Evaluating a community-engaged vertically integrated teaching and learning pilot project

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Stakeholders’ perceptions of the facilitators of, and barriers to, shared learning in general practice

Introduction

Training of General Practice Registrars (GPRs) has typically involved one-to-one teaching provided by the supervisor (1). However, rising numbers of medical students (MSs), Prevocational General Practice Placements Program (PGPPP) trainees and GPRs requiring general practice placements (2, 3), coupled with regional workforce shortages, have created time and financial impacts on Australian General Practitioner (GP) supervisors/preceptors, and similar problems are reported internationally (1, 4-7). Vertically integrated (VI) education/training (8) has been suggested as a potential solution to capacity constraints (4, 9). One of the ways in which vertical integration can occur is through the teaching of multiple levels of learner together in shared education sessions (shared learning) (1, 10), for example, the GP supervisor running a tutorial attended by a mixture of registrars, PGPPPs and/or MSs.

The uptake of VI teaching models in Australia has been patchy. A survey of 17 Australian GP training organisations found that VI activities were occurring in an organised way in only 29% (9). Suggested barriers to shared learning in general practice are largely based on anecdote, or a narrow range of stakeholder interviews. The views of learners are almost absent. Suggested barriers include:

1. Insufficient funding to support innovation (11),
2. Disparate curricula (12, 13) and prior learning experiences of learners (11) and therefore variable learning needs,
3. Lack of sufficient teaching space (11, 14, 15) and information technology (IT) infrastructure/skills (11, 15),
4. Supervisors’ variable teaching skills (4, 10),
5. Concerns about the quality of the learning experience (4, 10, 16),
6. Time constraints (14-17),
7. Small practice size (15, 17, 18).

If shared learning is going to be utilised as a tool to increase teaching capacity, more information is needed on the views of key stakeholders including learners, supervisors and key administrative staff. This study explored the following question:

- What do these stakeholders perceive are the facilitators of, and barriers to, shared learning in general practice?

**Methods**

**Design**

A grounded theory approach involving individual interviews was used to investigate perceptions of shared learning in general practice. Grounded theory is a qualitative methodology that involves the investigation of a phenomenon without preconceptions or an hypothesis (19). Data is collected until no new information emerges (called data
saturation), and analysis involves coding and categorising the data. Once categories have been devised an overriding theory to explain the data can be created, which can be later tested through further research (19).

Participant recruitment

Recruitment occurred via an email outlining the research aims and project requirements. Potential participants were notified that participation was voluntary, and that no identifying information would be published. Volunteers including GP supervisors (GPs), GPRs, PGPPPs, MSs, Practice Managers (PMs), and Practice Nurses (PNs), were sought from teaching-accredited general practices - in the North Coast, Mid North Coast and Hastings-Macleay regions of NSW - that supervised a mixture of GPRs, MSs and/or PGPPPs. Some practices primarily used a VI model, while others used it occasionally, allowing access to a range of views from those already committed to VI models, and others with potentially less positive views of shared learning or more difficulty implementing it. Participants were asked to complete a consent form, and received a small honorarium in recompense for their time.

Instrument

The semi-structured interview questions were developed by the research team and reviewed by an advisory panel (see acknowledgements). Ethics approval was obtained from Southern Cross University’s Human Research Ethics Committee (ECN-11-187). Teaching was defined as structured education sessions such as lectures, tutorials, case discussions, and journal clubs, and excluded corridor or phone call teaching. Shared learning was defined as the delivery of education sessions by the teacher simultaneously to multiple levels of learners. Participants were asked to estimate the proportion of structured teaching time
that was VI and non-VI (one-to-one) to provide a sense of the experience participants had with each type of teaching. Participants were asked a series of open-ended questions designed to elicit their experiences of VI and non-VI teaching. Specific questions asked about facilitators and barriers included:

1. What do you see as the necessary attributes for VI teaching in general practice to be successful?
2. What do you see as the barriers to implementing VI teaching in the general practice setting?

