.4-158.6
Assessment activities	GP Supervisors	24.3	17.1-34.0	37.0	18.8-87.3	30.9	19.0-47.1	28.8	16.7-44.5
	Practice managers	10.3	7.0-13.8	20.6	8.7-38.7	16.3	6.2-28.7	8.4	5.5-11.6
Administrative activities	GP Supervisors	18.3	9.6-31.8	16.5	10.1-25.1	18.5	12.3-26.1	9.5	7.0-12.6
	Practice managers	50.8	16.3-115.5	49.4	20.5-87.9	43.9	17.8-79.1	27.5	13.8-48.5
Teacher up-skilling	GP Supervisors	10.7	8.7-13.0	13.5	10.0-18.1	9.6	8.0-11.4	7.6	6.2-9.2
	Practice managers	7.4	2.0-14.6	11.2	8.5-14.5	8.8	6.7-11.0	9.9	7.6-12.3

Table 29: Bootstrapped weighted mean times per semester on teaching activities by training levels 1-4– urban locations - 95% CIs

Activities		GPT1		GPT2		GPT3		GPT4	
		Mean	95% CIs	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs
Pre-placement & orientation activities	GP Supervisors	29.4	13.9-47.6	9.4	6.1-13.2	12.2	6.8-20.4	8.9	5.7-13.0
	Practice managers	36.8	16.1-65.5	22.3	11.1-35.7	10.2	5.8-15.9	14.7	9.3-21.2
	Practice Nurses	11.6	4.5-22.3	15.6	4.3-33.4	3.9	1.8-6.8	7.3	3.-11.8
Direct teaching activities	GP Supervisors	255.0	203.6-312.2	135.3	106.9-165.2	145.5	118.2-174.4	90.1	63.0-120.6
Assessment activities	GP Supervisors	33.0	21.6-48.6	48.1	15.3-106.8	23.4	16.8-29.8	15.2	7.0-24.5
	Practice managers	12.7	7.2-18.5	8.0	4.9-12.6	14.3	4.9-27.3	8.8	4.7-13.8
Administrative activities	GP Supervisors	25.9	11.5-49.1	16.5	6.7-31.6	15.7	9.5-22.2	9.4	5.3-14.7
	Practice managers	29.1	14.8-50.0	29.0	14.8-46.8	23.8	13.1-38.4	16.8	9.3-25.3
Teacher up-skilling	GP Supervisors	12.0	9.5-15.0	9.6	7.5-12.0	9.5	7.4-11.6	7.9	5.7-10.9
	Practice managers	6.9	5.0-8.9	8.5	6.3-11.1	8.3	6.0-10.8	9.4	6.6-12.4

Table 30: Bootstrapped weighted mean times per semester on teaching activities by training levels 1-4– rural locations - 95% CIs

Activities		GPT1		GPT2		GPT3		GPT4	
		Mean	95% CIs	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs
Pre-placement & orientation activities	GP Supervisors	19.6	14.0-26.2	21.0	14.6-26.2	18.2	10.2-27.9	17.7	8.9-28.9
	Practice managers	36.3	20.954.8	26.4	14.2-39.8	20.0	11.2-33.0	25.6	14.0-39.5
	Practice Nurses	12.5	7.2-20.5	12.7	6.5-21.4	9.7	4.0-17.8	12.0	5.6-21.0
Direct teaching activities	GP Supervisors	127.3	89.8-171.6	218.1	152.7-296.1	237.5	101.5-49.0	152.3	110.8-206.2
Assessment activities	GP Supervisors	15.5	9.7-21.2	29.1	15.5-46.4	41.5	12.2-77.8	37.9	19.3-61.6
	Practice managers	9.1	54.-14.0	32.7	10.6-65.0	15.8	4.5-35.2	7.8	5.1-10.9
Administrative activities	GP Supervisors	10.4	4.6-20.2	16.5	10.6-23.3	22.4	11.6-36.9	9.7	6.6-13.0
	Practice managers	61.7	12.7-151.6	67.9	19.0-132.4	57.6	16.5-117.8	42.7	13.4-88.0
Teacher up-skilling	GP Supervisors	9.3	6.7-12.8	16.3	10.4-23.7	9.8	7.4-12.8	7.3	5.6-9.0
	Practice managers	11.9	8.0-16.6	13.5	9.1-18.9	9.1	6.4-12.0	10.7	6.7-15.4

Appendix 8 – Sensitivity analysis – urban and rural practices

Table 31: Sensitivity analysis by training level per semester – prices ($), urban locations

COSTS	GPT1	GPT2	GPT3	GPT4
BASE MODEL				
Total revenue	72129	60241	62738	61362
Total costs	135024	99641	80077	62661
Net financial effect	**-62895**	**-39400**	**-17339**	**-1300**
SCENARIO 1 – 30% INCREASE GPS HOURLY RATE				
Total revenue	72129	60241	62738	61362
Total costs	161102	115795	95240	72670
Net financial effect	**-88972**	**-55554**	**-32502**	**-11308**
Sensitivity (% difference between base model NFE and scenario 1 NFE)	**41.5%**	**41.0%**	**87.5%**	**770.1%**
SCENARIO 2 – 40% INCREASE GPS HOURLY RATE				
Total revenue	72129	60241	62738	61362
Total costs	169794	121180	100295	76006
Net financial effect	**-97665**	**-60939**	**-37557**	**-14644**

Sensitivity (% difference between base model NFE and scenario 2 NFE)	**55.3%**	**54.7%**	**116.6%**	**1026.9%**
NFE= Net financial effect				

Table 32: Sensitivity analysis by training level per semester – prices ($), rural locations

COSTS	GPT1	GPT2	GPT3	GPT4
BASE MODEL				
Total revenue	72129	60241	62738	61362
Total costs	110328	138554	126985	103322
Net financial effect	**-38199**	**-78313**	**-64247**	**-41961**
SCENARIO 1 – 30% INCREASE GPS HOURLY RATE				
Total revenue	72129	60241	62738	61362
Total costs	124784	160762	150823	120296
Net financial effect	**-52655**	**-100521**	**-88085**	**-58935**
Sensitivity (% difference between base model NFE and scenario 1 NFE)	**37.8%**	**28.4%**	**37.1%**	**40.5%**
SCENARIO 2 – 40% INCREASE GPS HOURLY RATE				
Total revenue	72129	60241	62738	61362

Total costs	129603	168164	158769	125954
Net financial effect	**-57474**	**-107923**	**-96031**	**-64593**
Sensitivity (% difference between base model NFE and scenario 2 NFE)	**50.5%**	**37.8%**	**49.5%**	**53.9%**
NFE= Net financial effect				