Data analysis

Interviews were conducted in person or by phone, recorded, transcribed, and subsequently coded independently by three researchers using the constant comparative method (19) and the qualitative data analysis software NVivo9 (20). Major themes were then coded and categorised, leading to the development of a theory from the data (19). The research findings were reviewed by the advisory panel.
Results

Data saturation was reached when 11 GP supervisors, eight GPRs, two PGPPPs, eight MSs, four PMs and two PNs from nine general practices were interviewed. Sixty-three percent were female. All but two doctors obtained their medical degree in Australia. The codes and concepts derived from the data were grouped into three core categories (Table 1): enabling, reinforcing and predisposing factors.

Barriers and facilitators tend to be paired (eg. lack of space is a barrier, while sufficient space is a facilitator). The data have been reported in the form of facilitators (unless there was no paired facilitator), and are supported by quotes, which are coded to indicate the type of stakeholder and their gender. F stands for female and M for male.

Enabling factors

Enabling factors included the structures, resources, skills and circumstances that supported shared education sessions. For example, effective facilitation/teaching skills are critical as teaching multiple levels of learners in small groups requires additional skills to one-to-one teaching. Skills considered vital were the ability to defuse power relationships and create trust so learners can interact in a group without fear of losing face.

‘you need to be open to the entire educational process [which] may be difficult for some people based in a hierarchical learning environment’ MGPR8
‘having that sort of constant gathering...builds the relationship, it’s not only the teaching but it’s also the relationship building which is important’ FMS7

‘it depends on the atmosphere you create. That it’s OK, and any question is alright, and there is no such thing as a dumb question. I try and do that by asking questions myself, or very readily admitting I don’t know the answer myself, “How can we find that out?”’ FGP2

Conflicts of opinion are more likely to occur when there is a wide range of opinions/experience in the room, so establishing VI etiquette at the start of a session is helpful.

‘there’s been a few exciting ones where people have caused absolute carnage...how to deal with conflicts’ MGPR1

‘being on time, putting phones on silence, not having interruptions’ MGPR1

Small group interactions need to be managed in a way that engages learners.

‘you’ve got to have a helicopter view of how the interaction is going and if it’s not going so well, what can you do to beef that up so no one walks away thinking, “that was a waste of time”...[eg.] directing the conversation to a particular person. It’s a matter of getting everyone engaged so it’s a worthwhile exercise for the participants’ MGP3
Planning of a teaching session is important to give learners advance notice of topics and assign tasks/roles as preparation reduces gaps between learners, and being given a role helps to engage the learners.

‘I would highly recommend that you prepare beforehand, that everyone does some reading ...because... when people haven’t ...done the work then it starts to be a bit more leeching off the other people and the dynamicism of the topic drops because people are still getting first pass information, ‘oh yeah, I’ve got to learn that’ rather than when they’ve already got structure and then it’s clarification and testing, then it’s like ‘oh, I didn’t quite get that when I read it, now it actually makes sense,’ pre-reading is to me, the number one experience for everybody’s benefit’ MGPR1

‘having a discussion and choosing the topics before, and have each person contribute something or read something about the topic before you start’ FGPRS

Group facilitators should know participants’ capabilities and needs and take a systematic approach to teaching that considers those needs. A VI teaching session needs to be more structured because it is harder to meet the needs of a group with disparate learning needs than to meet the needs of one learner.
‘a function of this practice is that they know who they are talking to. They’ve got a relationship to who they are teaching, so they can understand what our needs are’ MGPR8

‘you can tell that some teachers have [planned the] session and some...just teach on the hop and don’t really consider the different levels of the people in the class and what they would need to know at that stage; the medical students need to know the underlying pathology and how to approach the history and examination...the registrars need to know more about investigations and management and who to talk to about things they don’t know and the senior registrars should be doing most of that themselves and know where to go if they get stuck; it’s that sort of step up level of teaching for each topic. If you just have a general chat about managing a condition it’s not as helpful’ FGPR5

Access to teaching materials, and IT resources and training was important for group teaching.

‘The other barrier for the group stuff is the supervisors and their technical knowledge for PowerPoint or willingness to use it ... if it’s all notes...it becomes difficult in a larger group ...so they’ve got to be able to adjust to that ... put their resources together to match a larger group so we can put it on a larger screen so everyone can see’ MPM3

‘got this help [teaching plans from the RTP] and it actually worked very well’ MGP1
Larger rooms and more supervisors could facilitate shared learning.

‘easier if you have several teachers rather than just one’ MGP6

‘it’s so congested, there’s always someone in your space’ FPN2

‘you need to have the space to do it, at our surgery we’re pretty pushed now…[if] you’re talking to more than 2 people, it does get squeezy’ FPM4

Administrative/organisational factors, eg. scheduling and prioritising shared teaching sessions, and ‘some flexibility around the time for part-time registrars’ (FPM1) were also important when trying to coordinate greater numbers of participants.

‘sometimes the barrier can be just finding an hour or two where everyone’s free at the same time and that’s a barrier anyway, even if it’s one-on-one.

When you try and get three or four people together it multiplies’ MGP7

‘teaching sessions are always at the beginning of the session, so there’s no possibility of anybody being late…the teaching session is prioritised’ FGPR3

Longer student placements, and better coordination with universities was required as ‘most medical students don’t stay at a practice for that long, so trying to coordinate the medical student into VI teaching might be somewhat of a challenge’ FMS7

‘I’m not aware [that VI is] on [universities’] radar at all’ MGP8
Reinforcing factors

Reinforcing factors include rewards and incentives that encourage or sustain behaviour such as involving participants in, and encouraging ownership of, the process.

‘flexibility to allow things to happen because people will usually figure out how [and who] they want to run it’ MGP8

‘getting the registrars interested, focusing on their learning plans early on, getting them involved, making sure that they know why you’re going to teach that way’ FGPR7

Participants also felt some one-to-one time with the supervisor was important to ensure needs are met.

‘[you can’t] do too much VI because you’d lose that [ability to address] individual needs that’s so important, and sometimes you do need a one-to-one with the teacher as mentor more than just the content’ FGP4

‘A separate session where I have half an hour to chat about my issues would be useful, because the real issue [with VI alone] is that there’s just no teaching time for whatever issues I have’ FGPR6

Funding could be targeted towards shared learning sessions to drive change, and the time and cost efficiencies associated with shared learning were also an incentive to implement shared learning.
‘funding for teaching students targeted toward having both kind of sessions [shared and one-to-one] as mandatory’ FMS1

‘you get paid X dollars/hour for teaching a registrar and X dollars for teaching the PGPPP and if you do them both in the same session you get 2X, so it’s financially effective’ FGP4

‘easier to run the session with two together than to run two separate ones, because of limitations on my time. It’s an efficiency thing’ FGP2

Predisposing factors

Predisposing factors were categorised as the values, attitudes and beliefs that learners, supervisors, and staff brought to the process that made shared learning more possible or effective. For example, participants suggested that leadership and a culture of encouragement was required as shared learning sessions required more organisation, and without at least one supervisor in the practice committed to driving the process it would not happen.

‘for it to work you’ve got to have someone who is basically driving it, who takes an interest and encourages the others along’ MGP6

A passion for teaching was considered important to facilitate shared learning sessions as it requires additional skills to one-to-one teaching. Registrars with empathy for juniors,
learners with confidence to interact in group sessions, and supportive administrative staff were also facilitators of shared learning.

‘[shared learning] has a potential to make me feel uncomfortable sometimes, but at the end of the day I just remember what it was like to be a medical student and how I felt when I started my internship’ FGPR3

‘if you’ve got three different tiers of people that are relatively close and all are comfortable and generally relaxed people…it works really, really well. But if … you’ve got people that are scared or timid about making mistakes or questioning or adding to the group conversation it just becomes a little bit hard’ MMS2

‘you have to engage your administrative staff and have them very much on side with the concept’ MGP1

Low variability in the learning needs of different levels of participant was also seen as a facilitator to ensure that learners’ needs were met during a shared learning session.

‘the problem with VI …[occurs when] you’ve got a big gap between your knowledge bases. If I’m a GPT3 and I had some medical students, I’m not entirely sure I’d gain much, whereas if I had a GPT1 or 2 or a PGPPP, especially if they had knowledge in that area that we were discussing it would be more beneficial. So … how many degrees of separation in your learning have you got in the same room?’ FGPR4
The rapid turnover of PGPPPs was a barrier to shared learning.

‘[PGPPPs’] needs were much more basic [than registrars’]...and they were a ten-week, not a six-months turnover. The second [PGPPP] needed the same stuff as the first and the registrars couldn’t possibly have the same session again at such a basic level so [shared learning] was inappropriate after the first ten weeks’ FGP4

Discussion

The national uptake of VI teaching models in general practice has been patchy (16), suggesting that behaviour change may be required if shared learning models are to be more readily utilized. An ecological approach similar to that described by Green and Kreuter (21) that targets the ‘combined determinants’ of behaviour (22 p. 68) on multiple levels, may facilitate the uptake of shared learning models in general practice, given that multi-level interventions are often more successful than single level interventions (23).

Our stakeholders reported a wide range of factors that could influence the uptake of shared learning in general practice. While previous research suggests that lack of teaching skills is a barrier to VI teaching (4) and that GP supervisors should develop their group skills (10), our participants confirmed that facilitating shared learning sessions requires different skills to one-to-one teaching, and provided specific detail on the skills that are required, for example:

- setting ground rules,
- planning a systematic approach to address the needs of multiple levels of learner,
- monitoring group interactions and utilising techniques to engage all participants, and
• building relationships that encourage learner participation.

Another strong theme from the data was that some form of one-to-one contact with the supervisor should be maintained alongside shared learning activities. Buchanan and Lane’s (10) British participants also suggested ‘a balance of one-to-one and joint activities’ (p. 149). An additional barrier described by our participants was the ‘degrees of separation’ between the levels of learners in the group, which was also raised as a potential issue by Glasgow and Trumble (11). Methods to overcome this included prior notice of topics and allocation of tasks that encouraged learner preparation, and recognition that each level of learner had strengths that could be drawn upon.

Participants’ roles appeared to influence their views to some extent. Both supervisors and learners felt that small group facilitation skills were important, and that shared learning sessions would be easier to run or more successful if there was less variability in the learning needs of learners in the group. Supervisors additionally focused on the need for leadership, the importance of cost and time efficiencies, and the need for sufficient space to accommodate shared teaching sessions. Sufficient space was also a theme raised by PMs and PNs.

Limitations of the study included a small sample size thus the results cannot be reliably extrapolated to the wider general practice community. While personal beliefs influence data analysis in qualitative research the impact of ‘self’ on data interpretation was recognised by independent coding conducted by three researchers, and review of the interview questions and findings by an advisory panel.
Shared learning has been promoted as a tool to address capacity constraints in general practice training. However, there are still questions about the effectiveness of this model and its ability to increase training capacity that need to be investigated in further research.

Conclusions

This study is the first to report on perspectives from multiple stakeholders on shared learning in the Australian general practice setting. Key insights included the need for skilled facilitation of small group learning, balancing shared learning and one-to-one teaching, and implementing strategies to bridge gaps between different levels of learner. Using an ecological approach may increase the uptake of shared learning in general practice. Further research with a wider sample is required to determine the generalisability of these results, how stakeholders rank these determinants in importance, and how effective this type of learning is in order to inform general practice workforce training policy.

Implications for general practice:
1. If shared learning is to be more widely implemented then perceptions from all stakeholders need to be considered.
2. An ecological approach that considers the combined determinants of behavioural change may be a useful tool to encourage the uptake of shared learning.
3. More research is required to demonstrate if shared learning will increase teaching capacity and effectiveness.
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